
**Supplementary Figure 1.** Preferred Reporting Items for Systematic Reviews and Meta-Analyses Flow Diagram

**Identification of studies via databases and registers**

**Identification**

- **PICO 1&2:** Medline database 491
  - EMBASE: 951
  - Cochrane Library: 19
  - Records removed before screening: Duplicate records removed (n = 364)

- **PICO 3:** Medline database 1032
  - EMBASE: 2665
  - Cochrane Library: 50
  - Records removed before screening: Duplicate records removed (n = 998)

- **PICO 5:** Medline database 491
  - EMBASE: 951
  - Cochrane Library: 19

**Screening**

- **PICO 1&2:**
  - Records screened (n = 1097)
  - Assessed for eligibility (n = 89)

- **PICO 3:**
  - Records screened (n = 2749)
  - Assessed for eligibility (n = 107)

- **PICO 5:**
  - Records screened (n = 860)
  - Assessed for eligibility (n = 145)

**Included**

- **PICO 1&2**
  - Studies included in review:
    - Benefits PICO 1 (n = 8)
    - Benefits PICO 2 (n = 10)
    - Harms PICO 1&2 (n = 21)

- **PICO 3**
  - Studies included in review:
    - Benefits (n = 7)
    - Harms (n = 41)

- **PICO 5**
  - Studies included in review:
    - Benefits (n = 5)
    - Harms (n = 42)
Supplementary Figure 2. Forest plot of randomized trials comparing progression rate to cancer among patients with HGD who were treated with EET compared to endoscopic surveillance alone.\textsuperscript{1, 2}

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>EET Events</th>
<th>Total</th>
<th>Surveillance Events</th>
<th>Total</th>
<th>Weight</th>
<th>Risk Ratio M-H, Fixed, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overholt 2006</td>
<td>18</td>
<td>18</td>
<td>20</td>
<td>70</td>
<td>83.3%</td>
<td>0.48 [0.20, 0.81]</td>
</tr>
<tr>
<td>Shahroen 2009</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>21</td>
<td>16.7%</td>
<td>0.13 [0.01, 1.05]</td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td>180</td>
<td>91</td>
<td>100.0%</td>
<td>0.40</td>
<td>[0.23, 0.69]</td>
<td></td>
</tr>
</tbody>
</table>

Total events = 192
Heterogeneity: $\chi^2 = 1.35, df = 1 (P = 0.24), I^2 = 26$
Test for overall effect $Z = 3.30 (P = 0.0010)$

Supplementary Figure 3. Forest plot of observational studies summarizing incidence rate of progression to cancer per person-year among patients with HGD who were treated with EET \textsuperscript{1-18}
Supplementary figure 4.1 Forest plot of proportion of stricture formation after radiofrequency ablation +/- endoscopic mucosal resection\textsuperscript{3, 4, 8, 17, 19-53}
Supplementary figure 4.2 Forest plot of proportion of serious bleeding after RFA +/- EMR 3, 17, 19, 21, 23, 25-33, 35-39.

Supplementary Figure 4.3 Forest plot of proportion of perforation after RFA +/- EMR 4, 17, 19, 21, 23, 24, 27-44, 54-57.
Supplementary Figure 5.1 Forest plot of proportion of stricture formation with endoscopic ablative therapy without endoscopic resection

25, 33-35, 44, 55-58

Supplementary Figure 5.2 Forest plot of proportion of significant bleeding with endoscopic ablative therapy without endoscopic resection

25, 33-36, 44, 50, 55, 57, 58

Supplementary Figure 5.3 Forest plot of proportion of perforation with endoscopic ablative therapy without endoscopic resection

33-36, 44, 55-57
Supplementary Figure 5.4 Forest plot of proportion of post procedure pain with endoscopic ablative therapy.\textsuperscript{33, 35, 36, 44, 55}

![Forest plot of proportion of post procedure pain with endoscopic ablative therapy](image_url)
**Supplementary Figure 6.1** Forest plot of proportion of stricture formation with step-wise or complete EMR 45, 52, 58-67

<table>
<thead>
<tr>
<th>Studies</th>
<th>Estimate (95% C.I.)</th>
<th>Ew/Ttr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larghi, 2007</td>
<td>0.125 (0.000, 0.257)</td>
<td>3/24</td>
</tr>
<tr>
<td>Lopes et al, 2007</td>
<td>0.024 (0.000, 0.032)</td>
<td>1/41</td>
</tr>
<tr>
<td>Bhat et al, 2009</td>
<td>0.093 (0.013, 0.163)</td>
<td>5/60</td>
</tr>
<tr>
<td>Peuv et al, 2010</td>
<td>0.497 (0.422, 0.571)</td>
<td>64/169</td>
</tr>
<tr>
<td>Brahmana et. al, 2010</td>
<td>0.136 (0.030, 0.259)</td>
<td>3/22</td>
</tr>
<tr>
<td>Van Vlietseren et al, 2011</td>
<td>0.800 (0.753, 1.000)</td>
<td>22/25</td>
</tr>
<tr>
<td>Gerke et al, 2011</td>
<td>0.439 (0.287, 0.591)</td>
<td>18/41</td>
</tr>
<tr>
<td>Chung et al, 2011</td>
<td>0.416 (0.306, 0.526)</td>
<td>32/77</td>
</tr>
<tr>
<td>Corio et al, 2014</td>
<td>0.400 (0.257, 0.543)</td>
<td>10/45</td>
</tr>
<tr>
<td>Konda et al, 2014</td>
<td>0.574 (0.382, 0.436)</td>
<td>40/107</td>
</tr>
<tr>
<td>Bahn et al, 2016</td>
<td>0.504 (0.225, 0.351)</td>
<td>42/138</td>
</tr>
<tr>
<td>Kouttsourpas 2016</td>
<td>0.011 (0.000, 0.032)</td>
<td>1/51</td>
</tr>
</tbody>
</table>

Overall (I^2=97.59%, P<0.001) 0.304 (0.172, 0.436) 269/840

**Supplementary figure 6.2** Forest plot of proportion of bleeding events with step-wise or complete EMR 45, 52, 58-67

<table>
<thead>
<tr>
<th>Studies</th>
<th>Estimate (95% C.I.)</th>
<th>Ew/Ttr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larghi, 2007</td>
<td>0.083 (0.000, 0.194)</td>
<td>2/24</td>
</tr>
<tr>
<td>Lopes et al, 2007</td>
<td>0.195 (0.074, 0.316)</td>
<td>8/41</td>
</tr>
<tr>
<td>Bhat et al, 2009</td>
<td>0.367 (0.034, 0.013)</td>
<td>4/60</td>
</tr>
<tr>
<td>Peuv et al, 2010</td>
<td>0.524 (0.801, 0.047)</td>
<td>4/169</td>
</tr>
<tr>
<td>Brahmana et. al, 2010</td>
<td>0.922 (0.009, 0.001)</td>
<td>0/22</td>
</tr>
<tr>
<td>Van Vlietseren et al, 2011</td>
<td>0.240 (0.703, 0.477)</td>
<td>6/25</td>
</tr>
<tr>
<td>Gerke et al, 2011</td>
<td>0.217 (0.175, 0.460)</td>
<td>13/41</td>
</tr>
<tr>
<td>Chung et al, 2011</td>
<td>0.091 (0.027, 0.155)</td>
<td>7/77</td>
</tr>
<tr>
<td>Corio et al, 2014</td>
<td>0.067 (0.000, 0.140)</td>
<td>3/45</td>
</tr>
<tr>
<td>Konda et al, 2014</td>
<td>0.037 (0.001, 0.073)</td>
<td>4/107</td>
</tr>
<tr>
<td>Bahn et al, 2016</td>
<td>0.058 (0.019, 0.097)</td>
<td>8/138</td>
</tr>
<tr>
<td>Kouttsourpas 2016</td>
<td>0.005 (0.000, 0.020)</td>
<td>0/91</td>
</tr>
</tbody>
</table>

Overall (I^2=76.36%, P<0.001) 0.045 (0.035, 0.054) 59/840

**Supplementary Figure 6.3** Forest plot of proportion of perforation with step-wise or complete EMR 45, 52, 58-67

<table>
<thead>
<tr>
<th>Studies</th>
<th>Estimate (95% C.I.)</th>
<th>Ew/Ttr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larghi, 2007</td>
<td>0.020 (0.000, 0.075)</td>
<td>0/24</td>
</tr>
<tr>
<td>Lopes et al, 2007</td>
<td>0.043 (0.000, 0.115)</td>
<td>2/43</td>
</tr>
<tr>
<td>Bhat et al, 2009</td>
<td>0.088 (0.069, 0.031)</td>
<td>0/60</td>
</tr>
<tr>
<td>Peuv et al, 2010</td>
<td>0.024 (0.001, 0.047)</td>
<td>4/169</td>
</tr>
<tr>
<td>Brahmana et. al, 2010</td>
<td>0.022 (0.000, 0.031)</td>
<td>0/22</td>
</tr>
<tr>
<td>Van Vlietseren et al, 2011</td>
<td>0.040 (0.000, 0.117)</td>
<td>1/25</td>
</tr>
<tr>
<td>Gerke et al, 2011</td>
<td>0.049 (0.000, 0.115)</td>
<td>2/41</td>
</tr>
<tr>
<td>Chung et al, 2011</td>
<td>0.066 (0.000, 0.024)</td>
<td>0/77</td>
</tr>
<tr>
<td>Corio et al, 2014</td>
<td>0.011 (0.000, 0.041)</td>
<td>0/45</td>
</tr>
<tr>
<td>Konda et al, 2014</td>
<td>0.019 (0.000, 0.044)</td>
<td>2/107</td>
</tr>
<tr>
<td>Bahn et al, 2016</td>
<td>0.007 (0.000, 0.021)</td>
<td>1/238</td>
</tr>
<tr>
<td>Kouttsourpas 2016</td>
<td>0.011 (0.000, 0.032)</td>
<td>1/91</td>
</tr>
</tbody>
</table>

Overall (I^2=0%, P=0.517) 0.012 (0.005, 0.020) 13/840
**Supplementary Figure 7.1** Forest plot of proportion of stricture formation with EMR +/- ablation

3, 20, 22, 25, 26, 30, 32, 33, 35-41, 44, 45, 47, 49, 52, 68-75

**Supplementary Figure 7.2** Forest plot of proportion of significant bleeding with EMR +/- ablation

3, 17, 25, 26, 30, 32, 33, 35-39, 42, 45, 52, 69-71, 73, 75
Supplementary Figure 7.3 Forest plot of proportion of perforation with EMR +/- ablation 3, 17, 26, 30, 32-39, 41-45, 47, 50, 52, 69-75
**Supplementary Table 1.** Search strategy for EET vs endoscopic surveillance for LGD and HGD

**Dysplasia and EET search**

**Medline (Ovid database)**
1. `barrett*.tw,kf. or exp barrett esophagus/`
2. `(dysplasia* or ((intramucosal or intra-mucosal or mucosal) adj3 (cancer* or carcinoma* or neoplasm* or tumo?r or malignanc*))).tw,kf. or Esophageal Neoplasms/`
3. `(EET or (eradicat* adj3 (therap* or treatment*)) or cryotherap* or ((cold or cryogenic or hypothermal or cryoballon) adj3 (therap* or surg* or ablation*))) or cryotherm* or cryotreatment* or cryosurg* or cryo-surg* or cryoablation* or ((endoscop* or oesophagoscop* or Esophagoscop* or oesophagogastroduodenoscop* or esophagogastroduodenoscop* or gastroscop* or mucosal or submucosal) adj3 (resect* or dissec* or mucosect*)) or ((catheter or electric* or radiofrequenc* or radio frequenc* or RF or surgical or technique* or thermal or RFA or laser*) adj3 ablation*) or electrocautery).tw,kf. or exp cryotherapy/or exp cryosurgery/ or exp catheter ablation/
4. 1 and 2 and 3

**Results= 491 (March 2016-January 1, 2023)**

**EMBASE (Ovid database)**
1. `barrett*.tw,kf. or exp barrett esophagus/`
2. `(dysplasia* or ((intramucosal or intra-mucosal or mucosal) adj3 (cancer* or carcinoma* or neoplasm* or tumo?r or malignanc*))).tw,kf. or Esophageal Neoplasms/`
3. `(EET or (eradicat* adj3 (therap* or treatment*)) or cryotherap* or ((cold or cryogenic or hypothermal or cryoballon) adj3 (therap* or surg* or ablation*))) or cryotherm* or cryotreatment* or cryosurg* or cryo-surg* or cryoablation* or ((endoscop* or oesophagoscop* or Esophagoscop* or oesophagogastroduodenoscop* or esophagogastroduodenoscop* or gastroscop* or mucosal or submucosal) adj3 (resect* or dissec* or mucosect*)) or ((catheter or electric* or radiofrequenc* or radio frequenc* or RF or surgical or technique* or thermal or RFA or laser*) adj3 ablation*) or electrocautery).tw,kf. or exp cryotherapy/or exp cryosurgery/ or exp catheter ablation/
4. 1 and 2 and 3

**Results= 951 (March 2016-January 1, 2023)**

**Cochrane Library**
1. MESH descriptor: [barrett esophagus] explode all trees
2. `barrett*`
3. #1 or #2
4. `dysplasia*`
5. `((intramucosal or intra-mucosal or mucosal) adj3 (cancer* or carcinoma* or neoplasm* or tumo?r or malignanc*))`
6. MESH descriptor: [Esophageal Neoplasms] explode all trees
7. #4 or #5 or #6
8. EET
9. `(eradicat* adj3 (therap* or treatment*))`
10. cryotherap*
11. `((cold or cryogenic or hypothermal or cryoballon) adj3 (therap* or surg* or ablation*))`
12. `cryotherm* or cryotreatment* or cryosurg* or cryo-surg* or cryoablation*`
13. `((endoscop* or oesophagoscop* or Esophagoscop* or oesophagogastroduodenoscop* or esophagogastroduodenoscop* or gastroscop* or mucosal or submucosal) adj3 (resect* or dissec* or mucosect*))`
14. `(catheter or electric* or radiofrequenc* or radio frequenc* or RF or surgical or technique* or thermal or RFA or laser*) adj3 ablation*)`
15. Electrocautery
16. MESH descriptor: [cryotherapy] explode all trees
17. MESH descriptor: [cryosurgery] explode all trees
18. MESH descriptor: [catheter ablation] explode all trees
19. #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18
20. #3 and #7 and #19

Results= 19 (March 2016 - January 1, 2023)
Supplementary Table 2. Search strategy for EET vs endoscopic surveillance for NDBE

**Medline (Ovid database)**
1. barrett*.tw,kf. or exp barrett esophagus/
2. (EET or (eradicat* adj3 (therap* or treatment*))) or cryotherap* or ((cold or cryogenic or hypothermal or cryoballon) adj3 (therap* or surg* or ablation*)) or cryotherm* or cryotreatment* or cryosurg* or cryo-surg* or cryoablation* or ((endoscop* or oesophagoscop* or Esophagoscop* or oesophagogastroduodenoscop* or esophagogastroduodenoscop* or gastroscop* or mucosal or submucosal) adj3 (resect* or dissect* or mucosect*)) or ((cather or electric* or radiofrequnc* or radio frequenc* or RF or surgical or technique* or thermal or RFA or laser*) adj3 ablation*) or electrocautery).tw,kf. or exp cryotherapy/or exp cryosurgery/
or exp catheter ablation/
3. 1 and 2

Results= 1032 (August 2012-February 20, 2023)

**EMBASE (Ovid database)**
1. barrett*.tw,kf. or exp barrett esophagus/
2. (EET or (eradicat* adj3 (therap* or treatment*))) or cryotherap* or ((cold or cryogenic or hypothermal or cryoballon) adj3 (therap* or surg* or ablation*)) or cryotherm* or cryotreatment* or cryosurg* or cryo-surg* or cryoablation* or ((endoscop* or oesophagoscop* or Esophagoscop* or oesophagogastroduodenoscop* or esophagogastroduodenoscop* or gastroscop* or mucosal or submucosal) adj3 (resect* or dissect* or mucosect*)) or ((cather or electric* or radiofrequnc* or radio frequenc* or RF or surgical or technique* or thermal or RFA or laser*) adj3 ablation*) or electrocautery).tw,kf. or exp cryotherapy/or exp cryosurgery/
or exp catheter ablation/
3. 1 and 2

Results= 2665 (August 2012-February 20, 2023)

**Cochrane Library**
21. MESH descriptor: [barrett esophagus] explode all trees
22. barrett*
23. #1 or #2
24. EET
25. (eradicat* adj3 (therap* or treatment*))
26. cryotherap*
27. ((cold or cryogenic or hypothermal or cryoballon) adj3 (therap* or surg* or ablation*))
28. cryotherm* or cryotreatment* or cryosurg* or cryo-surg* or cryoablation*
29. ((endoscop* or oesophagoscop* or Esophagoscop* or oesophagogastroduodenoscop* or esophagogastroduodenoscop* or gastroscop* or mucosal or submucosal) adj3 (resect* or dissect* or mucosect*)) or ((cather or electric* or radiofrequnc* or radio frequenc* or RF or surgical or technique* or thermal or RFA or laser*) adj3 ablation*)
30. ((cather or electric* or radiofrequnc* or radio frequenc* or RF or surgical or technique* or thermal or RFA or laser*) adj3 ablation*)
31. Electrocautery
32. MESH descriptor: [cryotherapy] explode all trees
33. MESH descriptor: [cryosurgery] explode all trees
34. MESH descriptor: [catheter ablation] explode all trees
35. #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14
36. #3 and #15

Results= 50 (August 2012-February 20, 2023)
Supplementary Table 3. Search strategy for ESD vs. EMR for visible lesion

**Medline via Ovid (n=258)**
1. (barrett* or (columnar* and (esophagus or oesophagus)) or endobrachyoesophag*).tw,kf. or exp barrett esophagus/
2. (dysplasia* or ((intramucosal or intra-mucosal or mucosal or oesophag* or esophag*) adj3 (cancer* or carcinoma* or neoplas* or tumo?r or malignan*)>).tw,kf. or exp Esophageal Neoplasms/
3. exp Mucous Membrane/su or ("endoscopic full thickness resection** or "submucosal tunne?ling endoscopic resection** OR ESD or "endoscopic submucosal dissect** or "strip biops** or "endoscopic mucosectom**") .tw,kf.
4. 1 and 2 and 3
5. (review or "case report").pt.
6. 4 not 5
7. ..dedup 6

**Embase via Ovid (n=710)**
1. exp Barrett esophagus/ or (barrett* or (columnar* and (oesophagus or esophagus)) or endobrachyoesophag*).tw,kf.
2. exp esophagus tumor/ or (dysplasia* or ((intramucosal or intra-mucosal or mucosal or oesophag* or esophag*) adj3 (cancer* or carcinoma* or neoplas* or tumo?r or malignan*)>).tw,kf.
3. (exp esophagus mucosa/ and su.fs) or exp endoscopic submucosal dissection/ or ("endoscopic full thickness resection** or "submucosal tunne?ling endoscopic resection** OR ESD or "endoscopic submucosal dissect** or "strip biops** or "endoscopic mucosectom**") .tw,kf
4. 1 and 2 and 3
5. (Review or "Case Report").pt.
6. 4 not 5
7. ..dedup 6

**PubMed (n=244)**

**Cochrane Library (n=29)**
1. (barrett* OR (columnar* AND (esophagus OR oesophagus)) OR endobrachyoesophag*):ti,ab,kw
2. MeSH descriptor: [Barrett Esophagus] explode all trees
3. #1 OR #2
4. (dysplasia* OR ((intramucosal OR intra-mucosal OR mucosal OR oesophag* OR esophag*) NEAR/3 (cancer* OR carcinoma* OR neoplas* OR tumor OR tumour OR malignan*)>):ti,ab,kw
5. MeSH descriptor: [Esophageal Neoplasms] explode all trees
6. #4 OR #5
7. #3 AND #6
8. MeSH descriptor: [Mucous Membrane] explode all trees and with qualifier(s): [surgery - SU]
9. ("endoscopic full thickness" NEXT resection*) or ("submucosal tunneling endoscopic" OR "submucosal tunnelling endoscopic") NEXT resection*) OR ESD or ("endoscopic submucosal" NEXT dissect*) or (strip NEXT biops*) OR (endoscopic NEXT mucosectom*):ti,ab,kw
10. #8 OR #9
11. #7 AND #10

Total results=1241
References:


