


## Multi-society consensus conference and guideline on the treatment of gastroesophageal reflux disease (GERD)

### SUPPLEMENT 5: EVIDENCE TO DECISION TABLE FOR KEY QUESTION 3

3a. Should Partial Fundoplication vs. Complete Fundoplication be used for patients with GERD?	
POPULATION:	patients with GERD
INTERVENTION:	Partial Fundoplication
COMPARISON:	Complete Fundoplication
MAIN OUTCOMES:	Complete subjective reflux symptom resolution - Long term (>1yr, RCT); Hiatal Hernia Recurrence (>3cm and/or symptomatic) - RCT; Postoperative Dysphagia, requiring intervention - RCT; Gas/bloat/inability to vomit - Long term (>1yr, RCT); Objective reflux recurrence - Long term (>1yr, RCT);
SETTING:	
PERSPECTIVE:	PATIENT-CENTERED
BACKGROUND:	
CONFLICT OF INTERESTS:	

### ASSESSMENT

Problem												
Is the problem a priority?												
JUDGEMENT	RESEARCH EVIDENCE					ADDITIONAL CONSIDERATIONS						
<input type="radio"/> No <input type="radio"/> Probably no <input type="radio"/> Probably yes <input checked="" type="radio"/> Yes <input type="radio"/> Varies <input type="radio"/> Don't know Vote: 100% Yes												
Desirable Effects												
How substantial are the desirable anticipated effects?												
JUDGEMENT	RESEARCH EVIDENCE					ADDITIONAL CONSIDERATIONS						
<input type="radio"/> Trivial <input type="radio"/> Small <input checked="" type="radio"/> <b>Moderate</b> <input type="radio"/> Large <input type="radio"/> Varies <input type="radio"/> Don't know Vote: 6/7 86% Moderate	<b>Outcomes</b> Hiatal Hernia Recurrence (>3cm and/or symptomatic) - RCT	<b>No of participants (studies) Follow up</b> 832 (8 RCTs)	<b>Certainty of the evidence (GRADE)</b>  MODERATE <sup>a,b</sup>	<b>Relative effect (95% CI)</b> RR 0.43 (0.20 to 0.91)	<b>Anticipated absolute effects* (95% CI)</b> <table border="1"> <thead> <tr> <th>Risk with Complete Fundoplication</th> <th>Risk difference with Partial Fundoplication</th> </tr> </thead> <tbody> <tr> <td>Study population</td> <td></td> </tr> <tr> <td>53 per 1,000</td> <td><b>30 fewer per 1,000</b> (43 fewer to 5 fewer)</td> </tr> </tbody> </table>		Risk with Complete Fundoplication	Risk difference with Partial Fundoplication	Study population		53 per 1,000	<b>30 fewer per 1,000</b> (43 fewer to 5 fewer)
Risk with Complete Fundoplication	Risk difference with Partial Fundoplication											
Study population												
53 per 1,000	<b>30 fewer per 1,000</b> (43 fewer to 5 fewer)											
						Hiatal hernia recurrence based on how its measured, whether its symptomatic or not, may introduce some variability in the data published in these studies.  Gas bloat – long term symptoms most significant, however when it comes to short term symptoms, there may be a higher incidence						

Postoperative Dysphagia, requiring intervention - RCT	1045 (11 RCTs)	⊕⊕⊕⊕ HIGH <sup>c</sup>	RR 0.35 (0.19 to 0.66)	Study population	
				72 per 1,000	<b>47 fewer per 1,000</b> (58 fewer to 24 fewer)
Gas/bloat/inability to vomit - Long term (>1yr, RCT)	860 (10 RCTs)	⊕⊕⊕○ MODERATE <sup>d,e,f</sup>	RR 0.74 (0.58 to 0.96)	Study population	
				442 per 1,000	<b>115 fewer per 1,000</b> (186 fewer to 18 fewer)
<p>a. Although the body of evidence originated in a mix of low, unclear, and high risk of bias, the majority of patients contributing to the pooled analysis were from the low risk of bias studies.</p> <p>b. Although there were moderate sample sizes, there was a small event size which increases the fragility of the outcome.</p> <p>c. Findings from low, unclear, and high risk of bias (ROB) were consistent, thus we did not downgrade the evidence on ROB. Pooled data from observational studies were also consistent with the pooled estimate from RCTs</p> <p>d. Although the body of evidence originated in a mix of low, unclear, and high risk of bias, when viewed from various other evidence syntheses (short term and long term outcomes from pooled observational studies and short and long term data from pooled RCTs) findings were quite consistent across these various bodies of evidence</p> <p>e. Although there was some inconsistency (12 49%) across the studies, however most studies favored the intervention. And this inconsistency is already incorporated in our judgment of imprecision</p> <p>f. Confidence interval is wide and compatible with substantial benefit favoring the intervention as well as no difference between interventions</p>					

## Undesirable Effects

How substantial are the undesirable anticipated effects?

JUDGEMENT	RESEARCH EVIDENCE				ADDITIONAL CONSIDERATIONS	
<input type="radio"/> Large <input type="radio"/> Moderate <input checked="" type="radio"/> <b>Small</b> <input type="radio"/> Trivial <input type="radio"/> Varies <input type="radio"/> Don't know  Vote: 6/7 86% Small	Outcomes	No of participants (studies) Follow up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects* (95% CI)	
					Risk with Complete Fundoplication	Risk difference with Partial Fundoplication
	Complete subjective reflux symptom resolution - Long term (>1yr, RCT)	1289 (14 RCTs)	⊕⊕⊕⊕ HIGH <sup>a</sup>	RR 0.98 (0.94 to 1.03)	Study population	
					806 per 1,000	<b>16 fewer per 1,000</b> (48 fewer to 24 more)
	Objective reflux recurrence - Long term (>1yr, RCT)	851 (6 RCTs)	⊕⊕⊕○ MODERATE <sup>b,c</sup>	RR 1.46 (0.86 to 2.48)	Study population	
				97 per 1,000	<b>45 more per 1,000</b> (14 fewer to 143 more)	
<p>a. Although the body of evidence originated in a mix of low, unclear, and high risk of bias, when viewed from various other evidence syntheses (short term and long term outcomes from pooled observational studies and short and long term data from pooled RCTs) findings were quite consistent across these various bodies of evidence</p> <p>b. Low and high ROB showed consistent findings</p> <p>c. Wide confidence interval and low statistical power</p>						

## Certainty of evidence

What is the overall certainty of the evidence of effects?

JUDGEMENT	RESEARCH EVIDENCE			ADDITIONAL CONSIDERATIONS																		
<p>○ Very low ○ Low ● <b>Moderate</b> ○ High ○ No included studies</p> <p>Vote: 100% Moderate</p>	<table border="1"> <thead> <tr> <th data-bbox="413 238 940 300">Outcomes</th> <th data-bbox="940 238 1157 300">Importance</th> <th data-bbox="1157 238 1491 300">Certainty of the evidence (GRADE)</th> </tr> </thead> <tbody> <tr> <td data-bbox="413 300 940 378">Complete subjective reflux symptom resolution - Long term (&gt;1yr, RCT)</td> <td data-bbox="940 300 1157 378">CRITICAL 3</td> <td data-bbox="1157 300 1491 378">⊕⊕⊕⊕ HIGH<sup>a</sup></td> </tr> <tr> <td data-bbox="413 378 940 462">Hiatal Hernia Recurrence (&gt;3cm and/or symptomatic) - RCT</td> <td data-bbox="940 378 1157 462">IMPORTANT 1</td> <td data-bbox="1157 378 1491 462">⊕⊕⊕○ MODERATE<sup>b,c</sup></td> </tr> <tr> <td data-bbox="413 462 940 540">Postoperative Dysphagia, requiring intervention - RCT</td> <td data-bbox="940 462 1157 540">CRITICAL 2</td> <td data-bbox="1157 462 1491 540">⊕⊕⊕⊕ HIGH<sup>d</sup></td> </tr> <tr> <td data-bbox="413 540 940 625">Gas/bloat/inability to vomit - Long term (&gt;1yr, RCT)</td> <td data-bbox="940 540 1157 625">IMPORTANT 1</td> <td data-bbox="1157 540 1491 625">⊕⊕⊕○ MODERATE<sup>e,f</sup></td> </tr> <tr> <td data-bbox="413 625 940 703">Objective reflux recurrence - Long term (&gt;1yr, RCT)</td> <td data-bbox="940 625 1157 703">CRITICAL 2</td> <td data-bbox="1157 625 1491 703">⊕⊕⊕○ MODERATE<sup>g,h</sup></td> </tr> </tbody> </table> <p>a. Although the body of evidence originated in a mix of low, unclear, and high risk of bias, when viewed from various other evidence syntheses (short term and long term outcomes from pooled observational studies and short and long term data from pooled RCTs) findings were quite consistent across these various bodies of evidence</p> <p>b. Although the body of evidence originated in a mix of low, unclear, and high risk of bias, the majority of patients contributing to the pooled analysis were from the low risk of bias studies.</p> <p>c. Although there were moderate sample sizes, there was a small event size which increases the fragility of the outcome.</p> <p>d. Findings from low, unclear, and high risk of bias (ROB) were consistent, thus we did not downgrade the evidence on ROB. Pooled data from observational studies were also consistent with the pooled estimate from RCTs</p> <p>e. Although there was some inconsistency (12 49%) across the studies, however most studies favored the intervention. And this inconsistency is already incorporated in our judgment of imprecision</p> <p>f. Confidence interval is wide and compatible with substantial benefit favoring the intervention as well as no difference between interventions</p> <p>g. Low and high ROB showed consistent findings</p> <p>h. Wide confidence interval and low statistical power</p>			Outcomes	Importance	Certainty of the evidence (GRADE)	Complete subjective reflux symptom resolution - Long term (>1yr, RCT)	CRITICAL 3	⊕⊕⊕⊕ HIGH <sup>a</sup>	Hiatal Hernia Recurrence (>3cm and/or symptomatic) - RCT	IMPORTANT 1	⊕⊕⊕○ MODERATE <sup>b,c</sup>	Postoperative Dysphagia, requiring intervention - RCT	CRITICAL 2	⊕⊕⊕⊕ HIGH <sup>d</sup>	Gas/bloat/inability to vomit - Long term (>1yr, RCT)	IMPORTANT 1	⊕⊕⊕○ MODERATE <sup>e,f</sup>	Objective reflux recurrence - Long term (>1yr, RCT)	CRITICAL 2	⊕⊕⊕○ MODERATE <sup>g,h</sup>	
Outcomes	Importance	Certainty of the evidence (GRADE)																				
Complete subjective reflux symptom resolution - Long term (>1yr, RCT)	CRITICAL 3	⊕⊕⊕⊕ HIGH <sup>a</sup>																				
Hiatal Hernia Recurrence (>3cm and/or symptomatic) - RCT	IMPORTANT 1	⊕⊕⊕○ MODERATE <sup>b,c</sup>																				
Postoperative Dysphagia, requiring intervention - RCT	CRITICAL 2	⊕⊕⊕⊕ HIGH <sup>d</sup>																				
Gas/bloat/inability to vomit - Long term (>1yr, RCT)	IMPORTANT 1	⊕⊕⊕○ MODERATE <sup>e,f</sup>																				
Objective reflux recurrence - Long term (>1yr, RCT)	CRITICAL 2	⊕⊕⊕○ MODERATE <sup>g,h</sup>																				

## Values

Is there important uncertainty about or variability in how much people value the main outcomes?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<p>○ Important uncertainty or variability ● <b>Possibly important uncertainty or variability</b> ○ Probably no important uncertainty or variability ○ No important uncertainty or variability</p>		<p>Patients with objective findings of reflux, such as Barrett's, dysplasia, or severe esophagitis, may value objective reflux recurrence more than the other outcomes</p>

Vote: 100% Possibly important		Lung transplant patients who's at risk of rejection and patients with idiopathic pulm fibrosis, may value objective reflux recurrence of higher importance and tolerate a short-term risk of postoperative dysphagia
-------------------------------	--	--

### Balance of effects

Does the balance between desirable and undesirable effects favor the intervention or the comparison?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<input type="radio"/> Favors the comparison <input type="radio"/> Probably favors the comparison <input type="radio"/> Does not favor either the intervention or the comparison <input checked="" type="radio"/> <b>Probably favors the intervention</b> <input type="radio"/> Favors the intervention <input type="radio"/> Varies <input type="radio"/> Don't know Vote: 100% probably favors intervention		

### Acceptability

Is the intervention acceptable to key stakeholders?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<input type="radio"/> No <input type="radio"/> Probably no <input type="radio"/> Probably yes <input checked="" type="radio"/> <b>Yes</b> <input type="radio"/> Varies <input type="radio"/> Don't know Vote: 100% Yes		

### Feasibility

Is the intervention feasible to implement?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<input type="radio"/> No <input type="radio"/> Probably no <input type="radio"/> Probably yes <input checked="" type="radio"/> <b>Yes</b> <input type="radio"/> Varies <input type="radio"/> Don't know Vote: 6/7 86% Yes		It is the feeling of the panel that a well done partial fundoplication is difficult and entails much nuance and there may be a learning curve, and as such good training is a high priority

## SUMMARY OF JUDGEMENTS

PROBLEM	JUDGEMENT						
	No	Probably no	Probably yes	Yes		Varies	Don't know
DESIRABLE EFFECTS	Trivial	Small	<b>Moderate</b>	Large		Varies	Don't know

	JUDGEMENT						
UNDESIRABLE EFFECTS	Large	Moderate	<b>Small</b>	Trivial		Varies	Don't know
CERTAINTY OF EVIDENCE	Very low	Low	<b>Moderate</b>	High			No included studies
VALUES	Important uncertainty or variability	<b>Possibly important uncertainty or variability</b>	Probably no important uncertainty or variability	No important uncertainty or variability			
BALANCE OF EFFECTS	Favors the comparison	Probably favors the comparison	Does not favor either the intervention or the comparison	<b>Probably favors the intervention</b>	Favors the intervention	Varies	Don't know
ACCEPTABILITY	No	Probably no	Probably yes	<b>Yes</b>		Varies	Don't know
FEASIBILITY	No	Probably no	Probably yes	<b>Yes</b>		Varies	Don't know

TYPE OF RECOMMENDATION – 5/6 (83%) conditional for partial, 1/6 conditional either

Strong recommendation against the intervention ○	Conditional recommendation against the intervention ○	Conditional recommendation for either the intervention or the comparison ○	<b>Conditional recommendation for the intervention</b> ●	Strong recommendation for the intervention ○
---	--	---	---	---

## CONCLUSIONS

### Recommendation

### Justification

Much of this data was long term follow up, however with long term follow up you also get decreased rates of follow up for trial patients.

### Subgroup considerations

Patients with objective findings of reflux, such as Barrett's, dysplasia, or severe esophagitis, may value objective reflux recurrence more than the other outcomes  
Lung transplant patients who's at risk of rejection and patients with idiopathic pulm fibrosis, may value objective reflux recurrence of higher importance and tolerate a short term risk of postoperative dysphagia

### Implementation considerations

### Monitoring and evaluation

### Research priorities

Better long-term data with larger sample sizes to better elucidate the treatment effect  
Patient importance of symptoms/quality of life measures  
Competency-based assessments for training  
Standardization of procedures, i.e. videos of techniques  
Dor vs. Toupet

### 3b. Should Partial Fundoplication vs. Complete Fundoplication be used for patients with GERD who have preop dysmotility?

POPULATION:	patients with GERD who have preop dysmotility
INTERVENTION:	Partial Fundoplication
COMPARISON:	Complete Fundoplication
MAIN OUTCOMES:	Complete Symptom Resolution - Long Term (>1yr); Objective reflux recurrence - Long Term (>1yr); Dysphagia - Patient Reported;
SETTING:	
PERSPECTIVE:	<b>PATIENT CENTERED</b>
BACKGROUND:	
CONFLICT OF INTERESTS:	

### ASSESSMENT

Problem																		
Is the problem a priority?																		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS																
<ul style="list-style-type: none"> <li><input type="radio"/> No</li> <li><input type="radio"/> Probably no</li> <li><input type="radio"/> Probably yes</li> <li><input checked="" type="radio"/> <b>Yes</b></li> <li><input type="radio"/> Varies</li> <li><input type="radio"/> Don't know</li> </ul>																		
Desirable Effects																		
How substantial are the desirable anticipated effects?																		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS																
<ul style="list-style-type: none"> <li><input type="radio"/> Trivial</li> <li><input type="radio"/> Small</li> <li><input checked="" type="radio"/> <b>Moderate</b></li> <li><input type="radio"/> Large</li> <li><input type="radio"/> Varies</li> <li><input type="radio"/> Don't know</li> </ul> <p>Vote: 100% Moderate</p>	<p>At two year follow up, dysmotility patients in the Fibbe trial who had undergone partial fundoplication had slightly more patients with reflux symptom resolution than the complete fundoplication group. And although there is some clinical benefit, the confidence interval ranges from small benefits to small harms.</p> <p>Across three RCTs, patients who had pre-existing dysmotility had significantly decreased rates of patient reported fundoplication after partial wrap compared to when patients with dysmotility underwent complete wrap.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Outcomes</th> <th rowspan="2">№ of participants (studies) Follow up</th> <th rowspan="2">Certainty of the evidence (GRADE)</th> <th rowspan="2">Relative effect (95% CI)</th> <th colspan="2">Anticipated absolute effects* (95% CI)</th> </tr> <tr> <th>Risk with Complete Fundoplication</th> <th>Risk difference with Partial Fundoplication</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Complete Symptom Resolution - Long Term (&gt;1yr)</td> <td rowspan="2">100 (1 RCT)</td> <td rowspan="2">⊕⊕○○ LOW<sup>a</sup></td> <td rowspan="2">RR 1.08 (0.88 to 1.32)</td> <td colspan="2">Study population</td> </tr> <tr> <td>760 per 1,000</td> <td><b>61 more per 1,000</b> (91 fewer to 243 more)</td> </tr> </tbody> </table>	Outcomes	№ of participants (studies) Follow up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects* (95% CI)		Risk with Complete Fundoplication	Risk difference with Partial Fundoplication	Complete Symptom Resolution - Long Term (>1yr)	100 (1 RCT)	⊕⊕○○ LOW <sup>a</sup>	RR 1.08 (0.88 to 1.32)	Study population		760 per 1,000	<b>61 more per 1,000</b> (91 fewer to 243 more)	
Outcomes	№ of participants (studies) Follow up					Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects* (95% CI)										
		Risk with Complete Fundoplication	Risk difference with Partial Fundoplication															
Complete Symptom Resolution - Long Term (>1yr)	100 (1 RCT)	⊕⊕○○ LOW <sup>a</sup>	RR 1.08 (0.88 to 1.32)	Study population														
				760 per 1,000	<b>61 more per 1,000</b> (91 fewer to 243 more)													

Dysphagia - Patient Reported	173 (3 RCTs)	⊕⊕⊕○ MODERATE <sup>b,c</sup>	RR 0.53 (0.30 to 0.93)	Study population	
				307 per 1,000	<b>144 fewer per 1,000</b> (215 fewer to 21 fewer)
<p>a. Wide confidence interval and very small sample size</p> <p>b. Findings of from low risk of bias studies consistent with other trials</p> <p>c. This outcome had both a small sample size and a small event size, increasing its imprecision.</p>					

## Undesirable Effects

How substantial are the undesirable anticipated effects?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS														
<ul style="list-style-type: none"> <li><input type="radio"/> Large</li> <li><input type="radio"/> Moderate</li> <li><input type="radio"/> Small</li> <li><input checked="" type="radio"/> <b>Trivial</b></li> <li><input type="radio"/> Varies</li> <li><input type="radio"/> Don't know</li> </ul> <p>Vote: 5/6 83% Trivial</p>	<p>After a mean follow up of about 3 years, patients who had a complete wrap had a lower median DeMeester score compared to those who had received a partial wrap.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Outcomes</th> <th rowspan="2">№ of participants (studies) Follow up</th> <th rowspan="2">Certainty of the evidence (GRADE)</th> <th rowspan="2">Relative effect (95% CI)</th> <th colspan="2">Anticipated absolute effects* (95% CI)</th> </tr> <tr> <th>Risk with Complete Fundoplication</th> <th>Risk difference with Partial Fundoplication</th> </tr> </thead> <tbody> <tr> <td>Objective reflux recurrence - Long Term (&gt;1yr) assessed with: Median DeMeester Score postop</td> <td>17.6 (1 observational study)</td> <td>⊕○○○ VERY LOW<sup>a,b</sup></td> <td>-</td> <td>The mean objective reflux recurrence - Long Term (&gt;1yr) was 0</td> <td>MD 5 higher (22.59 lower to 32.59 higher)</td> </tr> </tbody> </table> <p>a. This study was deemed to be high risk of bias due to unreported baseline group characteristics and failure to statistically control for any differences.</p> <p>b. This study had a very small sample size and a very large confidence interval which significantly increases its imprecision.</p>	Outcomes	№ of participants (studies) Follow up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects* (95% CI)		Risk with Complete Fundoplication	Risk difference with Partial Fundoplication	Objective reflux recurrence - Long Term (>1yr) assessed with: Median DeMeester Score postop	17.6 (1 observational study)	⊕○○○ VERY LOW <sup>a,b</sup>	-	The mean objective reflux recurrence - Long Term (>1yr) was 0	MD 5 higher (22.59 lower to 32.59 higher)	
Outcomes	№ of participants (studies) Follow up					Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects* (95% CI)								
		Risk with Complete Fundoplication	Risk difference with Partial Fundoplication													
Objective reflux recurrence - Long Term (>1yr) assessed with: Median DeMeester Score postop	17.6 (1 observational study)	⊕○○○ VERY LOW <sup>a,b</sup>	-	The mean objective reflux recurrence - Long Term (>1yr) was 0	MD 5 higher (22.59 lower to 32.59 higher)											

## Certainty of evidence

What is the overall certainty of the evidence of effects?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS												
<ul style="list-style-type: none"> <li><input type="radio"/> Very low</li> <li><input checked="" type="radio"/> <b>Low</b></li> <li><input type="radio"/> Moderate</li> <li><input type="radio"/> High</li> <li><input type="radio"/> No included studies</li> </ul> <p>Vote: 5/6 83% Low</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Outcomes</th> <th>Importance</th> <th>Certainty of the evidence (GRADE)</th> </tr> </thead> <tbody> <tr> <td>Complete Symptom Resolution - Long Term (&gt;1yr)</td> <td>CRITICAL</td> <td>⊕⊕○○ LOW<sup>a</sup></td> </tr> <tr> <td>Objective reflux recurrence - Long Term (&gt;1yr) assessed with: Median DeMeester Score postop</td> <td>CRITICAL</td> <td>⊕○○○ VERY LOW<sup>b,c</sup></td> </tr> <tr> <td>Dysphagia - Patient Reported</td> <td>CRITICAL</td> <td>⊕⊕⊕○ MODERATE<sup>d,e</sup></td> </tr> </tbody> </table> <p>a. Wide confidence interval and very small sample size</p> <p>b. This study was deemed to be high risk of bias due to unreported baseline group characteristics and failure to statistically control for any differences.</p>	Outcomes	Importance	Certainty of the evidence (GRADE)	Complete Symptom Resolution - Long Term (>1yr)	CRITICAL	⊕⊕○○ LOW <sup>a</sup>	Objective reflux recurrence - Long Term (>1yr) assessed with: Median DeMeester Score postop	CRITICAL	⊕○○○ VERY LOW <sup>b,c</sup>	Dysphagia - Patient Reported	CRITICAL	⊕⊕⊕○ MODERATE <sup>d,e</sup>	
Outcomes	Importance	Certainty of the evidence (GRADE)												
Complete Symptom Resolution - Long Term (>1yr)	CRITICAL	⊕⊕○○ LOW <sup>a</sup>												
Objective reflux recurrence - Long Term (>1yr) assessed with: Median DeMeester Score postop	CRITICAL	⊕○○○ VERY LOW <sup>b,c</sup>												
Dysphagia - Patient Reported	CRITICAL	⊕⊕⊕○ MODERATE <sup>d,e</sup>												

	<ul style="list-style-type: none"> <li>c. This study had a very small sample size and a very large confidence interval which significantly increases its imprecision.</li> <li>d. Findings of from low risk of bias studies consistent with other trials</li> <li>e. This outcome had both a small sample size and a small event size, increasing its imprecision.</li> </ul>	
--	---	--

## Values

Is there important uncertainty about or variability in how much people value the main outcomes?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <li><input type="radio"/> Important uncertainty or variability</li> <li><input checked="" type="radio"/> <b>Possibly important uncertainty or variability</b></li> <li><input type="radio"/> Probably no important uncertainty or variability</li> <li><input type="radio"/> No important uncertainty or variability</li> </ul> <p>Vote: 5/6 83% Possibly important</p>		<p>Lung transplant with scleroderma will put more importance on reflux control</p> <p>Patients with dysmotility due to the degree of esophagitis vs. those with underlying functional disorders</p>

## Balance of effects

Does the balance between desirable and undesirable effects favor the intervention or the comparison?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <li><input type="radio"/> Favors the comparison</li> <li><input type="radio"/> Probably favors the comparison</li> <li><input type="radio"/> Does not favor either the intervention or the comparison</li> <li><input type="radio"/> Probably favors the intervention</li> <li><input checked="" type="radio"/> <b>Favors the intervention</b></li> <li><input type="radio"/> Varies</li> <li><input type="radio"/> Don't know</li> </ul> <p>Vote: 5/6 83% Favors intervention</p>		

## Acceptability

Is the intervention acceptable to key stakeholders?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <li><input type="radio"/> No</li> <li><input type="radio"/> Probably no</li> <li><input type="radio"/> Probably yes</li> <li><input checked="" type="radio"/> <b>Yes</b></li> <li><input type="radio"/> Varies</li> <li><input type="radio"/> Don't know</li> </ul> <p>Vote: 5/6 83% Yes</p>		

## Feasibility

Is the intervention feasible to implement?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <li><input type="radio"/> No</li> <li><input type="radio"/> Probably no</li> <li><input type="radio"/> Probably yes</li> <li><input checked="" type="radio"/> <b>Yes</b></li> </ul>		



<input type="radio"/> Varies <input type="radio"/> Don't know Vote: 100% Yes		
--	--	--

**SUMMARY OF JUDGEMENTS**

	JUDGEMENT						
<b>PROBLEM</b>	No	Probably no	Probably yes	<b>Yes</b>		Varies	Don't know
<b>DESIRABLE EFFECTS</b>	Trivial	Small	<b>Moderate</b>	Large		Varies	Don't know
<b>UNDESIRABLE EFFECTS</b>	Large	Moderate	Small	<b>Trivial</b>		Varies	Don't know
<b>CERTAINTY OF EVIDENCE</b>	Very low	<b>Low</b>	Moderate	High			No included studies
<b>VALUES</b>	Important uncertainty or variability	<b>Possibly important uncertainty or variability</b>	Probably no important uncertainty or variability	No important uncertainty or variability			
<b>BALANCE OF EFFECTS</b>	Favors the comparison	Probably favors the comparison	Does not favor either the intervention or the comparison	Probably favors the intervention	<b>Favors the intervention</b>	Varies	Don't know
<b>ACCEPTABILITY</b>	No	Probably no	Probably yes	<b>Yes</b>		Varies	Don't know
<b>FEASIBILITY</b>	No	Probably no	Probably yes	<b>Yes</b>		Varies	Don't know

**TYPE OF RECOMMENDATION – Vote 100%**

Strong recommendation against the intervention <input type="radio"/>	Conditional recommendation against the intervention <input type="radio"/>	Conditional recommendation for either the intervention or the comparison <input type="radio"/>	<b>Conditional recommendation for the intervention</b> <input checked="" type="radio"/>	Strong recommendation for the intervention <input type="radio"/>
---	--	---	--	---

**CONCLUSIONS**

Recommendation

Justification

There is no standard definition of dysmotility and so the author’s definition of abnormal motility  
 This population will most likely favor the absence of side effects over the absence of reflux symptoms

Subgroup considerations

It is important to recognize that patients may have manometric findings of dysmotility who may or may not have symptoms of dysphagia, which would affect outcomes.

Implementation considerations

Monitoring and evaluation

Research priorities

Developing specific manometric criteria that define dysmotility

Long term objective assessments of reflux control are just as important in this group as it is in patients with normal motility who undergo fundoplication