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## Interventions at caesarean section for reducing the risk of aspiration pneumonitis (Review)

Paranjothy S, Griffiths JD, Broughton HK, Gyte GML, Brown HC, Thomas J

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[Intervention Review]

# Interventions at caesarean section for reducing the risk of aspiration pneumonitis

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## ABSTRACT

### Background

Aspiration pneumonitis is a syndrome resulting from the inhalation of gastric contents. The incidence in obstetric anaesthesia has fallen, largely due to improved anaesthetic techniques and the increased use of regional anaesthesia at caesarean section. However, aspiration pneumonitis is still a cause of maternal morbidity and mortality, and it is important to use effective prophylaxis.

### Objectives

To determine whether interventions given prior to caesarean section reduce the risk of aspiration pneumonitis in women with an uncomplicated pregnancy.

### Search methods

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (30 April 2013).

### Selection criteria

Randomised controlled trials were included. Quasi-randomised trials were excluded.

### Data collection and analysis

Review authors independently assessed the studies for inclusion, assessed risk of bias and carried out data extraction. Data entry was checked. Fixed-effect meta-analysis was used to combine data where it was reasonable to assume that studies were estimating the same underlying treatment effect. If substantial clinical or statistical heterogeneity was detected, we used random-effects analysis to produce an overall summary.

### Main results

Thirty-two studies were included in this review. However, only 22 studies, involving 2658 women, provided data for analysis. All the women in the included studies had a caesarean section under general anaesthesia. The studies covered a number of comparisons, but were mostly small and of unclear or poor quality.

When compared with no treatment or placebo, there was a significant reduction in the risk of intragastric pH < 2.5 with antacids (risk ratio (RR) 0.17, 95% confidence interval (CI) 0.09 to 0.32, two studies, 108 women), H<sub>2</sub> antagonists (RR 0.09, 95% CI 0.05 to 0.18, two studies, 170 women) and proton pump antagonists (RR 0.26, 95% CI 0.14 to 0.46, one study 80 women). H<sub>2</sub> antagonists were associated with a reduced the risk of intragastric pH < 2.5 at intubation when compared with proton pump antagonists (RR 0.39, 95% CI 0.16 to 0.97, one study, 120 women), but compared with antacids the findings were unclear. The combined use of 'antacids plus H<sub>2</sub> antagonists' was associated with a significant reduction in the risk of intragastric pH < 2.5 at intubation when compared with placebo (RR 0.02, 95% CI 0.00 to 0.15, one study, 89 women) or compared with antacids alone (RR 0.12, 95% CI 0.02 to 0.92, one study, 119 women).

### Authors' conclusions

The quality of the evidence was poor, but the findings suggest that the combination of antacids plus H<sub>2</sub> antagonists was more effective than no intervention, and superior to antacids alone in preventing low gastric pH. However, none of the studies assessed potential adverse effects or substantive clinical outcomes. These findings are relevant for all women undergoing caesarean section under general anaesthesia.

## PLAIN LANGUAGE SUMMARY

### Interventions at caesarean section for reducing the risk of lung damage from inhaling stomach contents during anaesthesia

Stomach contents can regurgitate up the gullet into the wind pipe and enter the lungs when there is no cough reflex, e.g. during general anaesthesia. Solid food can block airways and cause breathing difficulties. The acidic liquid from the stomach can damage the lungs. This is called aspiration pneumonitis or Mendelson's syndrome. It can lead to serious illness or even death. Many caesarean sections now are undertaken using epidural or spinal anaesthesia, and here the risk is much lower because the woman stays awake and the cough reflex remains intact. A breathing tube, which provides a seal, is normally placed in the windpipe when setting up a general anaesthetic to try to prevent this problem. However, aspiration can still occur before the tube is inserted and when it is removed. It is thought that both the acidity and amount of fluid inhaled contribute to how much damage occurs in the lungs in the event of inhalation of the fluid into the lungs and how sick people become.

Thirty-two studies were included in this review. However, only 22 studies, involving 2658 women, provided data for analysis, looking at interventions given prior to caesarean section for reducing the risk of aspiration. There were several different drugs and drug combinations being considered and the studies were generally of poor or questionable quality. Antacids (like sodium citrate), H<sub>2</sub> receptor antagonists (like ranitidine), proton pump antagonists (like omeprazole), all reduced the acidity of the stomach contents. An antacid plus an H<sub>2</sub> receptor antagonist also reduced acidity. In theory, a combination like this, where the antacid acts quickly and the H<sub>2</sub> receptor antagonists takes a little longer, should protect at periods of greatest risk, i.e. the beginning and end of the procedure (i.e. intubation and extubation). More research is needed to identify the best combination of drugs and to check for possible adverse effects.

## BACKGROUND

### Description of the condition

Aspiration pneumonitis was first described by Mendelson in the 1940s (Mendelson 1946). It occurs when gastric acid gains access to the lungs in the absence of a cough reflex. Although rare, during anaesthesia for caesarean section, aspiration pneumonitis is still a cause of maternal mortality even in well-resourced countries such as the United Kingdom (CEMD 2001). Aspiration pneumonitis is largely associated with general anaesthesia, with passive regurgitation of gastric contents being the main risk factor. In contrast, vomiting is an active process and is not necessary for aspiration to occur. As regional anaesthesia is now used more frequently for caesarean section, the incidence of aspiration pneumonitis is very rare. However, prophylaxis against acid aspiration (also known as gastric aspiration) and aspiration pneumonitis is still important as there will be situations that require general anaesthesia for caesarean section (for example, emergency caesarean section or where regional anaesthesia has failed or is contraindicated). Restricting food and fluids in labour is another intervention aimed at reducing the risk of aspiration pneumonitis; however, evidence on the effectiveness of this is covered in another Cochrane review (Singata 2002).

### Description of the intervention

Several different types of drugs have been used to reduce the risks and effects of acid aspiration. These include antacids, H<sub>2</sub> receptor antagonists, proton pump inhibitors and prokinetic drugs, either alone or in combination. This wide range may reflect the absence of an ideal regimen (Grieff 1994; Sweeney 1986; Tordoff 1990).

### How the intervention might work

#### Antacids

Antacids (such as sodium citrate) are alkaline agents used to directly neutralise gastric acid. Antacids are often given just prior to induction of general anaesthesia, and while they increase intragastric pH, they also increase intragastric volume, and may cause more harm than benefit (Bond 1979). It is possible that aspiration of antacid solutions may also cause lung damage. Non-particulate antacids (such as sodium citrate) are thought to be less likely to increase the risk of severe pneumonitis compared to particulate antacids (magnesium trisilicate) should aspiration occur (Gibbs 1979).

#### H<sub>2</sub> receptor antagonists/inhibitors

H<sub>2</sub> receptor antagonists (such as ranitidine) act by inhibiting the secretion of acid into the stomach, which reduces both the volume and acidity of the stomach contents (Thwaites 1999).

#### Proton pump antagonists

Proton pump antagonists (such as omeprazole) act by blocking the production of stomach acid by interfering with the pump which secretes protons (acid) into the stomach (Browne 1993).

#### Prokinetic drugs

Prokinetic drugs increase gastric motility and therefore accelerate gastric emptying and reduce gastric volume. The most commonly

used prokinetic drug is metoclopramide which may also act as an anti-emetic (Cohen 1984).

### Nasogastric tube aspiration

Nasogastric aspiration or suction is the process of physically draining the stomach's contents using a nasogastric tube, to remove gastric secretions and swallowed air. It can be used in preparation for surgery and to extract gastric liquid for research purposes.

### Assessing effectiveness

As aspiration pneumonitis is a rare event, it is difficult to conduct a randomised controlled trial large enough to demonstrate the effectiveness of an intervention to reduce risk. For this reason, clinical trials on prophylactic drugs have focused on the surrogate measures of gastric pH and volume. This is a disadvantage because there is no guarantee that a change in the surrogate measure will reflect a difference in outcome of interest (i.e. aspiration pneumonitis). The pathophysiology of aspiration pneumonitis relates to both the volume and the acidity of the fluid aspirated.

An intragastric pH lower than 2.5 and a volume greater than 0.4 mL/kg are the traditionally described criteria for increased risk of severe lung injury and mortality. These criteria were originally described by Mendelson (Mendelson 1946), and were derived from animal experiments (Roberts 1974). However, the evidence that these surrogate measures increase the risk of aspiration pneumonitis in pregnant women undergoing caesarean section under general anaesthesia is absent. Failure to adequately raise intragastric pH and lower intragastric volume may not be due to the specific drug, but due to other factors, such as the time interval between administration and surgery, or to interaction with other drugs. Opioids in particular slow down gastric emptying and can reduce the effectiveness of prophylactic drugs used. Measurements are usually taken just after induction of anaesthesia and just before extubation (removal of the endotracheal tube) to reflect the intragastric conditions at the time of greatest aspiration risk (Ewart 1990b; Gin 1990; Moore 1989; Tripathi 1995).

### Why it is important to do this review

The administration of an antacid and H<sub>2</sub> receptor antagonist, and sometimes a prokinetic and antiemetic drug (such as metoclopramide, a phenothiazine-like drug aimed at accelerating gastric emptying and reducing nausea, vomiting and aspiration pneumonitis), has been standard practice prior to caesarean section in maternity units in the United Kingdom (Thomas 2001). However, clinical practice has varied across the world. Some countries including the UK also routinely administer drugs (such as ranitidine) to all women in labour with the aim of reducing the risk of aspiration pneumonitis should anaesthesia be required for caesarean section, even though the evidence for such practice is poor (Gyte 2006). Any pharmacological intervention may produce side effects or serious complications, including anaphylaxis. Pharmacological antiemetics are associated with a number of side effects such as excessive sedation, restlessness, dystonic reactions (abnormal muscle tone) and extra pyramidal symptoms (Numazaki 2000).

There is a need to review the evidence of effectiveness of pharmacological drugs to reduce aspiration pneumonitis for women who have caesarean sections. The evidence of effectiveness of pharmacological and non-pharmacological interventions to



prevent nausea and vomiting for women who have caesarean sections will be considered in a separate review on 'Interventions for reducing nausea and vomiting at caesarean section'.

## OBJECTIVES

To determine whether interventions given prior to caesarean section reduce the risk of aspiration pneumonitis in women with an uncomplicated pregnancy (i.e. women who had no medical complications other than the obstetric reason for caesarean section).

## METHODS

### Criteria for considering studies for this review

#### Types of studies

All published or unpublished randomised controlled trials (RCTs), including cluster-randomised trials. We excluded quasi-RCTs.

#### Types of participants

Pregnant women undergoing elective or emergency caesarean section under general or regional anaesthesia.

#### Types of interventions

Any pharmacological or non-pharmacological intervention given specifically to prevent aspiration pneumonitis at caesarean section.

1. Particulate or non-particulate antacids.
2. H<sub>2</sub> antagonists (e.g. ranitidine).
3. Proton pump antagonists (e.g. omeprazole).
4. Prokinetic drugs (e.g. metoclopramide).
5. Non-pharmacological interventions.

Comparisons were any of the above interventions versus any other, placebo or no intervention.

#### Types of outcome measures

##### Primary outcomes

1. Incidence of mortality due to aspiration pneumonitis.
2. Incidence of morbidity due to aspiration pneumonitis.
3. Low intragastric pH below 2.5, measured after induction of anaesthesia.
4. Increase of intragastric volume to more than 0.4 mL/kg, measured after induction of anaesthesia.

##### Secondary outcomes

1. Women's satisfaction.
2. Incidence of nausea during caesarean section or the postoperative period.
3. Incidence of vomiting during caesarean section or the postoperative period.
4. Side effects - including sedation, restlessness, dystonic reactions and extrapyramidal symptoms.
5. Adverse event - episodes of hypotension, blood loss, atonic uterus.

6. Neonatal morbidity - cord blood pH, Apgar scores, neonatal assessment scores and admission to neonatal intensive care unit.
7. Breastfeeding rates - initiation of breastfeeding and duration of breastfeeding.
8. Raised intragastric pH above 2.5, measured prior to extubation at the end of anaesthesia.
9. Reducing of intragastric volume to less than 0.4 mL/kg, measured prior to extubation at the end of anaesthesia.

In order to try to avoid outcome reporting bias in the review, we included studies whether or not they have assessed these specific outcomes listed here. Where included studies have not reported any of our pre-specified outcomes, we have included them in the review and information can be found in the [Characteristics of included studies](#).

Many trials measured 'at risk of aspiration' as the number of individuals who had both low gastric pH (less than 2.5) and increased gastric volume (greater than 0.4 mL/kg). Although this combined measure was not one of our pre-specified outcomes, we have included it in this review.

We looked for individual components of 'side effects' and 'adverse events'. To date there are limited data for these outcomes. If more data become available in the future, we will analyse these as composite outcomes.

### Search methods for identification of studies

#### Electronic searches

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register by contacting the Trials Search Co-ordinator (30 April 2013).

The Cochrane Pregnancy and Childbirth Group's Trials Register is maintained by the Trials Search Co-ordinator and contains trials identified from:

1. monthly searches of the Cochrane Central Register of Controlled Trials (CENTRAL);
2. weekly searches of MEDLINE;
3. weekly searches of Embase;
4. handsearches of 30 journals and the proceedings of major conferences;
5. weekly current awareness alerts for a further 44 journals plus monthly BioMed Central email alerts.

Details of the search strategies for CENTRAL, MEDLINE and Embase, the list of handsearched journals and conference proceedings, and the list of journals reviewed via the current awareness service can be found in the 'Specialized Register' section within the editorial information about the [Cochrane Pregnancy and Childbirth Group](#).

We did not apply any language restrictions.

#### Data collection and analysis

For the methods used when assessing the trials identified in the previous version of this review, see [Paranjothy 2010](#).

For this update we used the following methods when assessing the reports identified by the updated search.



## Selection of studies

Two review authors independently assessed for inclusion all the potential studies we identified as a result of the search strategy. We resolved any disagreement through discussion or, if required, we consulted a third person.

## Data extraction and management

We designed a form to extract data. For eligible studies, at least two review authors extracted the data using the agreed form. We resolved discrepancies through discussion or, if required, we consulted a third person. We entered data into Review Manager software ([RevMan 2012](#)) and checked for accuracy.

When information regarding any of the above was unclear, we contacted authors of the original reports to provide further details.

## Assessment of risk of bias in included studies

Two review authors independently assessed risk of bias for each study using the criteria outlined in the *Cochrane Handbook for Systematic Reviews of Interventions* ([Higgins 2011](#)). We resolved any disagreement by discussion.

### (1) Random sequence generation (checking for possible selection bias)

We described for each included study the method used to generate the allocation sequence in sufficient detail to allow an assessment of whether it should produce comparable groups.

We assessed the method as:

- low risk of bias (any truly random process, e.g. random number table; computer random number generator);
- high risk of bias (any non-random process, e.g. odd or even date of birth; hospital or clinic record number);
- unclear risk of bias.

### (2) Allocation concealment (checking for possible selection bias)

We described for each included study the method used to conceal allocation to interventions prior to assignment and assessed whether intervention allocation could have been foreseen in advance of, or during recruitment, or changed after assignment.

We assessed the methods as:

- low risk of bias (e.g. telephone or central randomisation; consecutively numbered sealed opaque envelopes);
- high risk of bias (open random allocation; unsealed or non-opaque envelopes, alternation; date of birth);
- unclear risk of bias.

### (3.1) Blinding of participants and personnel (checking for possible performance bias)

We described for each included study the methods used, if any, to blind study participants and personnel from knowledge of which intervention a participant received. We considered studies to be at low risk of bias if they were blinded, or if we judged that the lack of blinding would be unlikely to affect results. We assessed blinding separately for different outcomes or classes of outcomes.

We assessed the methods as:

- low, high or unclear risk of bias for participants;
- low, high or unclear risk of bias for personnel.

### (3.2) Blinding of outcome assessment (checking for possible detection bias)

We described for each included study the methods used, if any, to blind outcome assessors from knowledge of which intervention a participant received. We assessed blinding separately for different outcomes or classes of outcomes.

We assessed methods used to blind outcome assessment as:

- low, high or unclear risk of bias.

### (4) Incomplete outcome data (checking for possible attrition bias due to the amount, nature and handling of incomplete outcome data)

We described for each included study, and for each outcome or class of outcomes, the completeness of data including attrition and exclusions from the analysis. We have stated whether attrition and exclusions were reported and the numbers included in the analysis at each stage (compared with the total randomised participants), reasons for attrition or exclusion where reported, and whether missing data were balanced across groups or were related to outcomes. Where sufficient information was reported, or could be supplied by the trial authors, we planned to re-include missing data in the analyses undertaken.

We assessed methods as:

- low risk of bias (e.g. no missing outcome data; missing outcome data balanced across groups);
- high risk of bias (e.g. numbers or reasons for missing data imbalanced across groups; 'as treated' analysis done with substantial departure of intervention received from that assigned at randomisation);
- unclear risk of bias.

### (5) Selective reporting (checking for reporting bias)

We described for each included study how we investigated the possibility of selective outcome reporting bias and what we found.

We assessed the methods as:

- low risk of bias (where it is clear that all of the study's pre-specified outcomes and all expected outcomes of interest to the review have been reported);
- high risk of bias (where not all the study's pre-specified outcomes have been reported; one or more reported primary outcomes were not pre-specified; outcomes of interest are reported incompletely and so cannot be used; study fails to include results of a key outcome that would have been expected to have been reported);
- unclear risk of bias.

### (6) Other bias (checking for bias due to problems not covered by (1) to (5) above)

We described for each included study any important concerns we had about other possible sources of bias.

We assessed whether each study was free of other problems that could put it at risk of bias:

- low risk of other bias;
- high risk of other bias;
- unclear whether there is risk of other bias.

### (7) Overall risk of bias

We have made explicit judgements about whether studies were at high risk of bias, according to the criteria given in the *Cochrane Handbook* (Higgins 2011). With reference to (1) to (6) above, we assessed the likely magnitude and direction of the bias and whether we consider it likely to impact on the findings. We planned to explore the impact of the level of bias through undertaking sensitivity analyses - see [Sensitivity analysis](#).

### Measures of treatment effect

#### Dichotomous data

For dichotomous data, we presented results as summary risk ratio with 95% confidence intervals.

#### Continuous data

For continuous data, we used the mean difference if outcomes were measured in the same way between trials. We used the standardised mean difference to combine trials that measured the same outcome, but used different methods.

### Unit of analysis issues

#### Cluster-randomised trials

We did not identify any cluster-randomised trials for inclusion. In future updates, we will include cluster-randomised trials in the analyses along with individually-randomised trials. We will adjust their sample sizes using the methods described in the *Cochrane Handbook* [Section 16.3.4] using an estimate of the intracluster correlation co-efficient (ICC) derived from the trial (if possible), from a similar trial or from a study of a similar population. If we use ICCs from other sources, we will report this and conduct sensitivity analyses to investigate the effect of variation in the ICC. If we identify both cluster-randomised trials and individually-randomised trials, we plan to synthesise the relevant information. We will consider it reasonable to combine the results from both if there is little heterogeneity between the study designs and the interaction between the effect of intervention and the choice of randomisation unit is considered to be unlikely.

We will also acknowledge heterogeneity in the randomisation unit and perform a sensitivity analysis to investigate the effects of the randomisation unit.

#### Cross-over trials

Cross-over trials are not a valid study design for inclusion in this review.

### Dealing with missing data

For included studies, levels of attrition were noted. We planned to explore the impact of including studies with high levels of missing data in the overall assessment of treatment effect by using sensitivity analysis. However, we felt there were insufficient data

within any one comparison to undertake sensitivity analyses by levels of missing data.

For all outcomes, analyses were carried out, as far as possible, on an intention-to-treat basis, i.e. we analysed data on all participants with available data in the group to which they are allocated, regardless of whether or not they received the allocated intervention. If in the original reports participants were not analysed in the group to which they were randomised, and there was sufficient information in the trial report, we attempted to restore them to the correct group. We attempted to include all participants randomised to each group in the analyses. The denominator for each outcome in each trial was the number randomised minus any participants whose outcomes were known to be missing.

### Assessment of heterogeneity

We assessed statistical heterogeneity in each meta-analysis using the Tau<sup>2</sup>, I<sup>2</sup> and Chi<sup>2</sup> statistics. We regarded heterogeneity as substantial if a Tau<sup>2</sup> was greater than zero and either an I<sup>2</sup> was greater than 30% or there was a low P value (less than 0.10) in the Chi<sup>2</sup> test for heterogeneity. Where we found heterogeneity and random-effects was used, we have reported the average risk ratio, or average mean difference or average standardised mean difference.

### Assessment of reporting biases

Had there been 10 or more studies in a meta-analysis, we planned to investigate reporting biases (such as publication bias) using funnel plots. We would have assessed funnel plot asymmetry visually. If asymmetry had been suggested by a visual assessment, we would have performed exploratory analyses to investigate it.

### Data synthesis

We carried out statistical analysis using the Review Manager software (RevMan 2012). We used fixed-effect meta-analysis for combining data where it was reasonable to assume that studies were estimating the same underlying treatment effect: i.e. where trials were examining the same intervention, and the trials' populations and methods were judged to be sufficiently similar. If there was clinical heterogeneity sufficient to expect that the underlying treatment effects differed between trials, or if substantial statistical heterogeneity was detected, we used random-effects analysis to produce an overall summary, if this was considered clinically meaningful. If an average treatment effect across trials was not clinically meaningful, we did not combine heterogeneous trials. Where we used random-effects analyses, the results have been presented as the average treatment effect and its 95% confidence interval, the 95% prediction interval for the underlying treatment effect, and the estimates of Tau<sup>2</sup> and I<sup>2</sup>.

We combined results of trials using drugs that have the same mechanism of action if the treatment regimens were assessed to be compatible. For example, studies comparing ranitidine versus placebo and famotidine versus placebo were combined to assess the effectiveness of the H<sub>2</sub> antagonist class of drugs. We also combined routes of administration, for example, studies comparing intravenous ranitidine and oral ranitidine were combined.

## Subgroup analysis and investigation of heterogeneity

If we identified substantial heterogeneity, we planned to investigate it using subgroup analyses and sensitivity analyses and to consider whether an overall summary was meaningful, and if it was, use random-effects analysis to produce it. However, there were insufficient data to carry out subgroup analysis.

In future updates, if data allow, we will carry out the following subgroup analyses.

1. Elective versus emergency caesarean section.

Primary outcomes will be used in subgroup analysis.

We will assess subgroup differences by interaction tests available within RevMan (RevMan 2012). We will report the results of subgroup analyses quoting the  $\text{Chi}^2$  statistic and P value, and the interaction test  $I^2$  value.

## Sensitivity analysis

We had planned to carry out sensitivity analyses to explore the effect of trial quality for important outcomes in the review. However, as the majority of studies were of poor quality and there were little data for each comparison, this was not feasible. We will, however, consider doing this in future updates, as more data are accumulated from published randomised controlled trials.

## RESULTS

### Description of studies

#### Results of the search

One-hundred and sixty-four publications were identified in the search which covered interventions for reducing nausea, vomiting and aspiration pneumonitis at caesarean section. Of these, 33 studies were identified that related to interventions for reducing aspiration pneumonitis and 66 were assigned to the review on nausea and vomiting (Griffiths 2012). Other studies were excluded for a variety of reasons see [Excluded studies](#) below.

#### Included studies

Of the 32 studies that were identified relating to the reduction of aspiration pneumonitis, 22 provided data and involved 2658

women (Dewan 1985; Elhakim 2005; Ewart 1990a; Frank 1984; Hong 2004; Husemeyer 1980; Iqbal 2000; Jasson 1989; Lin 1996; Ormezzano 1990; Orr 1993; Ostheimer 1982; Ozkan 2000; Pickering 1980; Rocke 1994; Rout 1993; Tripathi 1995; Tryba 1983; Wig 1987; Yau 1992; Zoroglu 1999; Zue 1999). Ten of the included studies met the inclusion criteria but could provide no data for the meta-analyses (Bifarini 1990; Bifarini 1992; Bylsma-Howell 1983; Fogarty 1992; Hodgkinson 1983; O'Sullivan 1985; Osman 1995; Roper 1981; Stuart 1996; von Braun 1994), see [Characteristics of included studies](#) for the reasons.

Two studies are awaiting classification: we have requested additional information from the authors for one study (Karamanlioglu 1995); and we are seeking the full paper for the second paper (Sarat 2007).

#### Excluded studies

The excluded studies are listed in the reference section under excluded studies and the table [Characteristics of excluded studies](#) states the reasons for exclusion from this review. Most of the studies that were excluded assessed interventions for reducing nausea and vomiting at caesarean section rather than reducing the risk of aspiration pneumonitis, though the search strategy included both these circumstances in line with the original protocol. The studies looking at nausea and vomiting are included in the review of interventions for reducing nausea and vomiting at caesarean section (Griffiths 2012).

#### Risk of bias in included studies

Overall, the quality of studies was difficult to assess. We did not assess any trial protocols so we were unable to assess possible selective reporting bias. In addition, most trials reported only a few outcomes; therefore, it is unclear whether or not there is selective reporting bias. Only one study had both adequate sequence generation and concealment allocation (Orr 1993), and the remainder were unclear with one study having inadequate allocation concealment (Dewan 1985). The assessment of incomplete data showed half the studies having low risk of bias here and in the other half it was unclear. None of the studies met the criteria of low risk of bias on all the assessment criteria (Figure 1).

**Figure 1. Methodological quality summary: review authors' judgements about each methodological quality item for each included study.**

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding (performance bias and detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Bifarini 1990	?	?	?	+	?	?
Bifarini 1992	?	?	?	?	?	?
Bylsma-Howell 1983	?	?	+	?	?	?
Dewan 1985	?	-	?	+	?	+
Elhakim 2005	+	?	+	+	?	+
Ewart 1990a	?	?	?	?	?	?
Fogarty 1992	?	?	+	?	?	?
Frank 1984	?	?	-	?	?	+
Hodgkinson 1983	?	?	+	-	?	?
Hong 2004	?	?	?	?	?	?
Husemeyer 1980	?	?	?	+	?	+
Iqbal 2000	?	?	+	+	?	+
Jasson 1989	?	?	-	+	?	?
Lin 1996	?	?	+	?	?	+
O'Sullivan 1985	?	?	?	+	?	?
Ormezzano 1990	?	?	?	+	?	+
Orr 1993	+	+	+	+	?	+
Osman 1995	?	?	?	?	?	?
Ostheimer 1982	?	?	?	?	?	+
Ozkan 2000	?	?	?	?	?	?
Pickering 1980	?	?	-	+	?	+
Rocke 1994	?	+	+	+	?	+

**Figure 1. (Continued)**

Rocke 1994	?	+	+	+	?	+
Roper 1981	?	?	+	?	?	?
Rout 1993	?	+	+	+	?	+
Stuart 1996	?	?	?	-	?	?
Tripathi 1995	?	?	+	+	?	+
Tryba 1983	?	?	?	+	?	?
von Braun 1994	?	?	?	?	?	?
Wig 1987	?	?	?	?	?	+
Yau 1992	?	?	?	?	?	+
Zoroglu 1999	?	?	?	?	?	+
Zue 1999	?	?	-	+	?	+

### Allocation

Of the studies that provided data, the random sequence generation was adequate in only two studies (Elhakim 2005; Orr 1993), with the remainder of the studies being unclear. Concealment allocation was adequate in only three studies (Orr 1993; Rocke 1994; Rout 1993); in one study it was inadequate (Dewan 1985), and in the rest it was unclear. Thus, there was only one study (Orr 1993) where both generation and concealment were adequate.

### Blinding

Of the studies that provided data, blinding was assessed as adequate in 11 studies (Bylsma-Howell 1983; Elhakim 2005; Fogarty 1992; Hodgkinson 1983; Iqbal 2000; Lin 1996; Orr 1993; Rocke 1994; Roper 1981; Rout 1993; Tripathi 1995), inadequate in four (Frank 1984; Jasson 1989; Pickering 1980; Zue 1999) and unclear in the rest of the studies. This is disappointing for studies assessing drug administration.

### Incomplete outcome data

Of the studies that provided data, 15 studies were assessed as having adequate reporting of outcome data (Bifarini 1990; Dewan 1985; Elhakim 2005; Husemeyer 1980; Iqbal 2000; Jasson 1989; O'Sullivan 1985; Ormezzano 1990; Orr 1993; Pickering 1980; Rocke 1994; Rout 1993; Tripathi 1995; Tryba 1983; Zue 1999). Two studies (Hodgkinson 1983; Stuart 1996) were assessed as inadequate and the remainder were assessed as unclear.

### Selective reporting

We did not assess the trial protocols so it is unclear if there is any selective reporting bias. Although we did not specifically identify any selective reporting bias, we were unable to exclude the possibility.

### Other potential sources of bias

It was unclear whether or not there were other potential sources of bias in 15 studies, primarily due to lack information available to assess this (Bifarini 1990; Bifarini 1992; Bylsma-Howell 1983; Ewart 1990a; Fogarty 1992; Hodgkinson 1983; Hong 2004; Jasson 1989; O'Sullivan 1985; Osman 1995; Ozkan 2000; Roper 1981; Stuart 1996; Tryba 1983; von Braun 1994).

### Effects of interventions

This review includes 22 studies that provide data for 16 meta-analyses, involving 2658 women.

#### (1) Antacids versus placebo/no treatment (three studies, 168 women)

Three studies compared antacids with placebo (Dewan 1985; Ormezzano 1990; Wig 1987).

The studies were of doubtful quality with sequence generation being unclear in all three studies, and allocation concealment being either unclear in two (Ormezzano 1990; Wig 1987) or inadequate in one (Dewan 1985). Data collection appeared complete in two studies (Dewan 1985; Ormezzano 1990) and unclear in one study (Wig 1987). There appeared to be no other sources of bias apparent in any of the studies.

#### Primary outcomes

Antacid, compared with placebo, was associated with a statistically significant reduction in:

- intragastric pH less than 2.5 at intubation (risk ratio (RR) 0.17, 95% confidence interval (CI) 0.09 to 0.32, two studies, 108 women, Analysis 1.3).

Other primary outcomes were not assessed.



### Secondary outcomes

Antacid, compared with placebo, was also associated with a statistically significant reduction in:

- intragastric pH less than 2.5 at extubation (RR 0.21, 95% CI 0.09 to 0.48, one study, 86 women, [Analysis 1.21](#)).

Other secondary outcomes were not assessed.

### Outcomes not pre-specified

There was no statistically significant difference identified for:

- 'risk of aspiration' (RR 0.07, 95% CI 0.00 to 1.04, one study, 22 women, [Analysis 1.25](#)).

For other non-prespecified outcomes, see Analyses 1.23 to 1.27.

### (2) H<sub>2</sub> antagonists versus placebo/no treatment (six studies, 385 women)

Six studies compared H<sub>2</sub> antagonists with placebo/no treatment ([Iqbal 2000](#); [Lin 1996](#); [Ozkan 2000](#); [Tryba 1983](#); [Zoroglu 1999](#); [Zue 1999](#)).

The studies were of doubtful quality with unclear sequence generation and concealment allocation in the six studies. Blinding was adequate in two studies ([Iqbal 2000](#); [Lin 1996](#)), inadequate in one study ([Zue 1999](#)) and unclear in the remainder. Data collection appeared complete in three studies ([Iqbal 2000](#); [Tryba 1983](#); [Zue 1999](#)) and unclear in the remainder of studies. The studies seemed to be free of other sources of bias, although this was difficult to assess due to lack of information in some.

#### Primary outcomes

In women undergoing elective caesarean section, H<sub>2</sub> antagonists compared with placebo showed a statistically significant reduction in:

- intragastric pH less than 2.5 at intubation (RR 0.09, 95% CI 0.05 to 0.18, two studies, 170 women, [Analysis 2.3](#));
- intragastric volume greater than 0.4 mg/kg at intubation (average RR 0.08, 95% CI 0.01 to 0.86, two studies, 170 women, random-effects [Tau<sup>2</sup> = 1.96, P = 0.10, I<sup>2</sup> = 63%], [Analysis 2.4](#)).

Other primary outcomes were not assessed.

#### Secondary outcomes

One study reported on intragastric pH at extubation and found a statistically significant reduction in:

- risk of pH less than 2.5 (RR 0.08, 95% CI 0.01 to 0.56, one study, 30 women, [Analysis 2.21](#)).

Other secondary outcomes were not assessed.

#### Outcomes not pre-specified

H<sub>2</sub> antagonists were associated with a statistically significant reduction in:

- 'risk of aspiration' at intubation (average RR 0.07, 95% CI 0.01 to 0.33, four studies, 255 women, random-effects [Tau<sup>2</sup> = 1.35, P = 0.11, I<sup>2</sup> = 51%], [Analysis 2.25](#));

- 'risk of aspiration' at extubation (RR 0.17, 95% CI 0.01 to 4.03, two studies, 125 women [although only one study of 75 women was estimable], [Analysis 2.26](#)).

For other non-prespecified outcomes see Analyses 2.23 to 2.28.

### (3) Proton pump antagonists versus placebo/no treatment (two studies, 130 women)

Two studies ([Lin 1996](#); [Ozkan 2000](#)) compared proton pump antagonists with placebo or no treatment. Both of these studies were of doubtful quality as allocation sequence generation, allocation concealment and incomplete data assessment were unclear.

#### Primary outcomes

Proton pump antagonists, when compared with placebo, were associated with a statistically significant reduction in intragastric pH less than 2.5 at intubation (RR 0.26; 95% CI 0.14, 0.46, one study, 80 women, [Analysis 3.3](#)), but no difference in intragastric volume greater than 0.4 mL/kg (RR 0.46, 95% CI 0.19, 1.09, one study, 80 women, [Analysis 3.4](#)). Other primary outcomes were not assessed.

#### Secondary outcomes

Neither of these studies reported on our pre-specified secondary outcomes.

#### Outcomes not pre-specified

Proton pump antagonists were associated with a significant reduction in:

- 'risk of aspiration' compared with placebo (average RR 0.14, 95% CI 0.03 to 0.74, two studies, 130 women, random-effects [Tau<sup>2</sup> = 0.60, P = 0.22, I<sup>2</sup> = 34%], [Analysis 3.24](#)).

For other non-prespecified outcomes, see Analyses 3.23 to 3.27.

### (4) Prokinetic drugs versus placebo/no treatment (one study, 50 women)

One study compared a prokinetic drug (metoclopramide) with no treatment ([Ozkan 2000](#)). The quality of this study was doubtful as allocation sequence generation, allocation concealment, blinding and incomplete data assessment were unclear.

#### Primary outcomes

This study did not measure any of the primary outcomes that were pre-specified in this review.

#### Secondary outcomes

This study did not measure any of the secondary outcomes that were pre-specified in this review.

#### Outcomes not pre-specified

When prokinetic drugs were compared with no treatment, there was no statistically significant difference identified in:

- 'risk of aspiration' (RR 0.67, 95% CI 0.33 to 1.35, one study, 50 women, [Analysis 4.23](#)). Though it is possible the study was too small to identify a difference.

### (5) Non-pharmacological interventions versus placebo/no treatment (one study, 40 women)

One study compared the use of intravenous 5% dextrose solution to normal saline solution prior to induction of anaesthesia in 40 women undergoing elective caesarean section in South Korea (Hong 2004). This study was of doubtful quality as there was no information given to assess adequacy of sequence generation, allocation concealment, blinding, incomplete outcome data assessment. It was not clear if the study was free of any other bias, due to the lack of detail available.

#### Primary outcomes

This study did not report on any of the primary outcomes pre-specified in this review.

#### Secondary outcomes

This study did not report on any of the secondary outcomes pre-specified in this review.

#### Outcomes not pre-specified

There was no statistically significant difference identified in:

- 'risk of aspiration' (not clearly defined) (RR 0.50, 95% CI 0.18 to 1.40, one study, 40 women, Analysis 5.23).

### (6) Antacids + H<sub>2</sub> antagonists versus placebo/no treatment (one study, 89 women)

One study compared the use of antacids and H<sub>2</sub> antagonists (in combination) with no treatment (Ormezzano 1990). This study was of doubtful quality as sequence generation, allocation concealment and selective reporting bias were unclear. Neither the participants nor the outcome assessors were blinded. However, data completeness were adequately assessed and this study was judged to be free of any other type of bias.

#### Primary outcomes

The combination of an 'antacid plus an H<sub>2</sub> receptor antagonist' compared with placebo showed:

- a statistically significant reduction in risk of gastric pH less than 2.5 at intubation (RR 0.02, 95% CI 0.00 to 0.15, one study, 89 women, Analysis 6.3).

Other primary outcomes were not assessed.

#### Secondary outcomes

The combination also showed a statistically significant reduction in:

- risk of gastric pH less than 2.5 at extubation (RR 0.03, 95% CI 0.00 to 0.24, one study, 89 women, Analysis 6.21).

Other secondary outcomes were not assessed.

#### Outcomes not pre-specified

For non-pre-specified outcomes, see Analyses 6.23 to 6.24.

### (7) H<sub>2</sub> antagonists + prokinetic drugs versus placebo/no treatment (one study, 50 women)

One study compared the use of H<sub>2</sub> antagonists plus prokinetic drugs (in combination) with no treatment (Iqbal 2000). This study was of doubtful quality as sequence generation and allocation concealment were unclear. Participants and clinicians were reported to be blinded.

#### Primary outcomes

The combination of 'H<sub>2</sub> antagonists plus prokinetic drugs' were associated with:

- a statistically significant reduction gastric pH less than 2.5 after induction (RR 0.03, 95% CI 0.00, 0.48, one study, 50 women, Analysis 7.3).

#### Secondary outcomes

This study did not report on any of the secondary outcomes pre-specified in this review.

#### Outcomes not pre-specified

There was a statistically significant reduction in women:

- at 'risk of aspiration' (RR 0.03, 95% CI 0.00, 0.51, one study, 50 women, Analysis 7.23).

For non-pre-specified outcomes, see Analyses 7.24 to 7.26.

### (8) Antacids versus H<sub>2</sub> antagonists (four studies, 175 women)

Four studies (Frank 1984; Husemeyer 1980; Ostheimer 1982; Pickering 1980) compared antacids versus H<sub>2</sub> antagonists.

All of these studies were of doubtful quality as allocation sequence generation and allocation concealment were unclear and blinding was not done. Two studies (Husemeyer 1980; Pickering 1980) were judged to have adequate incomplete data assessment; while there was not enough information to assess this in the other two studies (Frank 1984; Ostheimer 1982). All four studies were considered to be free of other bias.

#### Primary outcomes

Compared with H<sub>2</sub> receptor antagonists, antacid use was associated with:

- a statistically significant reduction in risk of pH less than 2.5 at intubation (RR 0.07, 95% CI 0.01 to 0.52, two studies, 135 women, Analysis 8.3).

One study (Frank 1984) also examined the effect of this comparison in women undergoing emergency caesarean section but did not observe any events (pH less than 2.5 at intubation) in either group. Other primary outcomes were not assessed.

#### Secondary outcomes

None of the pre-specified secondary outcomes in this review were reported in these studies.

#### Outcomes not pre-specified

There was no significant difference identified in:



- 'risk of aspiration' between the two groups (RR 1.00, 95% CI 0.18, 5.46, one study, 16 women, [Analysis 8.23](#)). At risk of aspiration was defined as pH less than 2.5 and gastric volume of at least 25 mL.

For other non-prespecified outcomes, see Analyses 8.24 to 8.26. In contrast to the above finding, these data showed a benefit for H<sub>2</sub> receptor antagonists, for the outcome of gastric volume measured as a continuous variable, as expected due to the nature of the treatments. However, one small study (24 women) evaluated gastric pH as a continuous variable and showed a benefit for H<sub>2</sub> receptor antagonists ([Ostheimer 1982](#)).

### (9) Antacids versus prokinetic drugs (no studies)

There were no studies that assessed this comparison.

### (10) H<sub>2</sub> antagonists versus proton pump antagonists (four studies, 332 women)

Four studies ([Ewart 1990a](#); [Lin 1996](#); [Tripathi 1995](#); [Yau 1992](#)) compared H<sub>2</sub> antagonists with proton pump antagonists.

All of these studies were of doubtful quality as allocation sequence generation and allocation concealment were unclear. Blinding was done only in two studies ([Lin 1996](#); [Tripathi 1995](#)). Only one study ([Tripathi 1995](#)) was judged to have adequate incomplete data assessment. All four studies were considered to be free of other bias, except for [Ewart 1990a](#) where there was not enough information to assess this.

#### Primary outcomes

Compared with proton pump inhibitors, H<sub>2</sub> receptor antagonists showed a statistically significant reduction in:

- risk of pH less than 2.5 for women undergoing elective caesarean (RR 0.39, 95% CI 0.16 to 0.97, one study, 120 women, [Analysis 10.3](#)).

#### Secondary outcomes

None of these studies reported on the secondary outcomes that were pre-specified in this review.

#### Outcomes not pre-specified

All four studies ([Ewart 1990a](#); [Lin 1996](#); [Tripathi 1995](#); [Yau 1992](#)) on women undergoing elective and emergency caesarean section reported on 'at risk of aspiration'.

- There was no statistically significant difference in risk identified (average RR 0.93, 95% CI 0.20 to 4.37, four studies, 323 women, random-effects [Tau<sup>2</sup> = 0.80, P = 0.22, I<sup>2</sup> = 32%], [Analysis 10.23](#)).

For other non-prespecified outcomes, see Analyses 10.24 to 10.27.

### (11) Antacids + H<sub>2</sub> antagonists versus antacids (two studies, 714 women)

Two studies compared the combined use of antacids and H<sub>2</sub> antagonists versus antacids ([Ormezzano 1990](#); [Rout 1993](#)). One study ([Rout 1993](#)) was judged to be of good quality with an adequate score on most of the domains that were used to assess risk of bias. In the other study ([Ormezzano 1990](#)), sequence generation and allocation were unclear and there was no blinding.

However, incomplete outcome data were addressed and the study was judged to be free of other bias.

#### Primary outcomes

In women undergoing both emergency and elective caesarean section, a combination of antacid plus H<sub>2</sub> receptor antagonists compared with antacids alone showed:

- a significant reduction in risk of pH less than 2.5 at intubation (RR 0.12, 95% CI 0.02 to 0.92, one study, 119 women, [Analysis 11.3](#)).

Other primary outcomes were not assessed.

#### Secondary outcomes

None of the secondary outcomes pre-specified in this review were reported by these studies.

#### Outcomes not pre-specified

There was a significant reduction in risk of acid aspiration for women undergoing emergency caesarean section with a combination of antacid plus H<sub>2</sub> receptor antagonists compared with antacids alone

- (RR 0.11, 95 % CI 0.03 to 0.46, one study, 595 women, [Analysis 11.27](#)).

For other non-prespecified outcomes, see Analyses 11.23 to 11.26.

### (12) H<sub>2</sub> antagonists + prokinetic drugs versus antacids (no studies)

There were no studies that assessed this comparison.

### (13) Proton pump agonists + prokinetics versus proton pump agonists (no studies)

One study assessed this comparison ([Orr 1993](#)). This study had adequate sequence generation and allocation concealment.

#### Primary Outcomes

None of the primary outcomes pre-specified in this review were reported by this study.

#### Secondary Outcomes

None of the secondary outcomes pre-specified in this review were reported by this study.

#### Outcomes not pre-specified

This study reported on 'at risk of aspiration' post intubation and pre-extubation.

- There was no statistically significant difference in the risk identified for 'at risk of aspiration' post intubation (RR 0.49, 95%CI 0.15, 1.60, one study, 97 women, [Analysis 13.23](#)).
- There was no statistically significant difference in the risk identified for 'at risk of aspiration' pre extubation (RR 0.67, 95%CI 0.03, 15.91, one study, 94 women, [Analysis 13.24](#)).

### (14) H<sub>2</sub> antagonist versus tramadol (one study, 60 women)

One study compared H<sub>2</sub> receptor antagonists with tramadol (both by intramuscular injection) in 60 women undergoing elective

caesarean section (Elhakim 2005). Although most aspects of the assessment of risk of bias were assessed as low risk, allocation concealment was uncertain and this gives an overall uncertain level of risk of bias for the study.

### Primary outcomes

Compared with tramadol, H<sub>2</sub> antagonists showed a statistically significant increase in:

- risk of intragastric volume greater than 0.4mg/kg at intubation (RR 5.00, 95% CI 1.03 to 24.28, one study, 90 women, [Analysis 14.4](#)).

Other primary outcomes were not assessed.

### Secondary outcomes

There was no statistically significant difference identified in:

- nausea (RR 1.38, 95% CI 0.64 to 2.93, one study, 60 women, [Analysis 14.5](#)). Other secondary outcomes were not assessed.

### Outcomes not pre-specified

This study also included 'at risk of aspiration' defined as gastric volume greater than 0.4 mL/kg and pH less than 2.5, but there were no events observed in either group for this outcome.

### (15) Antacids + H<sub>2</sub> antagonists versus proton pump antagonists (one study, 109 women)

One study compared antacids plus H<sub>2</sub> receptor antagonists with proton pump antagonists in women undergoing emergency caesarean section (Yau 1992). The study was of unclear quality with insufficient information to assess the main aspects of risk of bias.

### Primary outcomes

This study did not measure any of the primary outcomes that were pre-specified in this review.

### Secondary outcomes

This study did not measure any of the secondary outcomes that were pre-specified in this review.

### Outcomes not pre-specified

Compared with proton pump antagonists, H<sub>2</sub> receptor antagonists showed a statistically significant reduction in:

- 'risk of gastric aspiration' (RR 0.12, 95% CI 0.02 to 0.91, one study, 108 women, [Analysis 15.23](#)).

### (16) Proton pump antagonist + antacid versus proton pump antagonist (one study, 113 women)

One study assessed proton pump antagonists plus antacids with proton pump antagonist alone in women undergoing emergency caesarean section (Yau 1992). The study was of unclear quality with insufficient information to assess the main aspects of risk of bias.

### Primary outcomes

This study did not measure any of the primary outcomes that were pre-specified in this review.

### Secondary outcomes

This study did not measure any of the secondary outcomes that were pre-specified in this review.

### Outcomes not pre-specified

There was no statistically significant difference identified in:

- risk of gastric aspiration between the two interventions (RR 0.33, 95% CI 0.10 to 1.15, one study, 113 women, [Analysis 16.23](#)).

### (17) H<sub>2</sub> antagonist + prokinetic versus H<sub>2</sub> antagonist (one study, 50 women)

One study assessed a combination of H<sub>2</sub> receptor antagonists plus prokinetic versus H<sub>2</sub> receptor antagonists alone in women undergoing elective caesarean section (Iqbal 2000). The study was unclear regarding the randomisation sequence generation and allocation concealment and was thus of unclear quality.

### Primary outcomes

This study did not measure any of the primary outcomes that were pre-specified in this review.

### Secondary outcomes

This study did not measure any of the secondary outcomes that were pre-specified in this review.

### Outcomes not pre-specified

There was no significant difference in risk of gastric aspiration between the two interventions ([Analysis 17.23](#)).

For non prespecified outcomes, see Analyses 17.24, 17.26 and 17.27.

## DISCUSSION

### Summary of main results

Although the studies were generally of poor quality, the findings from this review have shown that:

1. compared with no treatment or placebo, antacids, H<sub>2</sub> antagonists and proton pump antagonists each reduce the risk of intragastric pH less than 2.5 at intubation. The studies on prokinetic drugs and non-pharmacological interventions did not assess this outcome and, in addition, were probably too small to be able identify any differences;
2. when antacids were compared with H<sub>2</sub> antagonists, the findings were unclear as to which drug might be more effective for increasing gastric pH, although antacid use was associated with increase in gastric volume;
3. H<sub>2</sub> antagonists were associated with a reduced risk of intragastric pH less than 2.5 at intubation when compared with proton pump antagonists;
4. the combination of 'antacids plus H<sub>2</sub> antagonists' or 'prokinetic drugs plus H<sub>2</sub> antagonists' also reduced the risk of intragastric pH less than 2.5 at intubation, when compared to placebo or no treatment;

5. when compared to antacid use only, the combination of 'antacids plus H<sub>2</sub> antagonists' was associated with a reduction in the risk of intragastric pH less than 2.5 at intubation.

### Overall completeness and applicability of evidence

Aspiration pneumonitis is a rare outcome and therefore the primary outcome measure in the studies that we identified were surrogate measures, i.e. intragastric pH and intragastric volume. The validity of these surrogate markers, however, is uncertain as it is based on work on animal experiments from 1974 (Roberts 1974). Many studies have defined and reported high risk of aspiration as a combination of low intragastric pH (less than 2.5) and raised intragastric volume (greater than 25 mL). This combined measure was not a pre-specified outcome in our review but we have included and presented the data on this for completeness. The studies did not answer the broader question of whether the surrogate markers (of pH and gastric volume) actually correlate with clinical outcome in the context of aspiration pneumonitis.

All but two of the studies that we identified in this review included women who had caesarean section (CS) under general anaesthesia. One study (Lin 1996) studied women who had CS under spinal anaesthesia and the type of anaesthesia used was unclear in one study (Zue 1999). The majority of studies included women who had elective CS (N = 16); five studies included women who had emergency CS, hence we are unable to draw conclusions about the differences between elective and non-elective CS. The findings of this review are generally applicable for women having CS under general anaesthesia (or those who convert from regional to general anaesthesia). Aspiration under regional anaesthesia is exceptionally rare, but may occur in the presence of other serious clinical problems such as seizures and life-threatening haemorrhage.

### Quality of the evidence

The quality of studies included in this review was generally poor. Only one study was assessed to have adequate sequence generation and concealment allocation (Orr 1993). It was unclear whether or not randomisation sequence generation and allocation concealment were adequate in the majority of studies. The majority of studies were not blinded, although this could have been done feasibly.

### Potential biases in the review process

The possibility of introducing bias was present at every stage of reviewing process. We attempted to minimise bias in a number of ways; two review authors assessed eligibility for inclusion, carried out data extraction and assessed risk of bias. Each worked independently. Nevertheless, the process of assessing risk of bias, for example, is not an exact science and includes many personal judgements.

### Agreements and disagreements with other studies or reviews

Current practice in the UK mostly includes the administration of the combination of antacids and H<sub>2</sub> antagonists prior to CS (Thomas 2001). However, this is not routine practice in many centres worldwide. The findings from this review suggest that

the combined use of antacids and H<sub>2</sub> antagonists have a role in reducing intragastric pH less than 2.5, and hence possibly in reducing the risk of aspiration pneumonitis during CS, particularly under general anaesthesia.

## AUTHORS' CONCLUSIONS

### Implications for practice

In summary, the quality of the evidence was poor, but the findings suggest that the combination of antacids plus H<sub>2</sub> antagonists was shown to be more effective than no intervention, and superior to antacids alone in increasing gastric pH. When a single agent is used, antacids alone are superior to H<sub>2</sub> antagonists, which are superior to proton pump inhibitors for increasing gastric pH. The effects of treatments on gastric volume are less consistently reported. These findings are relevant for all women undergoing caesarean section, particularly those under general anaesthesia. Whether women undergoing caesarean section under regional anaesthesia should receive aspiration prophylaxis is a clinical judgement; however, since the treatments are relatively well tolerated, and inexpensive, their use should be strongly considered in view of the potential of benefit, particularly as aspiration still is a cause of maternal mortality.

### Implications for research

This review confirms the efficacy of many of the commonly used aspiration prophylaxis regimens compared with placebo in reducing gastric pH and volume. However, many studies, particularly those examining combinations of different modalities of prophylaxis, were small and of generally poor quality. Large well-designed studies that include women having emergency and elective caesarean section under regional and general anaesthesia are required to confirm the conclusions of this review.

Further work is required to validate the suitability of surrogate markers (of pH and gastric volume) for clinical outcomes in the context of aspiration pneumonitis.

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\* Indicates the major publication for the study

**CHARACTERISTICS OF STUDIES**
**Characteristics of included studies [ordered by study ID]**
**Bifarini 1990**

Methods	Randomised women into 3 groups.
Participants	Women undergoing CS, both elective and non-elective. N = 48.
Interventions	1. Ranitidine, 50 mg, IV. 2. Ranitidine, 50 mg + metoclopramide 10 mg, IV. 3. No medication.
Outcomes	Apgar scores and haematological tests. Also nasogastric tube examination.
Notes	<b>Data could not be used.</b> Apgar scores were reported as means and the laboratory tests were not part of our review.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	'...randomly assigned...'
Allocation concealment (selection bias)	Unclear risk	Not reported.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	Not reported.
Incomplete outcome data (attrition bias) All outcomes	Low risk	No dropouts reported.



**Bifarini 1990** (Continued)

Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	Insufficient information to make a judgement.

**Bifarini 1992**

Methods	Randomised women into 3 groups.	
Participants	Women undergoing CS, either elective and non-elective. N = 75.	
Interventions	<ol style="list-style-type: none"> <li>1. Ranitidine, 50 mg, IV.</li> <li>2. Ranitidine, 50 mg + metoclopramide 10 mg, IV.</li> <li>3. No medication.</li> </ol>	
Outcomes	Gastric acidity and volume.	
Notes	<b>Data could not be used.</b> Results were expressed as mean values with no SDs.	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Translated as '...randomly divided...'
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	Not described.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	No information.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	Insufficient information provided to assess this.

**Bylsma-Howell 1983**

Methods	RCT.	
Participants	Women at term having CS under general anaesthesia. N = 23.	
Interventions	1. Metoclopramide IV (N = 8).	

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**Bylsma-Howell 1983** (Continued)

2. Placebo IV (N = 12).

Outcomes	Gastric volume, Apgar score, level metoclopramide in fetal venous and arterial blood.
Notes	<b>Data could not be used.</b> Analyses were not by ITT. Three babies developed respiratory difficulties at birth and were transferred to intensive care nursery. Since these babies were lost to follow-up they were excluded - leaving 20 for analysis (13% loss).

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	'...randomised double blind manner....'
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding (performance bias and detection bias) All outcomes	Low risk	Authors describe this as a double blinded study, although they provide no information about how blinding was achieved.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	3 women were excluded because their babies went to intensive care and the data were not collected. These babies and their mothers should have been included but there is no information as to which randomised group they were allocated.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	Insufficient information provided to assess this.

**Dewan 1985**

Methods	Randomised women to 3 groups.
Participants	Healthy women at term scheduled for elective CS under GA. N = 32.
Interventions	1. 30 mL 0.3 M sodium citrate < 60 mins pre-op (intervention group1). 2. 30 mL 0.3 M sodium citrate > 60 mins pre-op (intervention group 2). 3. No antacid (comparison group).
Outcomes	Gastric volume and pH postintubation.
Notes	We excluded data from the group that was given antacid > 60 mins pre-op as the optimum effectiveness for giving antacids is within 60 mins of the operation.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	"...randomly assigned."

**Dewan 1985** (Continued)

Allocation concealment (selection bias)	High risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	No mention of blinding.
Incomplete outcome data (attrition bias) All outcomes	Low risk	No loss to follow-up.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

**Elhakim 2005**

Methods	RCT.
Participants	Pregnant women ASA 1 undergoing elective CS.  N = 60.
Interventions	1. Tramadol 100 mg 1 hr before induction to anaesthesia (intervention group). 2. Famotidine 20 mg IM 1 hr before induction to anaesthesia (comparison group).
Outcomes	Gastric pH and volume. Apgar scores. Frequency and severity of nausea. Pain scores. Blood gases - umbilical, venous and arterial blood gases.
Notes	Some of the data have been presented as median and range and therefore not used.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Computer-generated random number.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Low risk	Paediatrician and anaesthetist.
Incomplete outcome data (attrition bias) All outcomes	Low risk	No loss of participants.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence for other bias.

**Ewart 1990a**

Methods	RCT.
Participants	Scheduled CSs under general anaesthesia in healthy uncomplicated pregnancies of at least 36 weeks. N = 70.
Interventions	1. 40 mg omeprazole orally at 22.00 hrs and 06.00 in the morning of surgery (intervention group). 2. 150 mg of ranitidine orally at 22.00 hrs and 06.00 in the morning of surgery (comparison group).
Outcomes	Gastric volume and ph measured after in the induction of anaesthesia and on completion of surgery. Apgar scores.
Notes	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	Not described.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	70 recruited, 5 withdrawn.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	Unclear how many women were approached but did not want to take part in the trial - this may contribute to selection bias.

**Fogarty 1992**

Methods	RCT.
Participants	Women having obstetric surgery.
Interventions	1. Omeprazole (40 mg). Evening before and the morning of the surgery. 2. Omeprazole (80 mg). On morning of surgery. 3. Omeprazole (40 mg). Evening before and the morning of the surgery. Plus metoclopramide (10 mg) 20 mins before induction of anaesthesia. 4. Omeprazole (80 mg). On morning of surgery. Plus metoclopramide (10 mg) 20 mins before induction of anaesthesia.
Outcomes	

**Fogarty 1992** (Continued)

Notes **Data could not be used.** There was no information as to how many women were included in the study overall, nor how many were randomised to each group. Conference abstract only.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	'..randomised...'
Allocation concealment (selection bias)	Unclear risk	No information.
Blinding (performance bias and detection bias) All outcomes	Low risk	Authors report this as 'double blinded' although no information as to how that was achieved.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	No information.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	Insufficient information to enable us to make a judgement here.

**Frank 1984**

Methods	RCT.
Participants	Pregnant women (ASA 1 & 2) at term having either a emergency or elective CS under general anaesthesia.  N = 42.
Interventions	<p><b>Elective CS interventions</b></p> <ol style="list-style-type: none"> <li>1. 15 mL mg trisilicate mixture BPC before transfer to theatre and further 15 mL before induction of anaesthesia.</li> <li>2. 15 mL sodium citrate mixture before transfer to theatre and further 15 mL before induction of anaesthesia.</li> <li>3. Cimetidine 400 mg po night before the operation and 200 mg IM 90 mins before the induction of anaesthesia.</li> </ol> <p><b>Emergency CS interventions</b></p> <ol style="list-style-type: none"> <li>1. 15 mL mg trisilicate mixture BPC every 2 hrs throughout labour and again before induction of anaesthesia.</li> <li>2. 15 mL of sodium citrate every 2 hrs throughout labour and again before induction of anaesthesia.</li> <li>3. Loading dose of 400 mg of cimetidine po followed by 200 mg po every 2 hrs for a maximum of 7 doses.</li> </ol>
Outcomes	Gastric pH and gastric volume, neonatal Apgar scores.
Notes	

**Frank 1984** (Continued)

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	High risk	No information - unlikely due to the type of interventions involved.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	Participant loss and exclusion not described.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

**Hodgkinson 1983**

Methods	RCT.
Participants	Women having elective CS under general anaesthesia.
Interventions	<ol style="list-style-type: none"> <li>1. Cimetidine (300 mg orally the evening before caesarean and 300 mg intramuscularly between 1 to 3 hrs preoperatively).</li> <li>2. Mylanta 2 (antacid) (30 mL orally).</li> </ol>
Outcomes	Gastric volume, gastric pH, Apgar score, maternal and neonatal complications.
Notes	<p><b>Data could not be used.</b> Analyses were not by ITT.</p> <p>Not ITT analysis for primary outcome and poor randomisation exclusion rates.</p>

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	"...allocated in a random, double-blind manner..."
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding (performance bias and detection bias) All outcomes	Low risk	"... placebo mixture identical in appearance..."
Incomplete outcome data (attrition bias) All outcomes	High risk	"A physician unaware of the treatment administration excluded 37 of the 126 case records from the analysis of gastric secretion because of protocol violations but included the in the safety assessments. Thirteen of the 37 had been

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**Hodgkinson 1983** *(Continued)*

entered by one investigator in an unblinded study as required by his Institutional Review Board. The remainder were excluded because general anaesthesia was not induced between 1 and 3 hr of the morning administration of the appropriate medication."

Selective reporting (reporting bias)	Unclear risk	We did to assess the trial protocol.
Other bias	Unclear risk	Difficult to assess.

**Hong 2004**

Methods	RCT.
Participants	Pregnant women undergoing elective CS. N = 40.
Interventions	1. 5% Dextrose 120 mL/hr (intervention group). 2. 120 mL/hr N saline (comparison group).
Outcomes	Gastric volume and ph reported as "at risk of aspiration".
Notes	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	No details given.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	Insufficient detail to assess.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	Insufficient detail to assess.

**Husemeyer 1980**

Methods	RCT.
Participants	Elective CS of 37 weeks or more gestation for non acute obstetric indications.



**Husemeyer 1980** (Continued)

N = 62.

Interventions	1. 400 mg cimetidine po + 20 mL water 2-6 hrs before anaesthesia (intervention group). 2. Magnesium trisilicate mixture BPC 20 mL within 1 hr before anaesthesia (comparison group).
Outcomes	Maternal gastric pH and volume (postinduction of anaesthesia).
Notes	pH data not used as median and range given.  Magnesium trisilicate is a particulate antacid and mostly not to be used nowadays.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	No details of blinding.
Incomplete outcome data (attrition bias) All outcomes	Low risk	All participants accounted for.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

**Iqbal 2000**

Methods	RCT.
Participants	ASA 1-2 elective CS.  N = 75.
Interventions	1. Ranitidine (intervention group 1). 2. Ranitidine + metoclopramide (intervention group 2). 3. Saline 4 mL (comparison group).
Outcomes	Gastric volume and pH. Risk of aspiration.
Notes	Unclear what dose of ranitidine was given to women.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	"...randomised".

**Iqbal 2000** (Continued)

Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Low risk	Double-blind manner.
Incomplete outcome data (attrition bias) All outcomes	Low risk	Assume ITT.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence for other bias.

**Jasson 1989**

Methods	RCT.
Participants	Women undergoing an elective CS under GA.  N = 52.
Interventions	1. Oral sodium citrate 0.3 30 mL 5 mins prior to anaesthesia (intervention group). 2. No medication prior to anaesthesia (control group).
Outcomes	Gastric pH and gastric volume.
Notes	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Method of allocation not stated.
Allocation concealment (selection bias)	Unclear risk	Method of allocation not stated.
Blinding (performance bias and detection bias) All outcomes	High risk	Not blinded.
Incomplete outcome data (attrition bias) All outcomes	Low risk	No outcome data on 1 patient due to pyloric reflux.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	Difficult to assess as limited information.

**Lin 1996**

Methods	RCT.
Participants	Pregnant women ASA 1-2, aged 21-43 years old scheduled for elective CS under regional anaesthesia. N = 160.
Interventions	1. Famotidine 40 mg (intervention group 1). 2. Ranitidine 300 mg (intervention group 2). 3. Omeprazole 40 mg (intervention group 3). 4. Placebo (comparison group).
Outcomes	Gastric volume and pH. Percentage of women at risk of aspiration pH < 2.5 and volume > 0.4 mL/kg.
Notes	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Low risk	"...double blind."
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	5 women excluded as time from premed to CS < 3 hrs - unclear which groups these women were excluded from.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

**O'Sullivan 1985**

Methods	Randomised women into 5 groups.
Participants	Women for elective CS and women for elective gynaecological surgery. Data presented separately. N = 80 women overall, but 40 pregnant women involved.
Interventions	1. Magnesium trisilicate mixture (30 mL). 2. Metoclopramide (10 mg IM). 3. Ranitidine (150 mg orally on night before and morning of surgery). 4. Metoclopramide (10 mg IM) + ranitidine (150 mg oral). 5. No medication.  16 women in each group, equally divided between pregnant and non-pregnant women. So 8 pregnant women in each group.

**O'Sullivan 1985** (Continued)

Outcomes	Intragastric pH; volume and serum gastrin-17.	
Notes	<b>Data could not be used. Data expressed as medians and ranges.</b>  Findings indicated that ranitidine was most reliable method for raising intragastric pH. the addition of metoclopramide gave added reduction in gastric volume,	
<b>Risk of bias</b>		
<b>Bias</b>	<b>Authors' judgement</b>	<b>Support for judgement</b>
Random sequence generation (selection bias)	Unclear risk	"... were randomly assigned..."
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	No information provided.
Incomplete outcome data (attrition bias) All outcomes	Low risk	No losses reported.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocols.
Other bias	Unclear risk	Difficult to assess.

**Ormezzano 1990**

Methods	RCT.	
Participants	Pregnant ASA 1 & 2 women undergoing emergency and elective CS under general anaesthesia.  N = 147.	
Interventions	<ol style="list-style-type: none"> <li>Nothing (no pre med) (comparison group).</li> <li>0.3 M sodium citrate 15 mL (intervention group 1).</li> <li>400 mg cimetidine and 0.9 g sodium citrate in 15 mL water (intervention group 2).</li> </ol>	
Outcomes	Gastric pH.	
Notes		
<b>Risk of bias</b>		
<b>Bias</b>	<b>Authors' judgement</b>	<b>Support for judgement</b>
Random sequence generation (selection bias)	Unclear risk	Not described.
Allocation concealment (selection bias)	Unclear risk	Not described.

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**Ormezzano 1990** (Continued)

Blinding (performance bias and detection bias) All outcomes	Unclear risk	No details of blinding.
Incomplete outcome data (attrition bias) All outcomes	Low risk	All women accounted for.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

**Orr 1993**

Methods	RCT.
Participants	Healthy pregnant women with an uncomplicated pregnancy of at least 36 weeks to be delivered by elective CS under general anaesthesia.  N = 94.
Interventions	<ol style="list-style-type: none"> <li>1. 40 mg omeprazole (po) night before surgery and morning of surgery.</li> <li>2. 80 mg omeprazole (po) morning of surgery.</li> <li>3. 40 mg omeprazole (po) night before surgery and morning of surgery, and 10 mg metoclopramide (IM) 20 min before induction of anaesthesia.</li> <li>4. 80 mg omeprazole (po) morning of surgery and 10 mg metoclopramide (IM) 20 min before induction of anaesthesia.</li> </ol>
Outcomes	Postintubation and pre-extubation gastric pH and volume, Apgar scores, neuro behavioural and adaptive scoring system (NACS), plasma and amniotic fluid omeprazole levels and risk of aspiration (pH < 2.5 and gastric volume ≥ 25 mL).
Notes	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Computer-generated schedule.
Allocation concealment (selection bias)	Low risk	Pre-packed packs with matching placebo capsules and injections.
Blinding (performance bias and detection bias) All outcomes	Low risk	Women, clinicians and outcome assessors were blinded.
Incomplete outcome data (attrition bias) All outcomes	Low risk	No post randomisation exclusions; analysis was by ITT.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.

**Interventions at caesarean section for reducing the risk of aspiration pneumonia (Review)**

**Orr 1993** (Continued)

Other bias	Low risk	No evidence of other bias.
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**Osman 1995**

Methods	RCT.
Participants	Women at term scheduled for emergency CS. N = 20.
Interventions	<ol style="list-style-type: none"> <li>1. Ranitidine (150 mg 30 mins prior to anaesthetic induction, followed by 50 mg infusion in 250 mL dextrose 5% over 30 mins).</li> <li>2. Cimetidine (400 mg 30 mins prior to anaesthetic induction, followed by 100 mg infused in 250 mL dextrose 5% over 30 mins).</li> <li>3. A non-random control group of 10 women given placebo infusion.</li> </ol>
Outcomes	Gastric pH, gastric volume, maternal uterine contractions and fetal welfare.
Notes	<b>Data could not be used.</b> No information on the number of women in each group and the data provided as ranges with SDs. We wrote to the authors but have had no response.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	"...randomly divided..."
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	No information provided.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	No information provided. Implies no outcome data lost, but not specified.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	Difficult to assess.

**Ostheimer 1982**

Methods	RCT.
Participants	Pregnant women undergoing elective CS under general anaesthesia. N = 24.
Interventions	1. 300 mg cimetidine IM 1 hr prior to induction of general anaesthesia (intervention group).

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**Ostheimer 1982** (Continued)

2. 30 mL antacid (mylanta 2) (comparison group).

Outcomes	Gastric volume and pH. Intrapartum and postpartum complications. Apgar scores 1 and 5 min after birth. Neonatal gastric volumes and pH within 10 mins of birth. Brazelton neonatal assessment scale.
Notes	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	No details of blinding.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	Not enough data to assess.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

**Ozkan 2000**

Methods	RCT.
Participants	Women with singleton pregnancies undergoing elective CS under general anaesthesia. N = 150.
Interventions	1. Oral sodium nitrate (30 mL 0.3 mol/L). 2. Water (200 cc). 3. Ranitidine (50 mg IV). 4. Omeprazole (40 mg IV). 5. Metoclopramide (10 mg IV).
Outcomes	At risk of aspiration defined as gastric residual volume > 0.4 mL and gastric pH < 2.5, postintubation and pre-extubation.
Notes	Also included continuous outcomes of gastric pH and gastric residual volume but unclear if data presented are SDs or standard errors. We will write to the authors to clarify. In the mean time we have not entered continuous data.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
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**Ozkan 2000** (Continued)

Random sequence generation (selection bias)	Unclear risk	Not described.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	Not described.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	Not enough data to assess.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	Difficult to assess as limited information given.

**Pickering 1980**

Methods	RCT.
Participants	Healthy pregnant women undergoing elective CS under general anaesthesia. N = 17.
Interventions	1. Cimetidine IM 300 mg (intervention group). 2. Antacid 30 mL gelusil (comparison group).
Outcomes	Gastric pH and volume (intraoperative dilution technique) and 'at risk' pH < 2.5 and volume > 25 mL.
Notes	Also measured intraoperative gastric volume using dilution technique.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	High risk	No blinding reported.
Incomplete outcome data (attrition bias) All outcomes	Low risk	All women accounted for.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.

**Pickering 1980** (Continued)

Other bias	Low risk	No evidence for other bias.
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**Rocke 1994**

Methods	RCT.
Participants	Term singleton pregnancies requiring emergency CS under general anaesthesia. N = 541.
Interventions	1. IV omeprazole 40 mg over 1 min at time of decision for CS under GA (intervention group). 2. Placebo (comparison group).  NB: Both groups received 10 mg IV metoclopramide + 0.3 M sodium citrate 30 mL orally.
Outcomes	Volume and pH of stomach contents postintubation and pre extubation. Risk of aspiration.
Notes	Apgar score and gastric aspirate data are presented as medians and range and therefore not input.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Sequence generation not described.
Allocation concealment (selection bias)	Low risk	Pre-randomised identical numbered vials.
Blinding (performance bias and detection bias) All outcomes	Low risk	Women, clinician and outcome assessor.
Incomplete outcome data (attrition bias) All outcomes	Low risk	722 recruited and randomised, 181 withdrawn as per exclusion criteria.
Selective reporting (reporting bias)	Unclear risk	Data analysed in groups that were assigned but did not measure outcome in 3 controls and 6 in the study group - unable to get enough aspirate. Also we did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

**Roper 1981**

Methods	Randomisation into 3 groups.
Participants	Women undergoing elective CS. N = 127.
Interventions	1. Atrophine (N = 45). 2. Glycopyrrolate (N = 40).

**Interventions at caesarean section for reducing the risk of aspiration pneumonia (Review)**

**Roper 1981** (Continued)

3. Placebo (N = 42).

Outcomes	Gastric volume, fetal heart rate, Apgar scores.
Notes	<b>Data could not be used.</b> The gastric secretion pH was not assessed dichotomously but portrayed in a graph form.  Study suggested that both anticholinergics reduced.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	"...allocated randomly into three treatment regimes..."
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding (performance bias and detection bias) All outcomes	Low risk	"...administered under double blind conditions..."
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	No information provided and difficult to count how many points there are on the graphs.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	Difficult to assess as limited information given.

**Rout 1993**

Methods	RCT.
Participants	Women with term singleton pregnancy, emergency CS under general anaesthesia.  N = 595.
Interventions	1. 50 mg ranitidine IV over 1 min + 30 mL 0.3 M sodium citrate (intervention group). 2. 0.9% sodium chloride IV + 30 mL 0.3 M sodium citrate (comparison group).
Outcomes	Gastric pH and gastric volume - postintubation and pre-extubation. Risk of aspiration.
Notes	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Sequence generation not described.
Allocation concealment (selection bias)	Low risk	Pre-randomised identical numbered ampoules.

**Interventions at caesarean section for reducing the risk of aspiration pneumonia (Review)**

**Rout 1993** (Continued)

Blinding (performance bias and detection bias) All outcomes	Low risk	Double blind, identical preparation pre-prepared.
Incomplete outcome data (attrition bias) All outcomes	Low risk	100 women excluded post randomisation - fully accounted for but no outcome data.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence for other bias.

**Stuart 1996**

Methods	RCT.	
Participants	Women having emergency CS under general anaesthesia. Women were ASA grade 1 or 2. N = 385.	
Interventions	Phase 1: N = 185 1. Metoclopramide + sodium citrate (metoclopramide, 10 mg IV + sodium citrate, 30 mL, 0.3 M at 5-10 mins before induction of anaesthesia). Group MC. 2. Sodium citrate. Group C. Phase 2: N = 200 1. Ranitidine (50 mg). Group RC. 2. Omeprazole (40 mg). Group OC. 3. Ranitidine (50 mg) + metoclopramide (10 mg). Group RMC. 4. Omeprazole (40 mg) + metoclopramide (10 mg). Group OMC. All women in phase 2 received 30 mL sodium citrate 0.3 M just before induction of anaesthesia.	
Outcomes	Gastric volume and pH.	
Notes	<b>Data could not be used.</b> Outcome data provided only as median and ranges. Data were analysed by 'per protocol' rather than ITT. it was not possible to re-allocate the information.	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	"...random allocation..."
Allocation concealment (selection bias)	Unclear risk	No information given.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	No information provided.

**Stuart 1996** (Continued)

Incomplete outcome data (attrition bias) All outcomes	High risk	Phase 1: 20 women initially allocated to Group MC but who received only sodium citrate because of time constraints, were analysed in Group C.  Phase 2: 1 woman was excluded.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocols.
Other bias	Unclear risk	Difficult to assess as limited information given.

**Tripathi 1995**

Methods	RCT.
Participants	Healthy women, uncomplicated singleton pregnancies at term requiring emergency CS under general anaesthesia.  N = 80.
Interventions	1. 40 mg omeprazole IV at the time of decision to perform CS. 2. 50 mg ranitidine IV at time of decision to perform CS.
Outcomes	Gastric volume and pH.
Notes	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described - "randomly assigned".
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Low risk	Double-blind manner.
Incomplete outcome data (attrition bias) All outcomes	Low risk	All women accounted for.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

**Tryba 1983**

Methods	RCT.
Participants	Pregnant women presenting for elective CS with no history of gastric problems.



**Tryba 1983** (Continued)

N = 30.

Interventions	1. 400 mg of oral cimetidine the night before surgery and 400 mg IM 120 min prior to anaesthesia (intervention group). 2. No specific pre-operative medication was given (control group).
Outcomes	Gastric volume and gastric pH. Adverse events.
Notes	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not stated.
Allocation concealment (selection bias)	Unclear risk	Not stated.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	The translator reports blinding; however, it is unclear who was blind to the treatment.
Incomplete outcome data (attrition bias) All outcomes	Low risk	The translator reports '0 dropouts'.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	No evidence of other bias but uncertain due to translation.

**von Braun 1994**

Methods	RCT,
Participants	Women undergoing non-elective CS.  Women suffering from illnesses of the upper intestinal tract were excluded,
Interventions	Part 1:  1. Famotidine (20 mg IV) + metoclopramide (10 mg IV). N = 125. 2. Famotidine (20 mg IV). N = 130.  Part 2:  1. Metoclopramide (10 mg) + sodium citrate (20 mL of 0.3 M). N = 75. 2. Sodium citrate (20 mL of 0.3 M). N = 96.
Outcomes	Gastric volume and pH. Apgar scores at 1, 5 and 10 mins.
Notes	<b>Data could not be used.</b> Results were compared with values for non-medicated pregnant women reported by other studies.

**von Braun 1994** (Continued)

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	"...randomised subgroup..."
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	Not stated.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	Not enough information provided to assess this.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Unclear risk	No evidence of other bias but uncertain due to translation.

**Wig 1987**

Methods	RCT.
Participants	Pregnant women undergoing emergency CS under general anaesthesia. N = 90.
Interventions	1. Sodium citrate 30 mL 0.3 M 15 min prior to induction via nasogastric tube (intervention group 1). 2. Magnesium trisilicate 1.5 g dissolved in 15 mL of tap water, 15 min prior to induction via nasogastric tube (intervention group 2). 3. 30 mL tap water via nasogastric tube, 15 min prior to induction of anaesthesia (comparison group).
Outcomes	Gastric pH measured pre-administration of Rx, postintubation and postextubation.
Notes	

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described 'randomly allocated'.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	Not described.
Incomplete outcome data (attrition bias)	Unclear risk	States randomised 30 to each group but N in each group for results not given.

**Interventions at caesarean section for reducing the risk of aspiration pneumonia (Review)**

**Wig 1987** (Continued)

All outcomes

Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

**Yau 1992**

Methods	RCT.
Participants	Chinese women undergoing emergency CS. N = 162.
Interventions	1. Ranitidine 150 mg every 6 hrs + 30 mL 0.3 sodium citrate before induction. 2. Omeprazole 40 mg 12 hrly + sodium citrate 30 mL 0.3 before induction. 3. Omeprazole 40 mg 12 hrly only.
Outcomes	Gastric volume and gastric pH. At risk of aspiration: pH < 2.5 and volume > 25 mL.
Notes	Continuous data presented in graphs for gastric pH and volume; means and SD not given.

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Randomised on admission to labour ward.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	Not described.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	Not described.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

**Zoroglu 1999**

Methods	RCT.
Participants	Women undergoing CS under general anaesthesia. N = 75.

**Zoroglu 1999** (Continued)

Interventions	1. 300 mg nizatidine (intervention group 1). 2. 40 mg famotidine (intervention group 2). 3. N saline (comparison group).
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Outcomes	Postintubation and pre-extubation gastric pH and gastric volume. Arterial and umbilical blood gases. Apgar scores and 1 and 5 min.
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Notes

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described.
Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	Unclear risk	Not described.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	Not enough data to assess.
Selective reporting (reporting bias)	Unclear risk	We did not assess the trial protocol.
Other bias	Low risk	No evidence for other bias.

**Zue 1999**

Methods	RCT.
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Participants	Pregnant women presenting for emergency CS for acute fetal distress, pre-eclampsia and failed trial of labour.  N = 60.
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Interventions	1. Oral effervescent ranitidine 150 mg. 2. No treatment.
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Outcomes	Gastric pH- measured with pH meter immediately postintubation and pre extubation.
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Notes

**Risk of bias**

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described.

**Zue 1999** (Continued)

Allocation concealment (selection bias)	Unclear risk	Not described.
Blinding (performance bias and detection bias) All outcomes	High risk	No reports of blinding.
Incomplete outcome data (attrition bias) All outcomes	Low risk	No loss of participants reported.
Selective reporting (reporting bias)	Unclear risk	Due to translation of paper and we did not assess the trial protocol.
Other bias	Low risk	No evidence of other bias.

CS: caesarean section  
 hr: hour  
 GA: gestational age  
 IM: intramuscular  
 IV: intravenous  
 ITT: intention-to-treat  
 M: molar  
 min: minute(s)  
 po: by mouth  
 pre-op: pre-operative  
 RCT: randomised controlled trial  
 SD: standard deviation

**Characteristics of excluded studies** [ordered by study ID]

Study	Reason for exclusion
<a href="#">Abbound 1984</a>	Study compares 2 different antacids with each other, sodium citrate versus Gelusil (aluminium hydroxide and magnesium hydroxide).
<a href="#">Abouleish 1999</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Ackerman 1987</a>	Study assessed drugs given for analgesia, not for reducing aspiration pneumonitis.
<a href="#">Ackerman 1988</a>	Study assessed drugs given for analgesia, not for reducing aspiration pneumonitis.
<a href="#">Ackerman 1989</a>	Study assessed drugs given for analgesia, not for reducing aspiration pneumonitis.
<a href="#">Apiliogullari 2008</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Atkinson 1980</a>	Not an RCT.
<a href="#">Avramovic 1979</a>	Investigated effect of post-CS intervention on abdominal distension.
<a href="#">Ayorinde 2000</a>	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
<a href="#">Ayorinde 2001</a>	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.

Study	Reason for exclusion
<a href="#">Belzarena 1993</a>	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
<a href="#">Birnbach 1993</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Biswas 2003</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Biwas 2002</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Bonhomme 2002</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Boone 2002</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Boschi 1984</a>	Not an RCT; women were divided into groups.
<a href="#">Brock-Utne 1989</a>	Not an RCT; women were allocated to groups.
<a href="#">Brody 2008</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Caba 1997</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Chan 1992</a>	Study was a quasi-RCT.
<a href="#">Chan 1997</a>	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
<a href="#">Charuluxananan 2003</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Chaudhuri 2004</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Chen 2005</a>	Study assessed acupressure for reducing nausea and vomiting, anxiety and pain in women post-CS, not for reducing aspiration pneumonitis. Also not an RCT.
<a href="#">Cherian 2001</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Chestnut 1987</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Chestnut 1989</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Chung 1998</a>	Study assessed post-CS analgesia.
<a href="#">Cohen 1983</a>	No information on how women were allocated to groups.
<a href="#">Colman 1988</a>	No information on how women were allocated to groups.
<a href="#">Connelly 1997</a>	Study assessed drugs for reducing side effects of intrathecal opioids at CS.



Study	Reason for exclusion
Cooper 2002	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
Cowan 2002	Study assessed drugs given for analgesia, not for reducing aspiration pneumonitis.
Dahlgren 1997	Study assessed drugs given for analgesia, not for reducing aspiration pneumonitis.
Dailey 1985	Study assessed lignocaine given for analgesia, not for reducing aspiration pneumonitis.
Dailey 1988	Study assessed lignocaine concentrations in the blood and no clinical outcomes assessed.
Datta 1982	No information on how women were allocated to groups.
Dewan 1982	Not described as an RCT; women were assigned to groups.
Duggal 1998	Intervention looks at reducing nausea and vomiting not aspiration pneumonitis.
Dundee 1979	No information on how women were allocated to groups.
Fan 1994	Studying the effect of different doses of bupivacaine on anaesthesia.
Flynn 1989a	Study of effect of 400 mg cimetidine or 150 mg ranitidine or placebo on plasma levels of bupivacaine at CS.
Flynn 1989b	Study of effect of 200 mg cimetidine plasma levels of lignocaine at CS.
Flynn 1989c	Study of effect of 400 mg cimetidine or 150 mg ranitidine or placebo on plasma levels of lidocaine at CS.
Freeman 1999	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Fujii 1998a	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Fujii 1998b	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Fujii 1999	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Fujii 2002	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Fujii 2004	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Gaiser 2002	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Ghods 2005	Study to test efficacy of postoperative supplemental oxygen in reducing the incidence of postoperative nausea and vomiting.
Gutsche 1976	Assessing ephedrine for reducing hypotension of spinal anaesthesia.
Habib 2006	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.

Study	Reason for exclusion
<a href="#">Harmon 2000</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Hildyard 2000</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Ho 1996</a>	Study assessing P-6 acupressure on nausea and vomiting for post-CS pain relief.
<a href="#">Ho 2006</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Holdsworth 1974</a>	Not an RCT.
<a href="#">Holdsworth 1978</a>	Quasi-RCT.
<a href="#">Holdsworth 1980</a>	Not an RCT. Assessing women's positions for GA.
<a href="#">Huang 1992</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Hunt 1989</a>	Assessed fentanyl added to bupivacaine in spinal anaesthesia for effective anaesthesia but assessed Apgar scores.
<a href="#">Hussain 2011</a>	Not an RCT.
<a href="#">Imbeloni 1986</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Ishiyama 2001</a>	Study assessing fentanyl and flurbiprofen for analgesia.
<a href="#">Jabalameh 2011</a>	Study investigated interventions for reducing nausea, vomiting and pain and not for reducing aspiration pneumonitis
<a href="#">Kang 1982</a>	Hypotension study assessing continuous infusion versus bolus injection of ephedrine.
<a href="#">Kangas-Saarela 1990</a>	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
<a href="#">Kasodekar 2006</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Khalayleh 2005</a>	Study investigated interventions for reducing vomiting, not for reducing aspiration pneumonitis.
<a href="#">King 1998</a>	Study assessed drugs given for blood pressure control not for reducing aspiration pneumonitis.
<a href="#">Kjaer 2006</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Kocamanoglu 2005</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Kotelko 1989</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Lim 1991</a>	Not randomised.

Study	Reason for exclusion
Lim 2001a	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Lim 2001b	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Loughrey 2002	Study assessed drugs given for blood pressure control not for reducing aspiration pneumonitis.
Lussos 1992	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Mandell 1986	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Mandell 1992	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Manullang 2000	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Maranhao 1988	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
McCaughey 1981	Not a randomised study.
Mebazaa 2003	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Mukherjee 2006	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Murphy 1984	Study assessed the effect of IV metoclopramide on gastric emptying on women having elective CSs and those having emergency CSs studying both women given narcotics and those not given narcotics. Outcomes in this review not assessed.
Ngan 2000	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
Ngan 2001	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
Ngan 2004a	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
Ngan 2004b	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
Nortcliffe 2003	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Numazaki 2000	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Numazaki 2003	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
O'Sullivan 1988	Study assessed the effect of H <sub>2</sub> receptor antagonists on bupivacaine clearance in women undergoing elective CS under epidural anaesthesia.
Olsen 1994	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.

Study	Reason for exclusion
Ouyang 2002	Study on fentanyl for analgesia.
Owczarzak 1997	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Palmer 1991	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Palmer 1995	Study assessing fentanyl for pain relief.
Pan 1996	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Pan 2001	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Pan 2003	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Peixoto 2006	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Pellegrini 2001	Study assessing the analgesic effects of opioid antagonist - not included in protocol.
Phillips 2007	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Prakash 2006	Study looking at analgesia.
Quiney 1995	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Qvist 1983	Not randomised.
Qvist 1985	Studied effect of placental transfer of cimetidine given prior to induction of anaesthesia.
Ramanathan 1983	Study looking at preloading for blood pressure.
Ramin 1994	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
Rout 1992	Study assessed drugs given for blood pressure control, not for reducing aspiration pneumonitis.
Rudra 2004a	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Rudra 2004b	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Sanansilp 1998	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Santos 1984	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
Sen 2001	Study of analgesics for postoperative pain relief after CS.

Study	Reason for exclusion
<a href="#">Seyedhejazi 2007</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Shahriari 2009</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Shende 1998</a>	Study on intrathecal fentanyl in subarachnoid block for CS.
<a href="#">Siddik-Sayyid 2002</a>	Study on fentanyl in subarachnoid block for CS.
<a href="#">Stein 1997</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Tarhan 2007</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Taylor 1966</a>	Study not thought to be an RCT as it does not state how women were allocated to groups.
<a href="#">Tettambel 1983</a>	Quasi-RCT.
<a href="#">Tzeng 2000</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Ure 1999</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Vercauteren 2000</a>	Study assessed drugs given for blood pressure control not for reducing aspiration pneumonitis.
<a href="#">Wang 2001</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Weiss 1995</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.
<a href="#">Yazigi 2002</a>	Study assessed interventions for reducing nausea and vomiting at CS, not for reducing aspiration pneumonitis.

CS: caesarean section  
 GA: gestational age  
 IV: intravenous  
 RCT: randomised controlled trial

### Characteristics of studies awaiting assessment *[ordered by study ID]*

#### [Karamanlioglu 1995](#)

Methods	RCT.
Participants	Pregnant women.
Interventions	1. Omeprazole. 2. Famotidine. 3. Ranitidine.
Outcomes	Maternal gastric pH and volume and neonatal gastric pH and volume.

**Karamanlioglu 1995** (Continued)

Notes This study has been translated but there was insufficient information to allow data extraction. We are contacting the authors for clarification.

**Sarat 2007**

Methods

Participants

Interventions

Outcomes

Notes Seeking full paper.

RCT: randomised controlled trial

**DATA AND ANALYSES**
**Comparison 1. Antacids versus placebo/no treatment**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>3 Intra-gastric pH &lt; 2.5 at intubation</b>	2	108	Risk Ratio (M-H, Fixed, 95% CI)	0.17 [0.09, 0.32]
3.1 Elective CS	1	22	Risk Ratio (M-H, Fixed, 95% CI)	0.13 [0.03, 0.59]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]



Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
3.3 Elective or emergency CS not specified	1	86	Risk Ratio (M-H, Fixed, 95% CI)	0.18 [0.09, 0.36]
4 Intra-gastric volume > 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

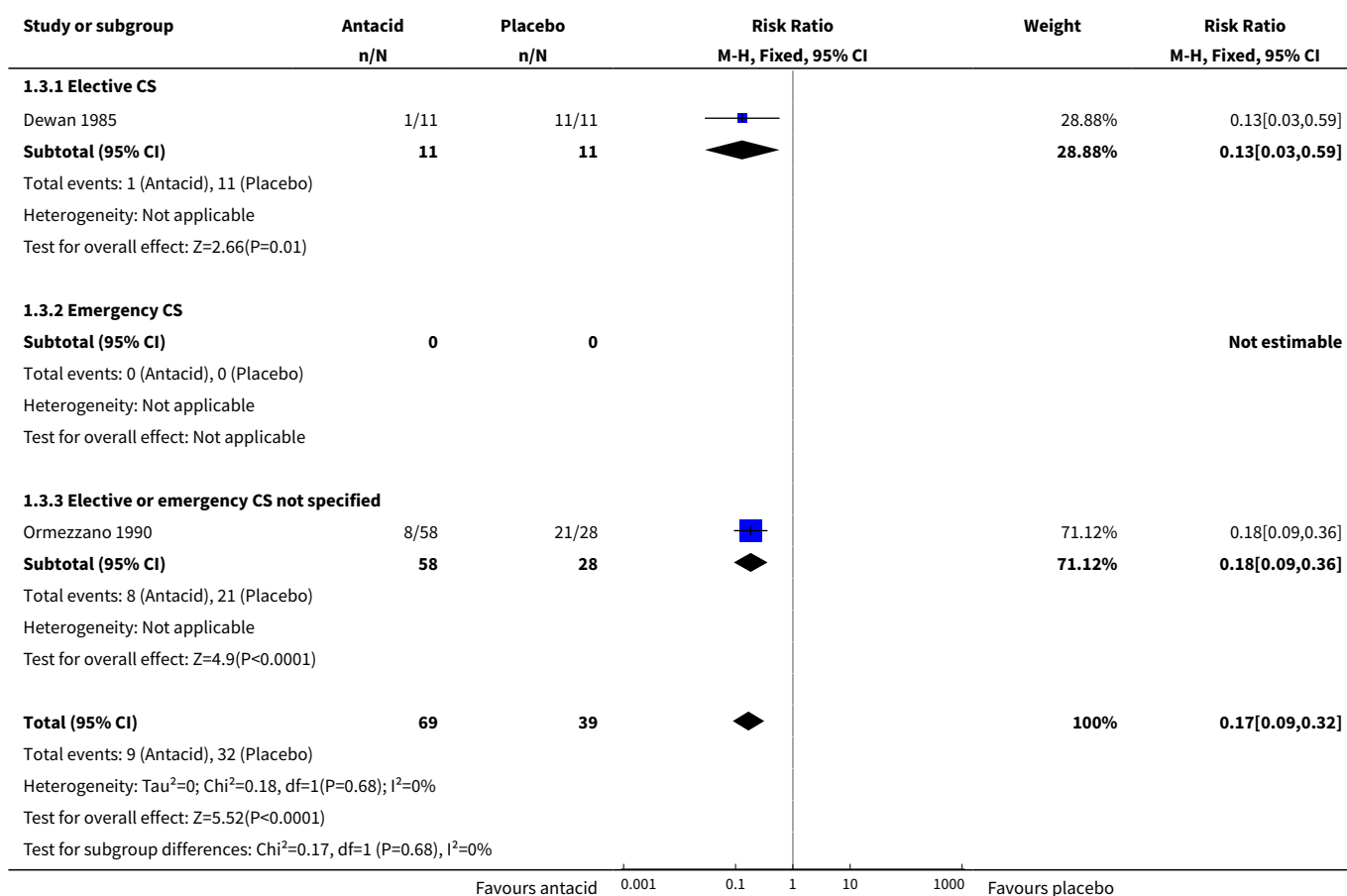
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to neonatal intensive care unitNICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

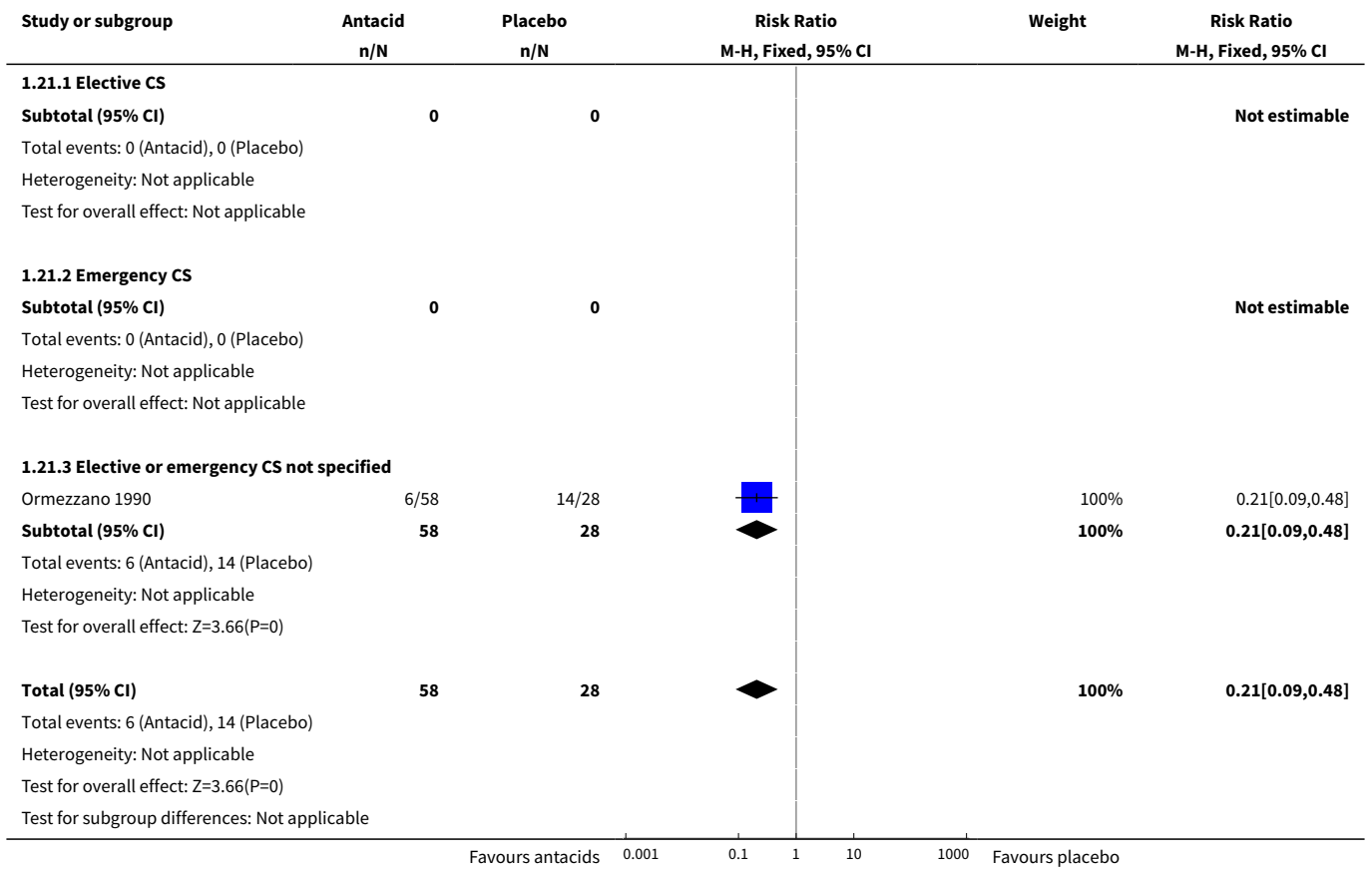
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
<a href="#">21 Intra-gastric pH &lt; 2.5 at extubation</a>	1	86	Risk Ratio (M-H, Fixed, 95% CI)	0.21 [0.09, 0.48]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	1	86	Risk Ratio (M-H, Fixed, 95% CI)	0.21 [0.09, 0.48]
<a href="#">22 Intra-gastric volume &gt; 0.4 mL/kg at extubation</a>	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">23 Gastric volume post intubation (not pre-specified)</a>	2	74	Mean Difference (IV, Random, 95% CI)	30.33 [-3.97, 64.62]
23.1 Elective CS	2	74	Mean Difference (IV, Random, 95% CI)	30.33 [-3.97, 64.62]
23.2 Emergency CS	0	0	Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
23.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
<a href="#">24 Gastric pH post intubation (not pre-specified)</a>	4	220	Mean Difference (IV, Fixed, 95% CI)	2.63 [2.29, 2.96]
24.1 Elective CS	2	74	Mean Difference (IV, Fixed, 95% CI)	2.91 [2.36, 3.45]
24.2 Emergency CS	1	60	Mean Difference (IV, Fixed, 95% CI)	2.74 [2.16, 3.32]
24.3 Elective or emergency CS not specified	1	86	Mean Difference (IV, Fixed, 95% CI)	2.13 [1.51, 2.75]
<a href="#">25 At risk of aspiration (not pre-specified)</a>	1	22	Risk Ratio (M-H, Fixed, 95% CI)	0.07 [0.00, 1.04]
25.1 Elective CS	1	22	Risk Ratio (M-H, Fixed, 95% CI)	0.07 [0.00, 1.04]
25.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
25.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">26 Gastric pH at extubation (not pre-specified)</a>	2	146	Mean Difference (IV, Fixed, 95% CI)	2.04 [1.66, 2.42]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
26.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
26.2 Emergency CS	1	60	Mean Difference (IV, Fixed, 95% CI)	2.15 [1.71, 2.59]
26.3 Elective or emergency CS not specified	1	86	Mean Difference (IV, Fixed, 95% CI)	1.74 [1.02, 2.46]
27 Gastric volume post intubation > 25 mL (not pre-specified)	1	22	Risk Ratio (M-H, Fixed, 95% CI)	1.43 [0.88, 2.32]
27.1 Elective CS	1	22	Risk Ratio (M-H, Fixed, 95% CI)	1.43 [0.88, 2.32]
27.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
27.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

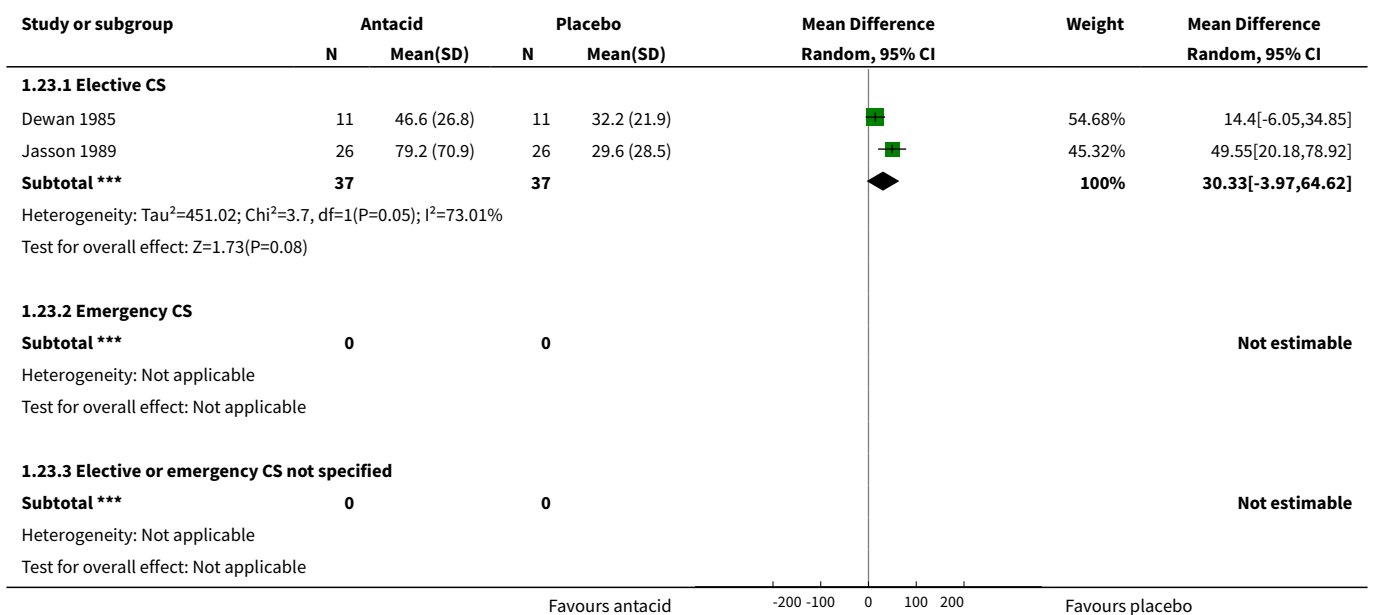
**Analysis 1.3. Comparison 1 Antacids versus placebo/no treatment, Outcome 3 Intra-gastric pH < 2.5 at intubation.**

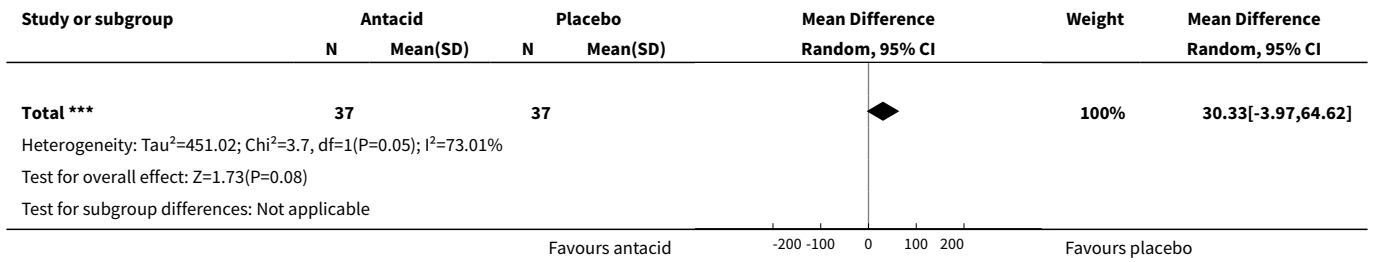


**Analysis 1.21. Comparison 1 Antacids versus placebo/no treatment, Outcome 21 Intra gastric pH < 2.5 at extubation.**

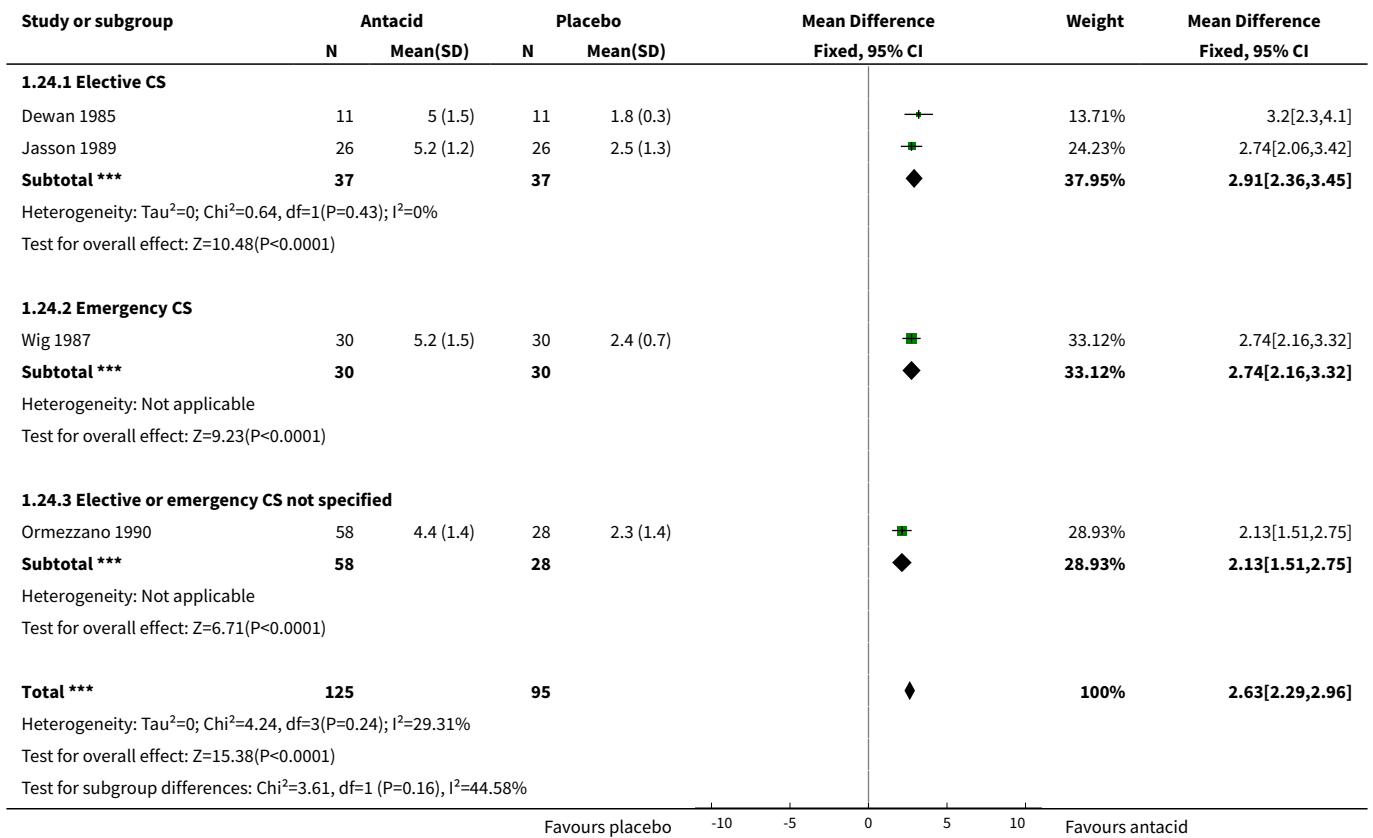


**Analysis 1.23. Comparison 1 Antacids versus placebo/no treatment, Outcome 23 Gastric volume post intubation (not pre-specified).**

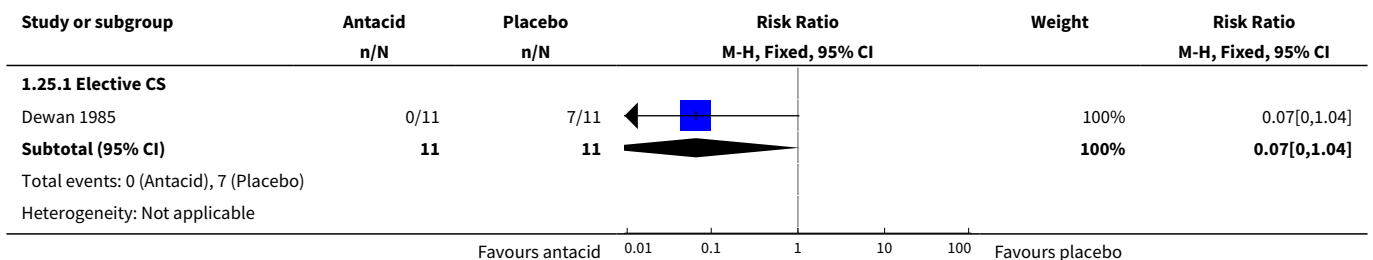




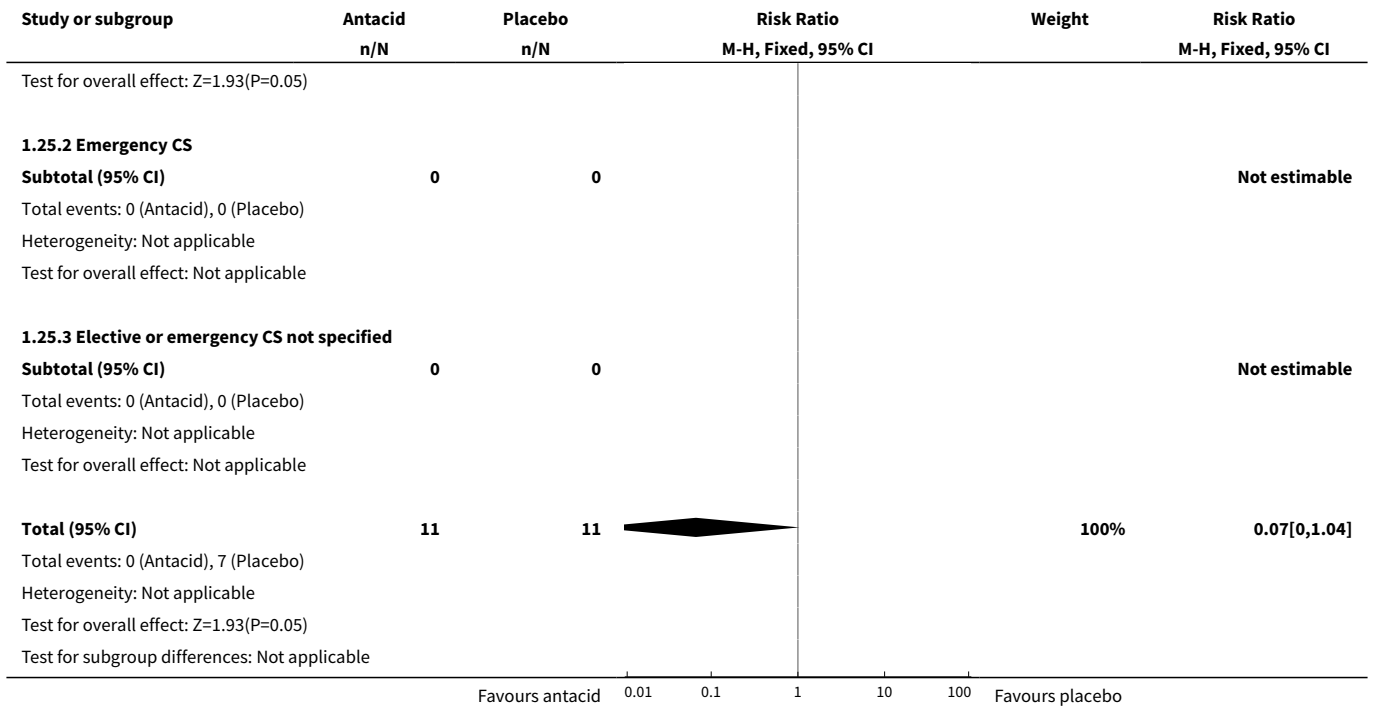
**Analysis 1.24. Comparison 1 Antacids versus placebo/no treatment, Outcome 24 Gastric pH post intubation (not pre-specified).**



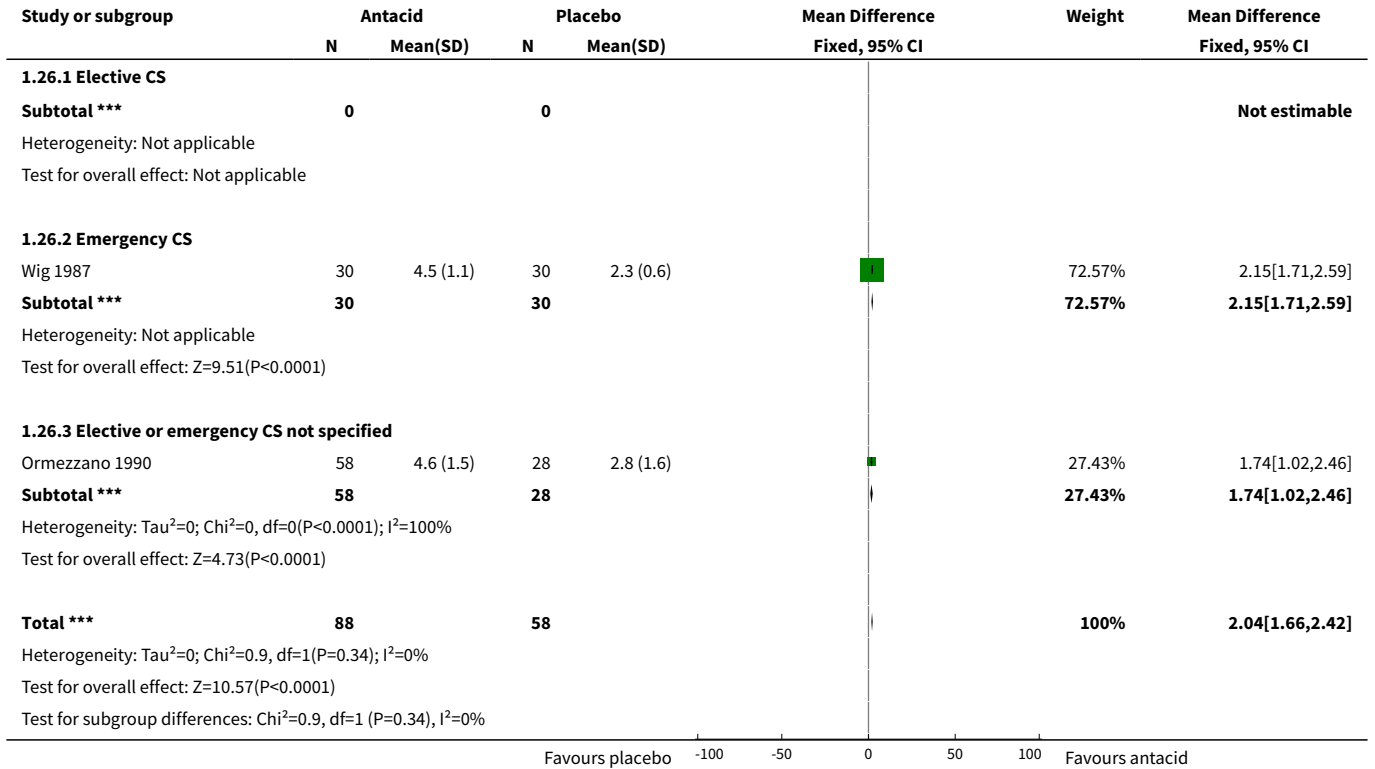
**Analysis 1.25. Comparison 1 Antacids versus placebo/no treatment, Outcome 25 At risk of aspiration (not pre-specified).**



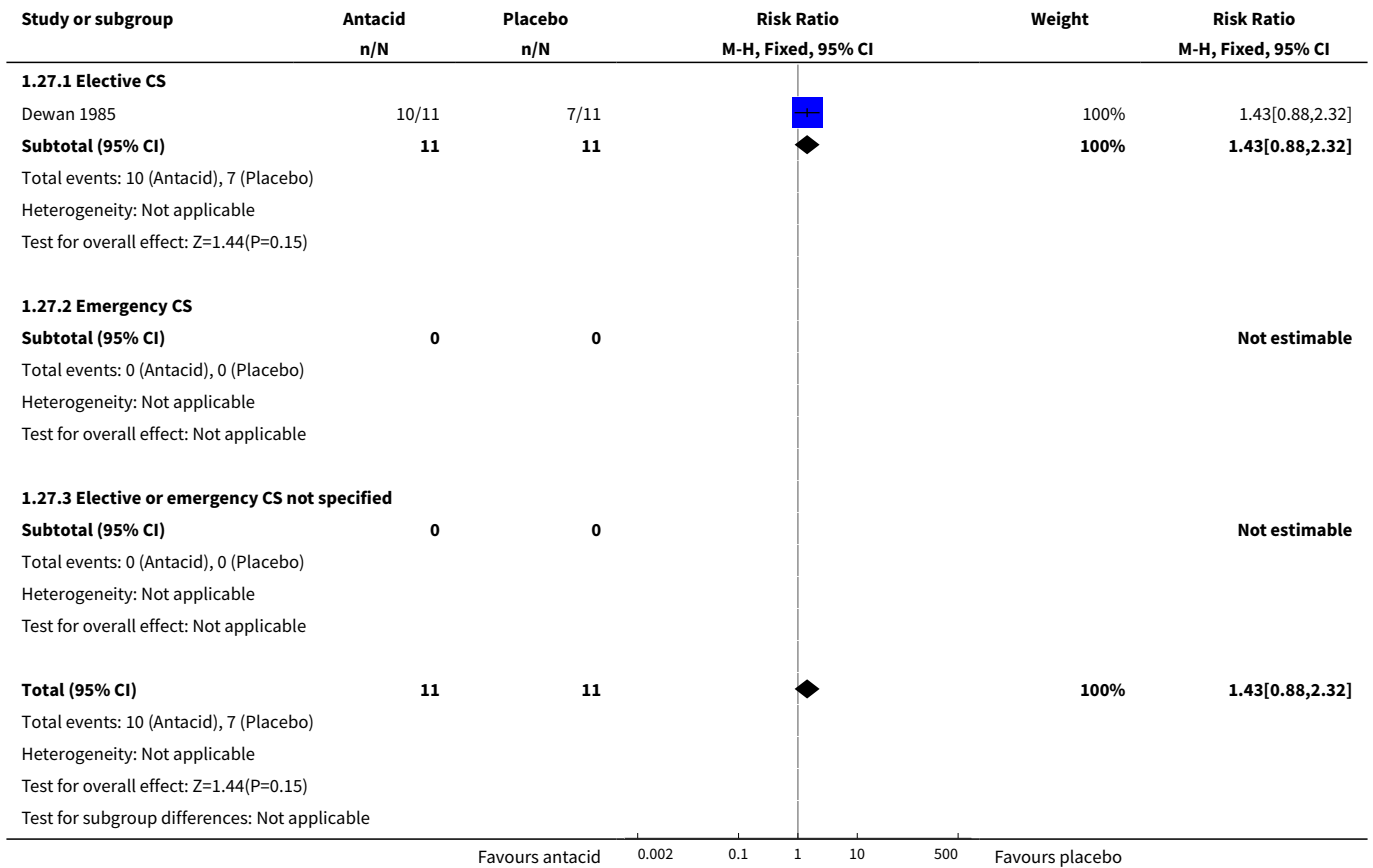




**Analysis 1.26. Comparison 1 Antacids versus placebo/no treatment, Outcome 26 Gastric pH at extubation (not pre-specified).**



**Analysis 1.27. Comparison 1 Antacids versus placebo/no treatment, Outcome 27 Gastric volume post intubation > 25 mL (not pre-specified).**



**Comparison 2. H<sub>2</sub> antagonists versus placebo/no treatment**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>3 Intra-gastric pH &lt; 2.5 at intubation</b>	2	170	Risk Ratio (M-H, Fixed, 95% CI)	0.09 [0.05, 0.18]
3.1 Elective CS	2	170	Risk Ratio (M-H, Fixed, 95% CI)	0.09 [0.05, 0.18]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>4 Intra-gastric volume &gt; 0.4 mL/kg at intubation</b>	2	170	Risk Ratio (M-H, Random, 95% CI)	0.08 [0.01, 0.86]
4.1 Elective CS	2	170	Risk Ratio (M-H, Random, 95% CI)	0.08 [0.01, 0.86]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

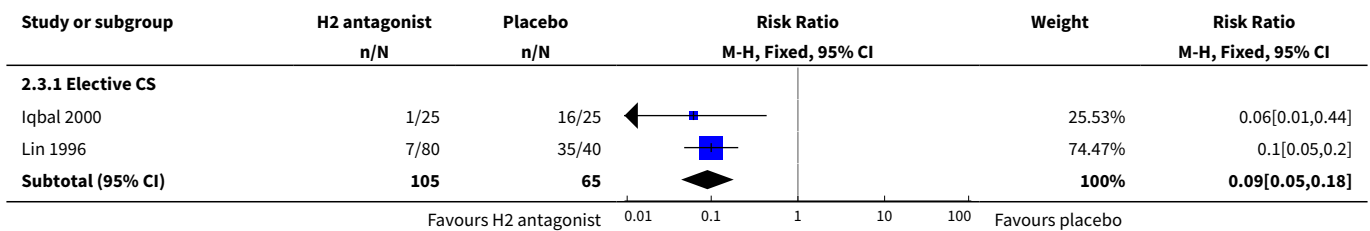
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

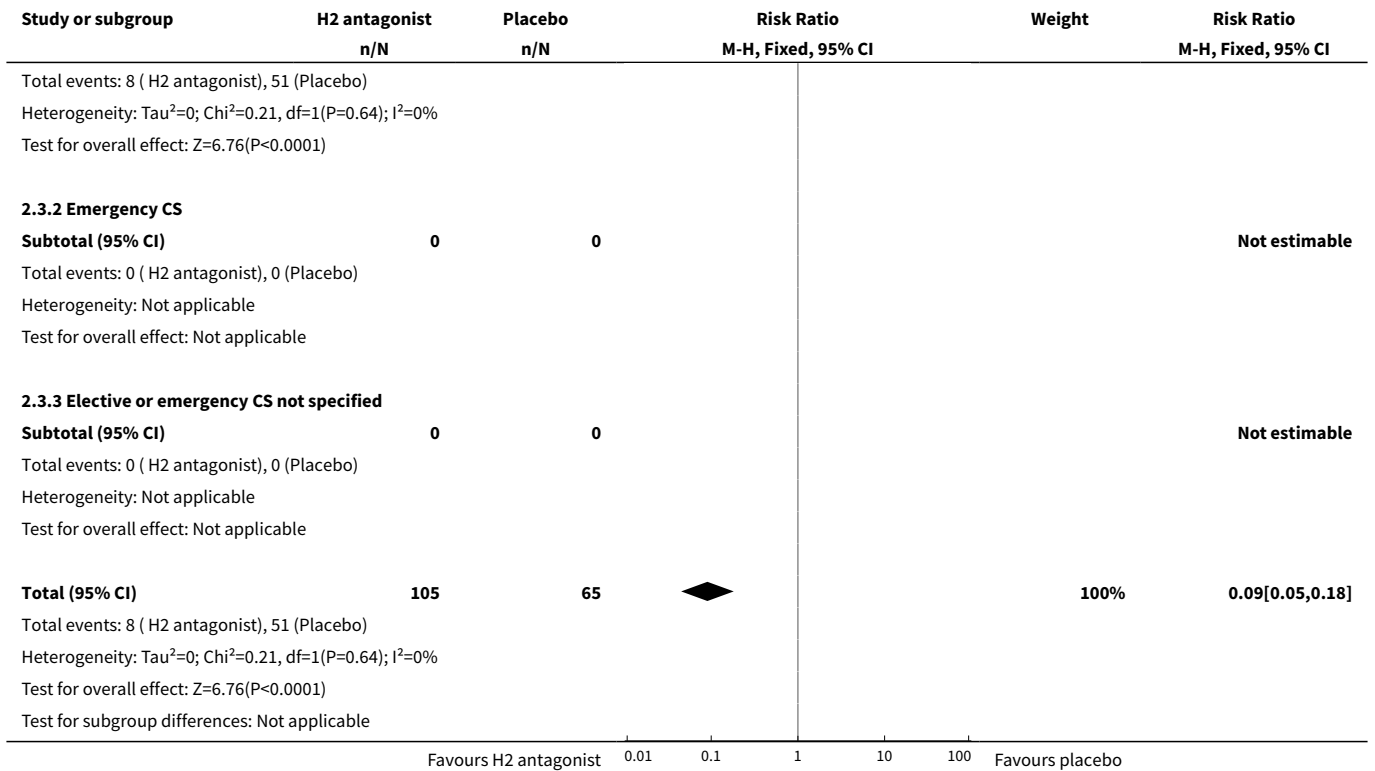
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>21 Intra-gastric pH &lt; 2.5 at extubation</b>	1	30	Risk Ratio (M-H, Fixed, 95% CI)	0.08 [0.01, 0.56]
21.1 Elective CS	1	30	Risk Ratio (M-H, Fixed, 95% CI)	0.08 [0.01, 0.56]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>22 Intra-gastric volume &gt; 20 mL at extubation (not pre-specified)</b>	1	30	Risk Ratio (M-H, Fixed, 95% CI)	0.33 [0.11, 0.99]
22.1 Elective CS	1	30	Risk Ratio (M-H, Fixed, 95% CI)	0.33 [0.11, 0.99]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>23 Gastric pH at intubation (not pre-specified)</b>	3	160	Mean Difference (IV, Random, 95% CI)	3.31 [1.82, 4.81]
23.1 Elective CS	2	100	Mean Difference (IV, Random, 95% CI)	2.59 [2.04, 3.14]
23.2 Emergency CS	1	60	Mean Difference (IV, Random, 95% CI)	4.43 [3.97, 4.89]
23.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
<b>24 Gastric pH at extubation (not pre-specified)</b>	2	110	Mean Difference (IV, Random, 95% CI)	3.56 [2.25, 4.87]
24.1 Elective CS	1	50	Mean Difference (IV, Random, 95% CI)	2.86 [2.13, 3.59]
24.2 Emergency CS	1	60	Mean Difference (IV, Random, 95% CI)	4.20 [3.70, 4.70]
24.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
<b>25 At risk of aspiration post intubation (not pre-specified)</b>	4	255	Risk Ratio (M-H, Random, 95% CI)	0.07 [0.01, 0.33]
25.1 Elective CS	4	255	Risk Ratio (M-H, Random, 95% CI)	0.07 [0.01, 0.33]
25.2 Emergency CS	0	0	Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]
25.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]
<b>26 At risk of aspiration pre extubation (not pre-specified)</b>	2	125	Risk Ratio (M-H, Fixed, 95% CI)	0.17 [0.01, 4.03]
26.1 Elective CS	2	125	Risk Ratio (M-H, Fixed, 95% CI)	0.17 [0.01, 4.03]
26.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
26.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>27 Gastric volume post intubation (not pre-specified)</b>	2	100	Mean Difference (IV, Fixed, 95% CI)	-14.06 [-18.68, -9.45]
27.1 Elective CS	2	100	Mean Difference (IV, Fixed, 95% CI)	-14.06 [-18.68, -9.45]
27.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
27.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>28 Gastric volume pre-extubation (not pre-specified)</b>	1	50	Mean Difference (IV, Fixed, 95% CI)	-3.70 [-6.17, -1.23]
28.1 Elective CS	1	50	Mean Difference (IV, Fixed, 95% CI)	-3.70 [-6.17, -1.23]
28.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
28.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

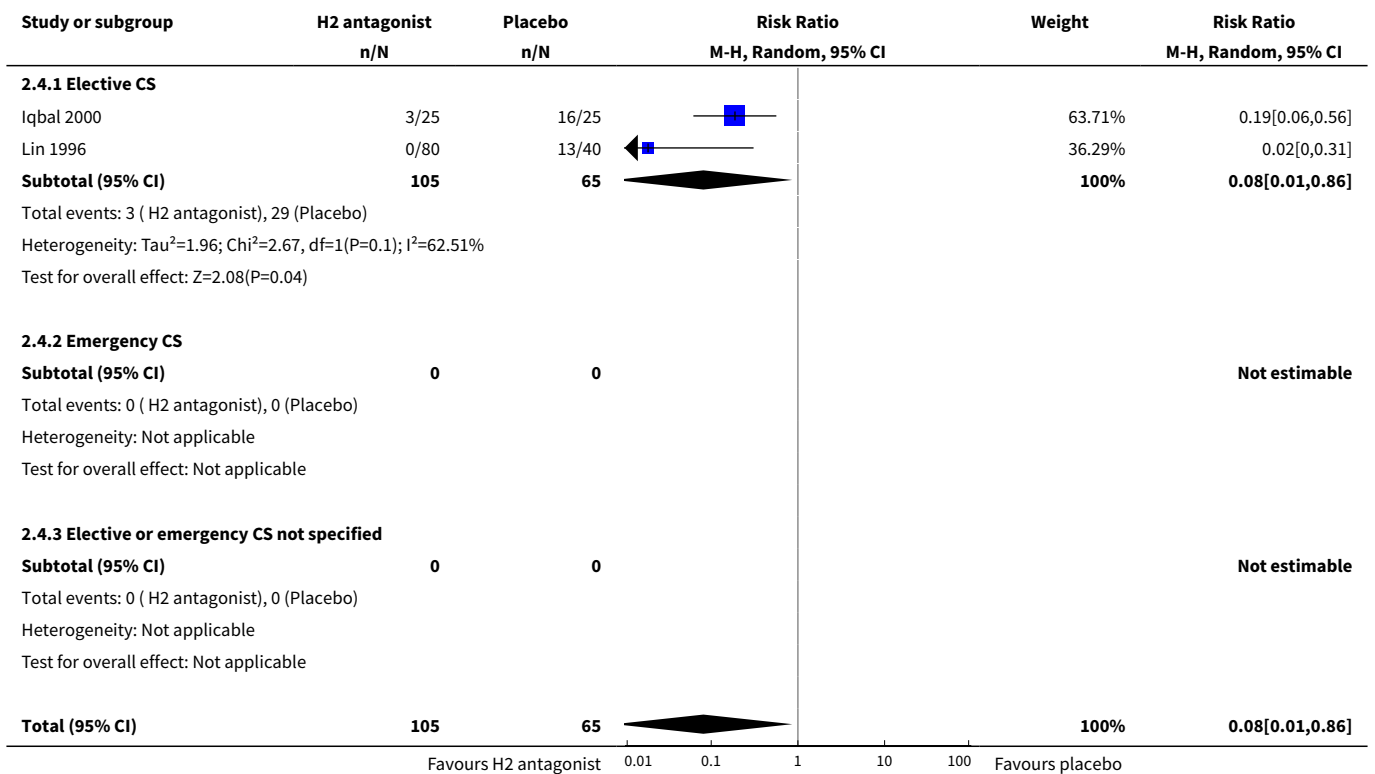
**Analysis 2.3. Comparison 2 H<sub>2</sub> antagonists versus placebo/ no treatment, Outcome 3 Intra gastric pH < 2.5 at intubation.**







**Analysis 2.4. Comparison 2 H<sub>2</sub> antagonists versus placebo/no treatment, Outcome 4 Intra-gastric volume > 0.4 mL/kg at intubation.**



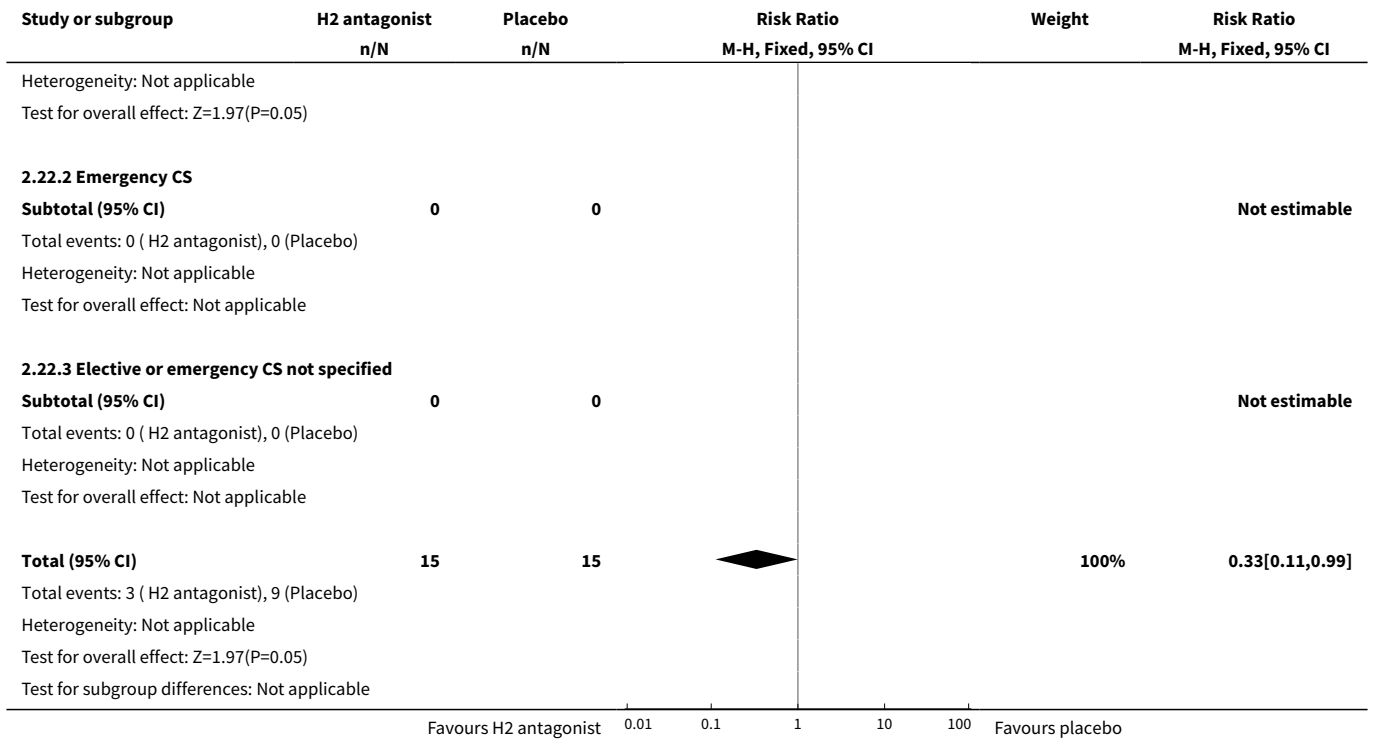
Study or subgroup	H2 antagonist n/N	Placebo n/N	Risk Ratio M-H, Random, 95% CI	Weight	Risk Ratio M-H, Random, 95% CI
Total events: 3 ( H2 antagonist), 29 (Placebo)					
Heterogeneity: Tau <sup>2</sup> =1.96; Chi <sup>2</sup> =2.67, df=1(P=0.1); I <sup>2</sup> =62.51%					
Test for overall effect: Z=2.08(P=0.04)					
Test for subgroup differences: Not applicable					
			0.01 0.1 1 10 100		
Favours H2 antagonist				Favours placebo	

**Analysis 2.21. Comparison 2 H<sub>2</sub> antagonists versus placebo/  
no treatment, Outcome 21 Intra gastric pH < 2.5 at extubation.**

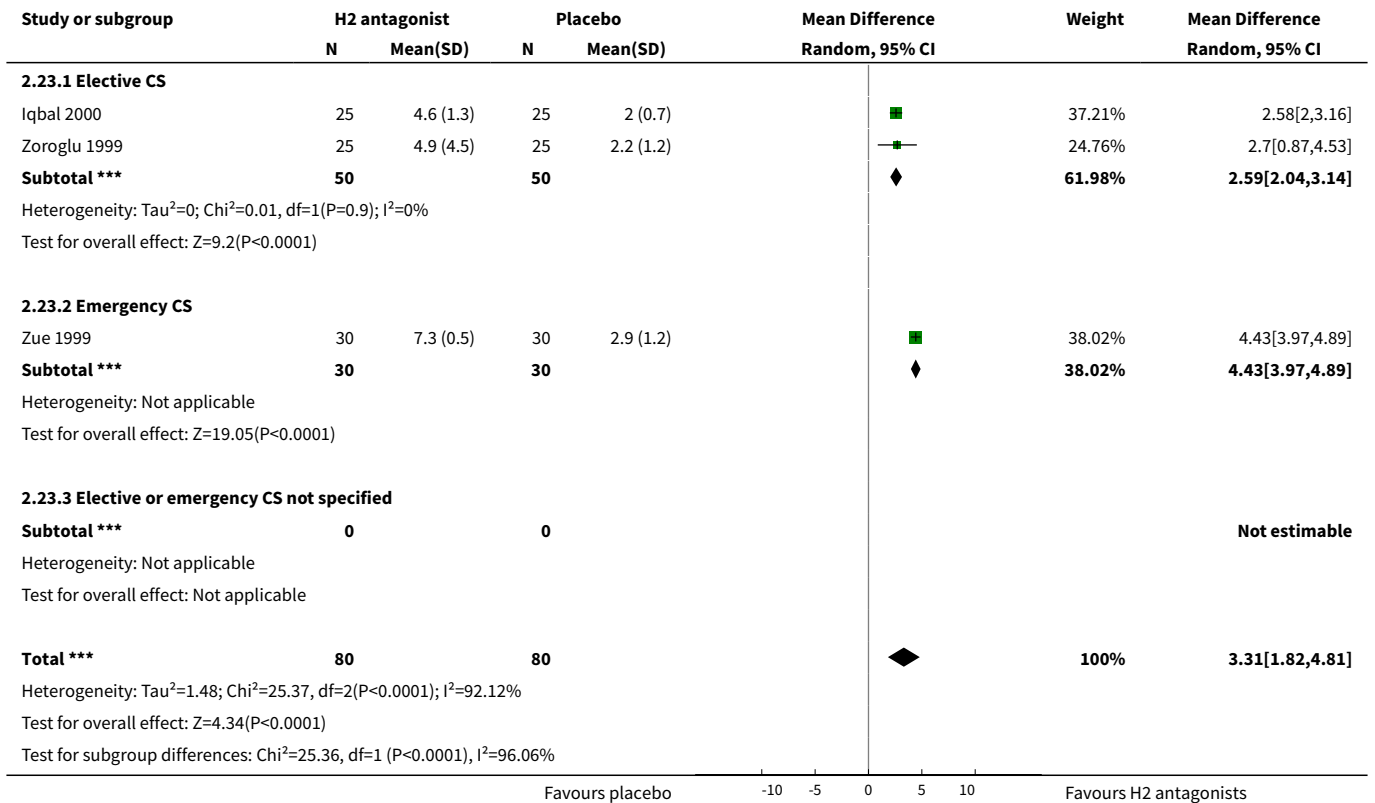
Study or subgroup	H2 antagonist n/N	Placebo n/N	Risk Ratio M-H, Fixed, 95% CI	Weight	Risk Ratio M-H, Fixed, 95% CI
<b>2.21.1 Elective CS</b>					
Tryba 1983	1/15	12/15		100%	0.08[0.01,0.56]
<b>Subtotal (95% CI)</b>	<b>15</b>	<b>15</b>		<b>100%</b>	<b>0.08[0.01,0.56]</b>
Total events: 1 ( H2 antagonist), 12 (Placebo)					
Heterogeneity: Not applicable					
Test for overall effect: Z=2.55(P=0.01)					
<b>2.21.2 Emergency CS</b>					
<b>Subtotal (95% CI)</b>	<b>0</b>	<b>0</b>			<b>Not estimable</b>
Total events: 0 ( H2 antagonist), 0 (Placebo)					
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
<b>2.21.3 Elective or emergency CS not specified</b>					
<b>Subtotal (95% CI)</b>	<b>0</b>	<b>0</b>			<b>Not estimable</b>
Total events: 0 ( H2 antagonist), 0 (Placebo)					
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
<b>Total (95% CI)</b>	<b>15</b>	<b>15</b>		<b>100%</b>	<b>0.08[0.01,0.56]</b>
Total events: 1 ( H2 antagonist), 12 (Placebo)					
Heterogeneity: Not applicable					
Test for overall effect: Z=2.55(P=0.01)					
Test for subgroup differences: Not applicable					
			0.01 0.1 1 10 100		
Favours H2 antagonist				Favours placebo	

**Analysis 2.22. Comparison 2 H<sub>2</sub> antagonists versus placebo/no treatment,  
Outcome 22 Intra gastric volume > 20 mL at extubation (not pre-specified).**

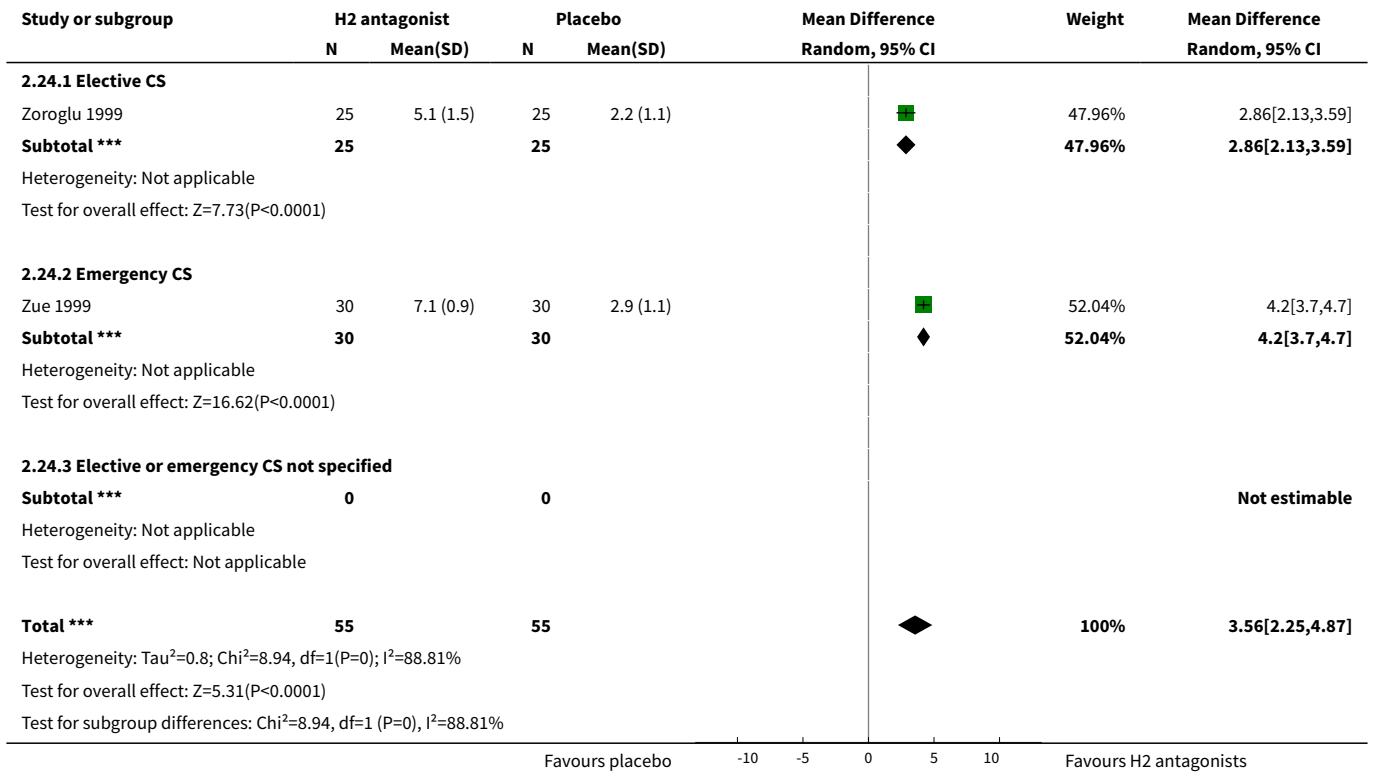
Study or subgroup	H2 antagonist n/N	Placebo n/N	Risk Ratio M-H, Fixed, 95% CI	Weight	Risk Ratio M-H, Fixed, 95% CI
<b>2.22.1 Elective CS</b>					
Tryba 1983	3/15	9/15		100%	0.33[0.11,0.99]
<b>Subtotal (95% CI)</b>	<b>15</b>	<b>15</b>		<b>100%</b>	<b>0.33[0.11,0.99]</b>
Total events: 3 ( H2 antagonist), 9 (Placebo)					
			0.01 0.1 1 10 100		
Favours H2 antagonist				Favours placebo	



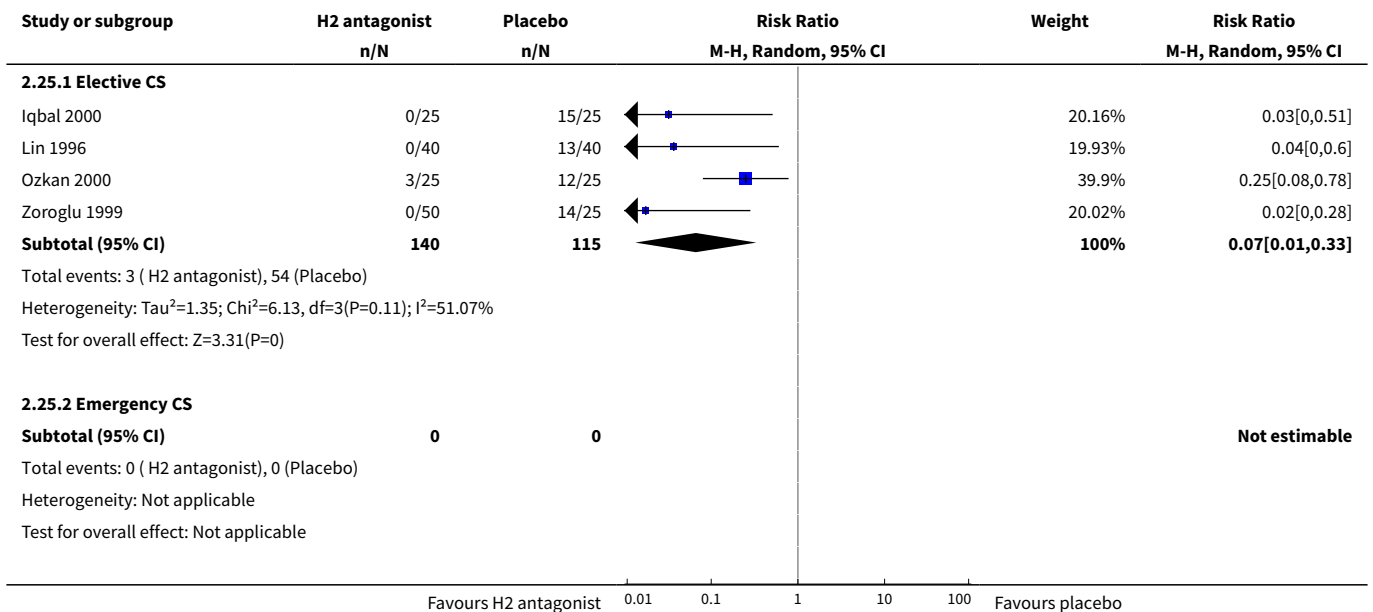
**Analysis 2.23. Comparison 2 H<sub>2</sub> antagonists versus placebo/no treatment, Outcome 23 Gastric pH at intubation (not pre-specified).**

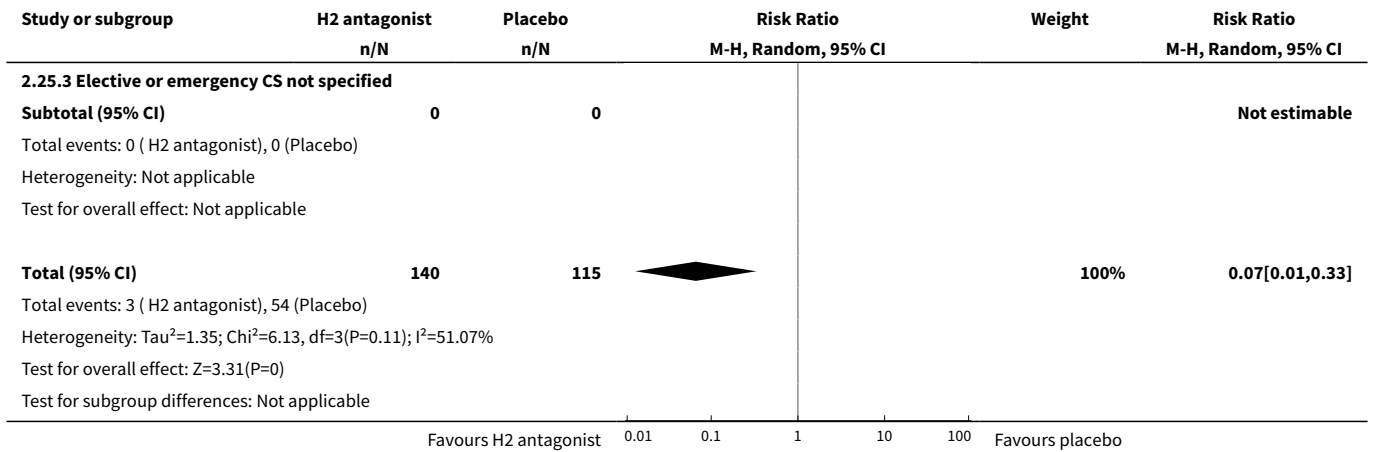


**Analysis 2.24. Comparison 2 H<sub>2</sub> antagonists versus placebo/no treatment, Outcome 24 Gastric pH at extubation (not pre-specified).**

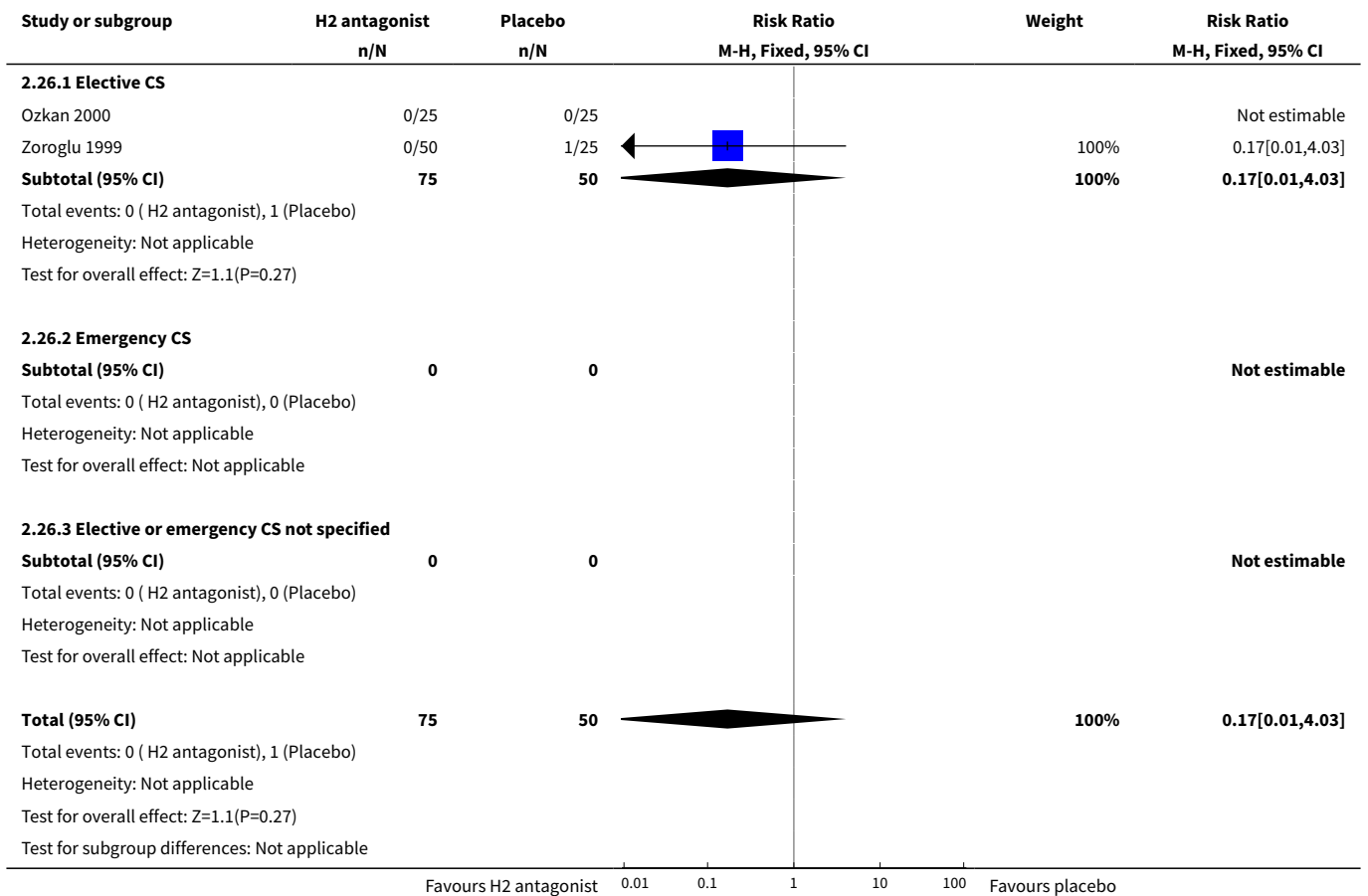


**Analysis 2.25. Comparison 2 H<sub>2</sub> antagonists versus placebo/no treatment, Outcome 25 At risk of aspiration post intubation (not pre-specified).**

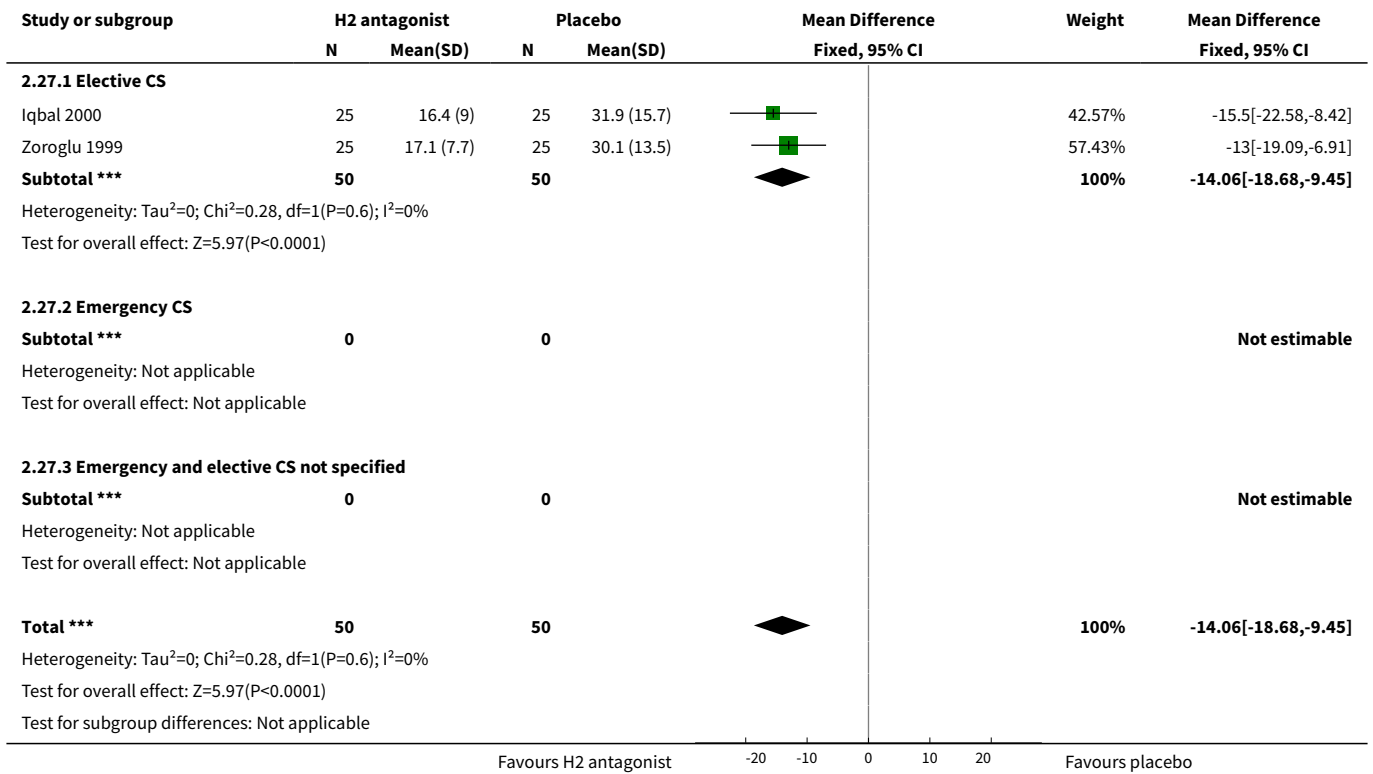




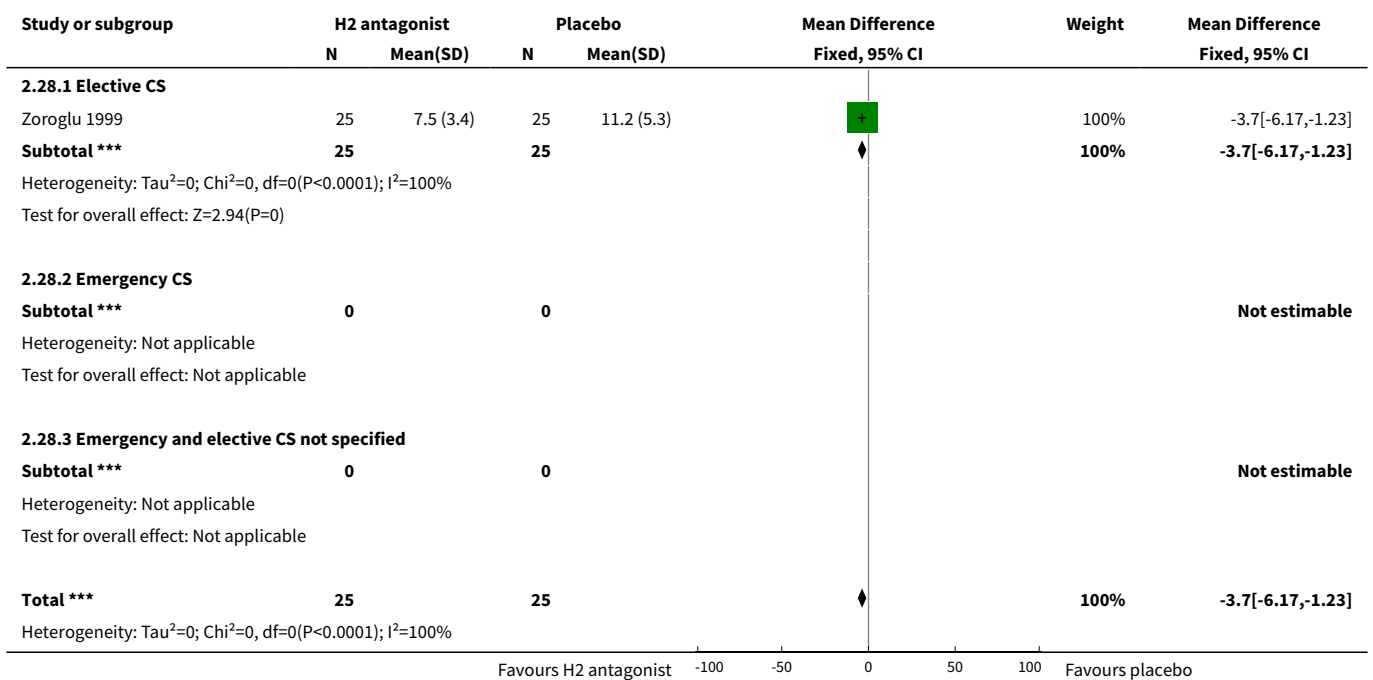
**Analysis 2.26. Comparison 2 H<sub>2</sub> antagonists versus placebo/no treatment, Outcome 26 At risk of aspiration pre extubation (not pre-specified).**

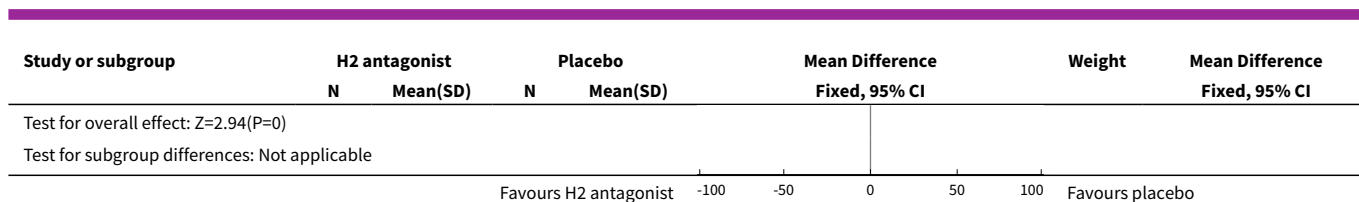


**Analysis 2.27. Comparison 2 H<sub>2</sub> antagonists versus placebo/no treatment, Outcome 27 Gastric volume post intubation (not pre-specified).**



**Analysis 2.28. Comparison 2 H<sub>2</sub> antagonists versus placebo/no treatment, Outcome 28 Gastric volume pre-extubation (not pre-specified).**





### Comparison 3. Proton pump antagonists versus placebo/no treatment

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra gastric pH < 2.5 at intubation	1	80	Risk Ratio (M-H, Fixed, 95% CI)	0.26 [0.14, 0.46]
3.1 Elective CS	1	80	Risk Ratio (M-H, Fixed, 95% CI)	0.26 [0.14, 0.46]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra gastric volume > 0.4 mL/kg at intubation	1	80	Risk Ratio (M-H, Fixed, 95% CI)	0.46 [0.19, 1.09]
4.1 Elective CS	1	80	Risk Ratio (M-H, Fixed, 95% CI)	0.46 [0.19, 1.09]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]



Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

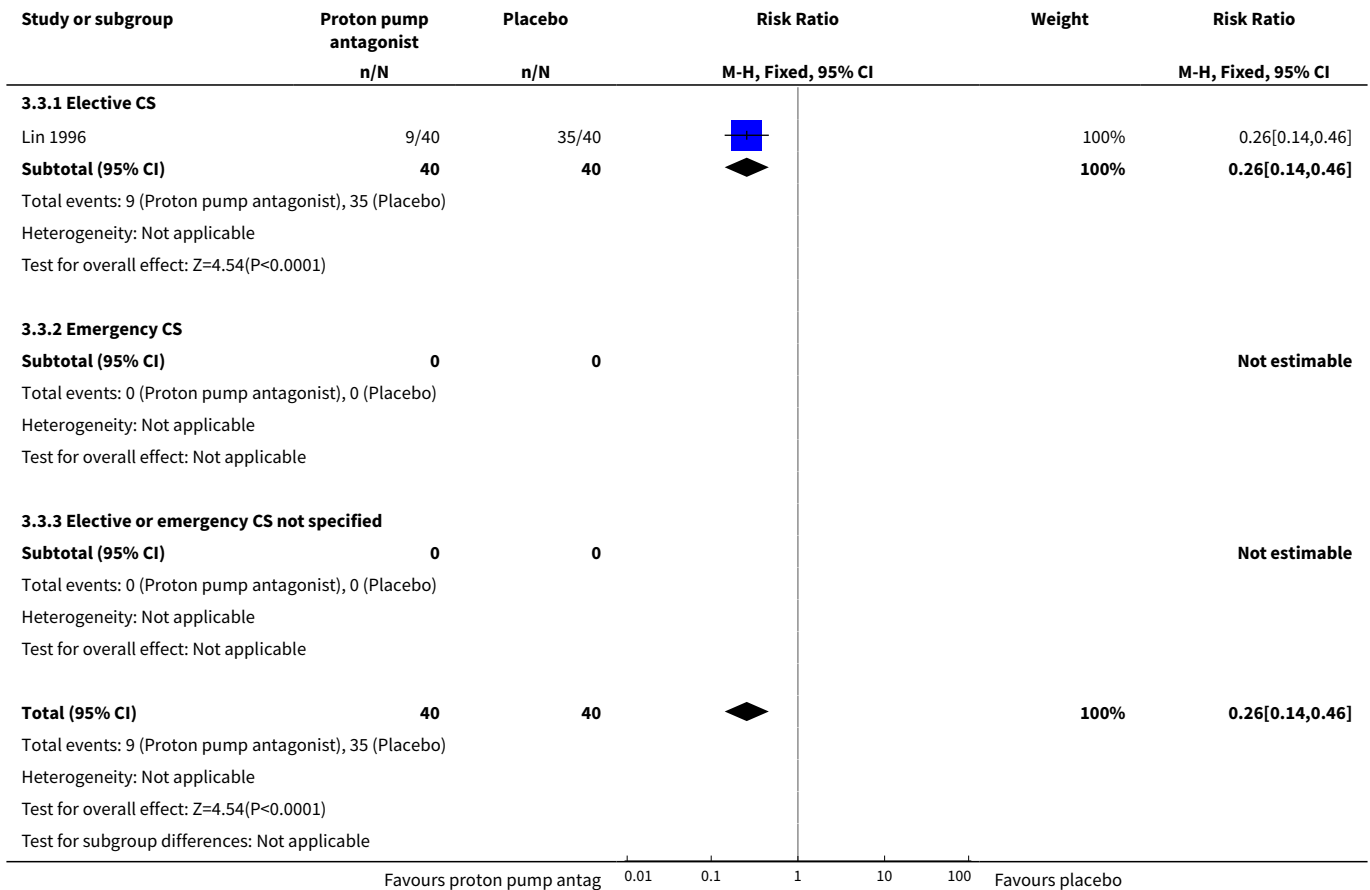
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH > 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume < 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

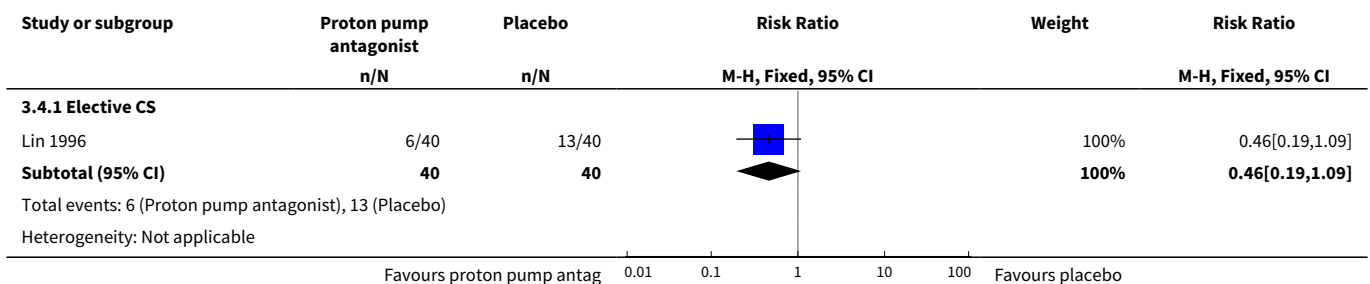
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>23 Gastric pH at intubation (not pre-specified)</b>	1	80	Mean Difference (IV, Fixed, 95% CI)	3.27 [2.82, 3.72]
23.1 Elective CS	1	80	Mean Difference (IV, Fixed, 95% CI)	3.27 [2.82, 3.72]
23.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>24 At risk of aspiration (not pre-specified)</b>	2	130	Risk Ratio (M-H, Random, 95% CI)	0.14 [0.03, 0.74]
24.1 Elective CS	2	130	Risk Ratio (M-H, Random, 95% CI)	0.14 [0.03, 0.74]
24.2 Emergency CS	0	0	Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]
24.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]
<b>25 Gastric volume at intubation (not pre-specified)</b>	1	80	Mean Difference (IV, Fixed, 95% CI)	-0.25 [-0.30, -0.20]
25.1 Elective CS	1	80	Mean Difference (IV, Fixed, 95% CI)	-0.25 [-0.30, -0.20]
25.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
25.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
26 Gastric pH pre extubation (not pre-specified)	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
26.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
26.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
26.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
27 Gastric volume pre extubation (not pre-specified)	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
27.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
27.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

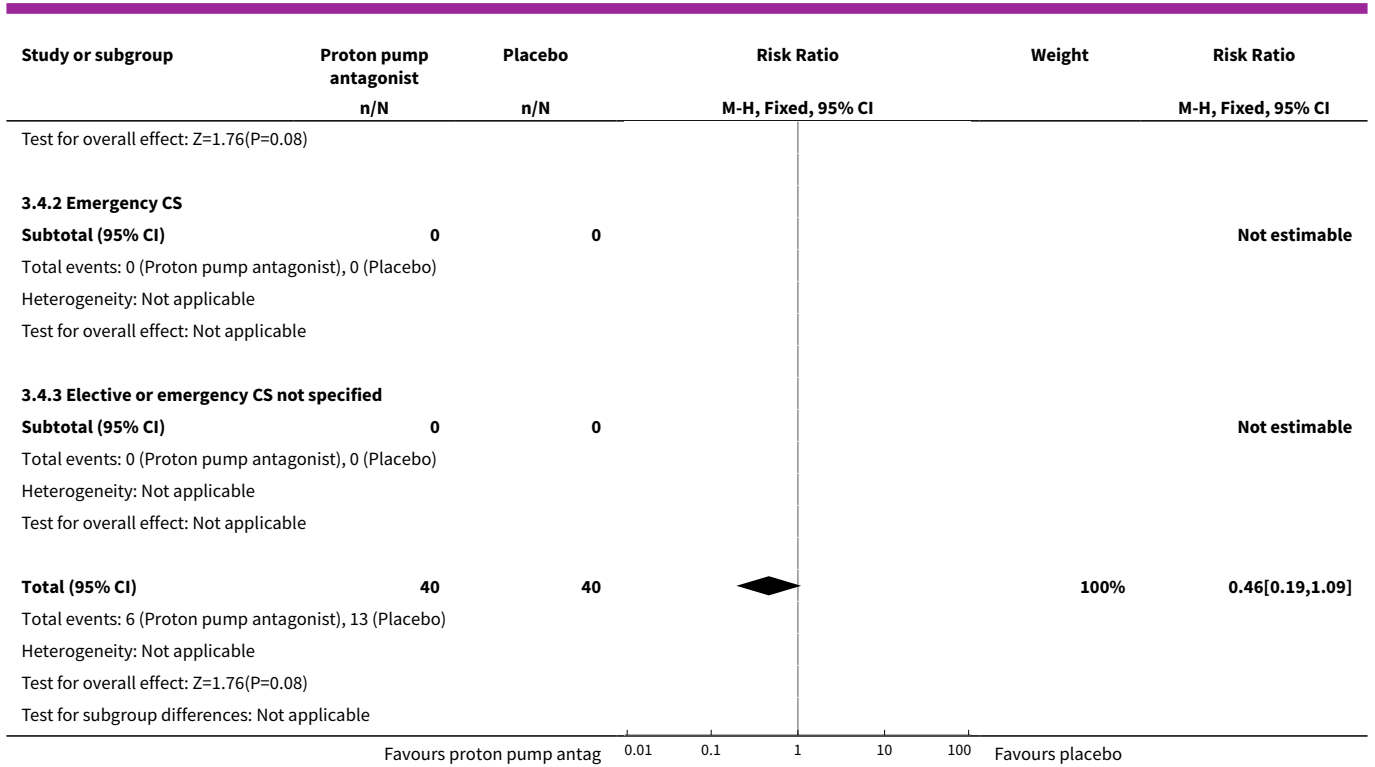
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
27.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Analysis 3.3. Comparison 3 Proton pump antagonists versus placebo/ no treatment, Outcome 3 Intra gastric pH < 2.5 at intubation.**

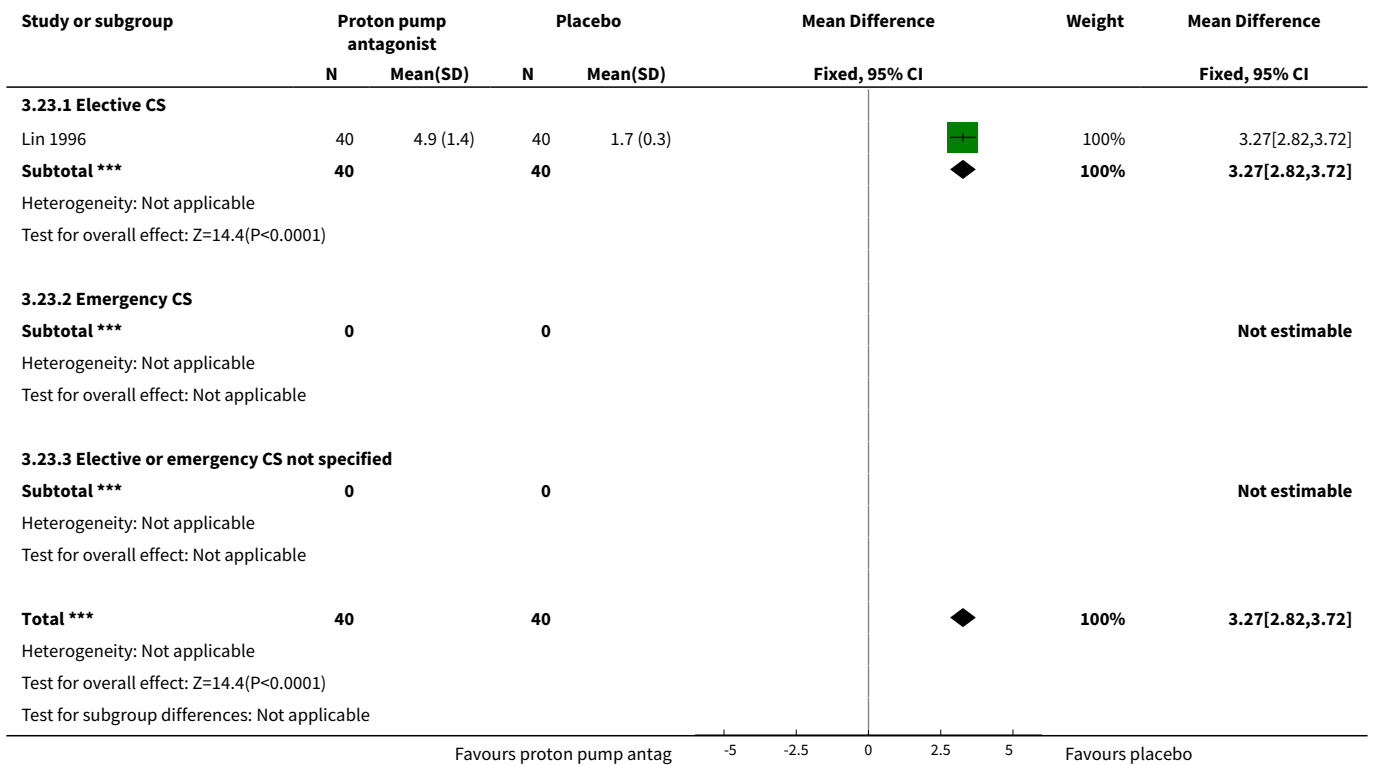


**Analysis 3.4. Comparison 3 Proton pump antagonists versus placebo/ no treatment, Outcome 4 Intra gastric volume > 0.4 mL/kg at intubation.**

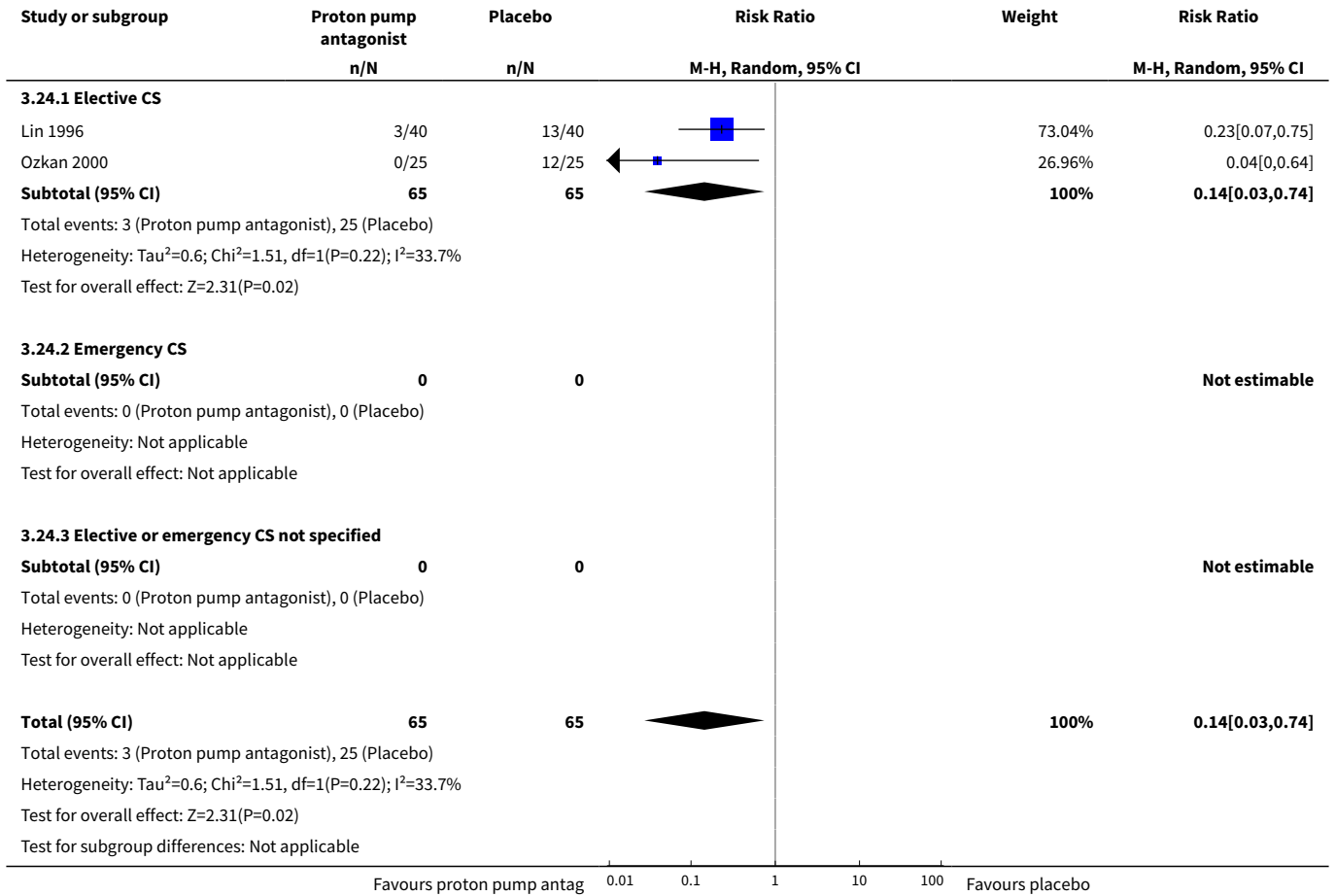




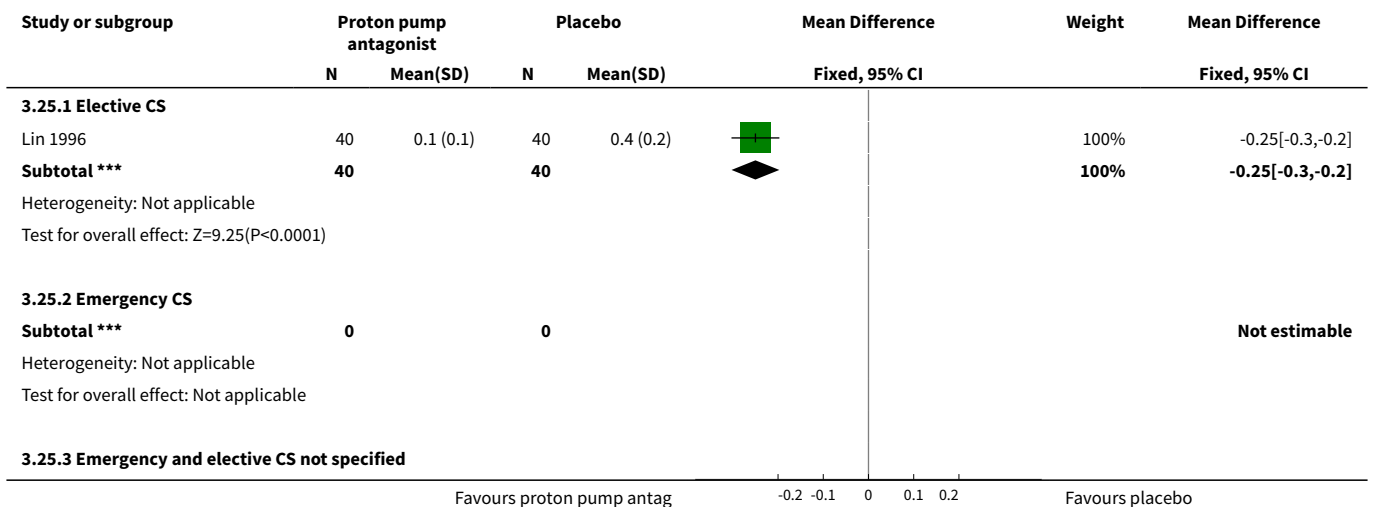
**Analysis 3.23. Comparison 3 Proton pump antagonists versus placebo/ no treatment, Outcome 23 Gastric pH at intubation (not pre-specified).**



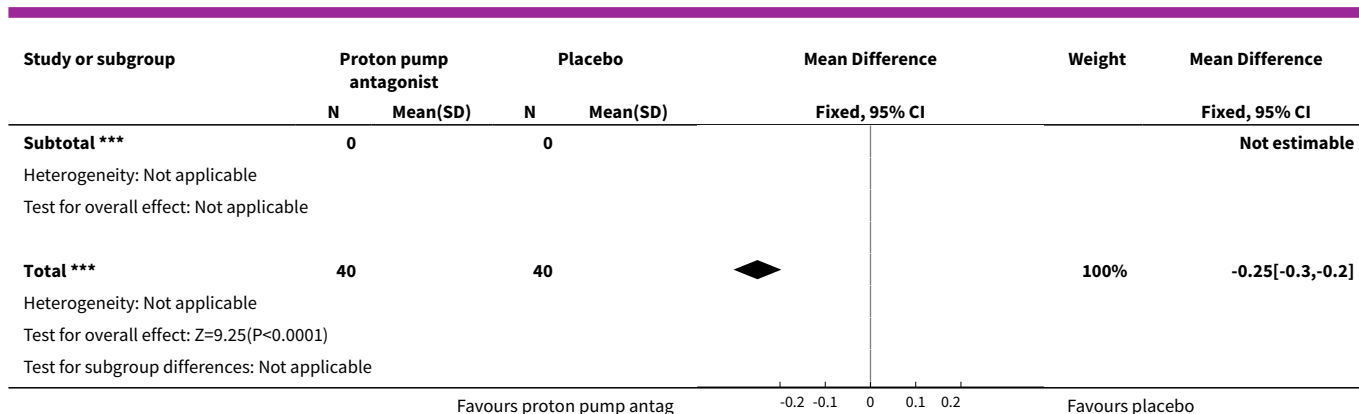
**Analysis 3.24. Comparison 3 Proton pump antagonists versus placebo/ no treatment, Outcome 24 At risk of aspiration (not pre-specified).**



**Analysis 3.25. Comparison 3 Proton pump antagonists versus placebo/ no treatment, Outcome 25 Gastric volume at intubation (not pre-specified).**







#### Comparison 4. Prokinetic drugs versus placebo/no treatment

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH > 2.5 at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra-gastric volume < 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

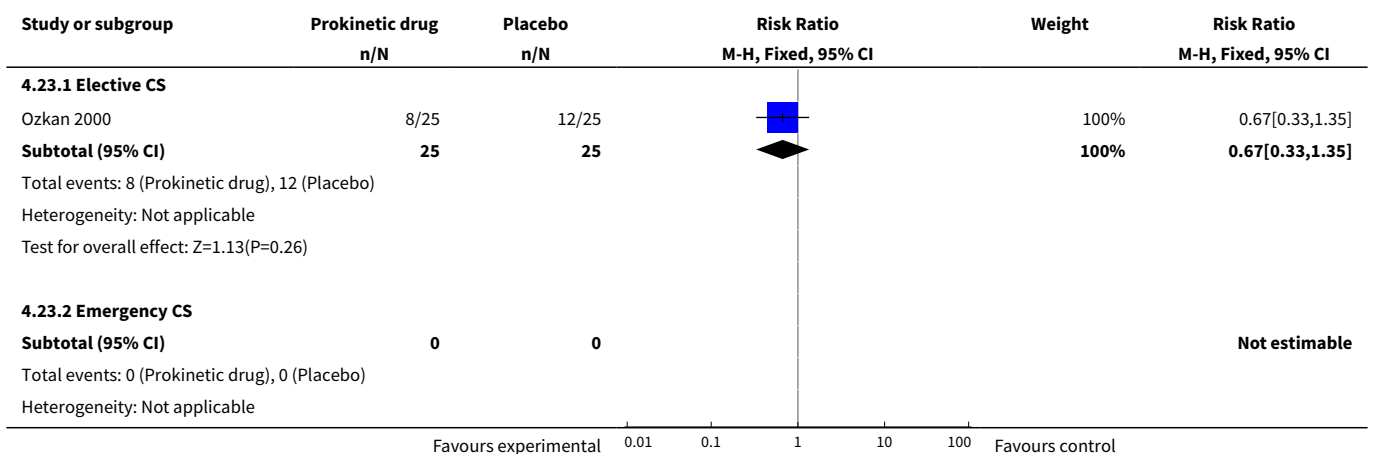
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

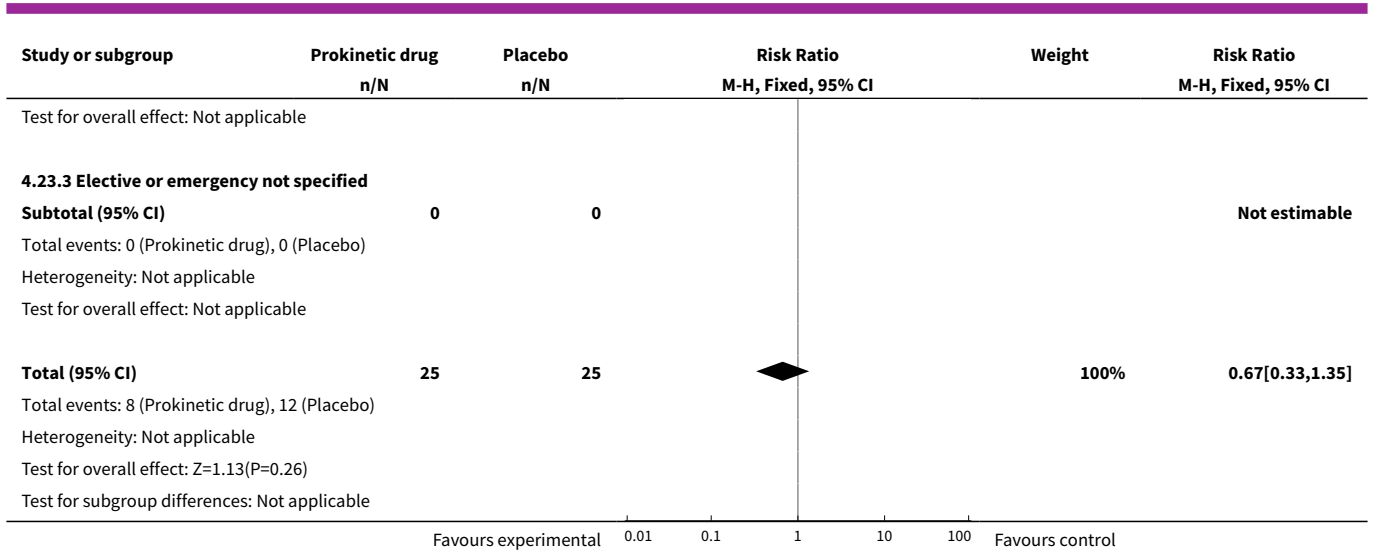
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intragastric pH > 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

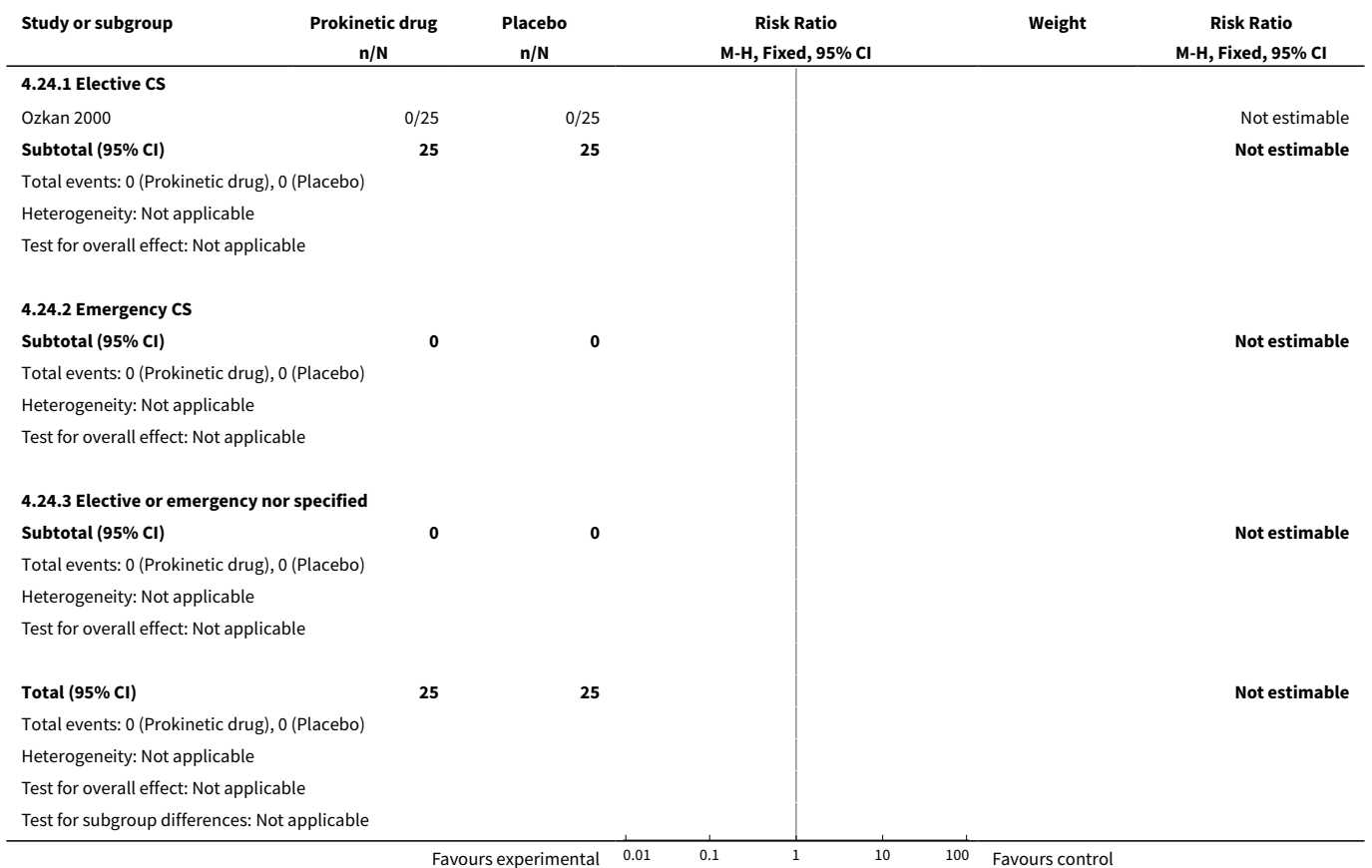
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume < 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>23 At risk of aspiration post intubation (not pre-specified)</b>	<b>1</b>	<b>50</b>	Risk Ratio (M-H, Fixed, 95% CI)	<b>0.67 [0.33, 1.35]</b>
23.1 Elective CS	1	50	Risk Ratio (M-H, Fixed, 95% CI)	0.67 [0.33, 1.35]
23.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.3 Elective or emergency not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>24 At risk of aspiration pre-extubation (not pre-specified)</b>	<b>1</b>	<b>50</b>	Risk Ratio (M-H, Fixed, 95% CI)	<b>0.0 [0.0, 0.0]</b>
24.1 Elective CS	1	50	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.3 Elective or emergency nor specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Analysis 4.23. Comparison 4 Prokinetic drugs versus placebo/no treatment, Outcome 23 At risk of aspiration post intubation (not pre-specified).**





**Analysis 4.24. Comparison 4 Prokinetic drugs versus placebo/no treatment, Outcome 24 At risk of aspiration pre-extubation (not pre-specified).**



**Comparison 5. Non-pharmacological interventions versus placebo/no treatment**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH < 2.5 at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra-gastric volume < 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

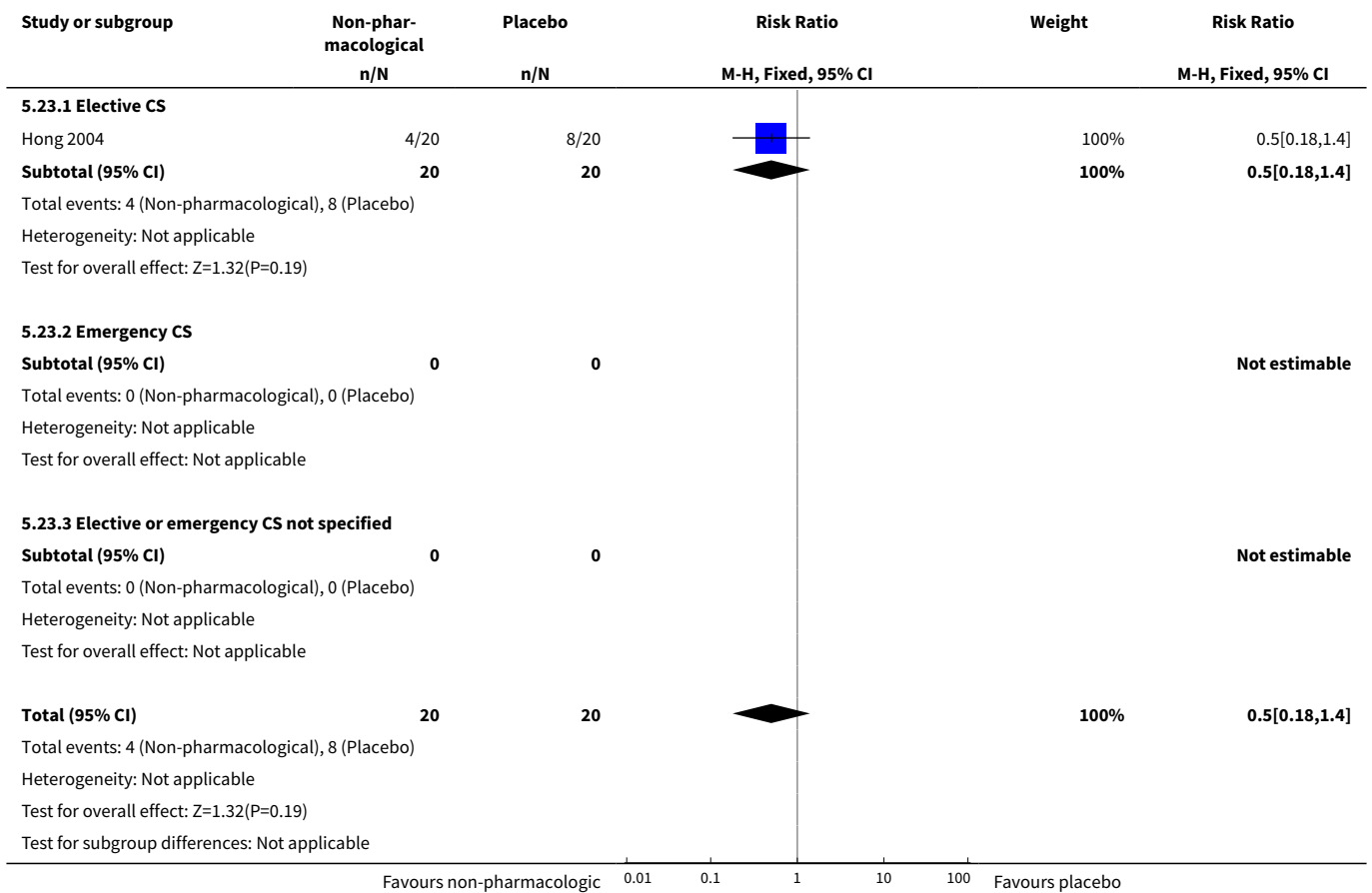


Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH < 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume < 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
23 At risk of aspiration (not pre-specified)	1	40	Risk Ratio (M-H, Fixed, 95% CI)	0.5 [0.18, 1.40]
23.1 Elective CS	1	40	Risk Ratio (M-H, Fixed, 95% CI)	0.5 [0.18, 1.40]
23.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Analysis 5.23. Comparison 5 Non-pharmacological interventions versus placebo/no treatment, Outcome 23 At risk of aspiration (not pre-specified).**



**Comparison 6. Antacids + H<sub>2</sub> antagonists versus placebo/no treatment**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH < 2.5 at intubation	1	89	Risk Ratio (M-H, Fixed, 95% CI)	0.02 [0.00, 0.15]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	1	89	Risk Ratio (M-H, Fixed, 95% CI)	0.02 [0.00, 0.15]
4 Intra-gastric volume < 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

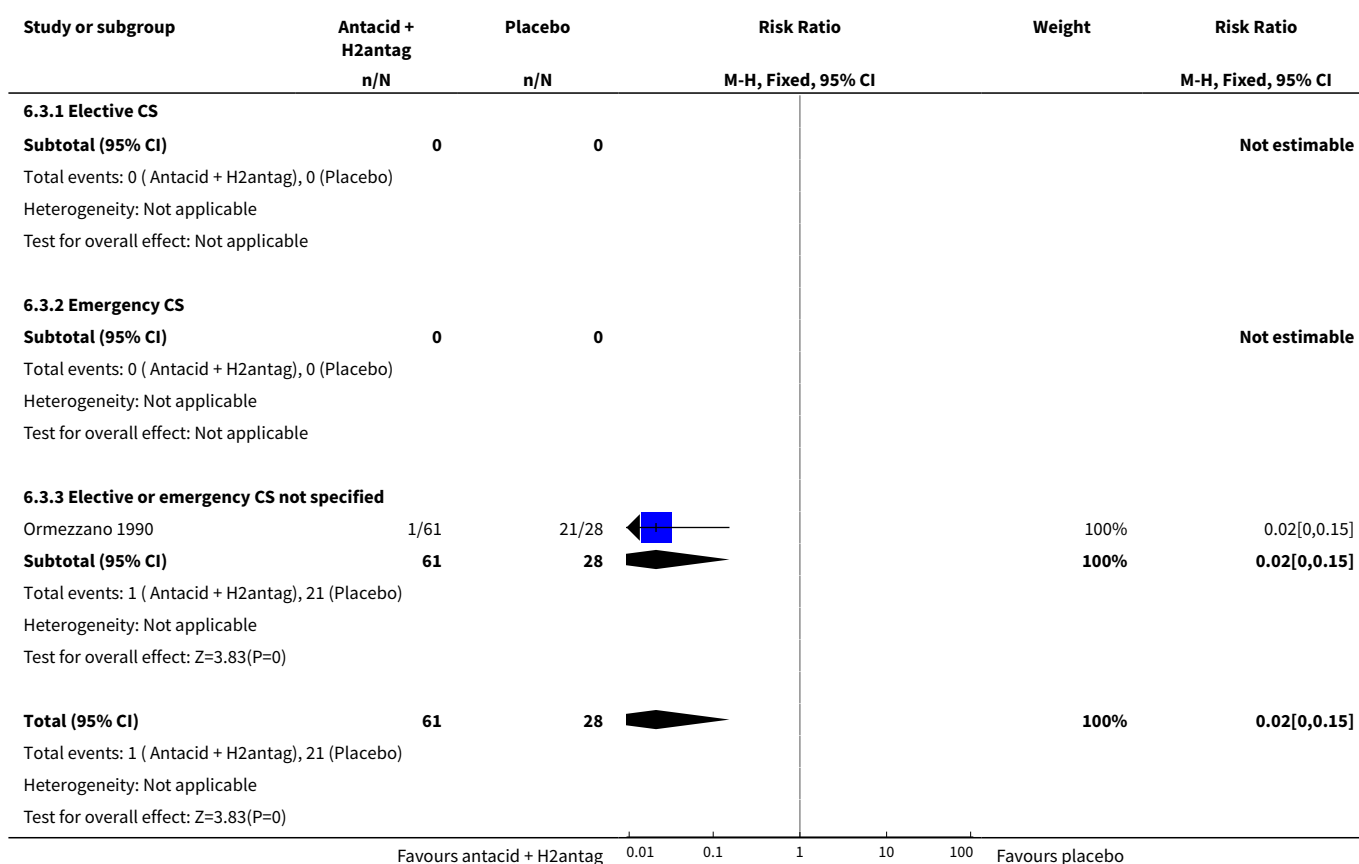
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>21 Intra-gastric pH &lt; 2.5 at extubation</b>	1	89	Risk Ratio (M-H, Fixed, 95% CI)	0.03 [0.00, 0.24]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	1	89	Risk Ratio (M-H, Fixed, 95% CI)	0.03 [0.00, 0.24]
22 Intra-gastric volume < 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
23 Intra-gastric pH post intubation (not pre-specified)	1	89	Mean Difference (IV, Fixed, 95% CI)	2.82 [2.25, 3.39]
23.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.3 Elective or emergency CS not specified	1	89	Mean Difference (IV, Fixed, 95% CI)	2.82 [2.25, 3.39]
24 Intra-gastric pH at extubation (not pre-specified)	1	89	Mean Difference (IV, Fixed, 95% CI)	2.54 [1.85, 3.23]
24.1 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.2 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.3 Emergency or elective CS not specified	1	89	Mean Difference (IV, Fixed, 95% CI)	2.54 [1.85, 3.23]

**Analysis 6.3. Comparison 6 Antacids + H<sub>2</sub> antagonists versus placebo/ no treatment, Outcome 3 Intra-gastric pH < 2.5 at intubation.**





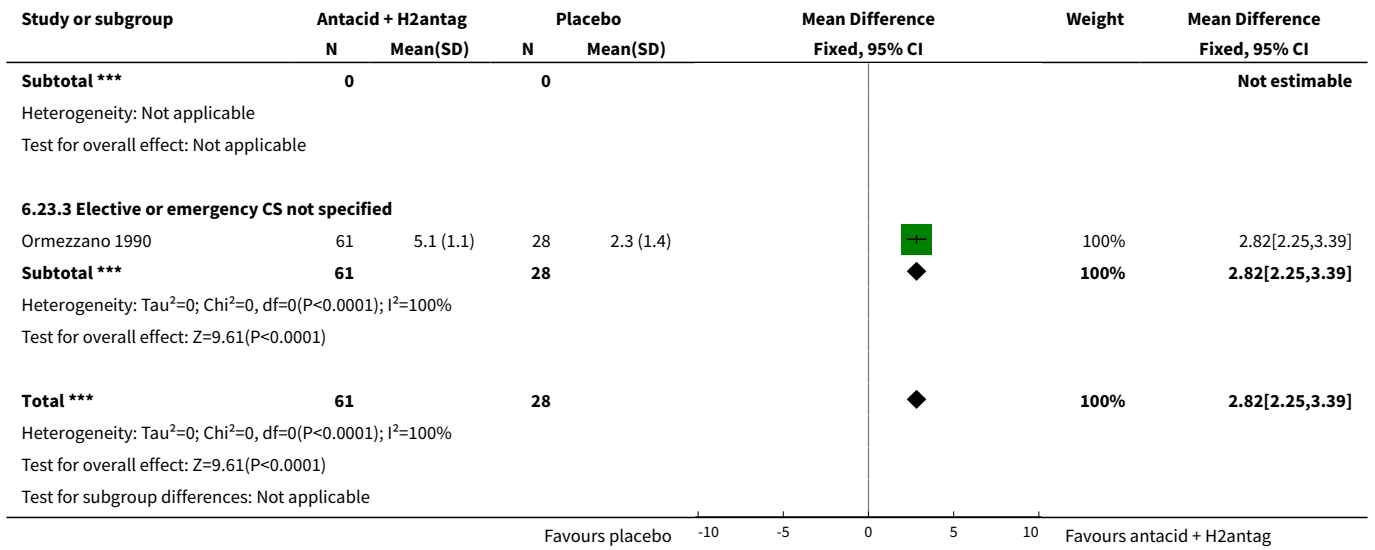
Study or subgroup	Antacid + H2antag n/N	Placebo n/N	Risk Ratio M-H, Fixed, 95% CI	Weight	Risk Ratio M-H, Fixed, 95% CI
Test for subgroup differences: Not applicable					

**Analysis 6.21. Comparison 6 Antacids + H<sub>2</sub> antagonists versus placebo/  
no treatment, Outcome 21 Intra gastric pH < 2.5 at extubation.**

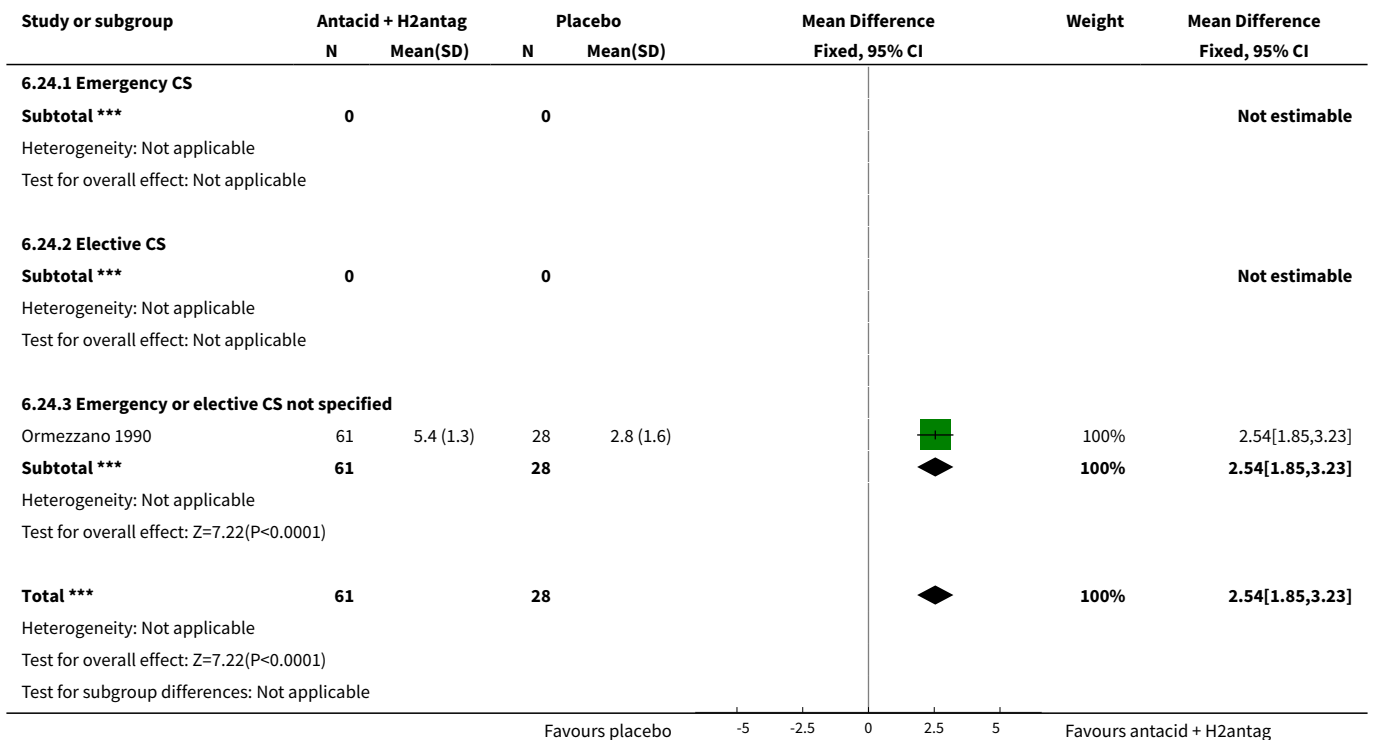
Study or subgroup	Antacid + H2antag n/N	Placebo n/N	Risk Ratio M-H, Fixed, 95% CI	Weight	Risk Ratio M-H, Fixed, 95% CI
<b>6.21.1 Elective CS</b>					
<b>Subtotal (95% CI)</b>	<b>0</b>	<b>0</b>			<b>Not estimable</b>
Total events: 0 ( Antacid + H2antag), 0 (Placebo)					
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
<b>6.21.2 Emergency CS</b>					
<b>Subtotal (95% CI)</b>	<b>0</b>	<b>0</b>			<b>Not estimable</b>
Total events: 0 ( Antacid + H2antag), 0 (Placebo)					
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
<b>6.21.3 Elective or emergency CS not specified</b>					
Ormezzano 1990	1/61	14/28		100%	0.03[0,0.24]
<b>Subtotal (95% CI)</b>	<b>61</b>	<b>28</b>		<b>100%</b>	<b>0.03[0,0.24]</b>
Total events: 1 ( Antacid + H2antag), 14 (Placebo)					
Heterogeneity: Not applicable					
Test for overall effect: Z=3.39(P=0)					
<b>Total (95% CI)</b>	<b>61</b>	<b>28</b>		<b>100%</b>	<b>0.03[0,0.24]</b>
Total events: 1 ( Antacid + H2antag), 14 (Placebo)					
Heterogeneity: Not applicable					
Test for overall effect: Z=3.39(P=0)					
Test for subgroup differences: Not applicable					

**Analysis 6.23. Comparison 6 Antacids + H<sub>2</sub> antagonists versus placebo/  
no treatment, Outcome 23 Intra gastric pH post intubation (not pre-specified).**

Study or subgroup	Antacid + H2antag N Mean(SD)	Placebo N Mean(SD)	Mean Difference Fixed, 95% CI	Weight	Mean Difference Fixed, 95% CI
<b>6.23.1 Elective CS</b>					
<b>Subtotal ***</b>	<b>0</b>	<b>0</b>			<b>Not estimable</b>
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
<b>6.23.2 Emergency CS</b>					



**Analysis 6.24. Comparison 6 Antacids + H<sub>2</sub> antagonists versus placebo/ no treatment, Outcome 24 Intra-gastric pH at extubation (not pre-specified).**



**Comparison 7. H<sub>2</sub> antagonists + prokinetic drugs versus placebo/no treatment**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH < 2.5 at intubation	1	50	Risk Ratio (M-H, Fixed, 95% CI)	0.03 [0.00, 0.48]
3.1 Elective CS	1	50	Risk Ratio (M-H, Fixed, 95% CI)	0.03 [0.00, 0.48]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra-gastric volume < 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

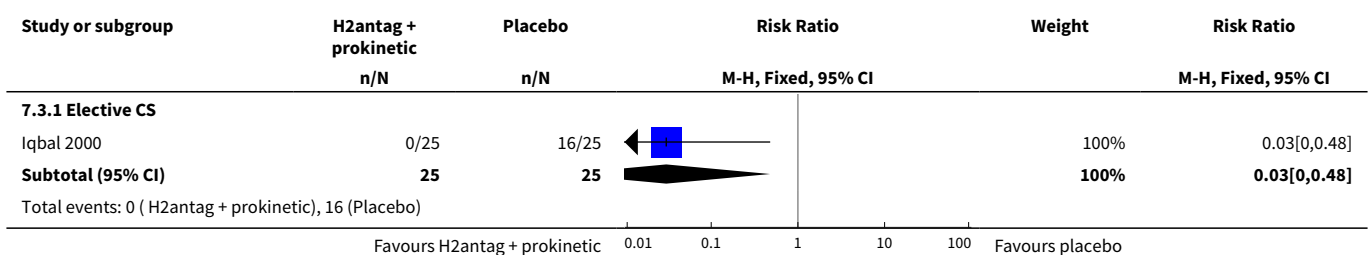
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

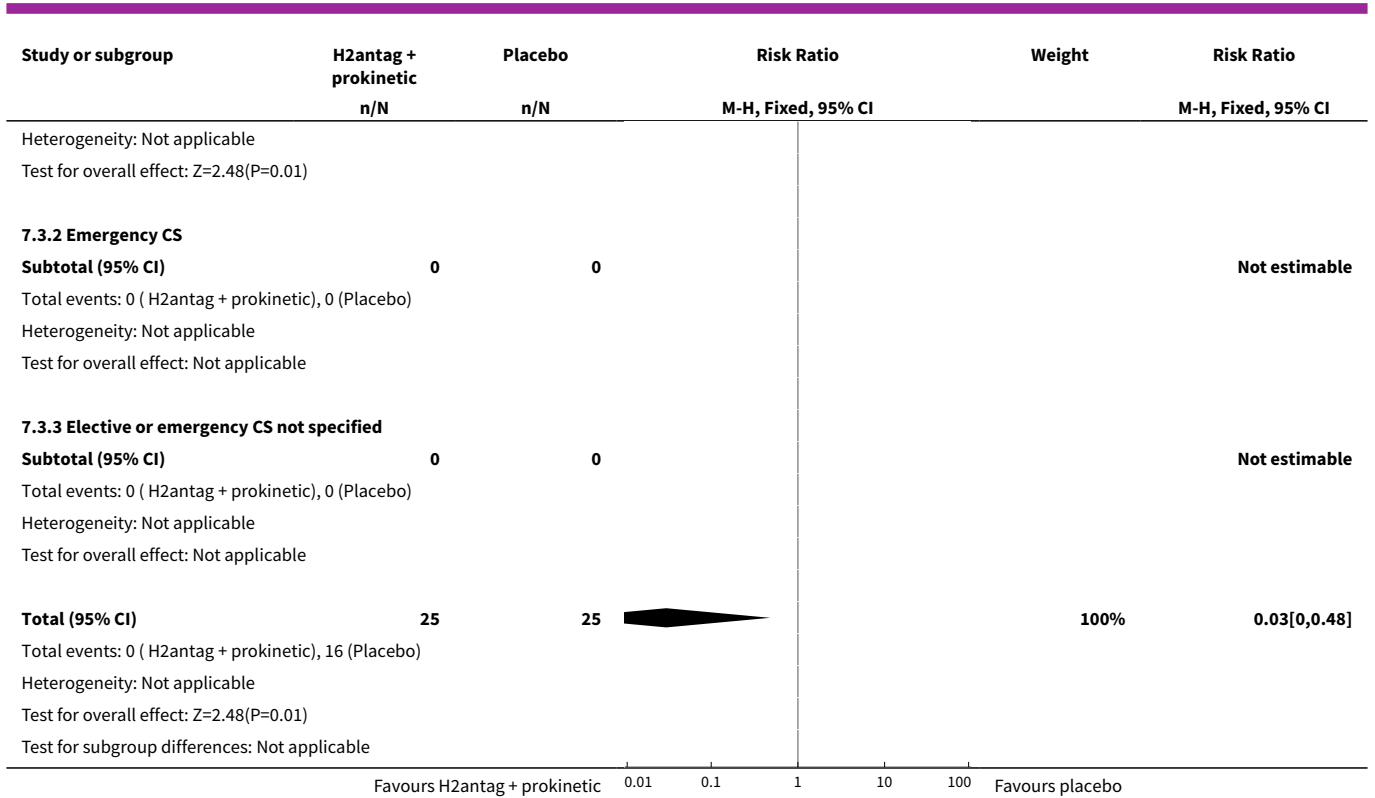
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH > 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume < 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

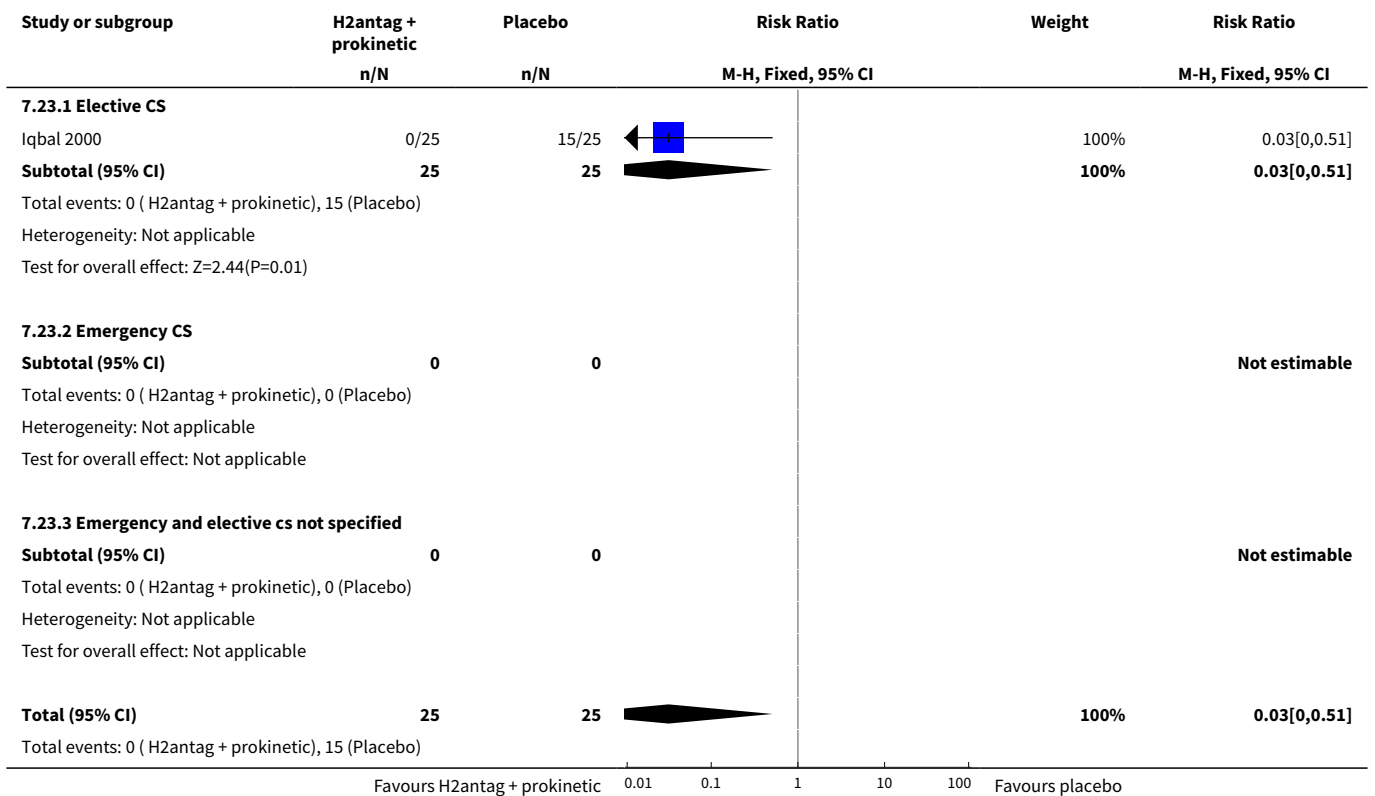
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
<a href="#">23 Risk of aspiration (not pre-specified)</a>	1	50	Risk Ratio (M-H, Fixed, 95% CI)	0.03 [0.00, 0.51]
23.1 Elective CS	1	50	Risk Ratio (M-H, Fixed, 95% CI)	0.03 [0.00, 0.51]
23.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.3 Emergency and elective cs not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">24 Gastric pH post intubation (not pre-specified)</a>	1	50	Mean Difference (IV, Fixed, 95% CI)	3.17 [2.57, 3.77]
24.1 Elective CS	1	50	Mean Difference (IV, Fixed, 95% CI)	3.17 [2.57, 3.77]
24.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">25 Gastric volume post intubation (not pre-specified)</a>	1	50	Mean Difference (IV, Fixed, 95% CI)	-14.20 [-20.92, -7.48]
25.1 Elective CS	1	50	Mean Difference (IV, Fixed, 95% CI)	-14.20 [-20.92, -7.48]
25.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
25.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">26 Gastric volume &lt; 25 mL after induction</a>	1	50	Risk Ratio (M-H, Fixed, 95% CI)	2.11 [1.20, 3.72]
26.1 Elective CS	1	50	Risk Ratio (M-H, Fixed, 95% CI)	2.11 [1.20, 3.72]
26.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
26.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Analysis 7.3. Comparison 7 H<sub>2</sub> antagonists + prokinetic drugs versus placebo/no treatment, Outcome 3 Intra-gastric pH < 2.5 at intubation.**

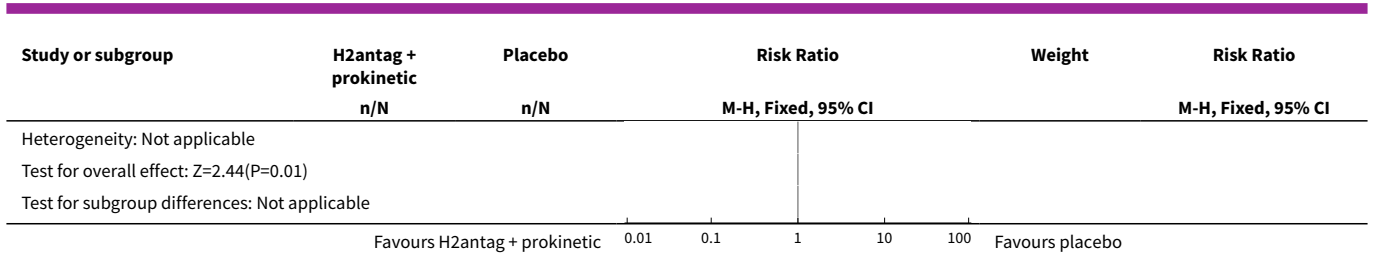




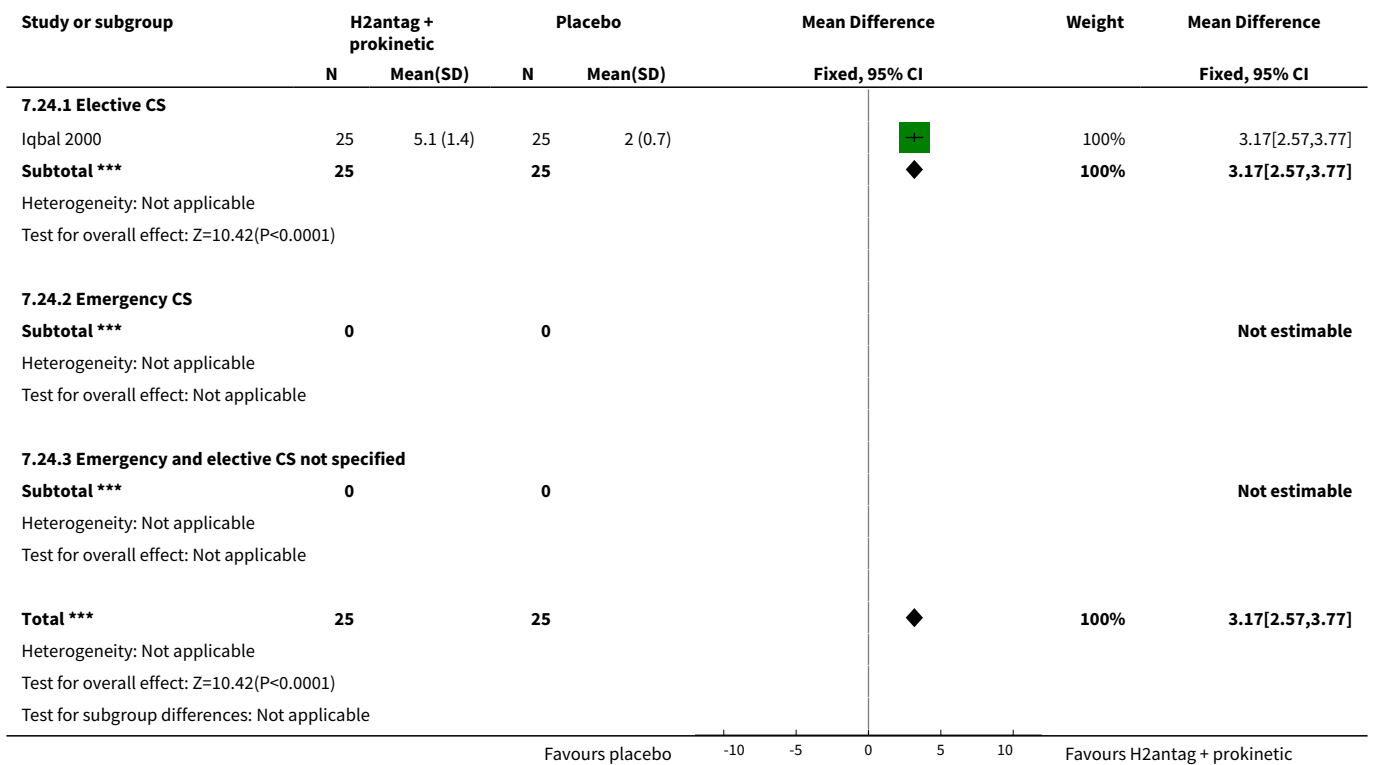
**Analysis 7.23. Comparison 7 H<sub>2</sub> antagonists + prokinetic drugs versus placebo/no treatment, Outcome 23 Risk of aspiration (not pre-specified).**



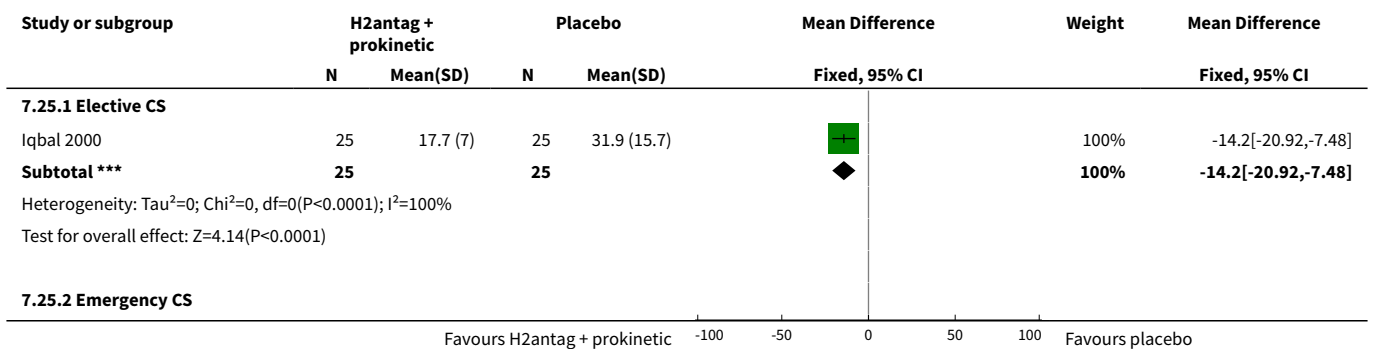


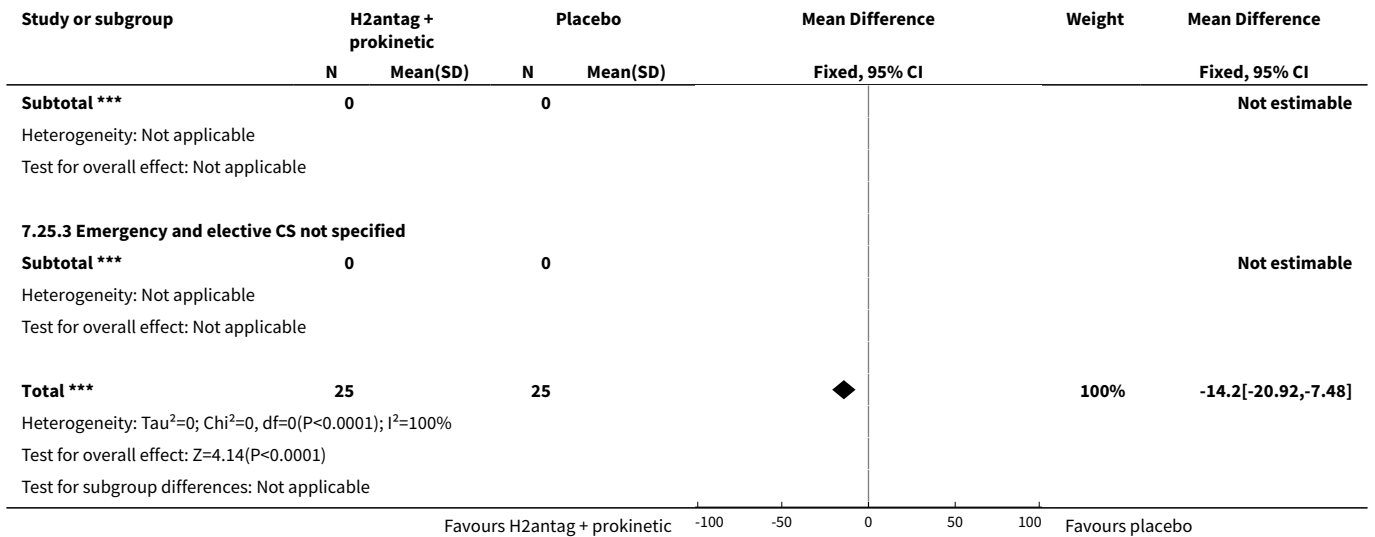


**Analysis 7.24. Comparison 7 H<sub>2</sub> antagonists + prokinetic drugs versus placebo/ no treatment, Outcome 24 Gastric pH post intubation (not pre-specified).**

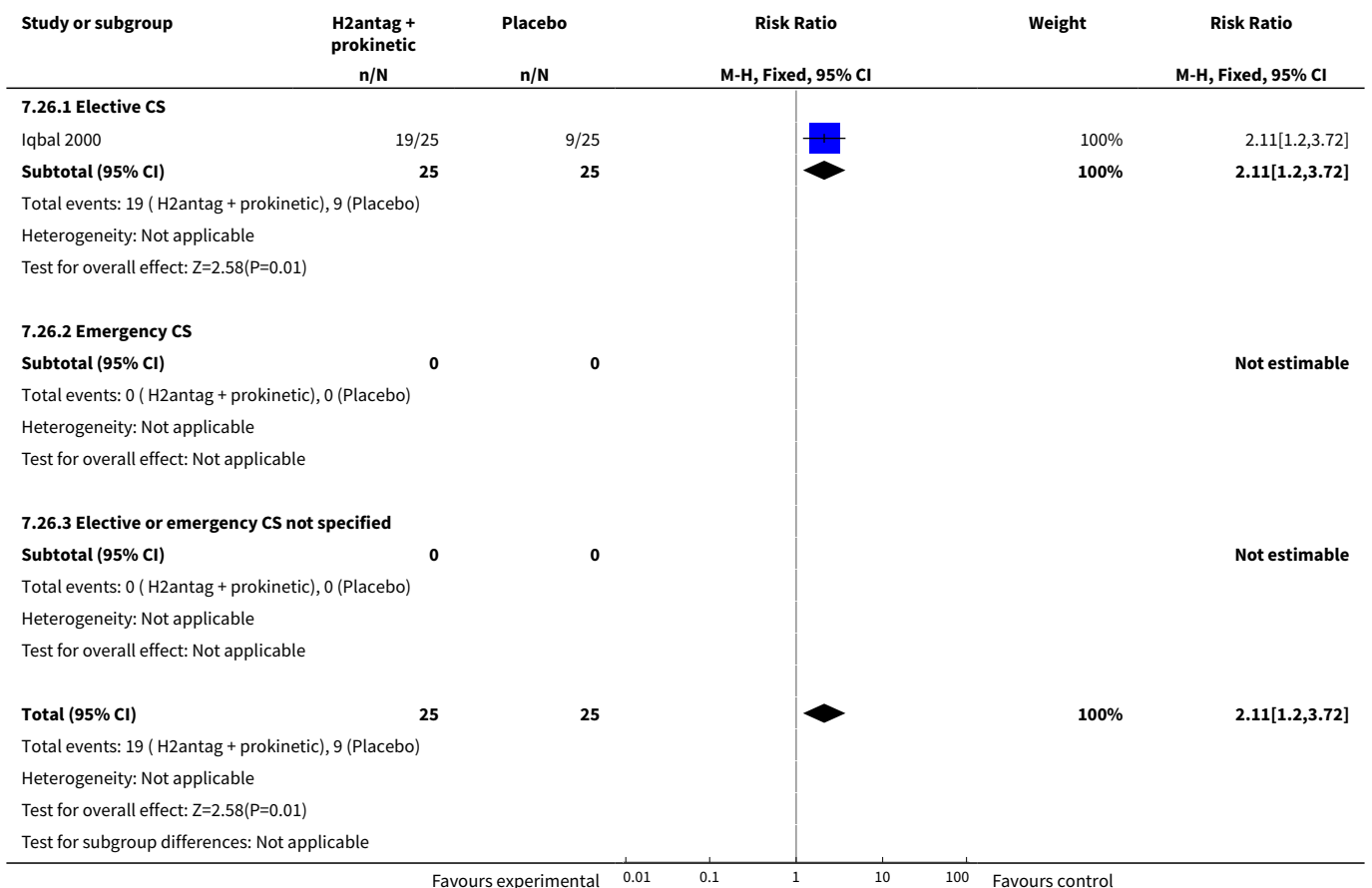


**Analysis 7.25. Comparison 7 H<sub>2</sub> antagonists + prokinetic drugs versus placebo/ no treatment, Outcome 25 Gastric volume post intubation (not pre-specified).**





**Analysis 7.26. Comparison 7 H<sub>2</sub> antagonists + prokinetic drugs versus placebo/no treatment, Outcome 26 Gastric volume < 25 mL after induction.**



**Comparison 8. Antacids versus H<sub>2</sub> antagonists**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra gastric pH < 2.5 at intubation	2	135	Risk Ratio (M-H, Fixed, 95% CI)	0.07 [0.01, 0.52]
3.1 Elective CS	2	104	Risk Ratio (M-H, Fixed, 95% CI)	0.07 [0.01, 0.52]
3.2 Emergency CS	1	31	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra gastric volume < 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

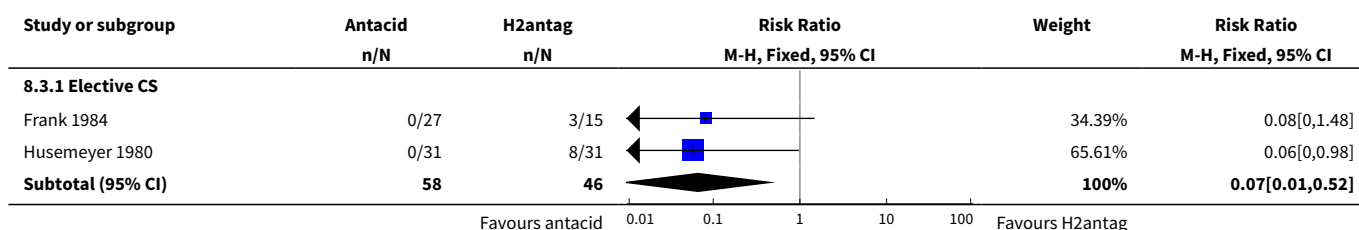
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

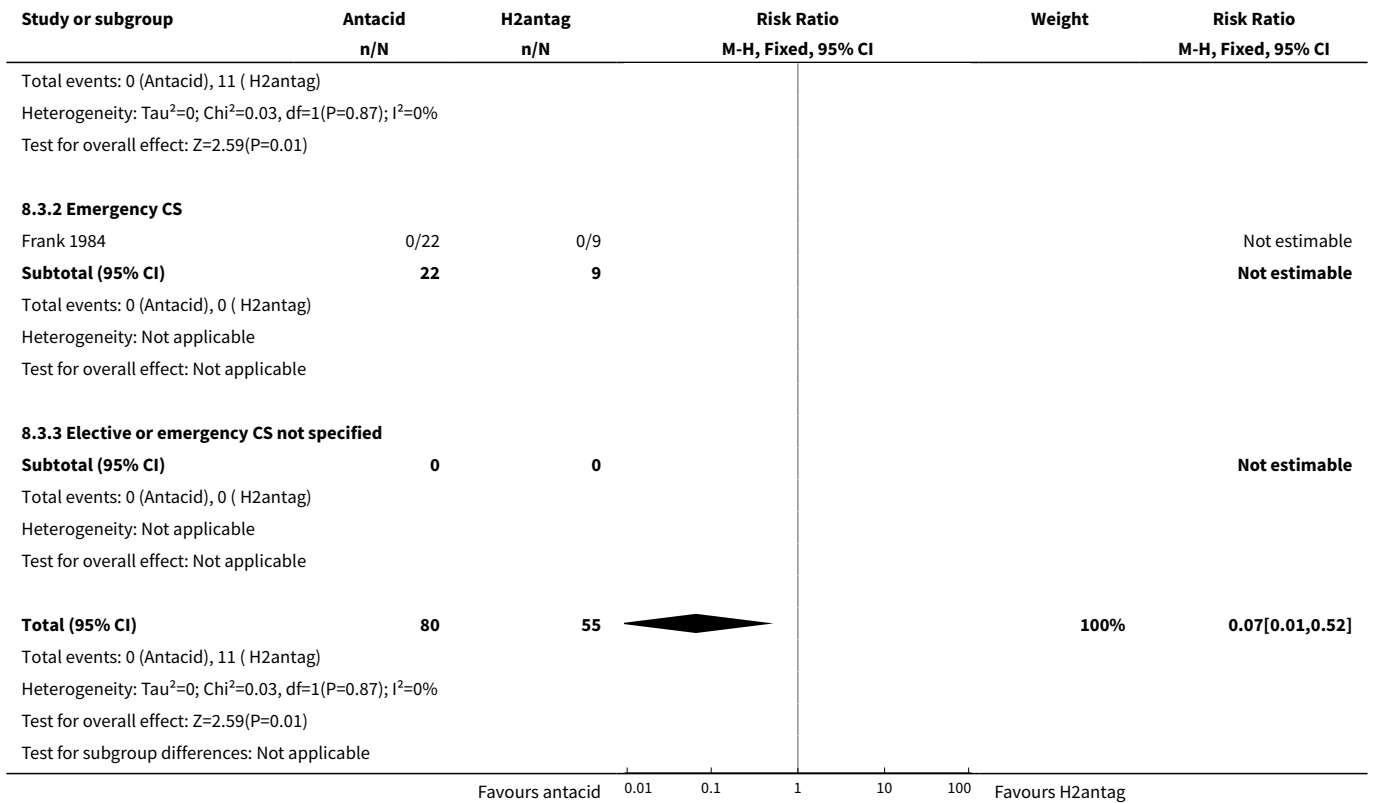
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH > 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume < 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

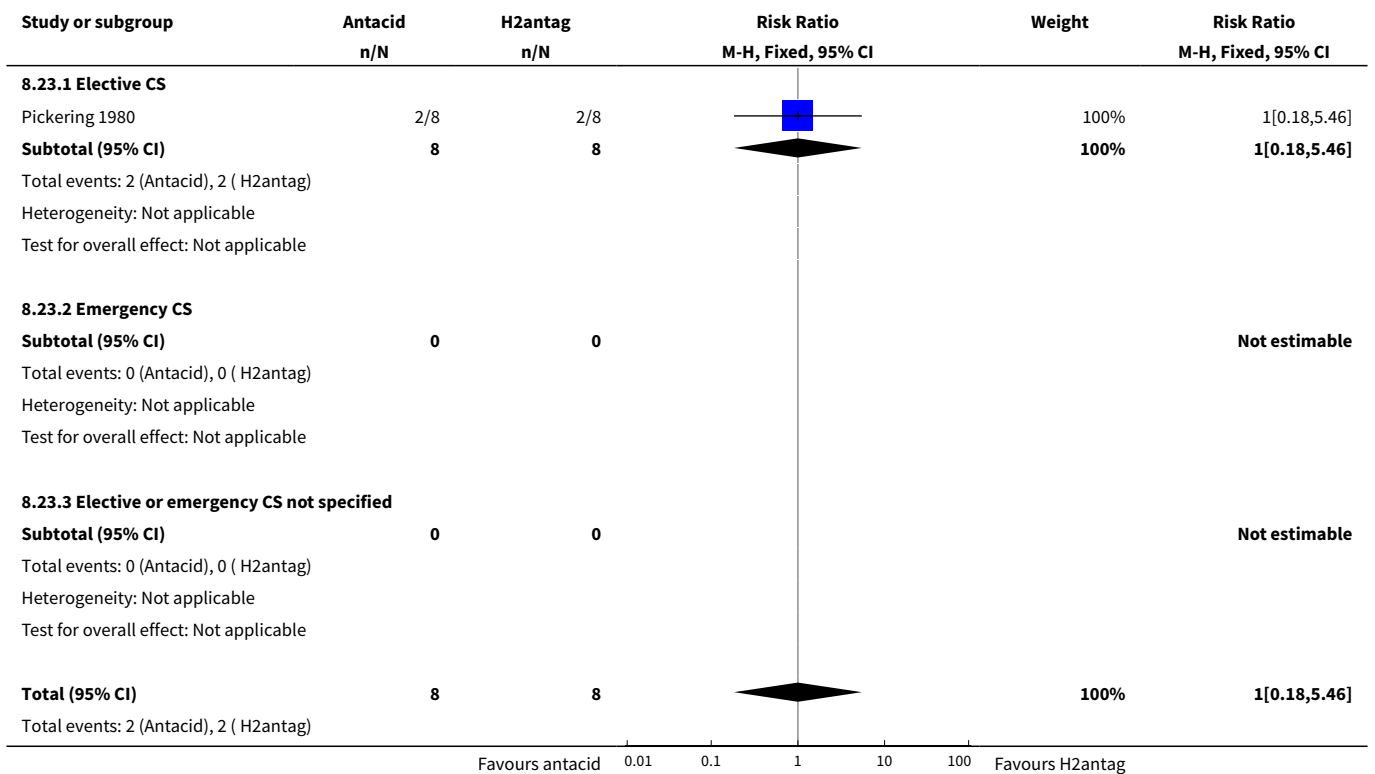
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
<a href="#">23 At risk of aspiration (not pre-specified)</a>	1	16	Risk Ratio (M-H, Fixed, 95% CI)	1.0 [0.18, 5.46]
23.1 Elective CS	1	16	Risk Ratio (M-H, Fixed, 95% CI)	1.0 [0.18, 5.46]
23.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">24 Gastric volume at intubation (not pre-specified)</a>	3	102	Std. Mean Difference (IV, Random, 95% CI)	0.75 [0.34, 1.16]
24.1 Elective CS	3	102	Std. Mean Difference (IV, Random, 95% CI)	0.75 [0.34, 1.16]
24.2 Emergency CS	0	0	Std. Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
24.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
<a href="#">25 Gastric pH at intubation (not pre-specified)</a>	1	24	Mean Difference (IV, Fixed, 95% CI)	-3.02 [-4.52, -1.52]
25.1 Elective CS	1	24	Mean Difference (IV, Fixed, 95% CI)	-3.02 [-4.52, -1.52]
25.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
25.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">26 Gastric pH at extubation (not pre-specified)</a>	1	24	Mean Difference (IV, Fixed, 95% CI)	-2.32 [-4.00, -0.64]
26.1 Elective CS	1	24	Mean Difference (IV, Fixed, 95% CI)	-2.32 [-4.00, -0.64]
26.2 Emergenct CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
26.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Analysis 8.3. Comparison 8 Antacids versus H<sub>2</sub> antagonists, Outcome 3 Intra gastric pH < 2.5 at intubation.**

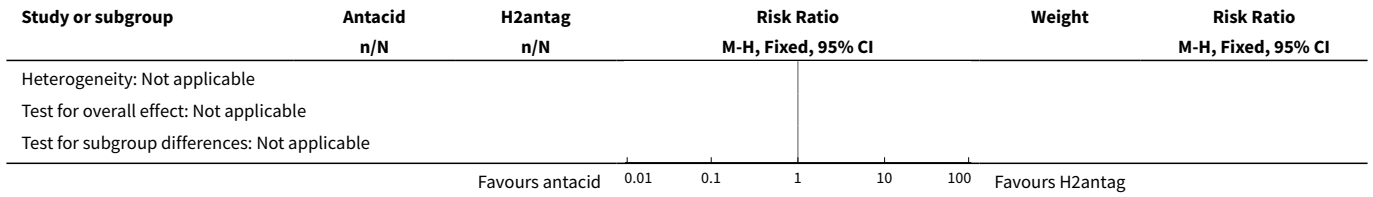




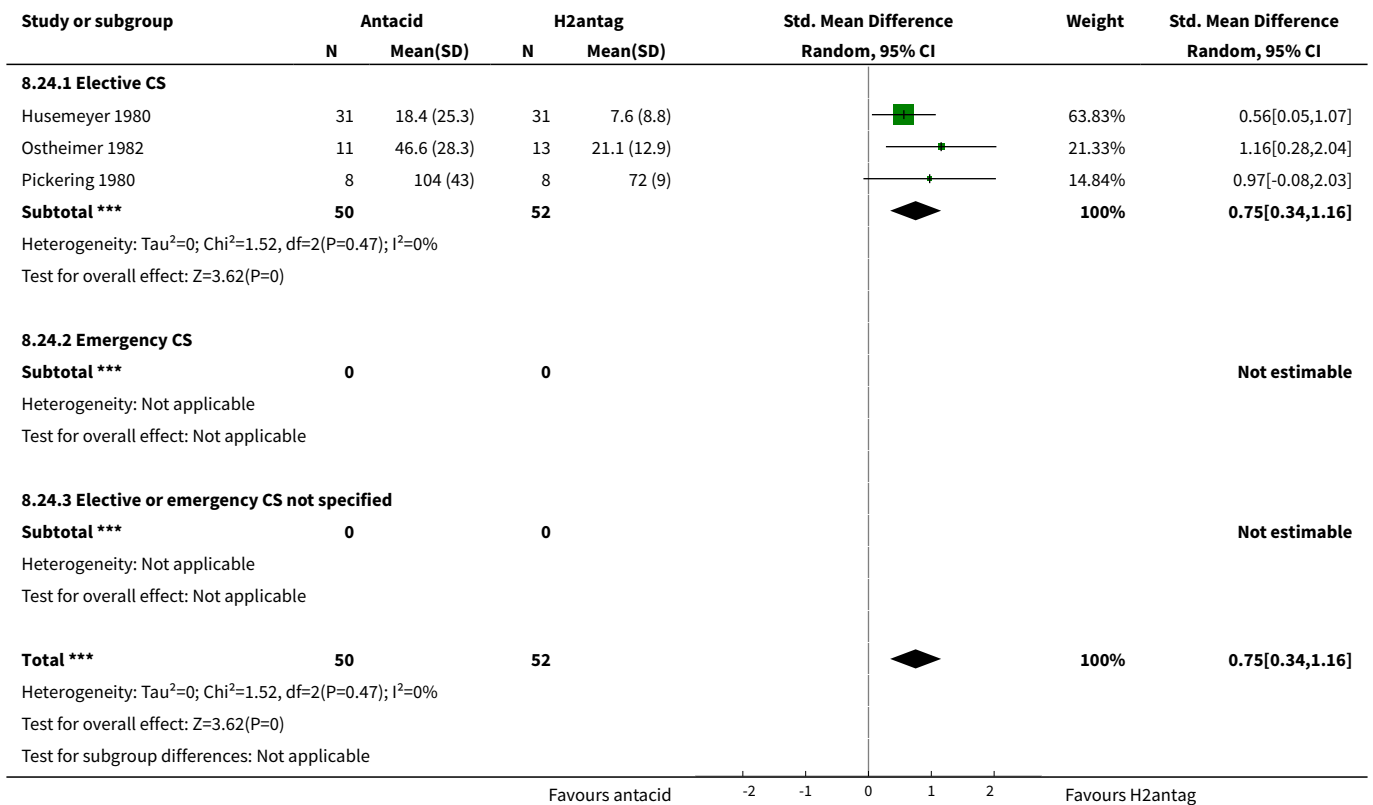
**Analysis 8.23. Comparison 8 Antacids versus H<sub>2</sub> antagonists, Outcome 23 At risk of aspiration (not pre-specified).**



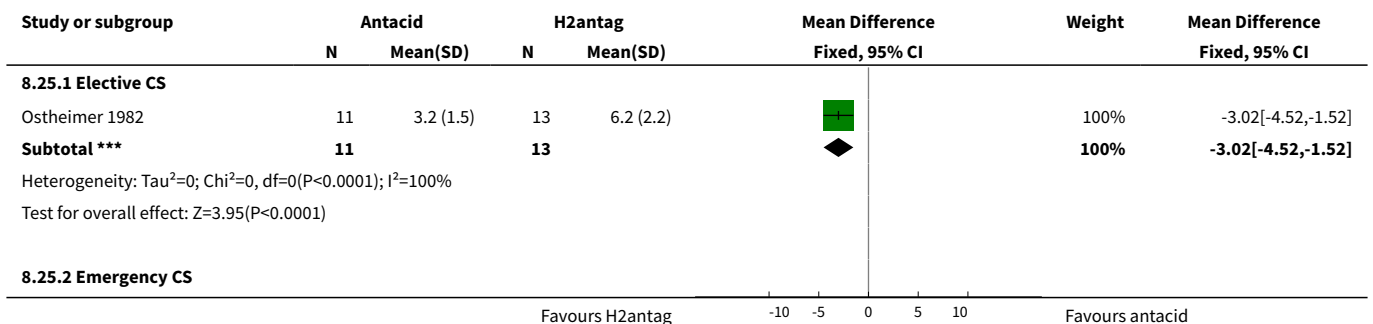


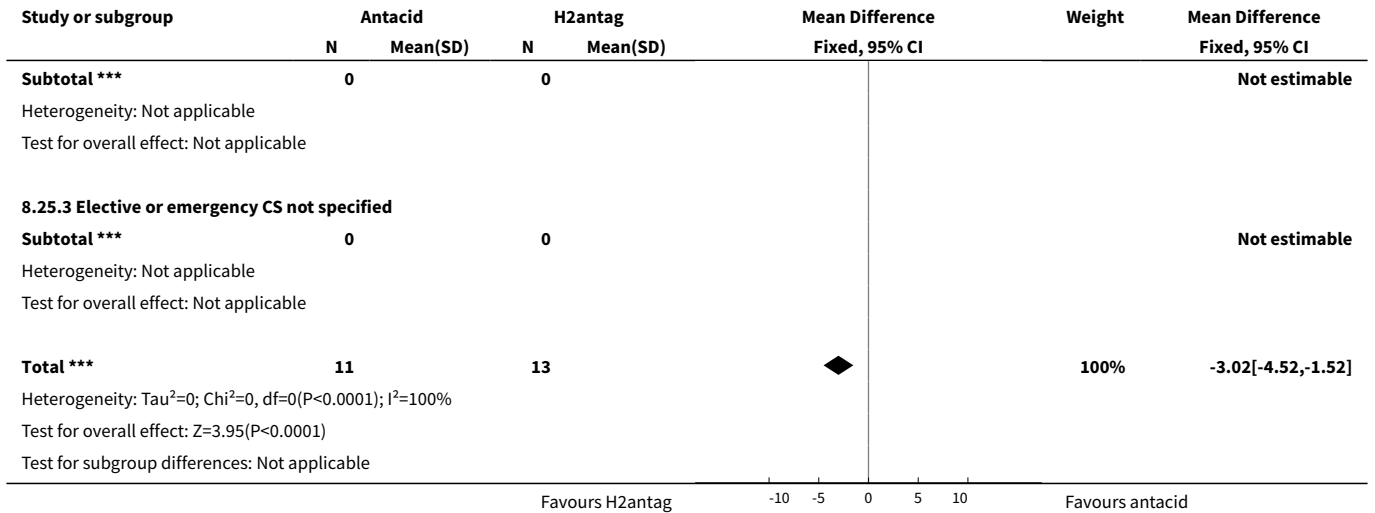


**Analysis 8.24. Comparison 8 Antacids versus H<sub>2</sub> antagonists, Outcome 24 Gastric volume at intubation (not pre-specified).**

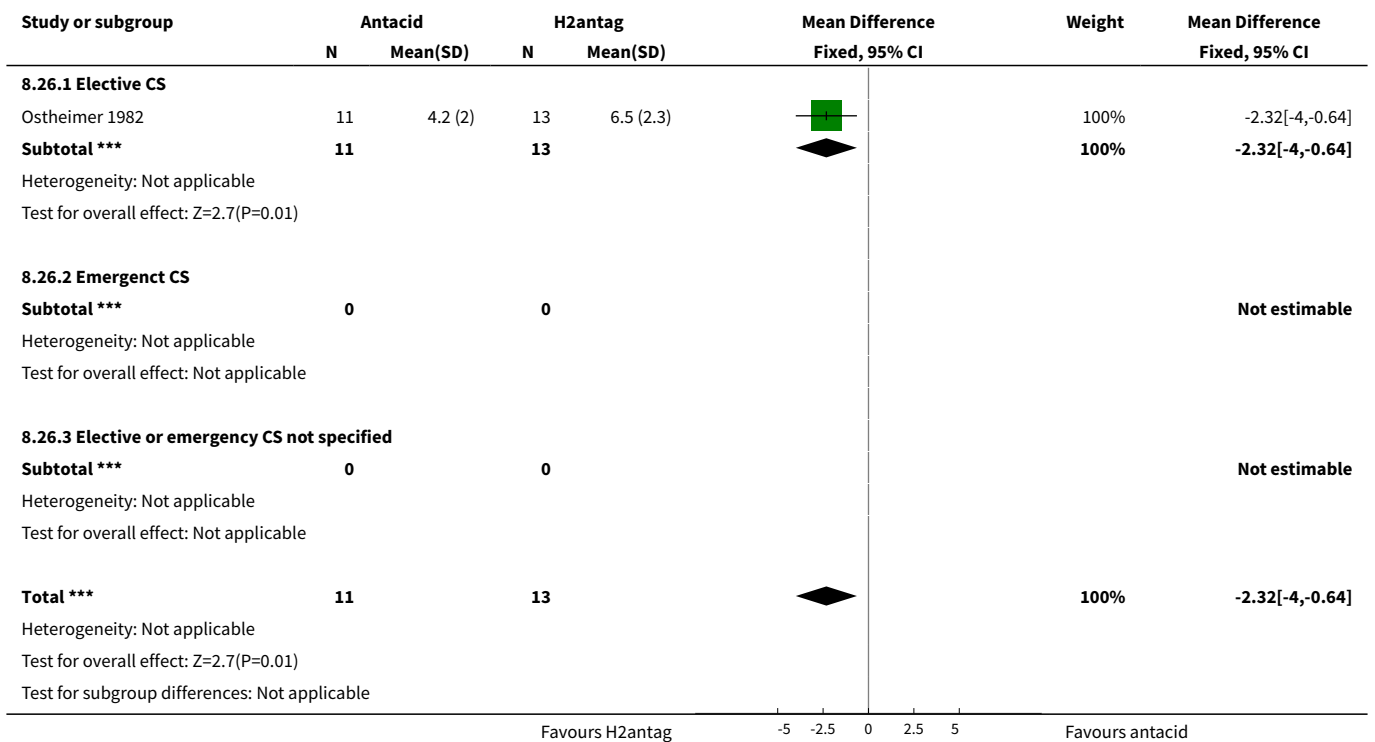


**Analysis 8.25. Comparison 8 Antacids versus H<sub>2</sub> antagonists, Outcome 25 Gastric pH at intubation (not pre-specified).**





**Analysis 8.26. Comparison 8 Antacids versus H<sub>2</sub> antagonists, Outcome 26 Gastric pH at extubation (not pre-specified).**



**Comparison 9. Antacids versus prokinetic drugs**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH > 2.5 at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra-gastric volume < 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH > 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume < 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Comparison 10. H<sub>2</sub> antagonists versus proton pump antagonists**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra gastric pH < 2.5 at intubation	1	120	Risk Ratio (M-H, Fixed, 95% CI)	0.39 [0.16, 0.97]
3.1 Elective CS	1	120	Risk Ratio (M-H, Fixed, 95% CI)	0.39 [0.16, 0.97]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra gastric volume < 0.4 mL/kg at intubation	1	120	Risk Ratio (M-H, Fixed, 95% CI)	1.18 [1.03, 1.35]
4.1 Elective CS	1	120	Risk Ratio (M-H, Fixed, 95% CI)	1.18 [1.03, 1.35]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

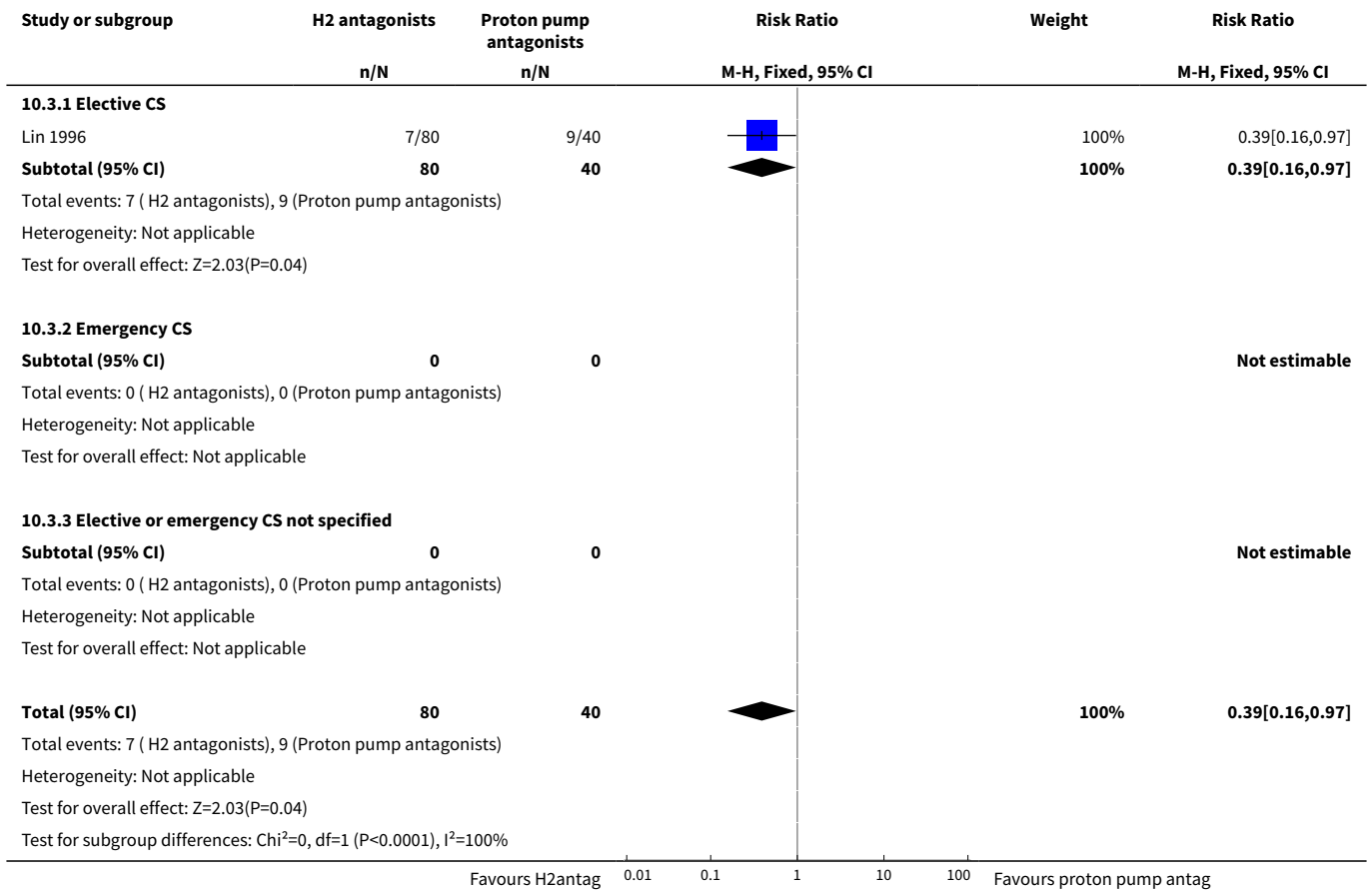


Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

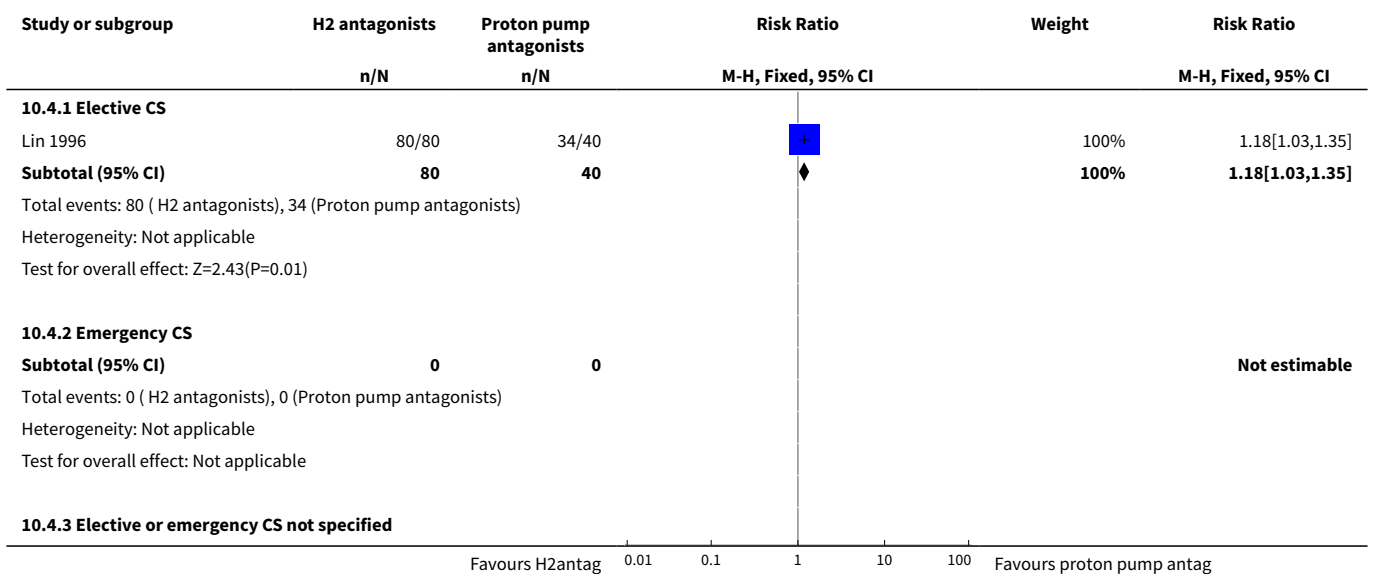
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH > 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume < 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

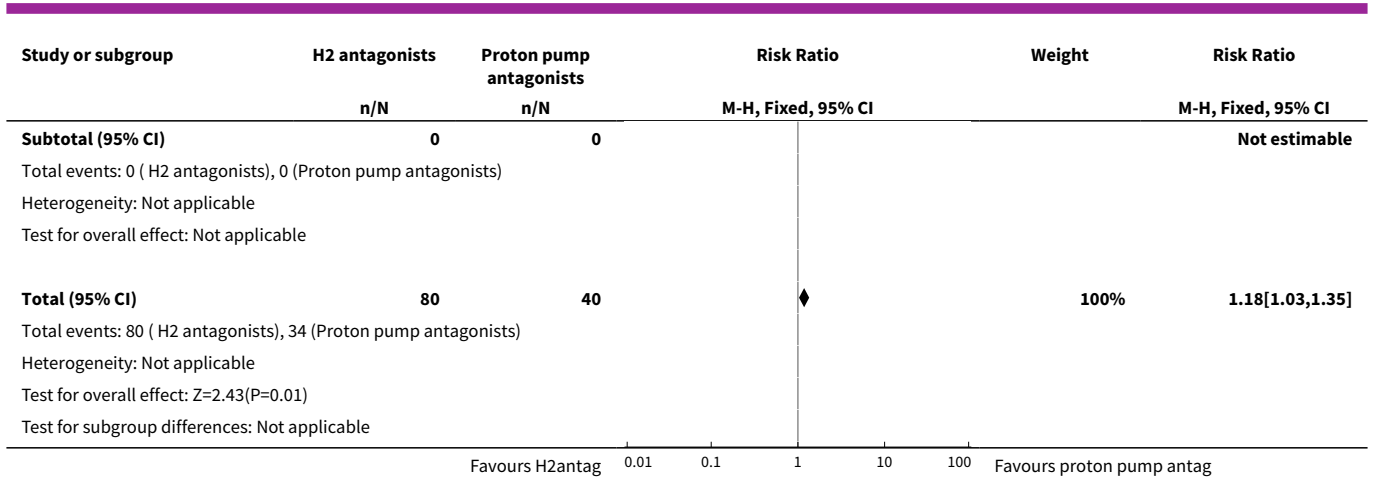
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
<a href="#">23 At risk of aspiration (not pre-specified)</a>	4	323	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.20, 4.37]
23.1 Elective CS	2	141	Risk Ratio (M-H, Random, 95% CI)	0.79 [0.03, 23.67]
23.2 Emergency CS	2	182	Risk Ratio (M-H, Random, 95% CI)	1.04 [0.13, 8.32]
23.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Random, 95% CI)	0.0 [0.0, 0.0]
<a href="#">24 Gastric pH post intubation (not pre-specified)</a>	1	80	Mean Difference (IV, Fixed, 95% CI)	-0.68 [-1.28, -0.08]
24.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.2 Emergency CS	1	80	Mean Difference (IV, Fixed, 95% CI)	-0.68 [-1.28, -0.08]
24.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">25 Gastric volume post intubation (not pre-specified)</a>	1	80	Mean Difference (IV, Fixed, 95% CI)	2.35 [-0.79, 5.49]
25.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
25.2 Emergency CS	1	80	Mean Difference (IV, Fixed, 95% CI)	2.35 [-0.79, 5.49]
25.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">26 Gastric pH pre extubation (not pre-specified)</a>	1	80	Mean Difference (IV, Fixed, 95% CI)	-0.65 [-1.22, -0.08]
26.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
26.2 Emergency CS	1	80	Mean Difference (IV, Fixed, 95% CI)	-0.65 [-1.22, -0.08]
26.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">27 Gastric volume post extubation (not pre-specified)</a>	1	80	Mean Difference (IV, Fixed, 95% CI)	-1.08 [-2.47, 0.31]
27.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
27.2 Emergency CS	1	80	Mean Difference (IV, Fixed, 95% CI)	-1.08 [-2.47, 0.31]
27.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Analysis 10.3. Comparison 10 H<sub>2</sub> antagonists versus proton pump antagonists, Outcome 3 Intra gastric pH < 2.5 at intubation.**

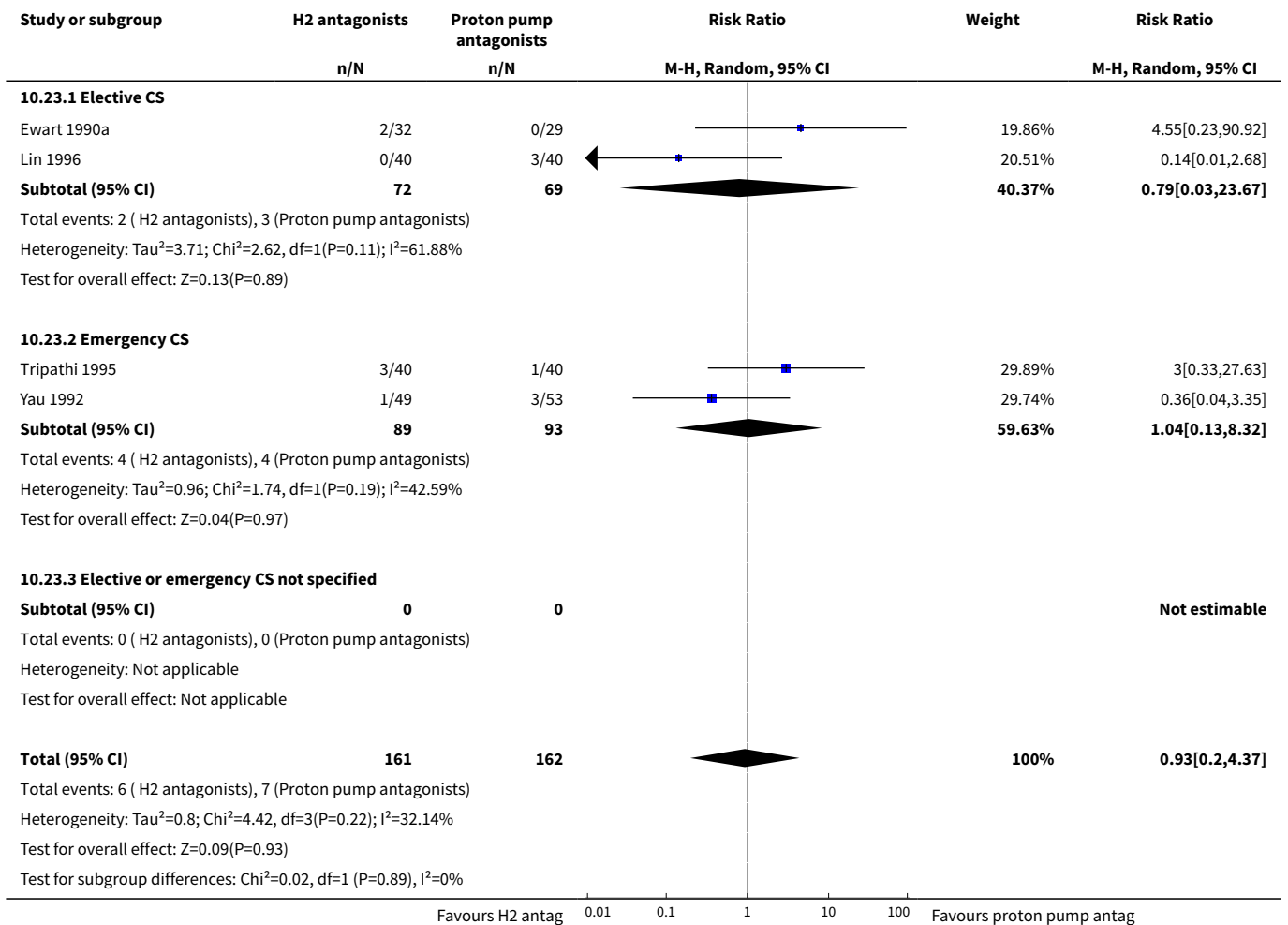


**Analysis 10.4. Comparison 10 H<sub>2</sub> antagonists versus proton pump antagonists, Outcome 4 Intra gastric volume < 0.4 mL/kg at intubation.**

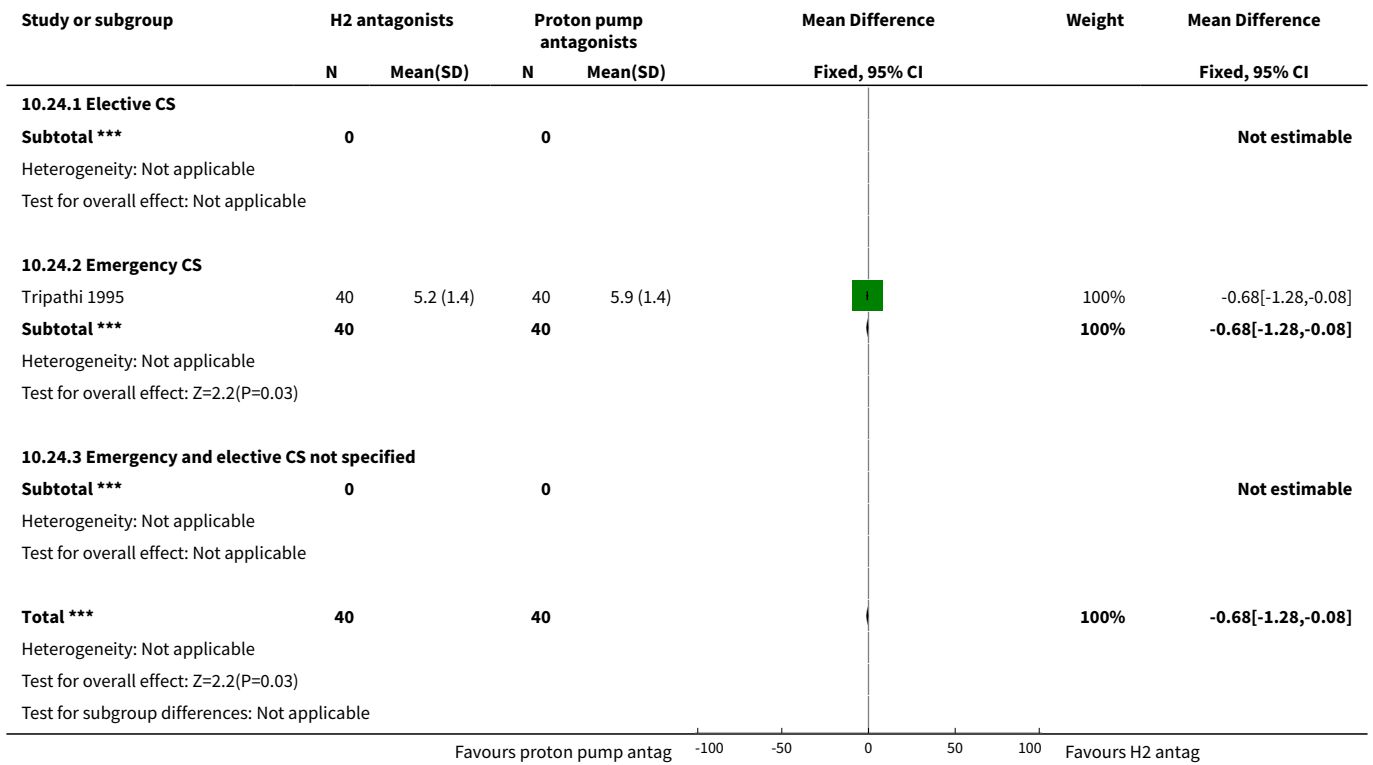




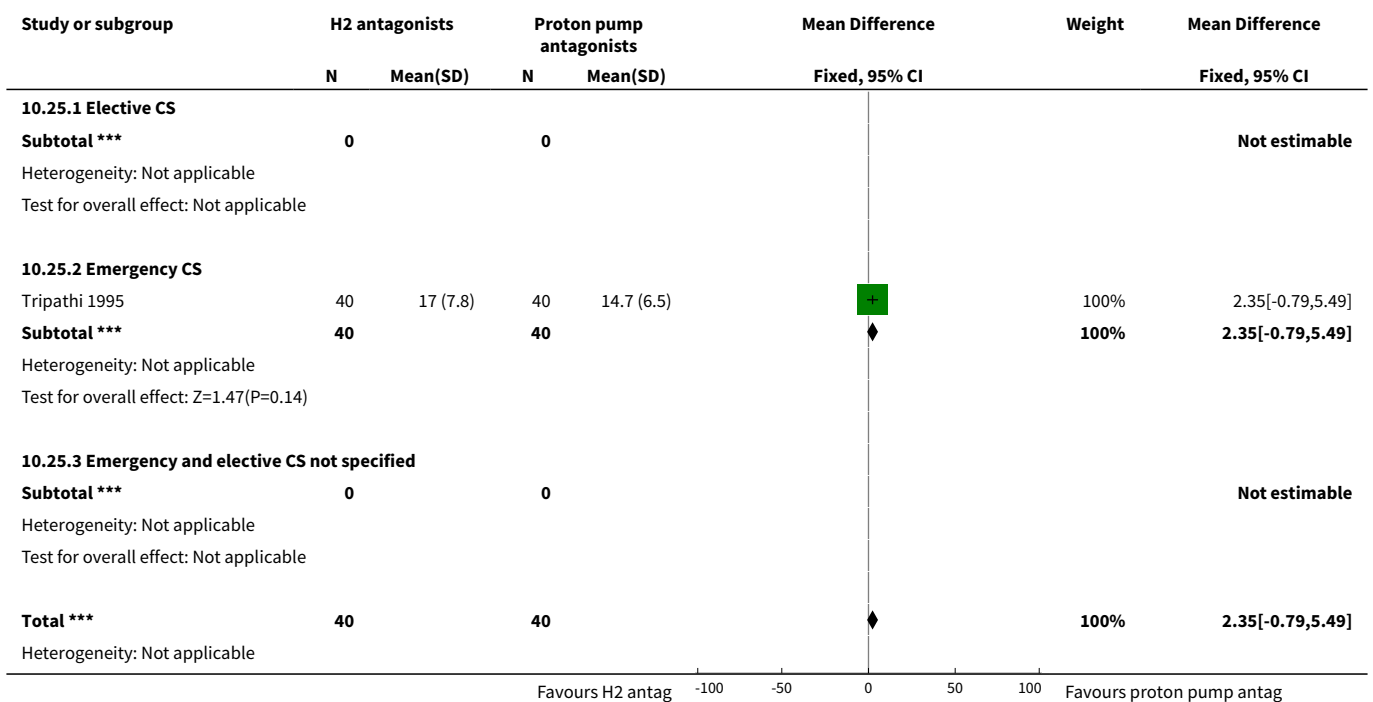
**Analysis 10.23. Comparison 10 H<sub>2</sub> antagonists versus proton pump antagonists, Outcome 23 At risk of aspiration (not pre-specified).**

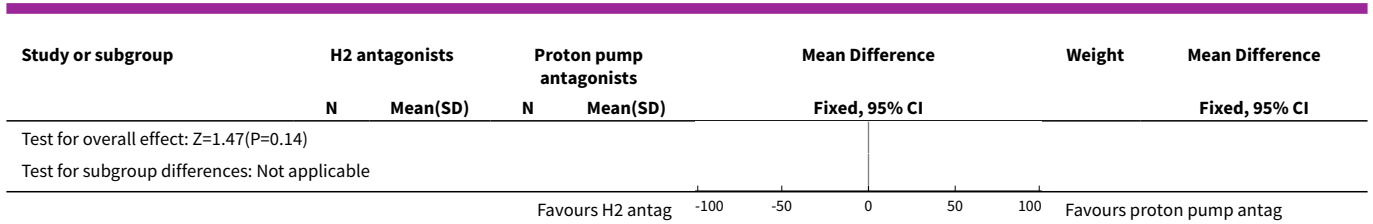


**Analysis 10.24. Comparison 10 H<sub>2</sub> antagonists versus proton pump antagonists, Outcome 24 Gastric pH post intubation (not pre-specified).**

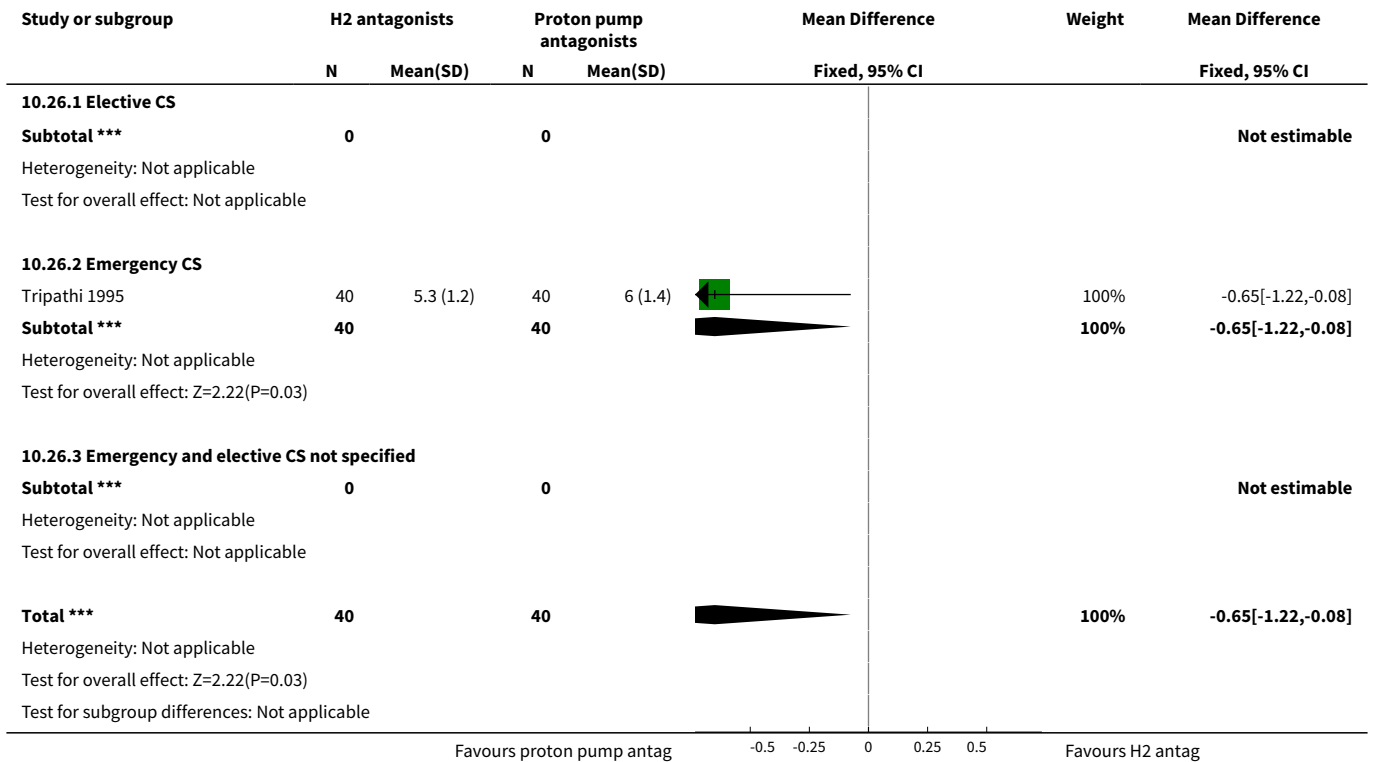


**Analysis 10.25. Comparison 10 H<sub>2</sub> antagonists versus proton pump antagonists, Outcome 25 Gastric volume post intubation (not pre-specified).**

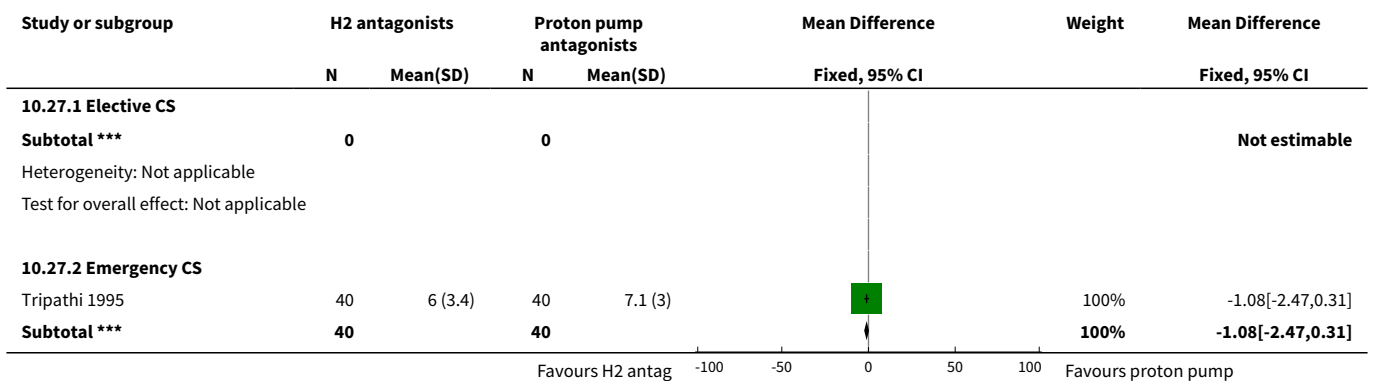


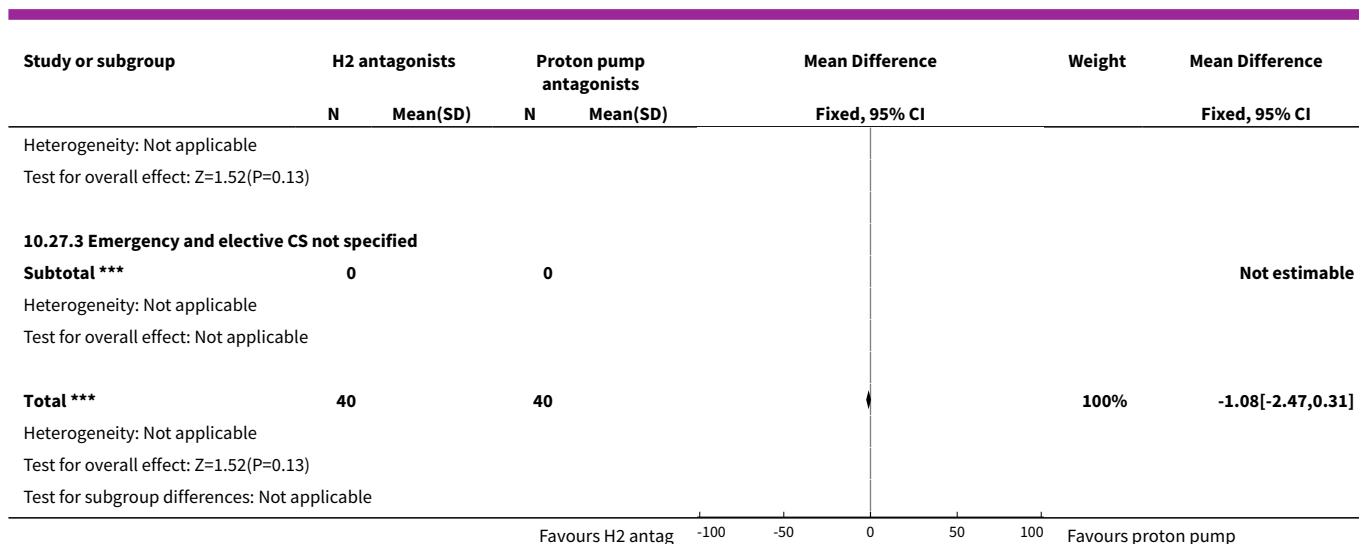


**Analysis 10.26. Comparison 10 H<sub>2</sub> antagonists versus proton pump antagonists, Outcome 26 Gastric pH pre extubation (not pre-specified).**



**Analysis 10.27. Comparison 10 H<sub>2</sub> antagonists versus proton pump antagonists, Outcome 27 Gastric volume post extubation (not pre-specified).**





### Comparison 11. Antacids + H<sub>2</sub> antagonists versus antacids

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH < 2.5 at intubation	1	119	Risk Ratio (M-H, Fixed, 95% CI)	0.12 [0.02, 0.92]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	1	119	Risk Ratio (M-H, Fixed, 95% CI)	0.12 [0.02, 0.92]
4 Intra-gastric volume < 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]



Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

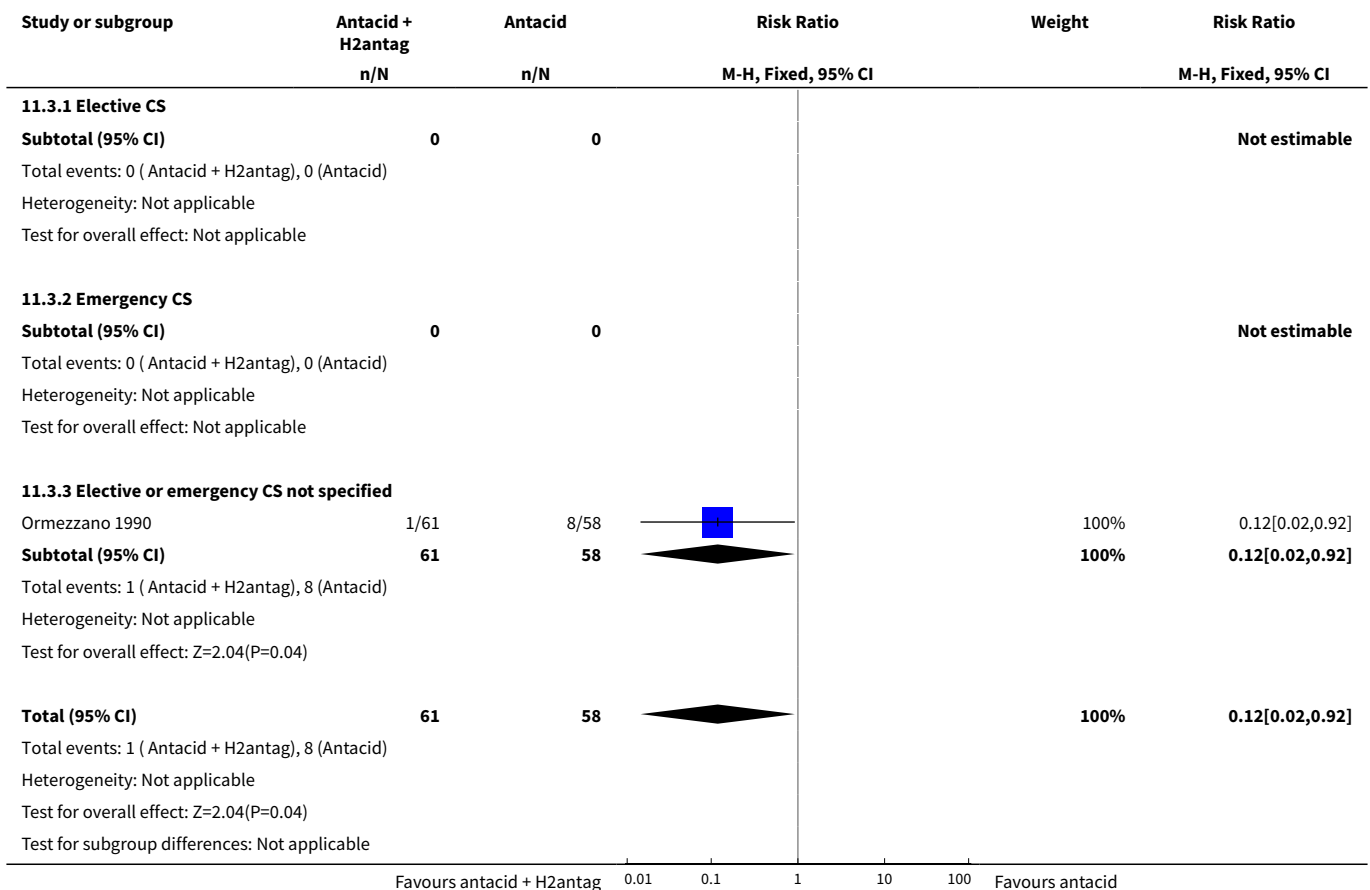
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

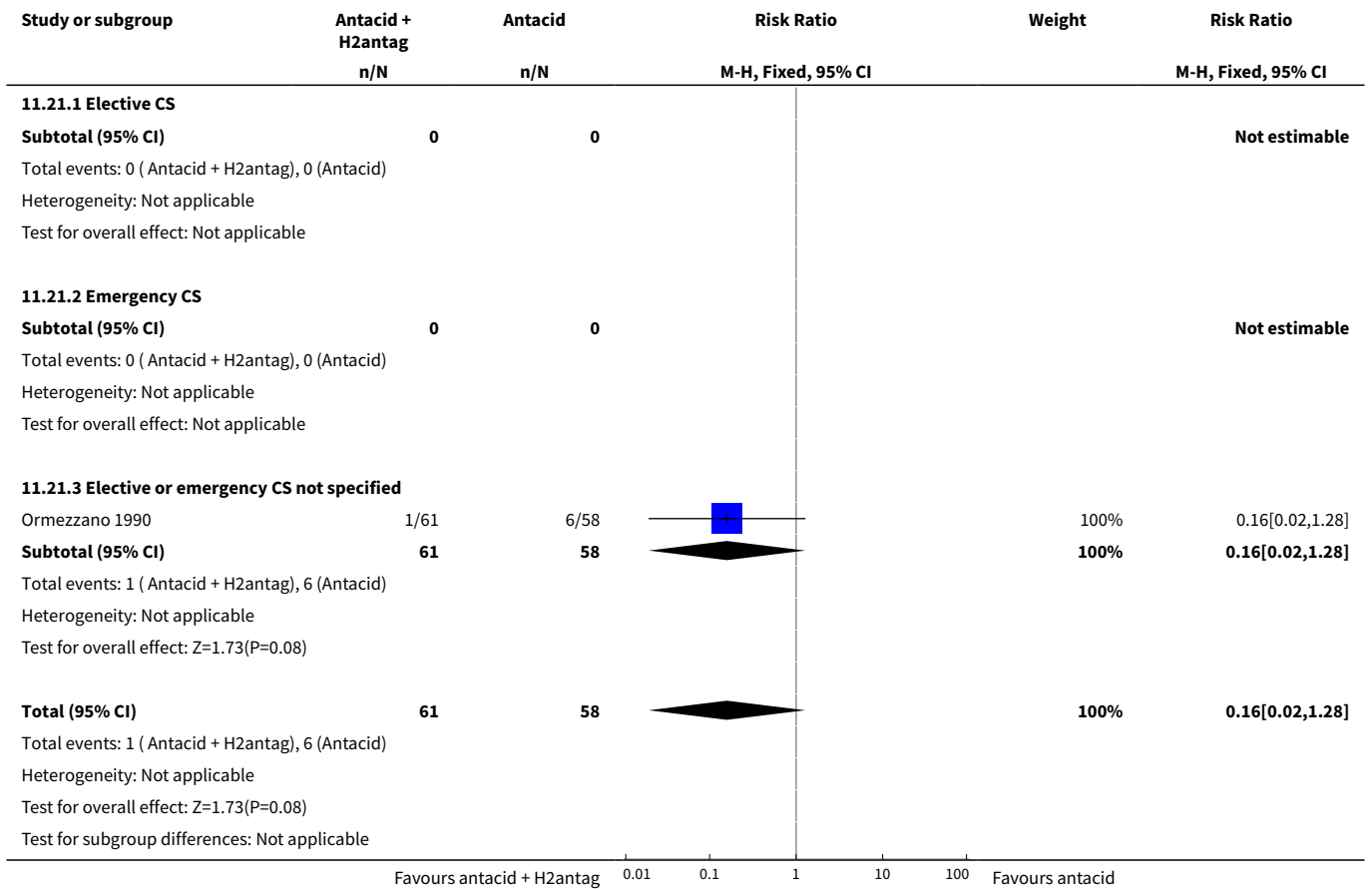
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
<a href="#">21 Intra-gastric pH &lt; 2.5 at extubation</a>	1	119	Risk Ratio (M-H, Fixed, 95% CI)	0.16 [0.02, 1.28]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	1	119	Risk Ratio (M-H, Fixed, 95% CI)	0.16 [0.02, 1.28]
<a href="#">22 Intra-gastric volume &lt; 0.4 mL/kg at extubation</a>	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">23 Post Intubation pH (not pre-specified)</a>	2	672	Mean Difference (IV, Random, 95% CI)	0.43 [0.07, 0.79]
23.1 Elective CS	0	0	Mean Difference (IV, Random, 95% CI)	0.0 [0.0, 0.0]
23.2 Emergency CS	1	553	Mean Difference (IV, Random, 95% CI)	0.30 [0.14, 0.46]
23.3 Emergency or Elective CS non specified	1	119	Mean Difference (IV, Random, 95% CI)	0.69 [0.22, 1.16]
<a href="#">24 Pre extubation pH (not pre-specified)</a>	2	597	Mean Difference (IV, Fixed, 95% CI)	0.71 [0.53, 0.89]
24.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.2 Emergency CS	1	478	Mean Difference (IV, Fixed, 95% CI)	0.70 [0.51, 0.89]
24.3 Elective or emergency CS non specified	1	119	Mean Difference (IV, Fixed, 95% CI)	0.80 [0.29, 1.31]
<a href="#">25 Post intubation gastric volume (not pre-specified)</a>	1	586	Mean Difference (IV, Fixed, 95% CI)	-1.0 [-8.75, 6.75]
25.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
25.2 Emergency CS	1	586	Mean Difference (IV, Fixed, 95% CI)	-1.0 [-8.75, 6.75]
25.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">26 Pre-extubation gastric volume (not pre-specified)</a>	1	568	Mean Difference (IV, Fixed, 95% CI)	-2.0 [-5.21, 1.21]
26.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
26.2 Emergency CS	1	568	Mean Difference (IV, Fixed, 95% CI)	-2.0 [-5.21, 1.21]
26.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<b>27 At risk of aspiration (not pre-specified)</b>	1	595	Risk Ratio (M-H, Fixed, 95% CI)	0.11 [0.03, 0.46]
27.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
27.2 Emergency CS	1	595	Risk Ratio (M-H, Fixed, 95% CI)	0.11 [0.03, 0.46]
27.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

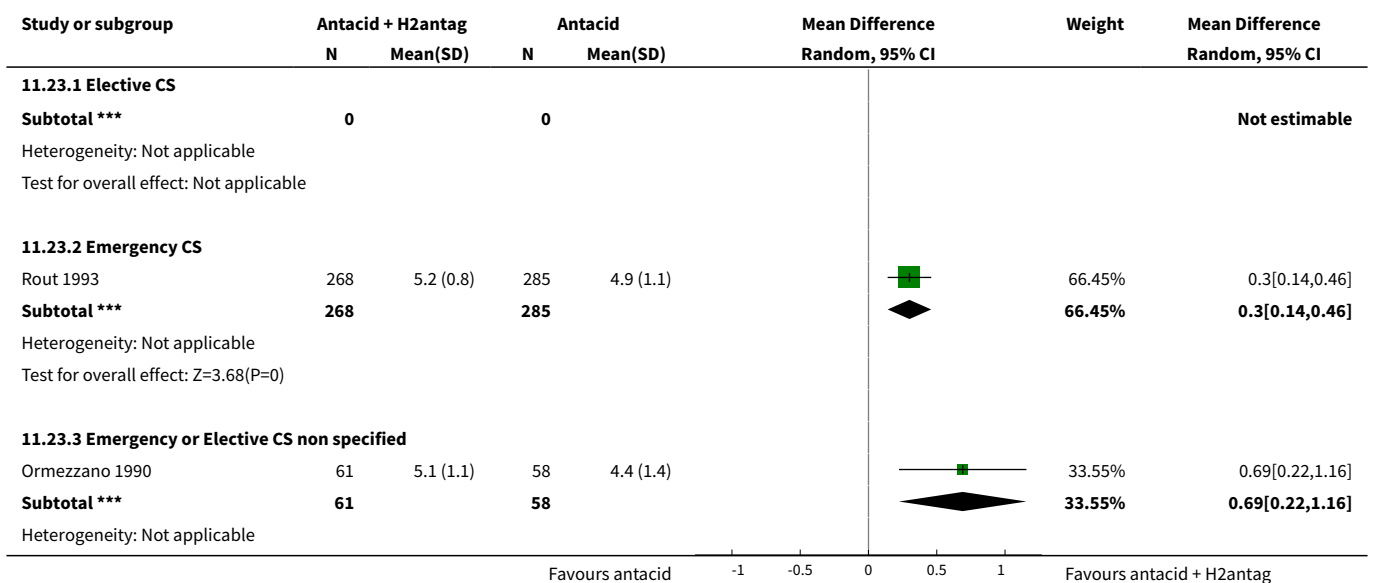
**Analysis 11.3. Comparison 11 Antacids + H<sub>2</sub> antagonists versus antacids, Outcome 3 Intra-gastric pH < 2.5 at intubation.**

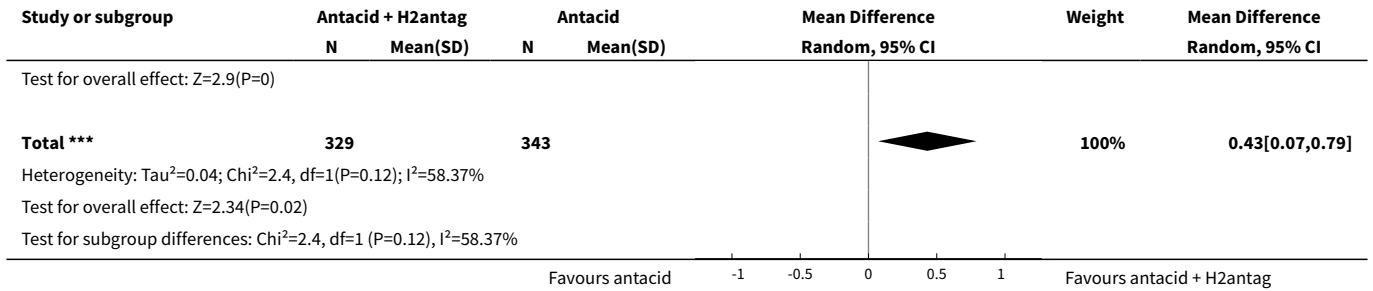


**Analysis 11.21. Comparison 11 Antacids + H<sub>2</sub> antagonists versus antacids, Outcome 21 Intra-gastric pH < 2.5 at extubation.**

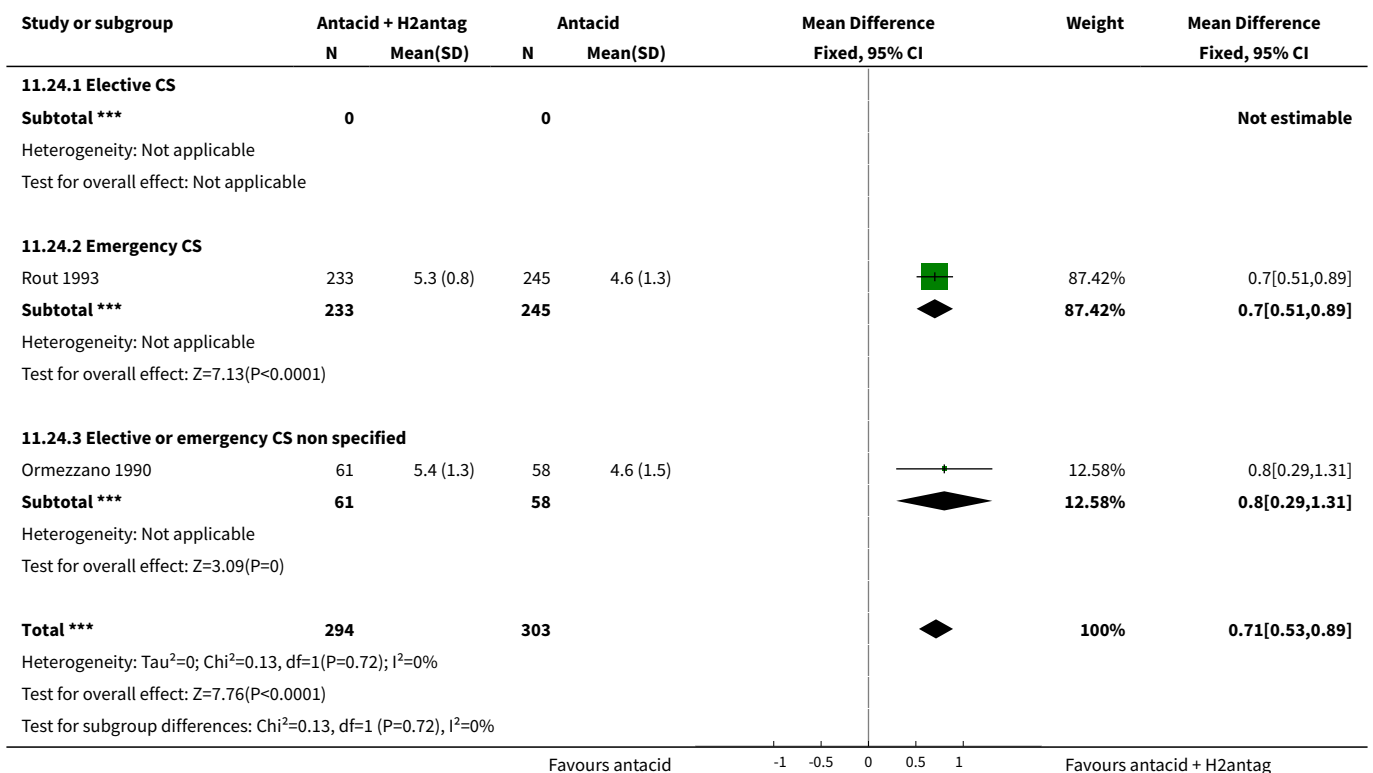


**Analysis 11.23. Comparison 11 Antacids + H<sub>2</sub> antagonists versus antacids, Outcome 23 Post Intubation pH (not pre-specified).**

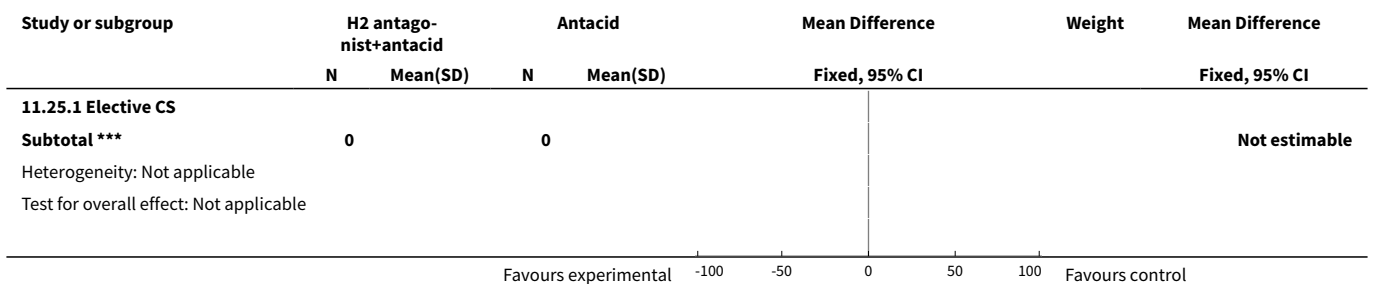


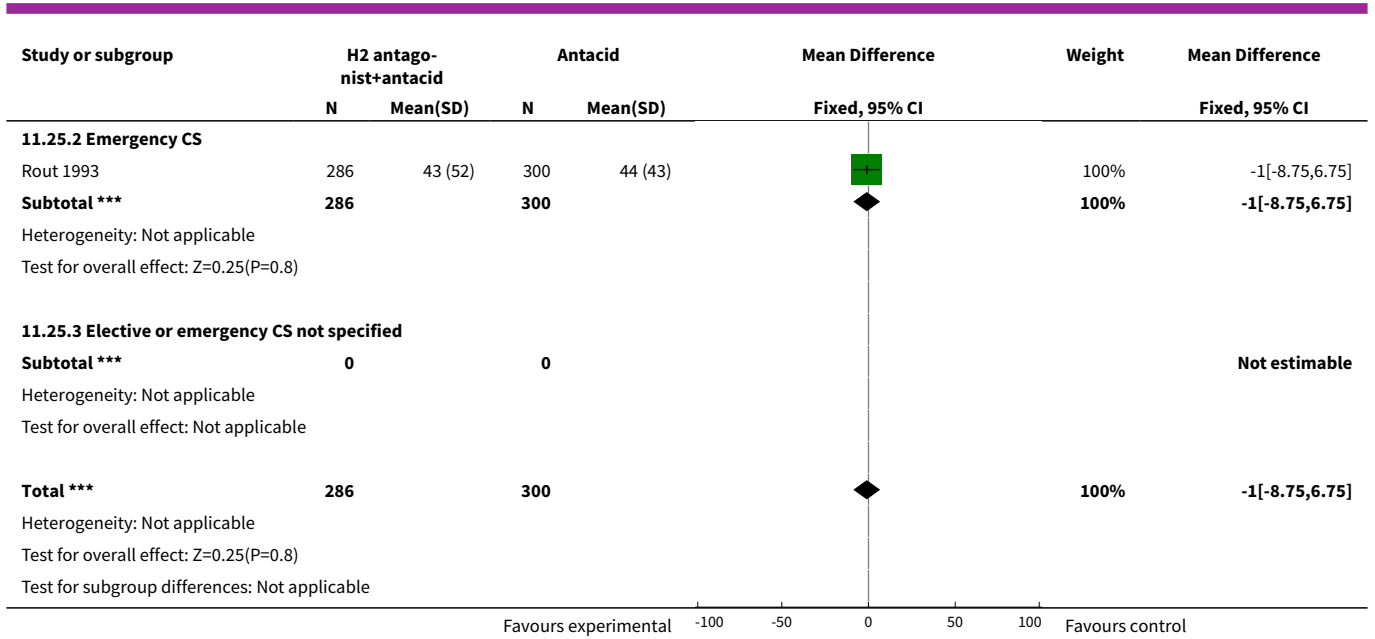


**Analysis 11.24. Comparison 11 Antacids + H<sub>2</sub> antagonists versus antacids, Outcome 24 Pre extubation pH (not pre-specified).**

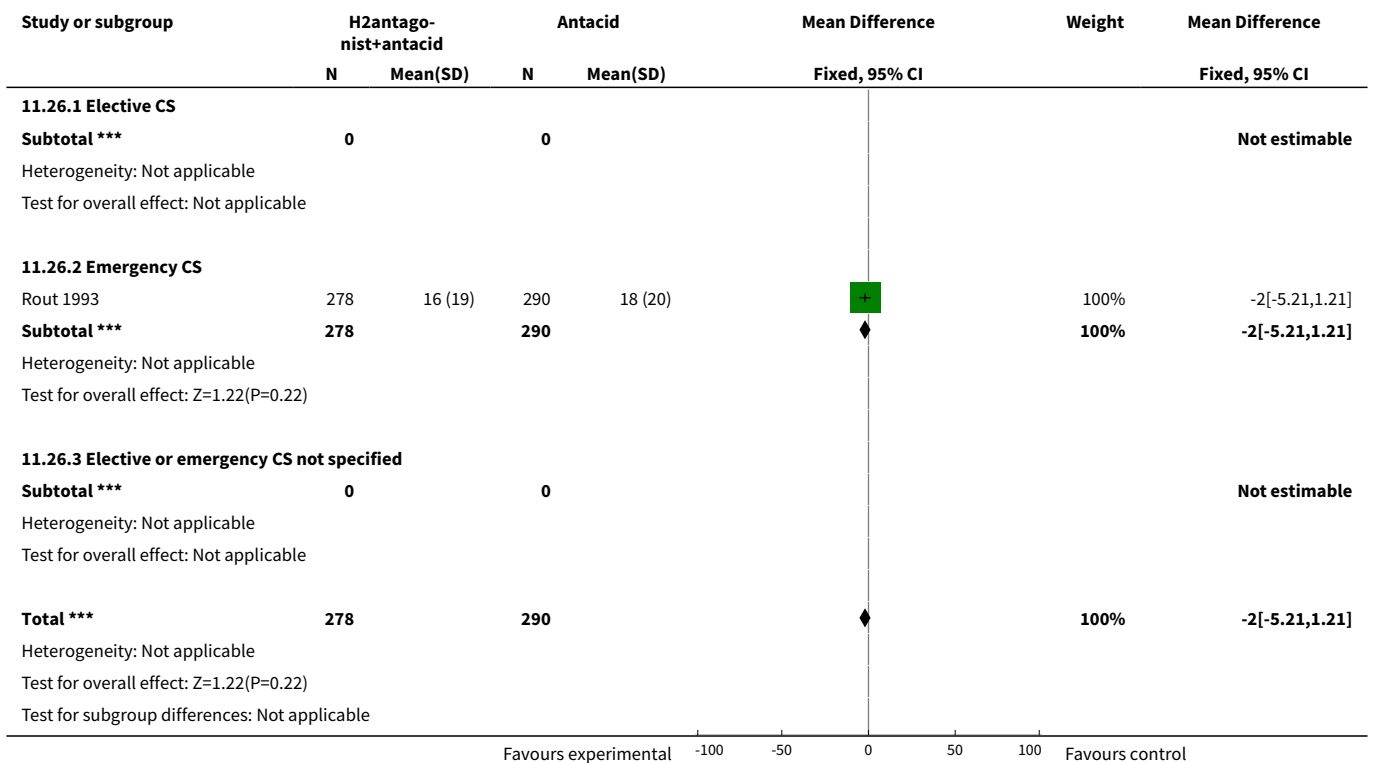


**Analysis 11.25. Comparison 11 Antacids + H<sub>2</sub> antagonists versus antacids, Outcome 25 Post intubation gastric volume (not pre-specified).**



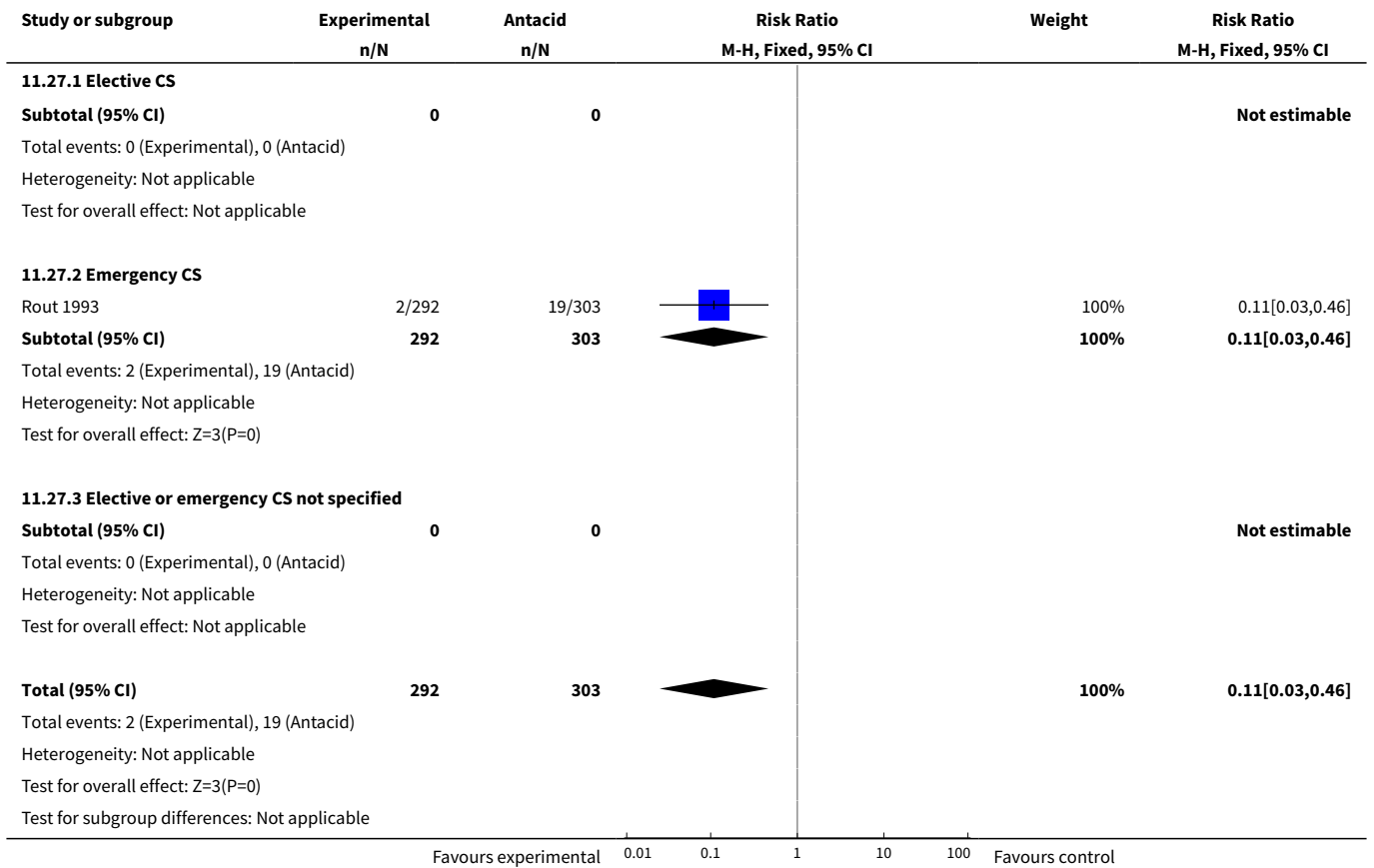


**Analysis 11.26. Comparison 11 Antacids + H<sub>2</sub> antagonists versus antacids, Outcome 26 Pre-extubation gastric volume (not pre-specified).**





**Analysis 11.27. Comparison 11 Antacids + H<sub>2</sub> antagonists versus antacids, Outcome 27 At risk of aspiration (not pre-specified).**



**Comparison 12. H<sub>2</sub> antagonists + prokinetic drugs versus antacids**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH > 2.5 at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra-gastric volume < 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH > 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume < 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

### Comparison 13. Proton pump agonists + prokinetics versus proton pump agonists

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH > 2.5 at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra-gastric volume < 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

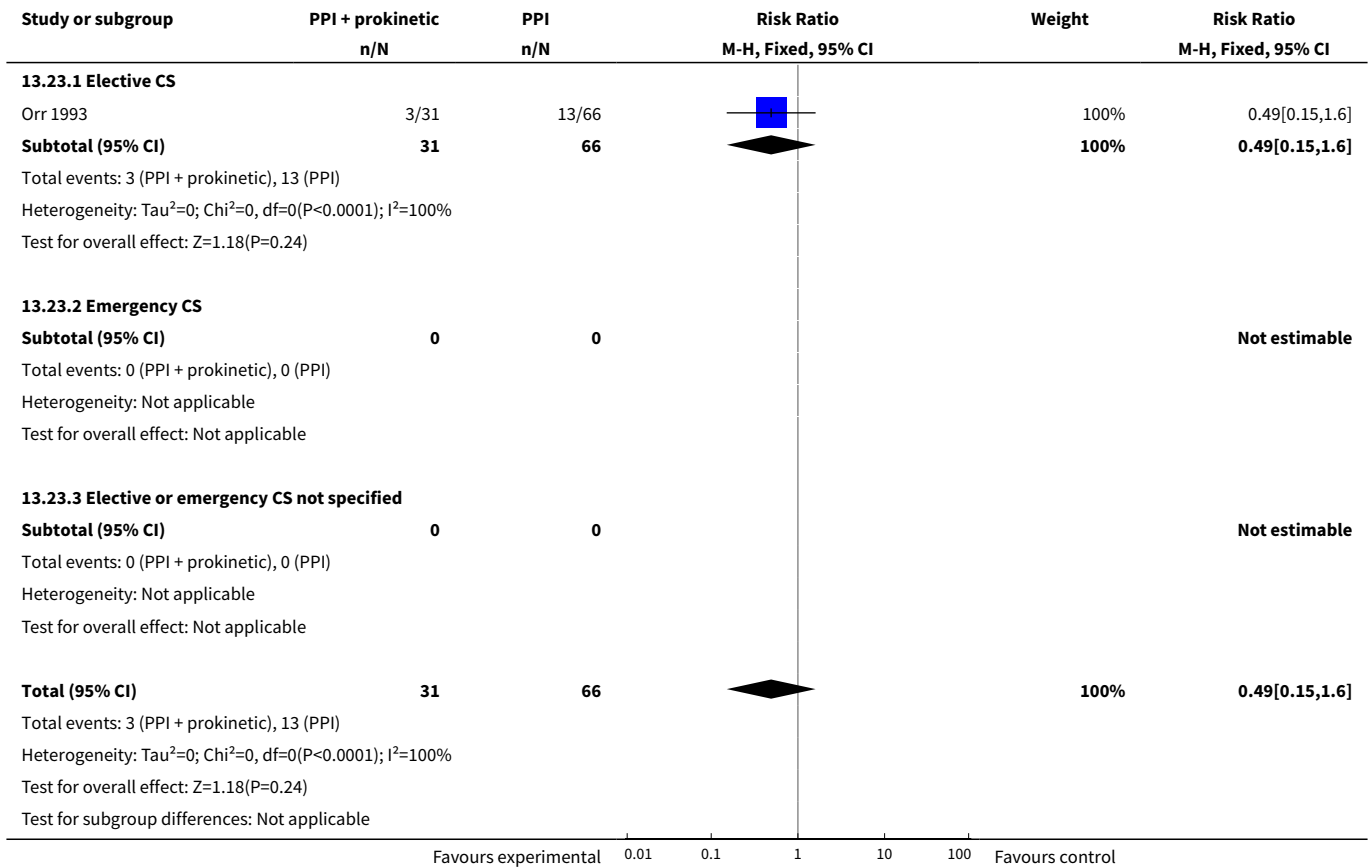
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]



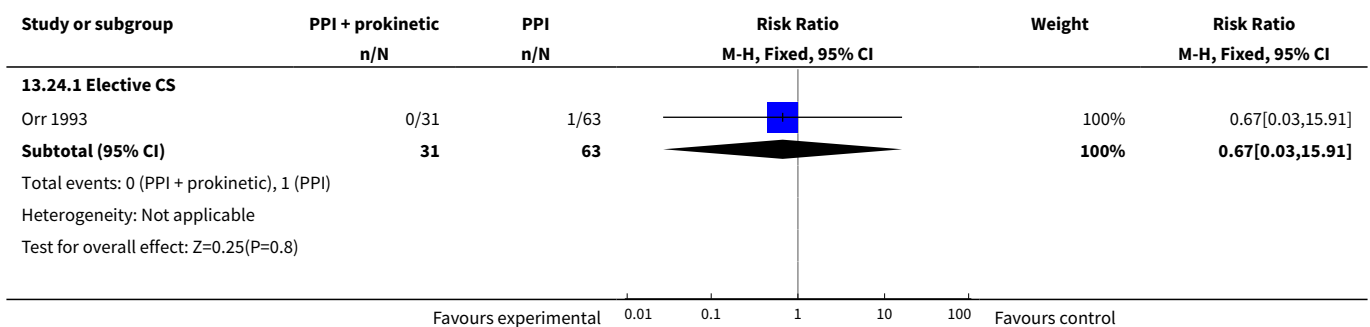
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH > 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume < 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">23 At risk of aspiration post intubation (not pre-specified)</a>	1	97	Risk Ratio (M-H, Fixed, 95% CI)	0.49 [0.15, 1.60]
23.1 Elective CS	1	97	Risk Ratio (M-H, Fixed, 95% CI)	0.49 [0.15, 1.60]
23.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">24 At risk of aspiration pre extubation (not pre specified)</a>	1	94	Risk Ratio (M-H, Fixed, 95% CI)	0.67 [0.03, 15.91]
24.1 Elective CS	1	94	Risk Ratio (M-H, Fixed, 95% CI)	0.67 [0.03, 15.91]
24.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

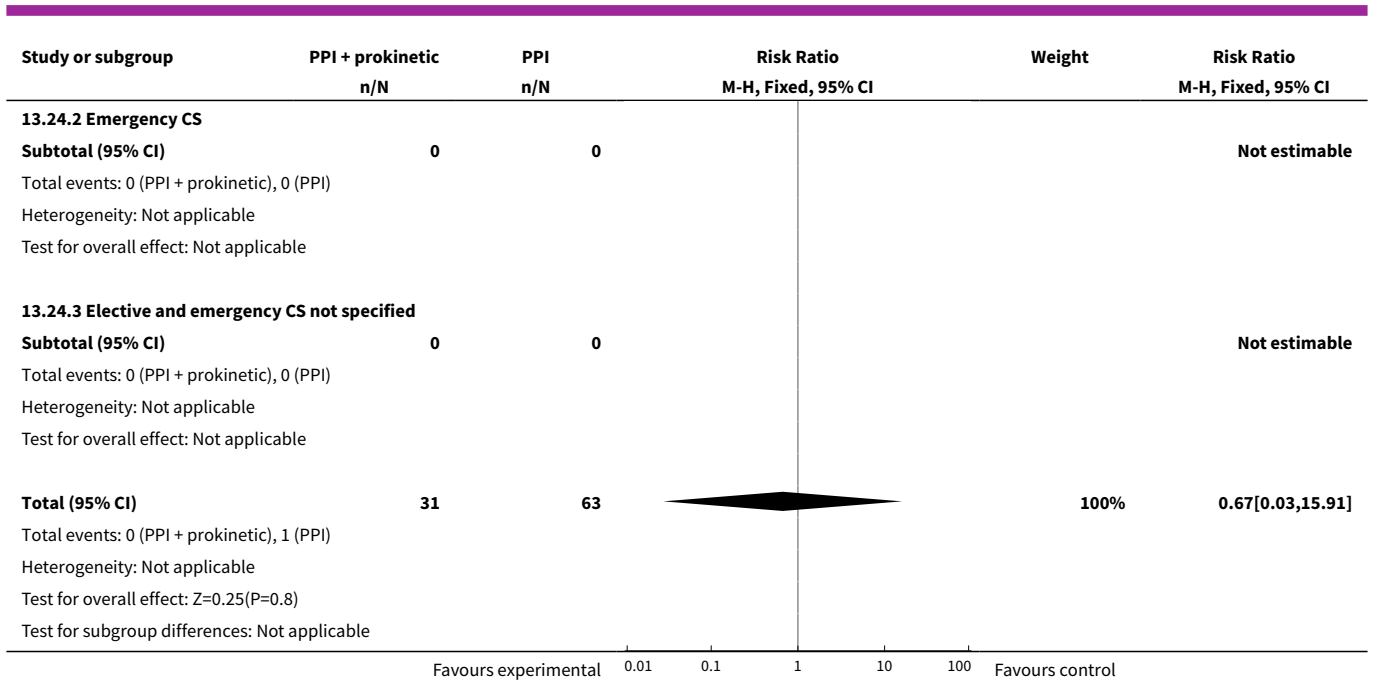
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
24.3 Elective and emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Analysis 13.23. Comparison 13 Proton pump agonists + prokinetics versus proton pump agonists, Outcome 23 At risk of aspiration post intubation (not pre-specified).**



**Analysis 13.24. Comparison 13 Proton pump agonists + prokinetics versus proton pump agonists, Outcome 24 At risk of aspiration pre extubation (not pre specified).**





**Comparison 14. H<sub>2</sub> antagonist versus tramadol**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH < 2.5 at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

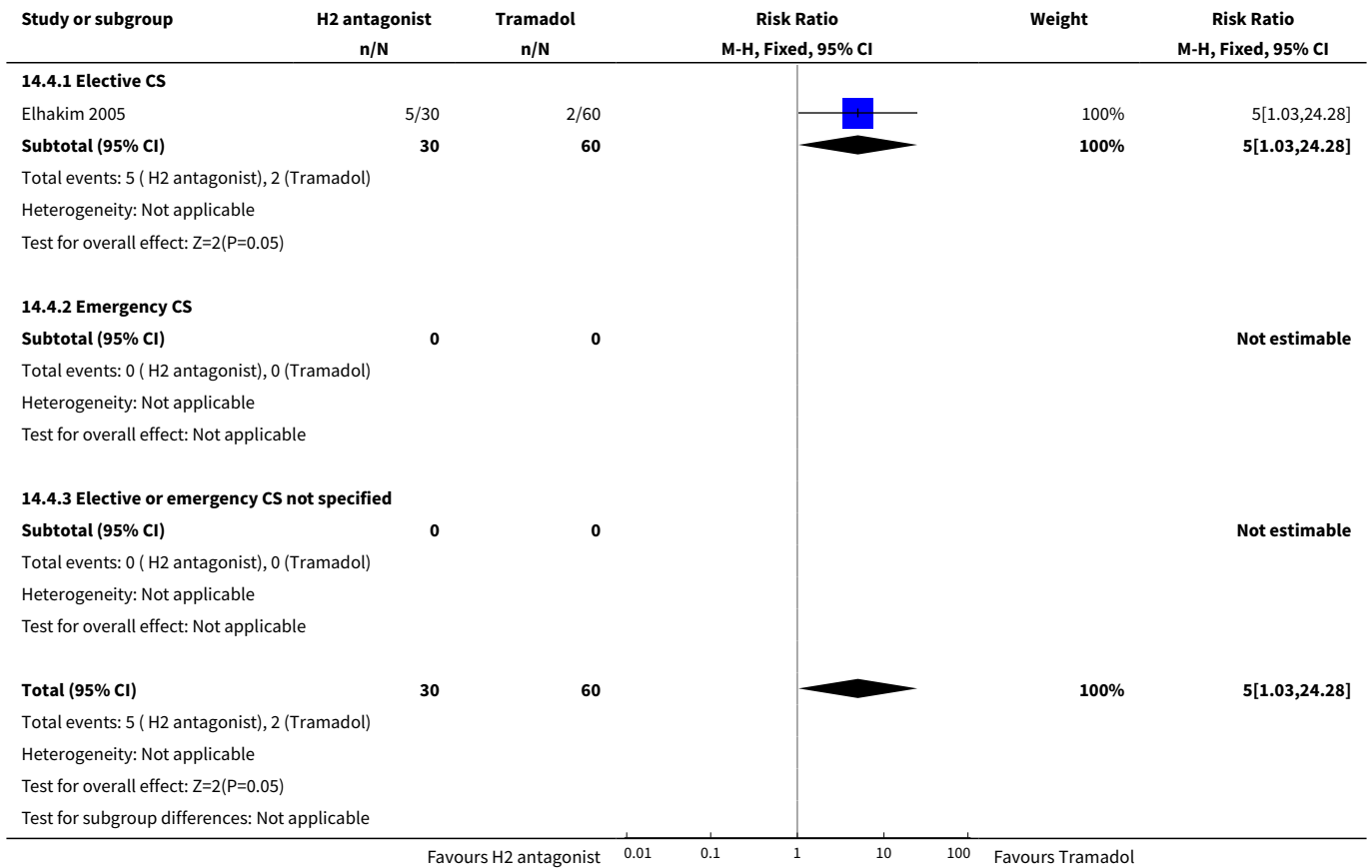
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra-gastric volume > 0.4 mL/kg at intubation	1	90	Risk Ratio (M-H, Fixed, 95% CI)	5.0 [1.03, 24.28]
4.1 Elective CS	1	90	Risk Ratio (M-H, Fixed, 95% CI)	5.0 [1.03, 24.28]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	1	60	Risk Ratio (M-H, Fixed, 95% CI)	1.38 [0.64, 2.93]
5.1 Elective CS	1	60	Risk Ratio (M-H, Fixed, 95% CI)	1.38 [0.64, 2.93]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

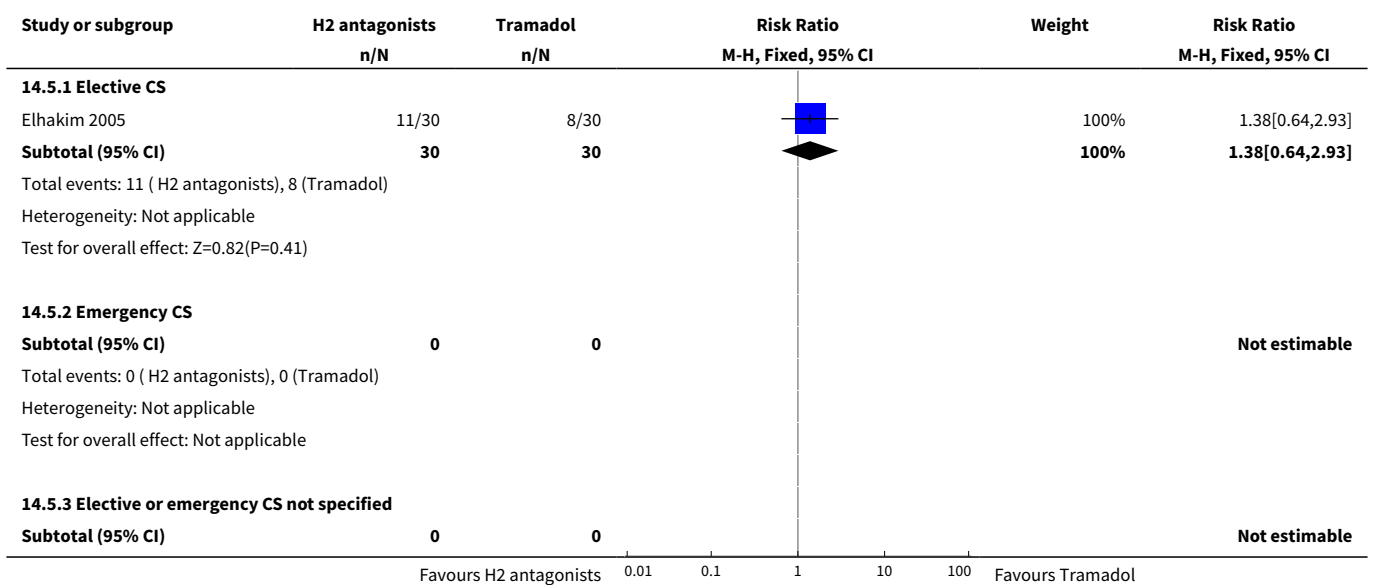
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar score < 7 at 5 mins	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH < 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume > 0.4 mL/kg at extubation	1	60	Risk Ratio (M-H, Fixed, 95% CI)	3.0 [0.33, 27.23]
22.1 Elective CS	1	60	Risk Ratio (M-H, Fixed, 95% CI)	3.0 [0.33, 27.23]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23 At risk post intubation (not pre-specified)	1	60	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.1 Elective CS	1	60	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
24 At risk pre extubation (not pre-specified)	1	60	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.1 Elective CS	1	60	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.3 Emergency or elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
25 Nausea 24hours post op (not pre-specified)	1	60	Risk Ratio (M-H, Fixed, 95% CI)	1.43 [0.63, 3.25]
25.1 Elective CS	1	60	Risk Ratio (M-H, Fixed, 95% CI)	1.43 [0.63, 3.25]
25.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
25.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

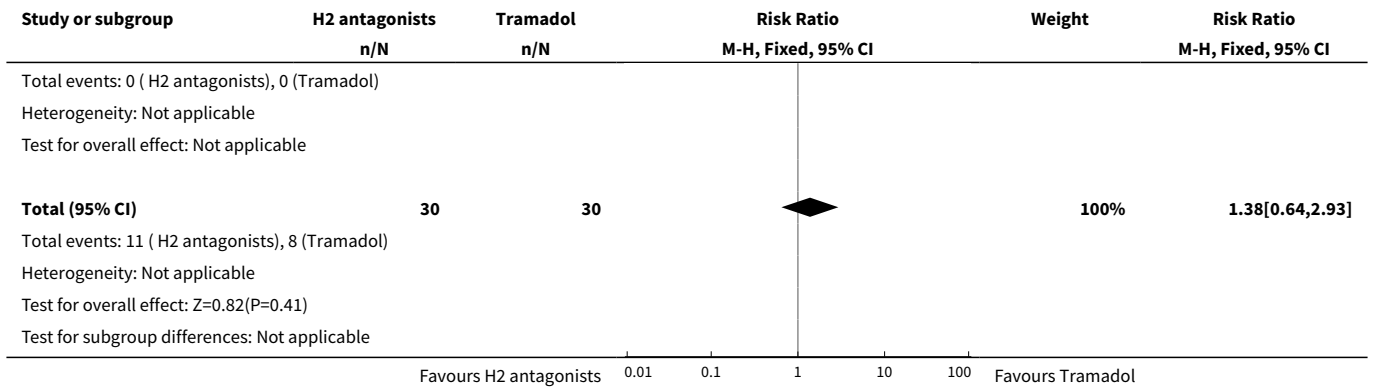
**Analysis 14.4. Comparison 14 H<sub>2</sub> antagonist versus tramadol, Outcome 4 Intra-gastric volume > 0.4 mL/kg at intubation.**



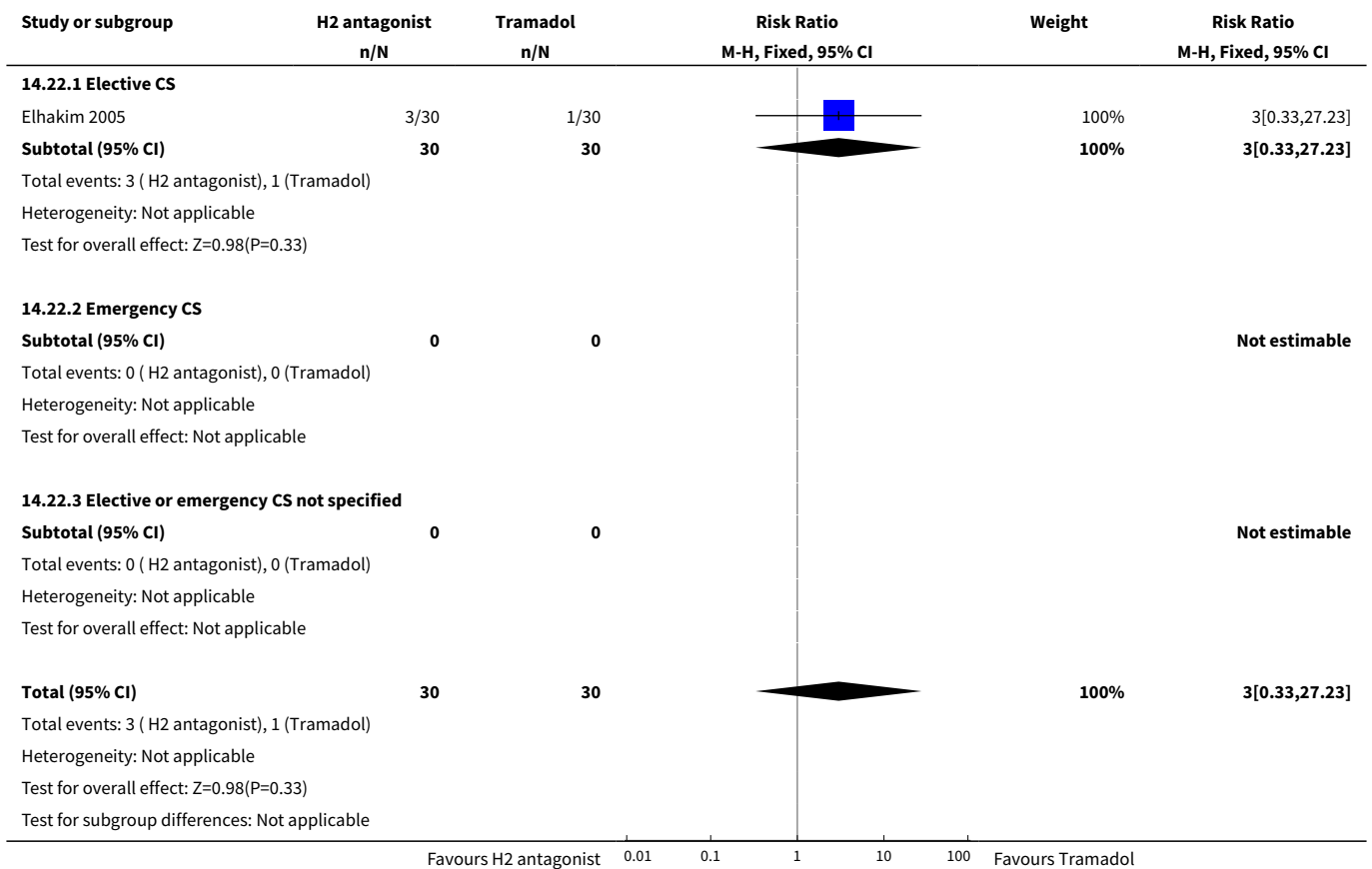
**Analysis 14.5. Comparison 14 H<sub>2</sub> antagonist versus tramadol, Outcome 5 Nausea.**







**Analysis 14.22. Comparison 14 H<sub>2</sub> antagonist versus tramadol,  
Outcome 22 Intra-gastric volume > 0.4 mL/kg at extubation.**



**Analysis 14.23. Comparison 14 H<sub>2</sub> antagonist versus tramadol,  
Outcome 23 At risk post intubation (not pre-specified).**

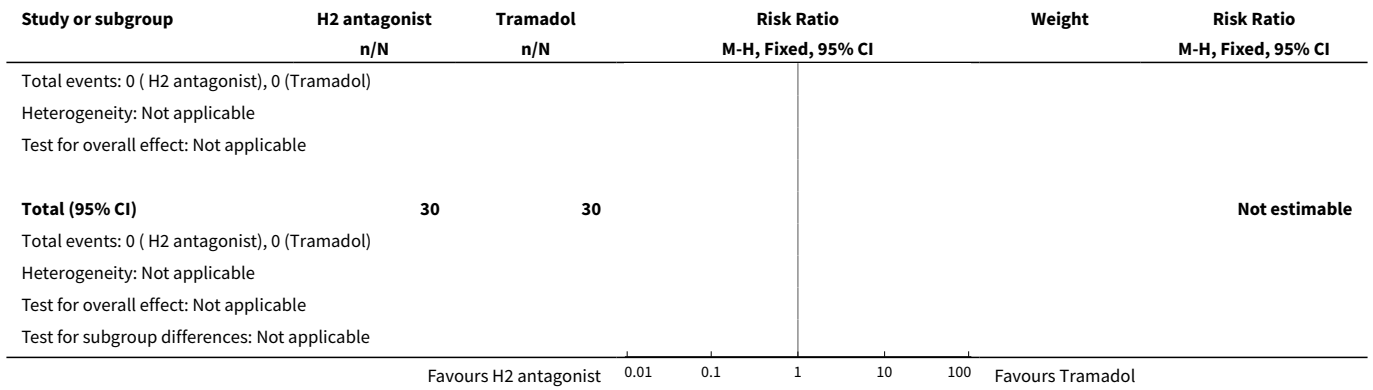
Study or subgroup	H2 antagonist n/N	Tramadol n/N	Risk Ratio M-H, Fixed, 95% CI	Weight	Risk Ratio M-H, Fixed, 95% CI
<b>14.23.1 Elective CS</b>					
Elhakim 2005	0/30	0/30			Not estimable
<b>Subtotal (95% CI)</b>	<b>30</b>	<b>30</b>			<b>Not estimable</b>
Total events: 0 ( H2 antagonist), 0 (Tramadol)					
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
<b>14.23.2 Emergency CS</b>					
<b>Subtotal (95% CI)</b>	<b>0</b>	<b>0</b>			<b>Not estimable</b>
Total events: 0 ( H2 antagonist), 0 (Tramadol)					
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
<b>14.23.3 Emergency and elective CS non specified</b>					
<b>Subtotal (95% CI)</b>	<b>0</b>	<b>0</b>			<b>Not estimable</b>
Total events: 0 ( H2 antagonist), 0 (Tramadol)					
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
<b>Total (95% CI)</b>	<b>30</b>	<b>30</b>			<b>Not estimable</b>
Total events: 0 ( H2 antagonist), 0 (Tramadol)					
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
Test for subgroup differences: Not applicable					

Favours H2 antagonist    0.01    0.1    1    10    100    Favours Tramadol

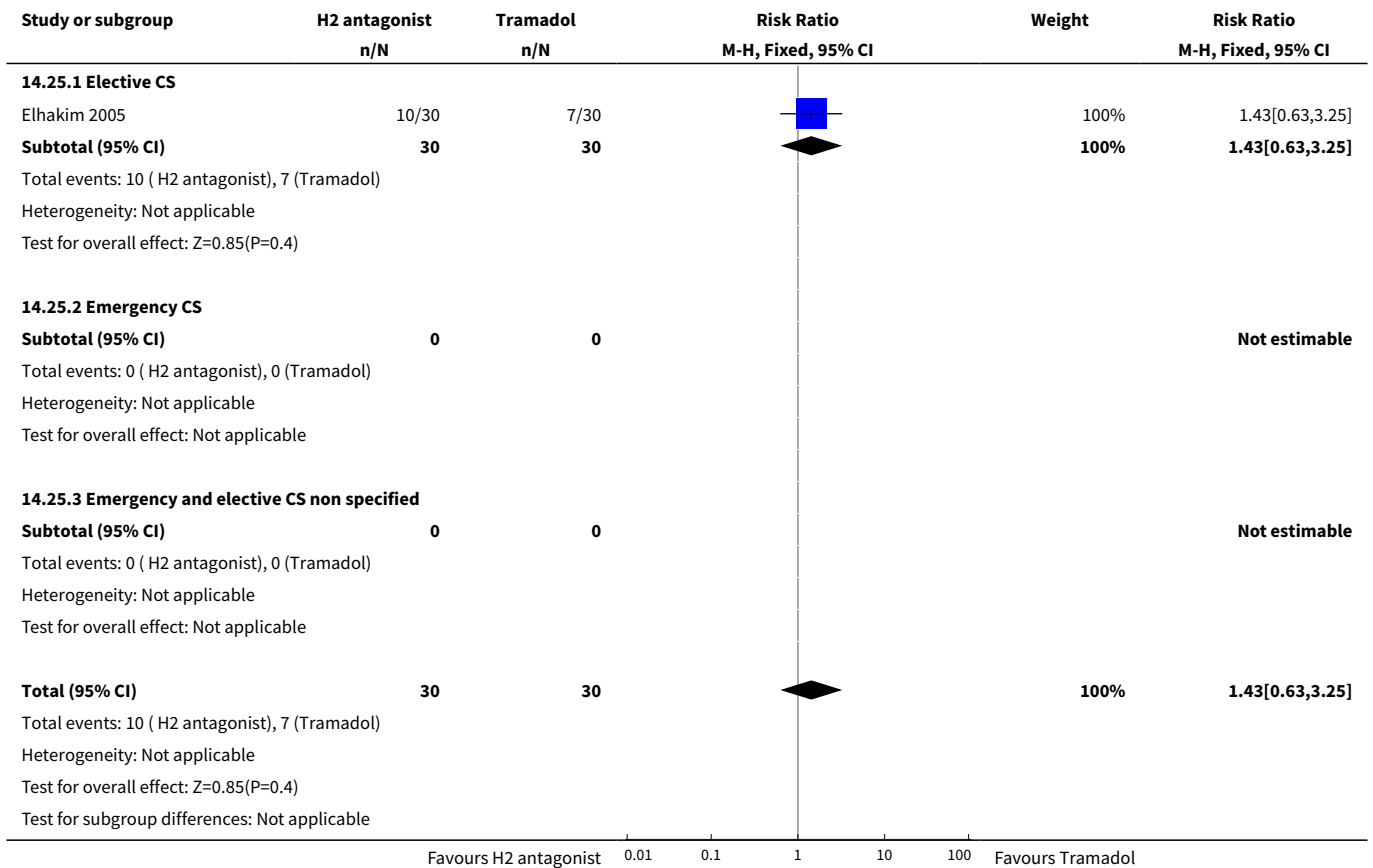
**Analysis 14.24. Comparison 14 H<sub>2</sub> antagonist versus tramadol,  
Outcome 24 At risk pre extubation (not pre-specified).**

Study or subgroup	H2 antagonist n/N	Tramadol n/N	Risk Ratio M-H, Fixed, 95% CI	Weight	Risk Ratio M-H, Fixed, 95% CI
<b>14.24.1 Elective CS</b>					
Elhakim 2005	0/30	0/30			Not estimable
<b>Subtotal (95% CI)</b>	<b>30</b>	<b>30</b>			<b>Not estimable</b>
Total events: 0 ( H2 antagonist), 0 (Tramadol)					
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
<b>14.24.2 Emergency CS</b>					
<b>Subtotal (95% CI)</b>	<b>0</b>	<b>0</b>			<b>Not estimable</b>
Total events: 0 ( H2 antagonist), 0 (Tramadol)					
Heterogeneity: Not applicable					
Test for overall effect: Not applicable					
<b>14.24.3 Emergency or elective CS non specified</b>					
<b>Subtotal (95% CI)</b>	<b>0</b>	<b>0</b>			<b>Not estimable</b>

Favours H2 antagonist    0.01    0.1    1    10    100    Favours Tramadol



**Analysis 14.25. Comparison 14 H<sub>2</sub> antagonist versus tramadol, Outcome 25 Nausea 24hours post op (not pre-specified).**



**Comparison 15. Antacids + H<sub>2</sub> antagonists versus proton pump antagonists**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH < 2.5 at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra-gastric volume > 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

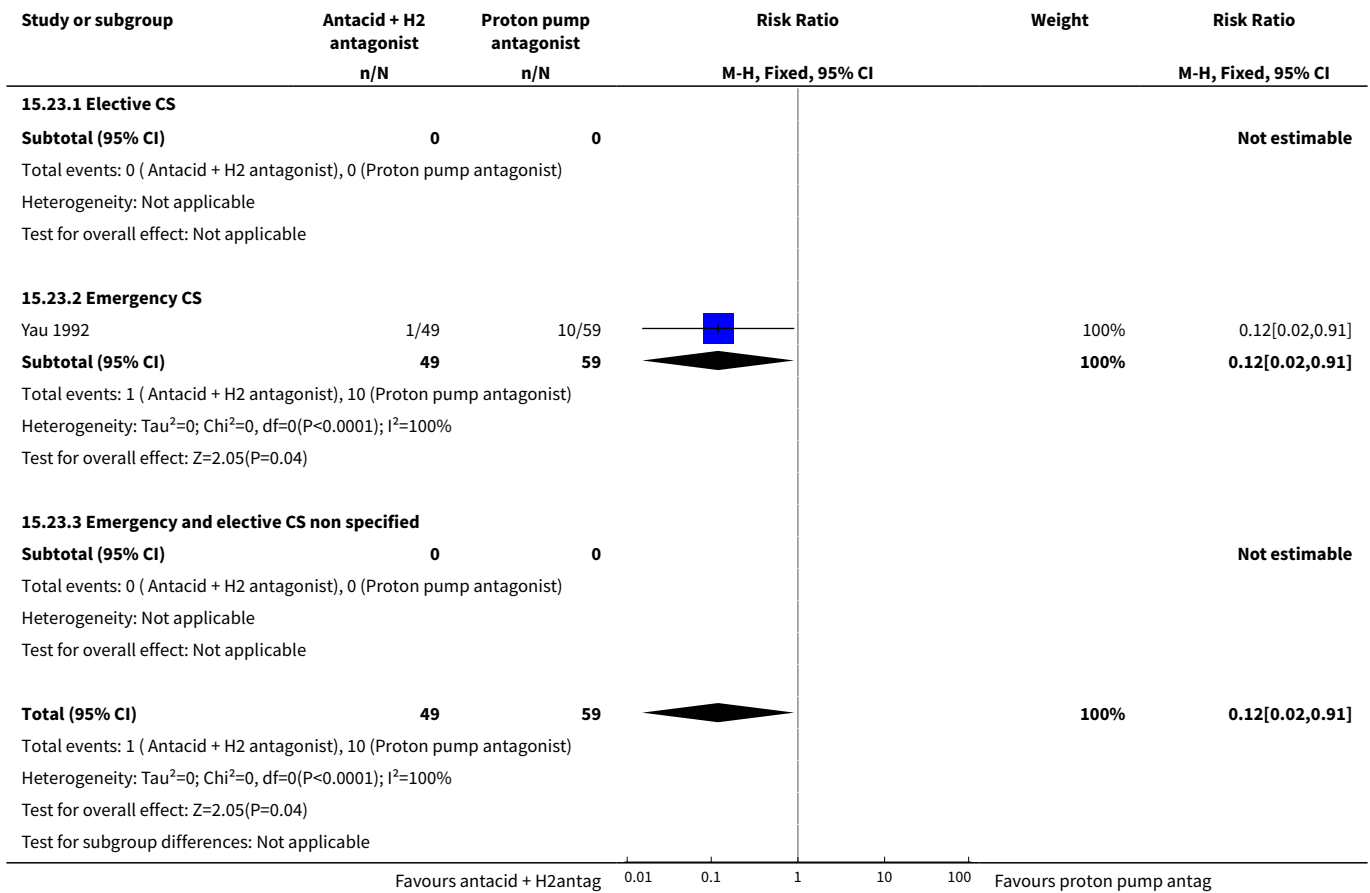
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar score < 7 at 5 mins	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH < 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume > 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
23 At risk of aspiration (not pre-specified)	1	108	Risk Ratio (M-H, Fixed, 95% CI)	0.12 [0.02, 0.91]
23.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.2 Emergency CS	1	108	Risk Ratio (M-H, Fixed, 95% CI)	0.12 [0.02, 0.91]
23.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Analysis 15.23. Comparison 15 Antacids + H<sub>2</sub> antagonists versus proton pump antagonists, Outcome 23 At risk of aspiration (not pre-specified).**





**Comparison 16. Proton pump antagonist + antacid versus proton pump antagonist**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH < 2.5 at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra-gastric volume > 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

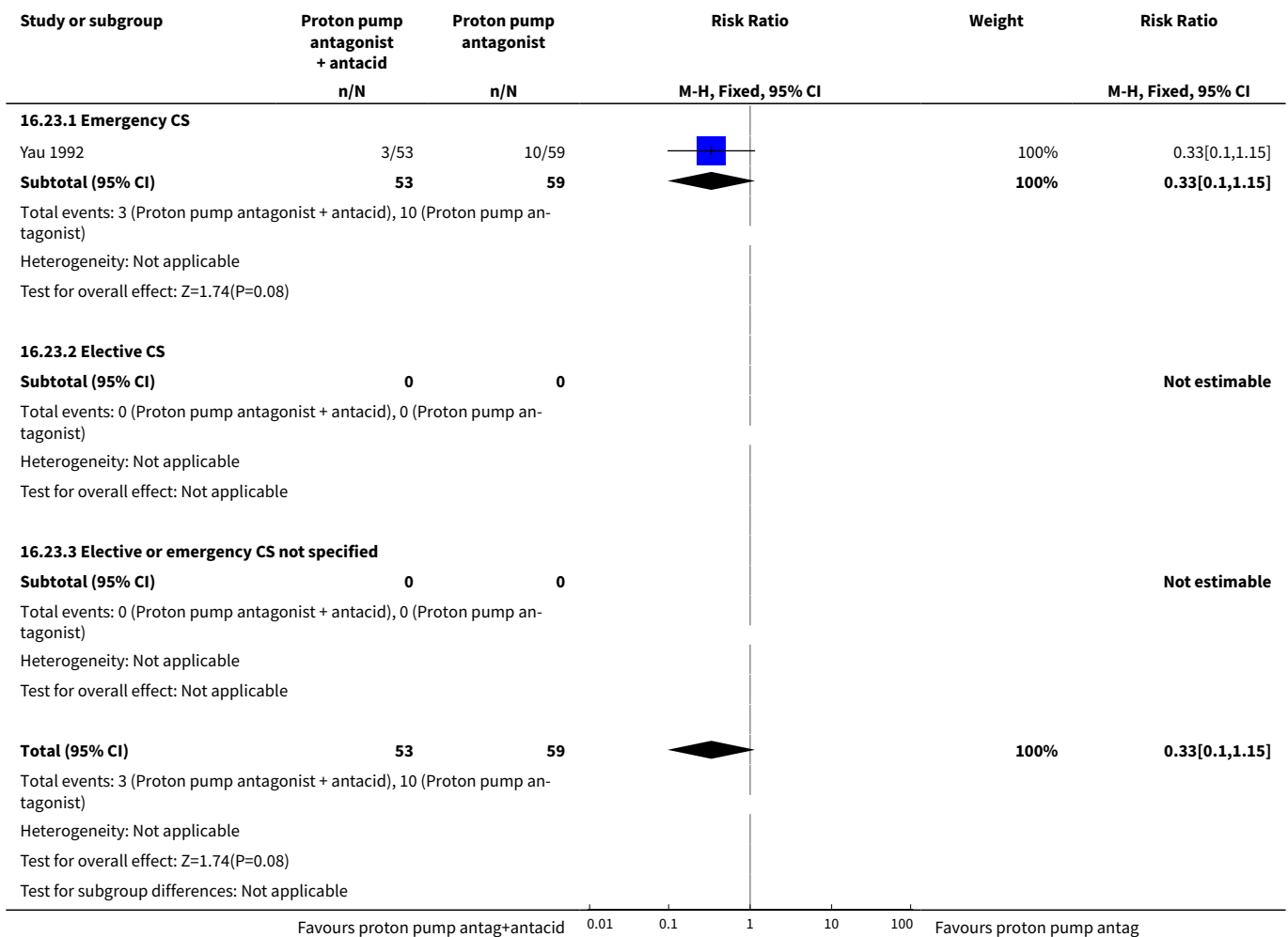
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar score < 7 at 5 mins	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH < 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume > 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
23 Risk of aspiration (not pre-specified)	1	112	Risk Ratio (M-H, Fixed, 95% CI)	0.33 [0.10, 1.15]
23.1 Emergency CS	1	112	Risk Ratio (M-H, Fixed, 95% CI)	0.33 [0.10, 1.15]
23.2 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Analysis 16.23. Comparison 16 Proton pump antagonist + antacid versus proton pump antagonist, Outcome 23 Risk of aspiration (not pre-specified).**



**Comparison 17. H<sub>2</sub> antagonist + prokinetic versus H<sub>2</sub> antagonist**

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Mortality due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
1.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2 Morbidity due to aspiration pneumonitis	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
2.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3 Intra-gastric pH < 2.5 at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
3.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4 Intra-gastric volume > 0.4 mL/kg at intubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
4.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5 Nausea	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
5.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6 Vomiting	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
6.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
6.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7 Sedation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
7.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8 Restlessness	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
8.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9 Dystonic reactions	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
9.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10 Extrapyramidal symptoms	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
10.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11 Hypotension	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
11.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
12 Blood loss	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

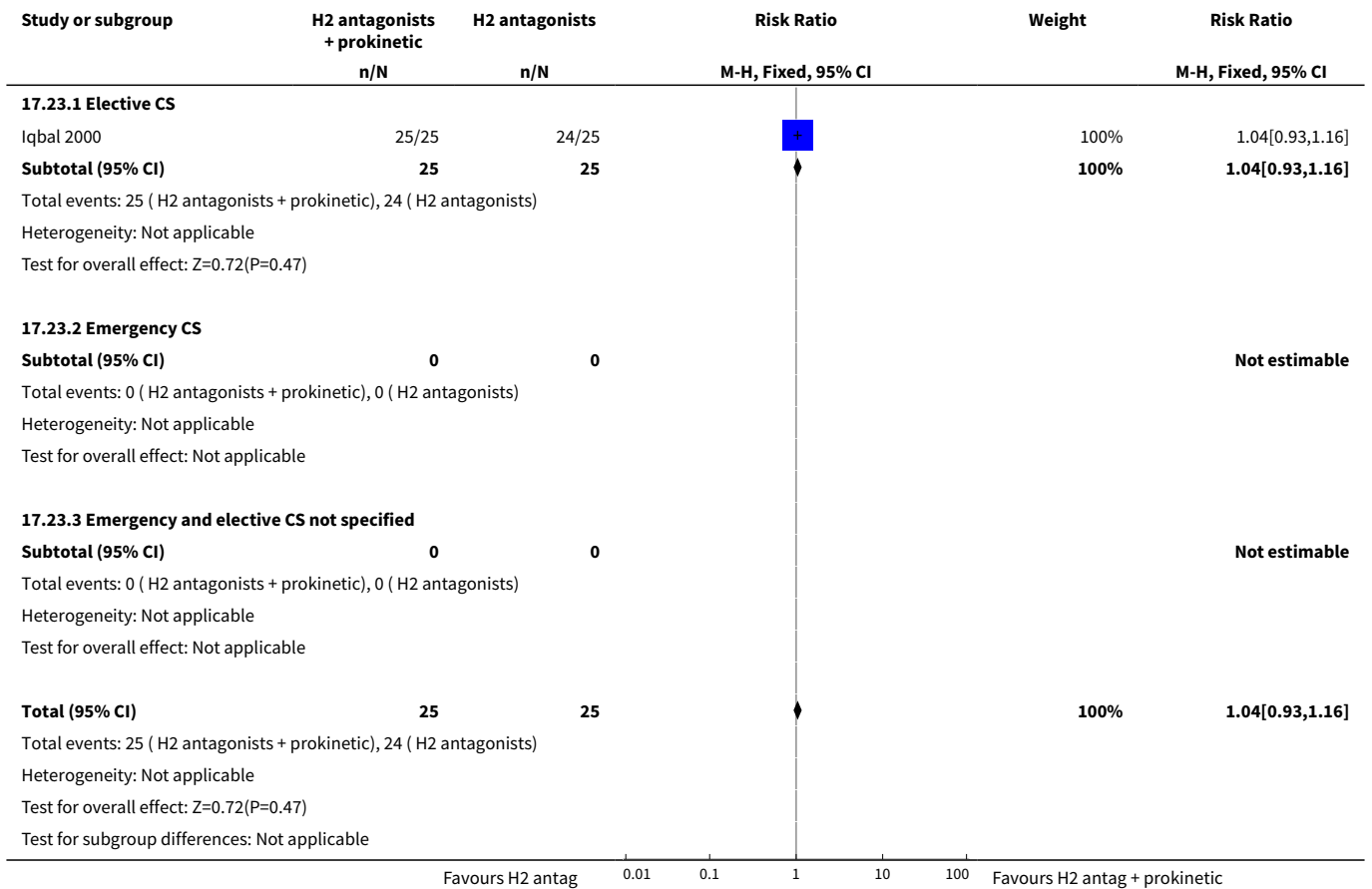
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
12.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
12.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
13 Atonic uterus	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
13.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
14 Women's satisfaction	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
14.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15 Cord blood pH	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.1 Elective CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
15.3 Elective or emergency CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
16 Apgar score < 7 at 5 mins	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.1 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.2 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
16.3 Emergency and elective CS non specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
17 Neonatal assessment scores	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]



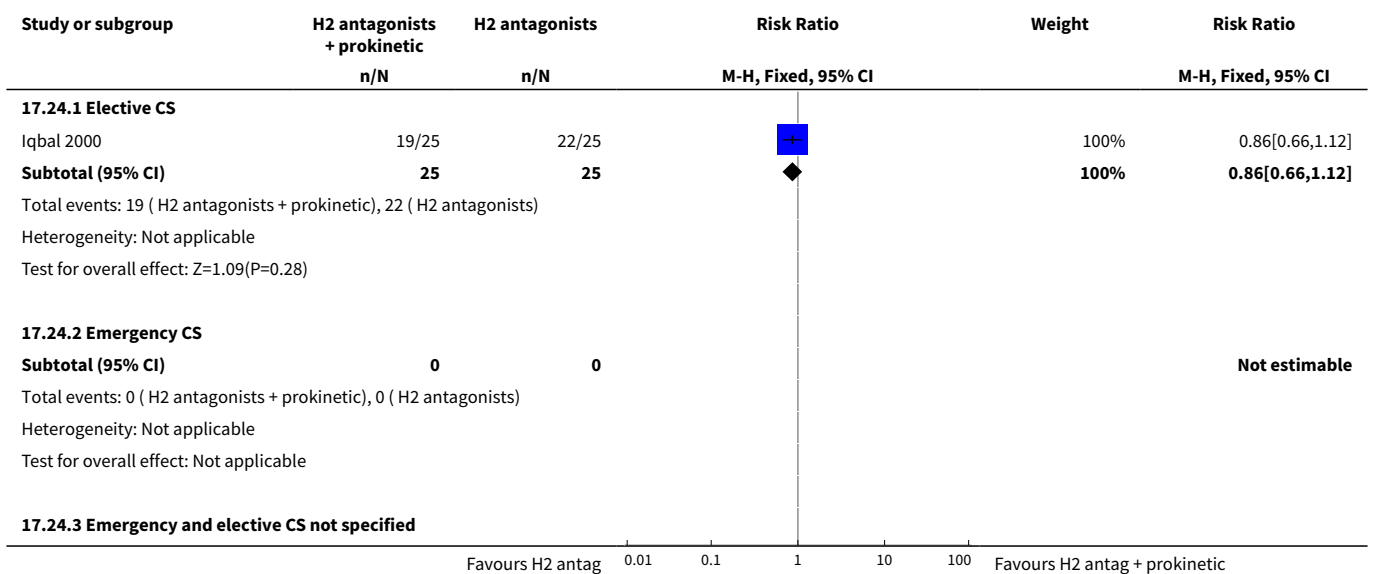
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
17.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
17.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
18 Admission to NICU	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
18.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19 Initiation of breastfeeding	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
19.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
20 Duration of breastfeeding	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.1 Elective CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.2 Emergency CS	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
20.3 Elective or emergency CS not specified	0	0	Std. Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
21 Intra-gastric pH < 2.5 at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
21.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22 Intra-gastric volume > 0.4 mL/kg at extubation	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.1 Elective CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
22.3 Elective or emergency CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]

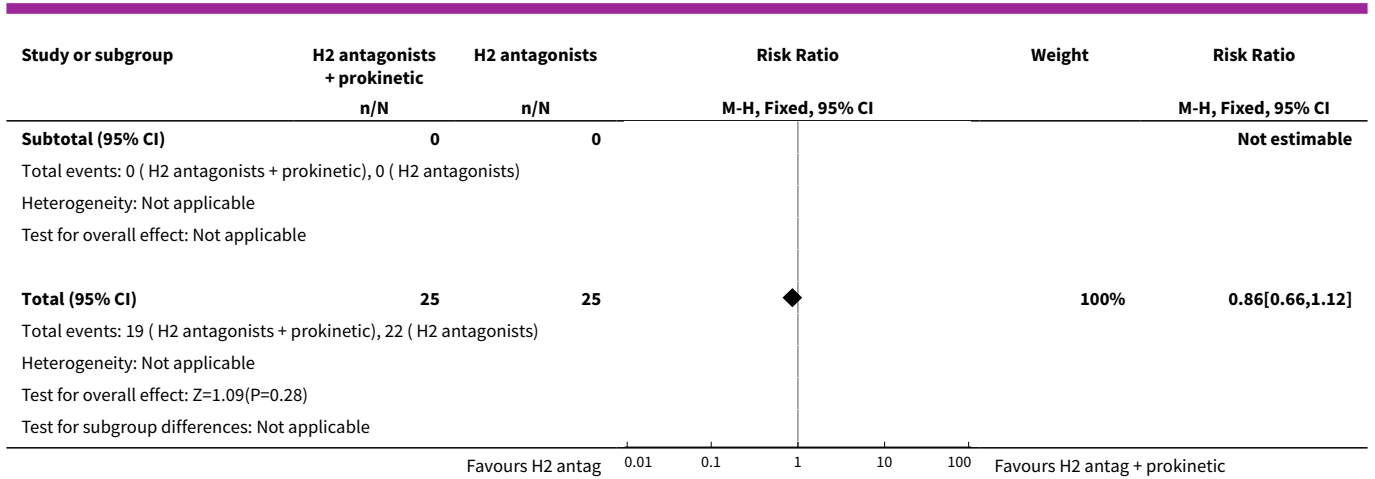
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
<a href="#">23 Intra-gastric pH &gt; 2.5 post intubation (not pre-specified)</a>	1	50	Risk Ratio (M-H, Fixed, 95% CI)	1.04 [0.93, 1.16]
23.1 Elective CS	1	50	Risk Ratio (M-H, Fixed, 95% CI)	1.04 [0.93, 1.16]
23.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
23.3 Emergency and elective CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">24 Intra-gastric volume &lt;0.4 mL/kg post intubation (not pre-specified)</a>	1	50	Risk Ratio (M-H, Fixed, 95% CI)	0.86 [0.66, 1.12]
24.1 Elective CS	1	50	Risk Ratio (M-H, Fixed, 95% CI)	0.86 [0.66, 1.12]
24.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
24.3 Emergency and elective CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">25 Risk of aspiration (not pre-specified)</a>	1	50	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
25.1 Elective CS	1	50	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
25.2 Emergency CS	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
25.3 Emergency and elective CS not specified	0	0	Risk Ratio (M-H, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">26 Gastric volume post intubation (not pre-specified)</a>	1	50	Mean Difference (IV, Fixed, 95% CI)	1.30 [-3.17, 5.77]
26.1 Elective CS	1	50	Mean Difference (IV, Fixed, 95% CI)	1.30 [-3.17, 5.77]
26.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
26.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
<a href="#">27 Gastric pH post intubation (not pre-specified)</a>	1	50	Mean Difference (IV, Fixed, 95% CI)	0.59 [-0.14, 1.32]
27.1 Elective CS	1	50	Mean Difference (IV, Fixed, 95% CI)	0.59 [-0.14, 1.32]
27.2 Emergency CS	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]
27.3 Emergency and elective CS not specified	0	0	Mean Difference (IV, Fixed, 95% CI)	0.0 [0.0, 0.0]

**Analysis 17.23. Comparison 17 H<sub>2</sub> antagonist + prokinetic versus H<sub>2</sub> antagonist, Outcome 23 Intra-gastric pH > 2.5 post intubation (not pre-specified).**

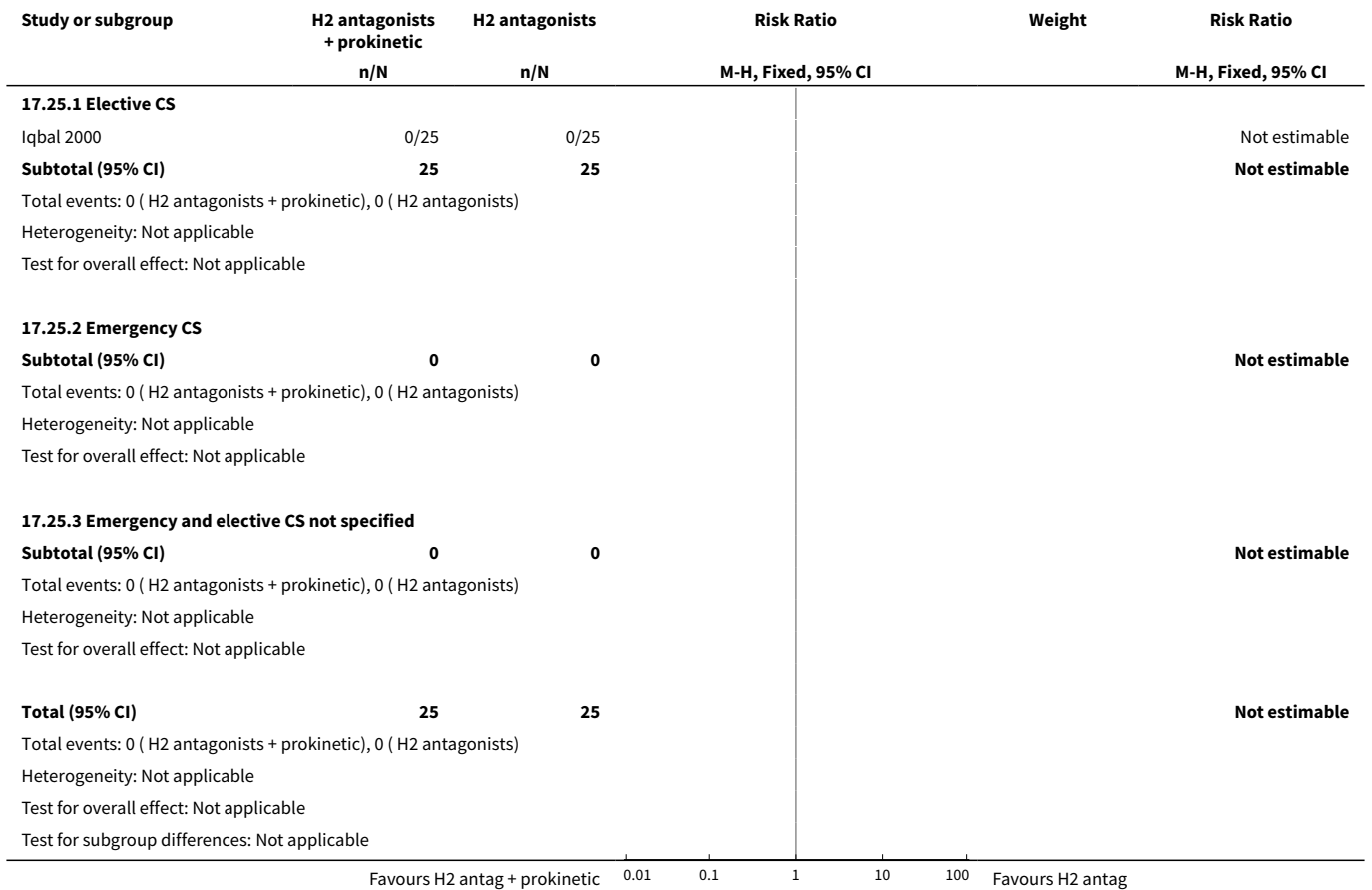


**Analysis 17.24. Comparison 17 H<sub>2</sub> antagonist + prokinetic versus H<sub>2</sub> antagonist, Outcome 24 Intra-gastric volume <0.4 mL/kg post intubation (not pre-specified).**

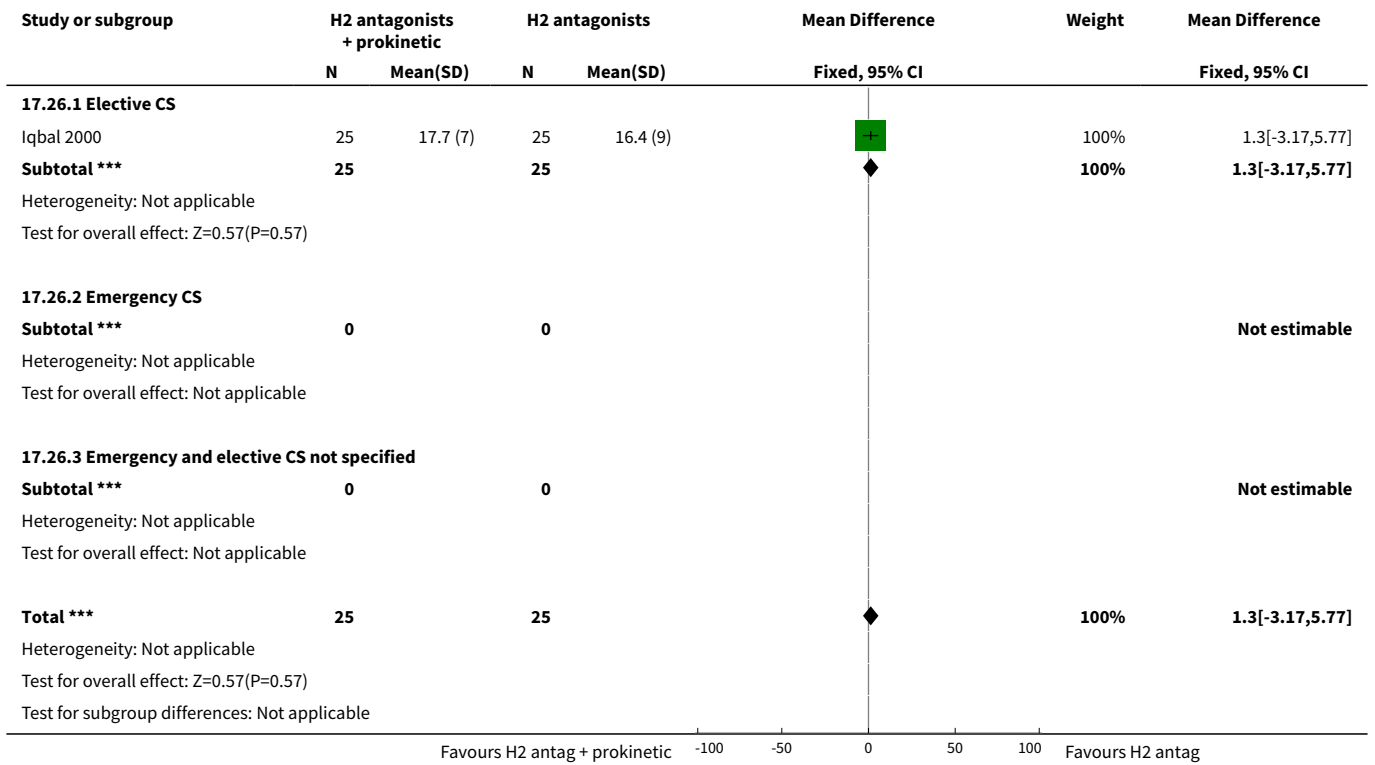




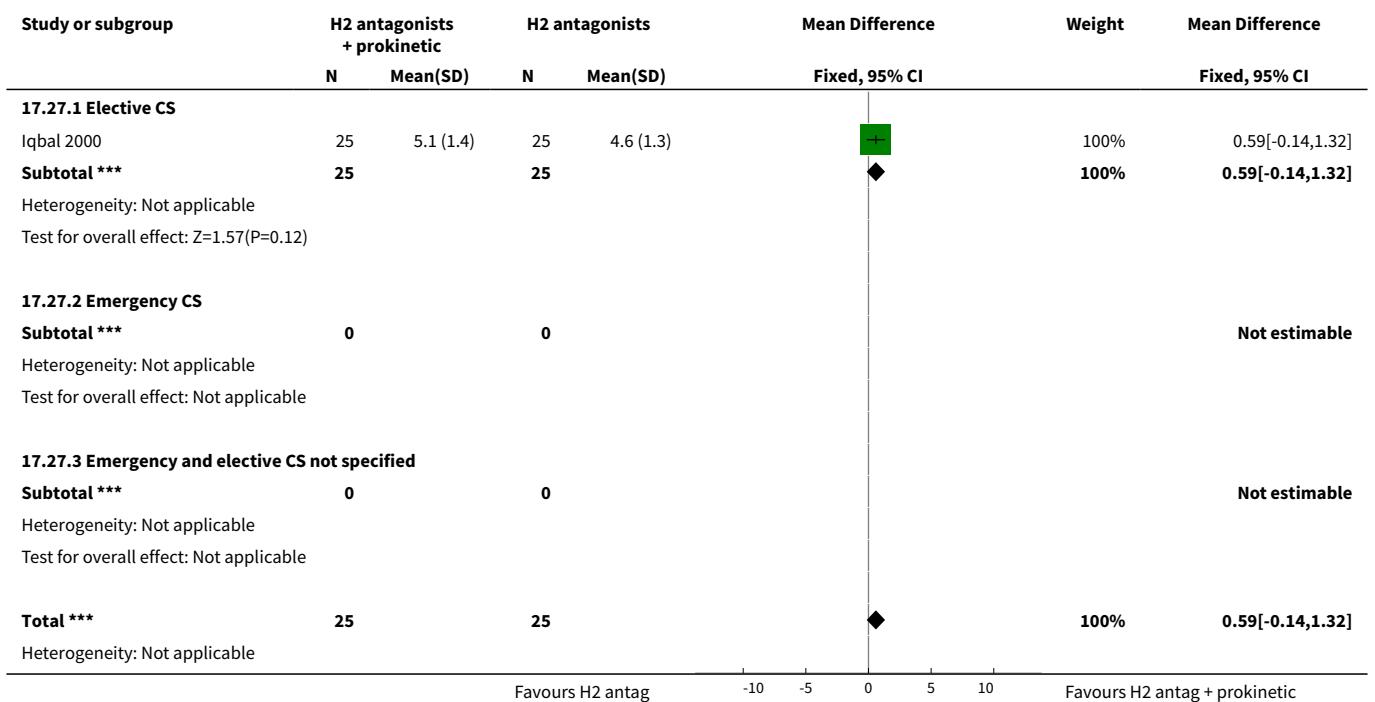
**Analysis 17.25. Comparison 17 H<sub>2</sub> antagonist + prokinetic versus H<sub>2</sub> antagonist, Outcome 25 Risk of aspiration (not pre-specified).**

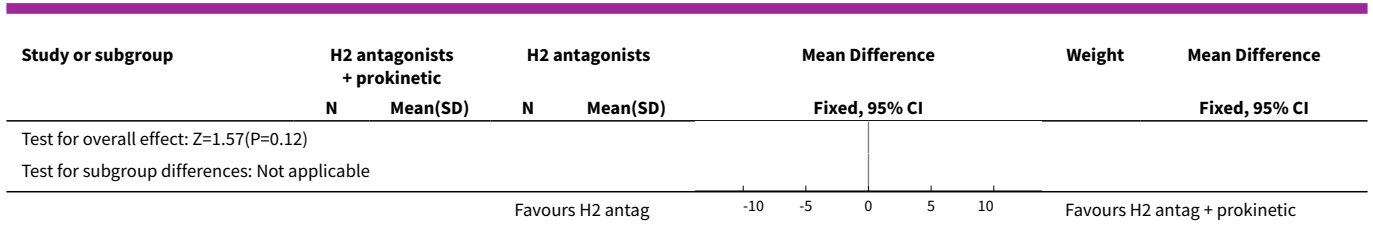


**Analysis 17.26. Comparison 17 H<sub>2</sub> antagonist + prokinetic versus H<sub>2</sub> antagonist, Outcome 26 Gastric volume post intubation (not pre-specified).**



**Analysis 17.27. Comparison 17 H<sub>2</sub> antagonist + prokinetic versus H<sub>2</sub> antagonist, Outcome 27 Gastric pH post intubation (not pre-specified).**





**WHAT'S NEW**

Date	Event	Description
6 June 2013	New citation required but conclusions have not changed	Six new studies were identified from the updated search: one was included ( <a href="#">Roper 1981</a> ); four were excluded as they did not meet the review inclusion criteria ( <a href="#">Hussain 2011</a> ; <a href="#">Jabalameh 2011</a> ; <a href="#">Khalayleh 2005</a> ; <a href="#">Shahriari 2009</a> ); and one is awaiting assessment ( <a href="#">Sarat 2007</a> ).
30 April 2013	New search has been performed	Search updated. Methods updated. Nine studies previously excluded are now included, although they do not provide any data for analysis ( <a href="#">Bifarini 1990</a> ; <a href="#">Bifarini 1992</a> ; <a href="#">Bylsma-Howell 1983</a> ; <a href="#">Fogarty 1992</a> ; <a href="#">Hodgkinson 1983</a> ; <a href="#">O'Sullivan 1985</a> ; <a href="#">Osman 1995</a> ; <a href="#">Stuart 1996</a> ; <a href="#">von Braun 1994</a> ).

**HISTORY**

Protocol first published: Issue 4, 2004  
Review first published: Issue 1, 2010

Date	Event	Description
11 April 2008	New citation required and major changes	An editorial decision was taken to split the review into two: those interventions that could be given before surgery to reduce aspiration pneumonitis and those given during or after caesarean section (CS) to reduce nausea and vomiting. We have, therefore, updated the title and the scope of the previously published protocol ( <a href="#">Paranjothy 2004</a> ) to reflect this decision.
18 February 2008	Amended	Converted to new review format.

**CONTRIBUTIONS OF AUTHORS**

For the 2013 update, Shantinia Paranjothy (SP) and Gill Gyte (GG) assessed the six new studies and updated the review. All authors provided input into drafts of this update.

**DECLARATIONS OF INTEREST**

None known.

**SOURCES OF SUPPORT**

**Internal sources**

- The University of Liverpool, UK.

## External sources

- The previous update of this review (Paranjothy 2010) was supported by a grant from the National Institute for Health Research, UK.

NIHR NHS Cochrane Collaboration Programme Grant Scheme award for NHS-prioritised centrally-managed, pregnancy and childbirth systematic reviews: CPGS02

## DIFFERENCES BETWEEN PROTOCOL AND REVIEW

- The title was changed from 'Drugs at caesarean section for preventing nausea, vomiting and aspiration pneumonitis' to 'Interventions at caesarean section for reducing aspiration pneumonitis' because we wished to include complimentary medicines and mechanical methods (however, we found no studies). In addition, it was felt that the interventions to reduce nausea and vomiting during caesarean section should be a separate review. This second review will look at the effect of 'Interventions given during caesarean section to reduce nausea and vomiting'.
- We modified the 'Types of participants' from 'Healthy pregnant women with an uncomplicated singleton pregnancy at term undergoing elective or emergency caesarean section under general or regional anaesthesia' to 'Pregnant women undergoing elective or emergency caesarean section under general or regional anaesthesia' because we felt the interventions needed should be applicable to a wider range of women.
- We removed reference to route of administration in the inclusion criteria. Relevant studies will be included regardless of the route of administration of the trial medication. A comparison of the efficacy of different routes of administration will be included in subgroup analysis if sufficient data exist.
- We removed the pharmacological and non-pharmacological subgroups because we felt the interventions should be considered more individually. We added elective caesarean section and emergency caesarean section subgroups because we felt the outcomes may be different in these two differing situations.
- Several papers reported gastric volume and pH as continuous outcomes, and 'at risk of aspiration'. These were not pre-specified in our protocol but we have included them in the review as they are informative. In the protocol we had prespecified dichotomous outcomes for gastric pH as greater than 2.5, however we changed this to pH less than 2.5 as this is what the majority of papers have reported, and is intuitively easier to interpret.
- We have taken out general versus regional anaesthesia as a subgroup comparison as all the randomised controlled trials that investigate this outcome were in women who had general anaesthesia.
- We have updated the methods to the current standard methods used by the Cochrane Pregnancy and Childbirth Group.

## INDEX TERMS

### Medical Subject Headings (MeSH)

\*Caesarean Section; Anesthesia, General [adverse effects]; Anesthesia, Obstetrical [adverse effects]; Antacids [therapeutic use]; Antiemetics [therapeutic use]; Drug Therapy, Combination [methods]; Histamine H2 Antagonists [therapeutic use]; Metoclopramide [therapeutic use]; Pneumonia, Aspiration [\*prevention & control]; Proton Pump Inhibitors [therapeutic use]; Randomized Controlled Trials as Topic

### MeSH check words

Female; Humans; Pregnancy