Appendix 1: Search strategy

The following databases were searched in OVID on Feb. 2, 2008: MEDLINE (1950 to week 4, January 2008), EMBASE (1980 to week 5, 2008), Evidence-Based Medicine Reviews (fourth quarter 2007), Cochrane Central Register of Controlled Trials (fourth quarter 2007).

MEDLINE

1. (pron$ adj4 position$).mp.
2. clinical trial.mp. or clinical trial.pt. or random:.mp. or tu.xs.
3. 1 and 2

EMBASE

4. (pron$ adj4 position$).mp.
5. random:.tw. or clinical trial:.mp. or exp health care quality/
6. 1 and 2

Cochrane Central Register of Controlled Trials

7. (pron$ adj4 position$).mp.

Notes: '$' retrieves unlimited suffix variations; the .mp. extension includes the title, original title and abstract fields in all databases, in addition to the subject heading of prone position in MEDLINE. Filters for MEDLINE and EMBASE (lines 2 and 5) are based on published sensitive strategies for retrieving randomized trials.[1,2] References from these 3 databases were combined and duplicates removed using OVID software.

We also separately searched ISI Science Citation Index Expanded (1945 to present) using the following strategy:

1. TS=prone
2. TS=prone position*
3. TS=prone ventilation
4. 1 or 2 or 3
5. TS=acute respiratory distress syndrome
6. TS=adult respiratory distress syndrome
7. TS=acute lung injury
8. TS=hypox*
9. TS=acute respiratory failure
10. 5 or 6 or 7 or 8 or 9
11. 4 and 10
12. TS=randomized controlled trial
13. TS=controlled clinical trial
14. TS=clinical trial
15. 12 or 13 or 14
16. 11 and 15

Notes: '*' retrieves unlimited suffix variations; TS denotes topic.

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1. Haynes RB, McKibbon KA, Wilczynski NL, et al; Hedges Team. Optimal search strategies for retrieving scientifically strong studies of treatment from Medline: analytical survey. *BMJ* 2005;330:1179.
2. Wong SS, Wilczynski NL, Haynes RB. Developing optimal search strategies for detecting clinically sound treatment studies in EMBASE. *J Med Libr Assoc* 2006;94:41-7.

References of excluded studies

Ongoing randomized controlled trial (n=1)
1. Gattinoni L, Taccone P. Prone-Supine Study II: the effect of prone positioning for patients affected by acure respiratory distress syndrome. ClinicalTrials.gov identifier NCT00159939. Available: www.clinicaltrials.gov/ct2/show/NCT00159939 (accessed Apr. 14, 2008).

Randomized controlled trial with outcomes data not provided after author contact (n=1)
2. Lee DL, Cheng S, Huang TYC. Prone Position Attenuates Inflammatory Response in Patients with Localized Acute Respiratory Distress Syndrome During Recruitment Maneuver [abstract]. Intensive Care Med. 2007;33:S146.

Randomized controlled trial with outcomes data not available after author contact (n=1)
3. Stotzer A, Bein Th, Krenz D, et al. The combination of prone position and open lung maneuver in acute lung injury (ALI) [abstract]. Intensive Care Med. 1999;25:S74.

Randomized controlled trial enrolling neonates (n=2)
4. Kumar P, Steele AM. Effect of prone positioning on oxygenation and pulmonary mechanics in preterm infants with acute respiratory distress syndrome [abstract]. Am J Respir Crit Care Med. 2003;167:A509.
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Randomized controlled trial where all patients received ventilation in the prone position (n=4)
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Randomized controlled trial with non-supine control group (n=3)
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Crossover randomized design (patients received both prone and supine ventilation; n=11)
13. Vollman KM, Bander JJ. Improved oxygenation utilizing a prone positioner in patients with acute respiratory distress syndrome. Intensive Care Med. 1996;22:1105-1111.
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Studies determined to be non-randomized after author contact (n=3)
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