

Summary of Ventral Hernia Meta-Analysis Findings

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I searched the Cochrane Database, EAST Practice Management Guidelines, and PubMed for systematic reviews and meta-analyses that discussed ventral and incisional hernia repairs. I manually reviewed all titles to choose appropriate papers, then reviewed abstracts of chosen papers to select included references. Based on prior knowledge I added an additional meta-analysis which did not appear in the other searches. Based on the results given in the included references¹⁻¹⁵, I then coded individual comparison groups and outcomes as favoring the first or second cohort compared or as lacking statistical significance; where no pooled analysis was performed or data were abstracted from a single study, results were omitted. Additionally, one study¹⁴ was found in a later comment¹⁶ to contain an error, which was confirmed in a reply by the authors¹⁷.

Please note that this is only a summary of available systematic reviews and meta-analyses, and a rather naive one at that. No additional meta-analysis was performed, papers reviewed by the individual references likely overlap, and some references are almost certainly more pertinent and powerful than others. Outcomes and comparisons that are similar between papers are likely heterogeneously defined.

In the Table, green cells describe findings showing benefit for the first intervention in a comparison (e.g., for "lap vs open" in most references, the "wound infection/complication" cell is green demonstrating the laparoscopic approach was found to have fewer wound complications). Red cells are the opposite, demonstrating a benefit to the second intervention. Please note that these may be different than some studies' use of the term "favoring" one intervention over another which may cause confusion; the choice of first versus second intervention here is based on which is considered "better" rather than which has a higher number. Yellow cells found no statistically significant difference (NS) in the comparison, and cells are left blank if the comparison or outcome was not evaluated in the given reference or rely on a single study. For outcomes or comparisons evaluated in only one reference, no columns are included.

References

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Version History

This is version 20180407-1, last updated on 7 April 2018. The latest version is available at <https://jonessurgery.com/hernias>.

Version 20180407-1 added the comment from Jensen & Jorgensen¹⁶ & reply by Awaiz et al¹⁷.

Version 20180406-1 was the first version released to the public.

Reference	Laparoscopic vs Open										Primary Repair vs Mesh		Onlay vs Sublay		
	Recurrence	Bowel Injury	Wound Infection	Mesh Infection	Seroma/Hematoma	Bleeding	Any Complication	Reoperation	Pain	OR time	LOS	Recurrence	Infection	Recurrence	Infection
Goodney 2002 ¹							Lap			NS	Lap				
Sains 2006 ²	NS		NS							Open	Lap				
Pierce 2007 ³	Lap	NS	Lap	Lap	NS		Lap		Open	NS	Lap				
Forbes 2009 ⁴	NS	NS	Lap	NS	NS	NS									
Sajid 2009 ⁵	NS						Lap		NS	NS	Lap				
Den Hartog 2011 ⁶											Mesh	Primary	NS		
Sauerland 2011 ⁷	NS	NS	Lap	NS	NS		NS	NS	NS						
Castro 2014 ⁸		Open	Lap		Lap				Open	Open	Lap				
Nguyen 2014 ⁹											Mesh	NS			
Timmermans 2014 ¹⁰														NS	Sublay
Zhang 2014 ¹¹	NS	Open	Lap		NS	NS		NS							
Al Chalabi 2015 ¹²	NS		Lap							NS	NS				
Arita 2015 ¹³	NS		Lap												
Awaiz 2015 ¹⁴	NS	Open	Lap*		NS		NS	NS		NS	NS				
Holihan 2015 ¹⁵														Sublay	Sublay

Table. A brief summary of findings from meta-analyses of ventral hernia repairs. Yellow cells signify no significant difference between comparators; green cells signify better outcomes (e.g., less pain and lower recurrence rate) in the first group; red cells signify better outcomes in the second group. *Later corrected^{16,17}; this table shows the corrected version.