

Comparing Endoscopic Stapler and Laser Diverticulotomy for Zenker's Diverticulum:

A systematic review with pooled analysis

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BACKGROUND

Endoscopic treatment of Zenker's diverticulum is established as a **safe and effective alternative** to open diverticulectomy, particularly in elderly comorbid patients who may benefit from a shorter operation.

However, there is **no consensus regarding which endoscopic method is superior**; we aimed to establish the current evidence base.

Experimental hypothesis: **Endoscopic Laser Diverticulotomy (ELD) is equivalent to Endoscopic Stapler Diverticulotomy (ESD)** in terms of safety and efficacy.

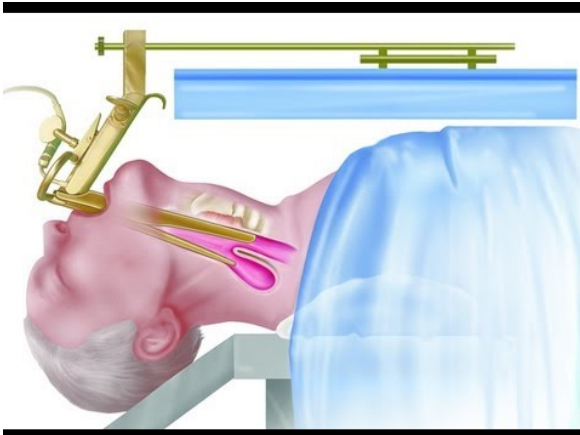
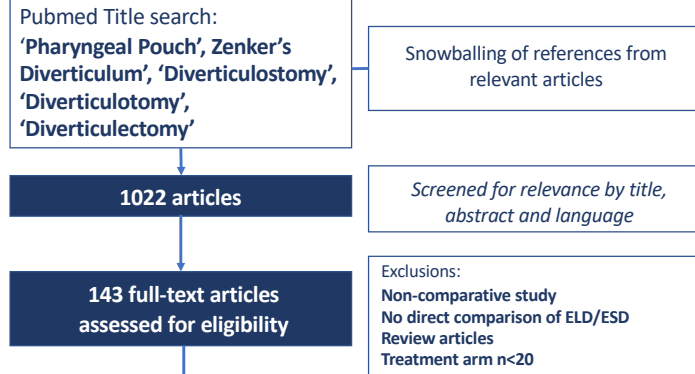


Diagram of exposure of cricopharyngeal bar gained using suspended Weerda diverticuloscope - courtesy of Fauquier ENT, 2012

METHODS



Papers comparing ELD and ESD (n=9)

Author	Year	ESD (n)	ELD (n)	Reoperation (n)		Complication (n)		Perforation (n)		Median LOS (d)	
				ESD	ELD	ESD	ELD	ESD	ELD	ESD	ELD
Veivers D	2015	35	42	7	6	2	5	0	4	2	3
Yeo JCL	2010	58	26	7	4	5	2	2	0	-	-
Shah RN	2016	35	27	6	0	1	3	1	1	-	-
Visser LJ	2016	94	42	12	7	6	4	4	0	4	5
Leibowitz JM	2014	69	68	-	-	4	2	2	2	-	-
Murer K	2015	45	29	3	5	1	1	0	0	4	4
Verhaegen V	2011	35	72	9	24	0	0	0	0	2	5
Gutschow CA	2002	31	55	-	-	0	2	0	2	3	5
Adam SI	2012	67	61	7	0	3	4	3	4	-	-
Totals (%)		417 (50%)	413 (50%)	51 (16%)	46 (16%)	22 (5%)	23 (6%)	12 (3%)	13 (3%)		

No prospective comparative studies were identified

RESULTS AND DISCUSSION

There was **no significant difference** between ESD and ELD in the incidence of **pharyngeal perforation** or need for **reoperation** (Fisher's exact test $p=0.84$ and $p=0.91$ respectively)

Although heterogeneity of outcome measures and treatment selection between studies impaired analysis, new data since Parker 2014 (1) allowed this systematic review to **exclude poor quality papers**.

Current evidence suggests that **safety and efficacy of ESD and ELD is comparable**. Given the lack of level 1 evidence, the authors **propose a Randomised Controlled Trial** comparing the safety and efficacy of ESD and ELD.



Endoscopic view of cricopharyngeal bar dividing pouch (inferiorly) and oesophageal lumen. Courtesy of S Boon MD, Jefferson University and Hospitals