Complex Ventral Hernia Repair in Contaminated Fields: A Propensity-Score Matched Analysis of Long-term Quality-of-Life and Outcomes Between Different Prostheses.

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Disclosures

- **FM:** Intuitive, Medtronic, BD, Integra, Allergan and DeepBlue

- The rest of the authors have no relevant disclosures.

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Background

- Optimal hernia repair in contaminated fields is controversial

Durability

Complications

- Unclear which approach better improves **patient satisfaction**

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JAMA Surgery | Original Investigation

Biologic vs Synthetic Mesh for Single-stage Repair of Contaminated Ventral Hernias

A Randomized Clinical Trial

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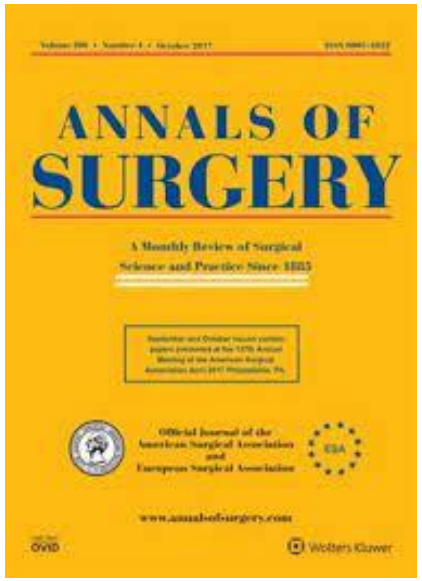

RANDOMIZED CONTROLLED TRIAL

Preventing Recurrence in Clean and Contaminated Hernias Using Biologic Versus Synthetic Mesh in Ventral Hernia Repair

The PRICE Randomized Clinical Trial

Hobart W. Harris, MD, MPH,✉ Frank Primus, MD,* Charlotte Young, BA,* Jonathan T. Carter, MD,* Matthew Lin, MD,* Rita A. Mukhtar, MD,* Benjamin Yeh, MD,† Isabel E. Allen, PhD,‡ Chris Freise, MD,* Esther Kim, MD,* Hani Sbitany, MD,* David M. Young, MD,* and Scott Hansen, MD**

Permanent vs Absorbable Mesh for Ventral Hernia Repair in Contaminated Fields: Multicenter Propensity-Matched Analysis of 1-Year Outcomes Using the Abdominal Core Health Quality Collaborative Database

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Surgical Endoscopy
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2023 SAGES POSTER

Slowly absorbable mesh in sublay ventral hernia repair in contaminated fields

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Study Question

- Is there a long-term difference in patient-reported outcomes between different prostheses in contaminated ventral hernia repair?

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Objective

- Evaluate long-term outcomes of complex ventral hernia repair in contaminated fields focusing on:

Quality of life

Pain sores

- Measured at baseline ar
from baseline

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Methods

- Abdominal Core Health Quality Collaborative (ACHQC)
- 118,868 patients
- 460 institutions from the United States
- Follow-up available up

Methods

- Inclusion criteria:
  - Ventral hernia repairs with mesh (2013-2023)
  - CDC class II-IV
  - Elective operations
  - 30-day follow up information available

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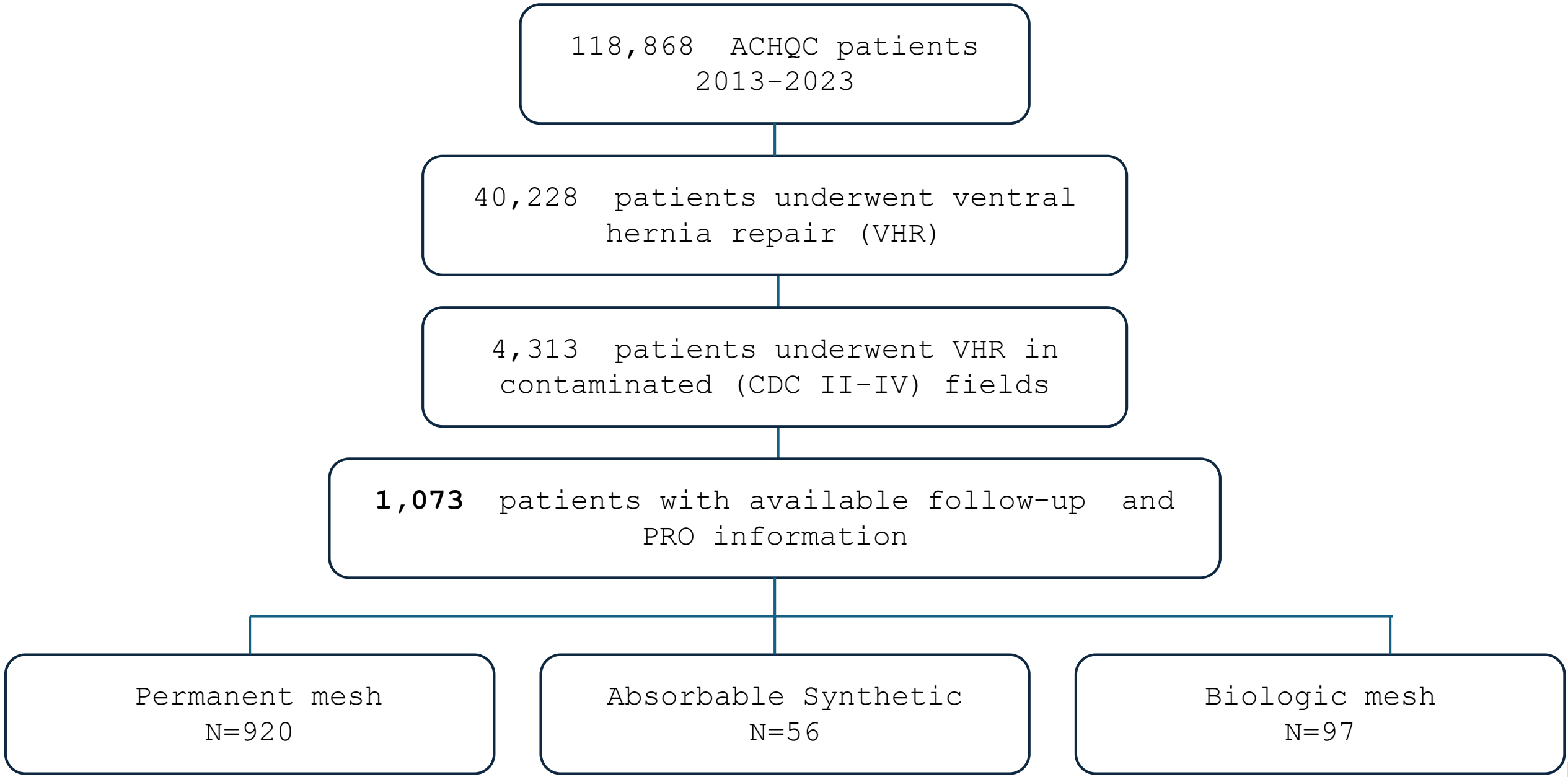

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Outcomes

PROMIS 3A Pain intensity

- How would you rate your pain on average?
- What is the highest level of pain you experienced?
- How would you rate your current pain?

In the last 7 days:

NIH PROMIS (2015)

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Outcomes

PROMIS 3A Pain intensity

- NIH-Patient Reported Outcomes Measurement Information System
- 3 questions
- T distribution (Mean 50 / SD 10)
- Higher scores = increased pain
- Validated in hernia studies

NIH PROMIS (2015)

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Outcomes

HerQLes Questionnaire

- Hernia Related Quality of Life (QoL) Survey
- Score 0-100
- 15.6 points considered “minimal clinically relevant difference”
- Higher scores = increased QoL
- Validated in hernia

Krpata et. Al JACS (2015)

Renshaw et. Al JACS

For the following statements, please circle the number that is most appropriate for you.	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1. My **abdominal wall** has a huge impact on my health	1	2	3	4	5	6
2. My **abdominal wall** causes me physical pain	1	2	3	4	5	6
3. My **abdominal wall** interferes when I perform strenuous activities, e.g. heavy lifting	1	2	3	4	5	6
4. My **abdominal wall** interferes when I perform moderate activities, e.g. bowling, bending over	1	2	3	4	5	6
5. My **abdominal wall** interferes when I walk or climb stairs	1	2	3	4	5	6
6. My **abdominal wall** interferes when I dress myself, take showers and cook	1	2	3	4	5	6
7. My **abdominal wall** interferes with my sexual activity	1	2	3	4	5	6
8. I often stay at home because of my **abdominal wall**	1	2	3	4	5	6
9. I accomplish less at home because of my **abdominal wall**	1	2	3	4	5	6
10. I accomplish less at work because of my **abdominal wall**	1	2	3	4	5	6
11. My **abdominal wall** affects how I feel every day	1	2	3	4	5	6
12. I often feel blue because of my **abdominal wall**	1	2	3	4	5	6

Renshaw et. Al JACS

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Results

- A total of 1,073 patients included
- Median age 62 years (IQR 53-70)
- 8% of active smokers
- Median BMI 32 (IQR 28-36)
- 48% recurrent hernias (median of 2 prior repairs)

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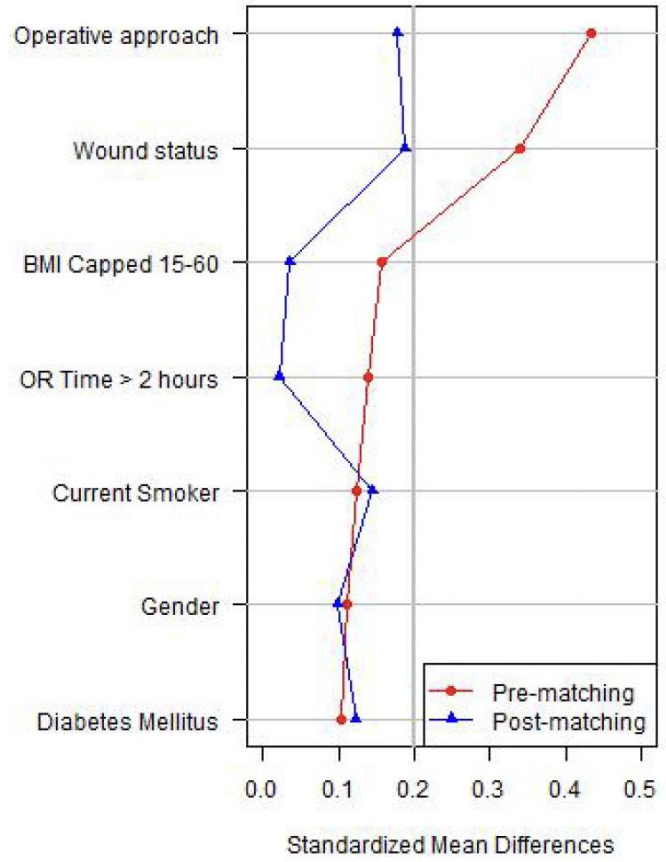
General characteristics of the study cohort		
Type of approach , N (%)		
	Open	899 (84)
	Laparoscopic	49 (5)
	Robotic	125 (12)
Wound class, N (%)		
	II	679 (63)
	III	358 (33)
	IV	36 (3)
Defect size in cm (median, IQR)		
	Width	20 (12-25)
	Length	13 (8-16)
Underwent TAR, N (%)		
	Yes	716 (67)
Mesh position, N (%)		
	Onlay	74 (7)
	Inlay	27 (3)
	Sublay	972 (91)
Type of sublay repair, N (%)		
	Retro-rectus	826 (85)
	Preperitoneal	434 (45)
	Intraperitoneal	116 (12)

General characteristics of the study cohort				
	Permanent (N=920)	Absorbable Synthetic (N=56)	Biologic (N=97)	p-value
Age (median, IQR)	62 (53-70)	60 (51-64)	59 (47-69)	0.009
Type of approach , N (%)				
Open	772 (84)	50 (89)	95 (98)	<0.001
MIS	148 (16)	6 (11)	2 (2)	
Wound class, N (%)				
II	597 (65)	35 (62)	47 (48)	<0.001
III	310 (34)	16 (29)	32 (33)	
IV	13 (1)	5 (9)	18 (19)	
Defect size in cm (median, IQR)				
Width	20 (13-25)	17 (7-25)	17 (12-23)	0.039
Length	13 (8-16)	10 (6-15)	12 (8-15)	0.44
Mesh position, N (%)				
Onlay	66 (7)	6 (11)	2 (2)	<0.001
Inlay	10 (1)	11 (20)	6 (6)	
Sublay	844 (92)	39 (70)	89 (92)	

Propensity-score matching

- A total of 280 patients included
  - Gender
  - Diabetes
  - BMI
  - Smoking status
  - Operative times
  - Surgical approach



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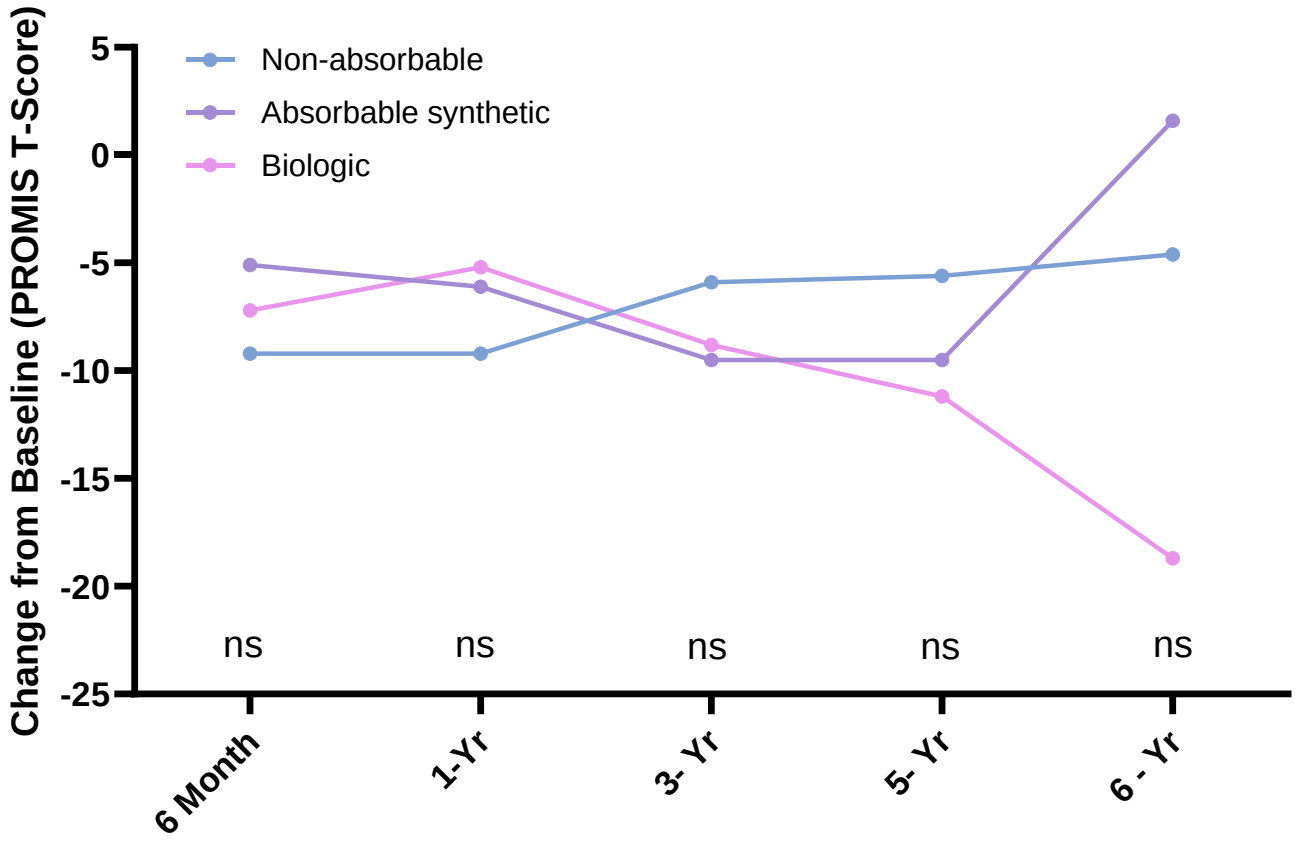
PROMIS 3A Pain



N=125 N=114 N=55

N=26 N=12

- No differences in patient reported pain at 6 months, 1-, 3-, 5-, and 6-year follow-up

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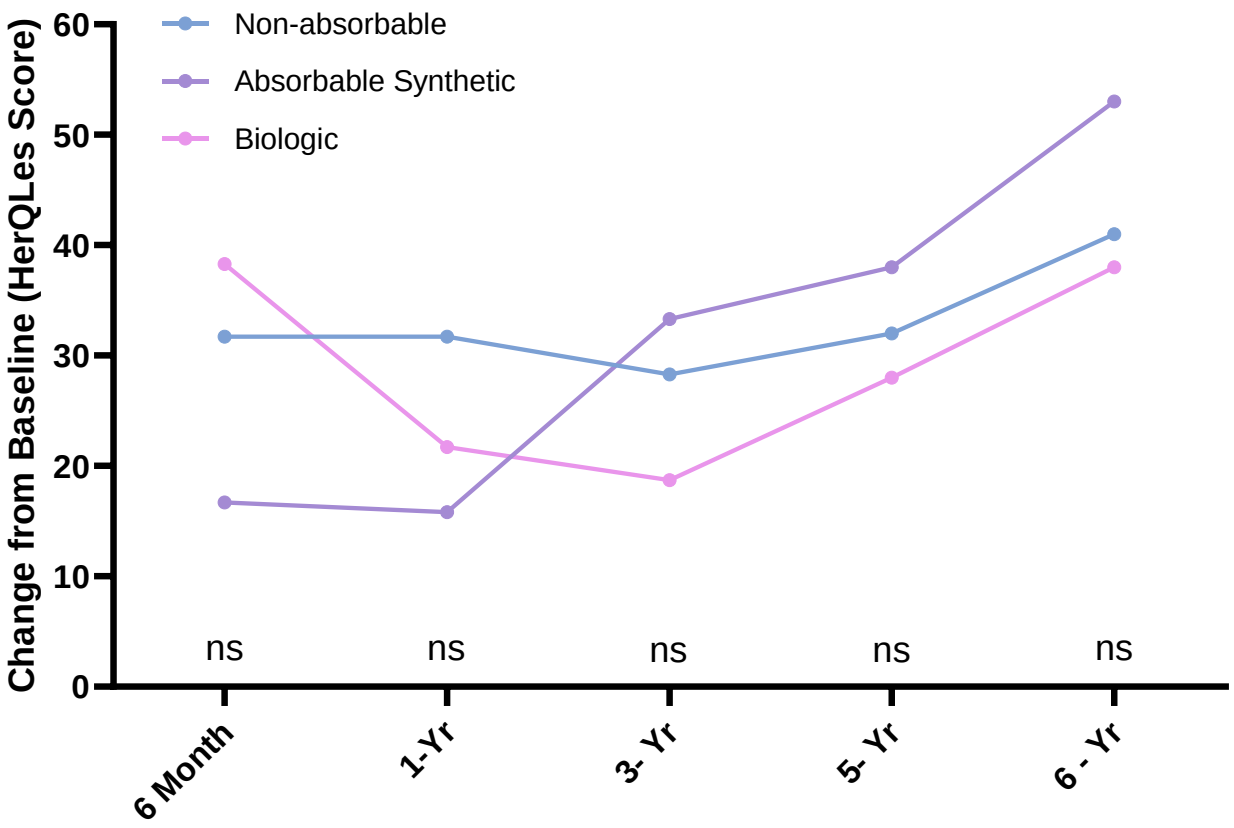
HerQLes Score



- No differences in quality of life at 6 months, 1-, 3-, 5-, and 6- year follow-up

Results

Other postoperative outcomes in the propensity-matched cohort.				
	Permanent (N=168)	**Absorbable Synthetic (N=56)**	**Biologic (N=56)**	**p-value**
30-day readmission, N (%)	15 (9)	6 (11)	9 (16)	0.33
30-day SSI, N (%)	15 (9)	3 (5)	7 (12)	0.41
30-day SSO, N (%)	23 (14)	5 (9)	8 (14)	0.61
1-Year Recurrence, N (%)	13 (16)	7 (35)	13 (45)	**0.006**

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Limitations

- Retrospective data
- Heterogeneity in patient characteristics
- Different grades of contamination among wound classes
- Limited number of patients with longer-term follow-up
- Abdominal wall specialists entering data into ACHQC

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Conclusions

- No differences in quality of life or patient-reported pain scores by type of mesh in contaminated ventral hernia surgery at up to 6-year follow-up
- No differences in other postoperative outcomes

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Take home message

- This multicentric study, with extended follow-up data, continues to support that the use of mesh in contaminated fields is safe and effective in improving patient symptoms and quality of life

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Thank you!

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