Supplement 1: Search Strategies

The terms used for data search included “endoscopic gastroplasty,” “primary obesity endolumenal surgery,” “POSE,” “obesity endoluminal surgery,” “Endoscopic Bariatric Therapy,” “EBT,” “Bariatric Endoscopy.” We also reviewed the list of references from retrieved articles for the identification of potentially relevant studies. There was no language restriction; however, we restricted our search query to observational and randomized controlled trials (RCT).

Total Results 1354

Ovid Medline
246 Results

# ▲	Searches	Results
1	primary obesity surgery endolum*.mp.	20
2	(POSE and endolum*).mp.	28
3	endolum* surgery.mp.	62
4	endoscopic gastric plication.mp.	8
5	endoscopic bariatric therap*.mp.	58
6	(EBT and (bariatric or obese or obesity)).mp.	27
7	bariatric endoscop*.mp.	59
8	endoscopic gastroplast*.mp.	25
9	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8	246

Cochrane Library
281 Results

ID	Search	Hits
#1	(primary obesity surgery endolum*):ti,ab,kw	3
#2	(POSE AND endolum*):ti,ab,kw	3
#3	(endolum* surgery):ti,ab,kw	123
#4	(endoscopic gastric plication):ti,ab,kw	19
#5	(endoscopic bariatric therap*):ti,ab,kw	33

#6 (EBT and (bariatric or obese or obesity)):ti,ab,kw 4

#7 (bariatric endoscop*):ti,ab,kw 131

#8 (endoscopic gastroplast*):ti,ab,kw 28

#9 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 281

Scopus
407 Results

(TITLE-ABS-KEY (primary AND obesity AND surgery AND endolum*)) OR (TITLE-ABS-KEY (pose AND endolum*)) OR (TITLE-ABS-KEY ("endolum* surgery")) OR (TITLE-ABS-KEY ("endoscopic bariatric therap*")) OR (TITLE-ABS-KEY (ebt AND (bariatric OR obese OR obesity))) OR (TITLE-ABS-KEY ("bariatric endoscop*")) OR (TITLE-ABS-KEY ("endoscopic gastroplast*")) OR (TITLE-ABS-KEY (endoscopic AND ("gastric plication")))

Web of Science
420 Results

9 **420** #8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

8 **40** **TOPIC:** ("endoscopic gastroplast*")

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

7 **90** **TOPIC:** ("bariatric endoscop*")

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

6 **26** **TOPIC:** (EBT and (bariatric or obese or obesity))

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

5 **59** **TOPIC:** ("endoscopic bariatric therap*")

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

4 **23** TS=(endoscopic AND ("gastric plication"))

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

3 **124** **TOPIC:** ("endolum* surgery")

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

2 **62** **TOPIC:** (POSE AND endolum*)

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

1 **60** **TOPIC:** (primary obesity surgery endolum*)

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

Supplement 2: Quality assessment of included studies.

Table 1: NIH Quality Assessment Tool for Before-After (Pre-Post) Studies With No Control Group

Study Criteria	Espinós et al (2013)	Lopez Nava et al (2015)	Espinós et al (2016)	Garcia et al (2019)	Abeid et al (2019)
1. Was the study question or objective clearly stated?	Y	Y	Y	Y	Y
2. Were eligibility/selection criteria for the study population prespecified and clearly described?	Y	Y	Y	Y	Y
3. Were the participants in the study representative of those who would be eligible for the test/service/intervention in the general or clinical population of interest?	Y	Y	Y	Y	Y
4. Were all eligible participants that met the prespecified entry criteria enrolled?	Y	Y	Y	Y	Y
5. Was the sample size sufficiently large to provide confidence in the findings?	NR	NR	NR	NR	NR
6. Was the test/service/intervention clearly described and delivered consistently across the study population?	Y	Y	Y	Y	Y
7. Were the outcome measures prespecified, clearly defined, valid, reliable, and assessed consistently across all study participants?	Y	Y	Y	Y	Y
8. Were the people assessing the outcomes blinded to the participants' exposures/interventions?	NR	NR	NR	NR	NR
9. Was the loss to follow-up after baseline 20% or less? Were those lost to follow-up accounted for in the analysis?	Y	Y	Y	Y	Y
10. Did the statistical methods examine changes in outcome measures from before to after the intervention? Were statistical tests done that provided p values for the pre-to-post changes?	Y	Y	Y	Y	Y

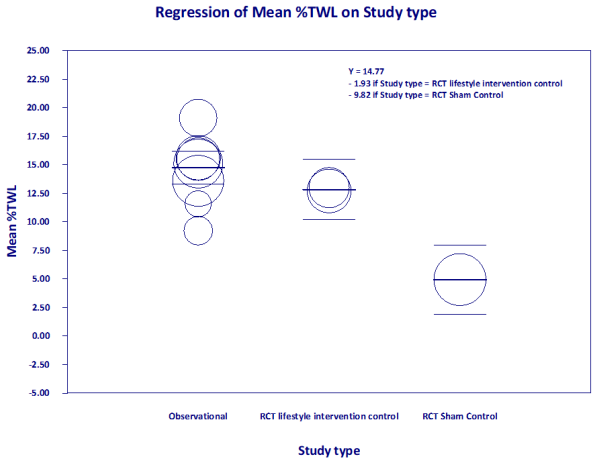
11. Were outcome measures of interest taken multiple times before the intervention and multiple times after the intervention (i.e., did they use an interrupted time-series design)?	Y	Y	Y	Y	Y
12. If the intervention was conducted at a group level (e.g., a whole hospital, a community, etc.) did the statistical analysis take into account the use of individual-level data to determine effects at the group level?	NA	NA	NA	NA	NA
Reviewer 1	Good	Good	Good	Good	Good
Reviewer 2	Good	Good	Good	Good	Good

Table 2: NIH Quality Assessment of Controlled Intervention Studies

Criteria	**Miller (2017)**	**Sullivan (2017)**
1. Was the study described as randomized, a randomized trial, a randomized clinical trial, or an RCT?	Y	Y
2. Was the method of randomization adequate (i.e., use of randomly generated assignment)?	Y	Y
3. Was the treatment allocation concealed (so that assignments could not be predicted)?	N	N
4. Were study participants and providers blinded to treatment group assignment?	N	Y
5. Were the people assessing the outcomes blinded to the participants' group assignments?	N	Y

6. Were the groups similar at baseline on important characteristics that could affect outcomes (e.g., demographics, risk factors, co-morbid conditions)?	Y	Y
7. Was the overall drop-out rate from the study at endpoint 20% or lower of the number allocated to treatment?	Y	Y
8. Was the differential drop-out rate (between treatment groups) at endpoint 15 percentage points or lower?	Y	Y
9. Was there high adherence to the intervention protocols for each treatment group?	Y	Y
10. Were other interventions avoided or similar in the groups (e.g., similar background treatments)?	Y	Y
11. Were outcomes assessed using valid and reliable measures, implemented consistently across all study participants?	Y	Y
12. Did the authors report that the sample size was sufficiently large to be able to detect a difference in the main outcome between groups with at least 80% power?	Y	Y
13. Were outcomes reported or subgroups analyzed prespecified (i.e., identified before analyses were conducted)?	Y	Y
14. Were all randomized participants analyzed in the group to which they were originally assigned, i.e., did they use an intention-to-treat analysis?	Y	Y
Rater #1 initials:	Good	Good
Rater #2 initials:	Good	Good

Supplementary Figure 1: Random-effects meta-regression of mean %TWL to study type.


Regression of Mean %TWL on Study type
Y = 14.77
- 1.93 if Study type = RCT lifestyle intervention control
- 9.82 if Study type = RCT Sham Control
Mean %TWL
25.00
22.50
20.00
17.50
15.00
12.50
10.00
7.50
5.00
2.50
0.00
-2.50
-5.00
Observational
RCT lifestyle intervention control
RCT Sham Control
Study type