

Mesh placement and patient-reported outcomes in primary ventral hernia repair: a nationwide survey- and register-based study

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Table S1

Unadjusted mean/prevalence and differences by mesh placement

	Unadjusted mean/prevalence	Unadjusted difference	
	Estimate (95% CI)	Estimate (95% CI)	p-value
AHQ sum score			
Onlay	57.7 (57.6 to 57.9)	Reference	—
Retromuscular	57.8 (57.3 to 58.3)	0.1 (−0.5 to 0.6)	.757
Preperitoneal	58.7 (58.4 to 58.9)	0.9 (0.6 to 1.3)	< .001
Intraperitoneal	58.0 (57.7 to 58.2)	0.2 (−0.1 to 0.5)	.208
Severe chronic pain (%)			
Onlay	11.6 (10.7 to 12.5)	Reference	—
Retromuscular	11.9 (9.5 to 14.3)	0.3 (−2.3 to 2.8)	.831
Preperitoneal	8.7 (7.6 to 9.8)	−3.0 (−4.4 to −1.5)	< .001
Intraperitoneal	11.2 (10.0 to 12.4)	−0.4 (−1.9 to 1.1)	.585
Foreign body sensation (%)			
Onlay	25.0 (23.7 to 26.2)	Reference	—
Retromuscular	21.7 (18.7 to 24.7)	−3.2 (−6.5 to 0.0)	.051
Preperitoneal	20.4 (18.8 to 22.0)	−4.5 (−6.5 to −2.5)	< .001
Intraperitoneal	21.8 (20.2 to 23.4)	−3.1 (−5.2 to −1.1)	.002

Linear regression was applied for the AHQ sum score, and logistic regression for the prevalence of severe chronic pain and foreign body sensation. AHQ, Abdominal Hernia-Q; CI, confidence interval.

Table S2

Abdominal Hernia-Q (AHQ) sum scores by mesh placement after exclusion of AHQ-domains unrelated to mesh placement (Surgical Team and Preparedness; items 3a, 4a, 5a, 6a, and 7a)

	Adjusted mean	Adjusted difference	
	Estimate (95% CI)	Estimate (95% CI)	p-value
Onlay	41.3 (41.2 to 41.4)	Reference	—
Retromuscular	41.3 (41.0 to 41.6)	0.0 (−0.3 to 0.3)	.995
Preperitoneal	42.0 (41.9 to 42.2)	0.8 (0.6 to 0.9)	< .001
Intraperitoneal	41.5 (41.3 to 41.7)	0.2 (0.1 to 0.4)	.048

The modified AHQ sum score ranges from 11 to 44, with higher scores indicating better outcomes. Findings were consistent with the main analysis; however, intraperitoneal mesh was also associated with a higher AHQ sum score compared with onlay mesh, although the difference was very small. AHQ, Abdominal Hernia-Q; CI, confidence interval.

Table S3

Abdominal Hernia-Q (AHQ) sum scores by mesh placement after exclusion of patients with self-reported recurrence

	Adjusted mean	Adjusted difference	
	Estimate (95% CI)	Estimate (95% CI)	p-value
Onlay	58.6 (58.5 to 58.8)	Reference	—
Retromuscular	58.7 (58.2 to 59.1)	0.1 (−0.5 to 0.5)	.943
Preperitoneal	59.5 (59.3 to 59.7)	0.8 (0.6 to 1.1)	< .001
Intraperitoneal	59.2 (58.9 to 59.4)	0.5 (0.2 to 0.8)	.001

Findings were consistent with the main analysis; however, intraperitoneal mesh was also associated with a higher AHQ sum score compared with onlay mesh, although the difference was small. AHQ, Abdominal Hernia-Q; CI, confidence interval.

Table S4

Abdominal Hernia-Q (AHQ) sum scores by mesh placement after exclusion of patients treated with Physiomesher™

	Adjusted mean	Adjusted difference	
	Estimate (95% CI)	Estimate (95% CI)	p-value
Onlay	57.7 (57.5 to 57.9)	Reference	—
Retromuscular	57.8 (57.3 to 58.3)	0.1 (−0.5 to 0.6)	.837
Preperitoneal	58.7 (58.4 to 58.9)	0.9 (0.6 to 1.2)	< .001
Intraperitoneal	58.0 (57.8 to 58.3)	0.3 (0.0 to 0.7)	.082

Findings were consistent with the main analysis. CI, confidence interval.

Table S5

Abdominal Hernia-Q (AHQ) sum scores by mesh placement adjusted for surgeon specialization level (specialist, non-specialist, supervised non-specialist)

	Adjusted mean	Adjusted difference	
	Estimate (95% CI)	Estimate (95% CI)	p-value
Onlay	57.6 (57.1 to 58.1)	Reference	—
Retromuscular	57.6 (56.7 to 58.6)	0.1 (−1.0 to 1.1)	.921
Preperitoneal	58.5 (57.8 to 59.2)	0.9 (0.1 to 1.7)	.028
Intraperitoneal	57.8 (57.1 to 58.4)	0.2 (−0.6 to 1.0)	.614

Information on surgeon ID and supervision was introduced into the Danish Ventral Hernia Database in 2017, resulting in missing data for earlier years. Surgeons were classified as specialists if they were registered in general or plastic surgery and had completed specialization at the time of repair. This subgroup analysis was based on complete cases without imputation for missing data (Table 1). Findings were consistent with the main analysis. CI, confidence interval.

Table S6

Abdominal Hernia-Q (AHQ) sum scores by mesh placement after exclusion of intraperitoneal mesh repairs without defect closure

	Adjusted mean	Adjusted difference	
	Estimate (95% CI)	Estimate (95% CI)	p-value
Onlay	57.7 (57.6 to 57.9)	Reference	—
Retromuscular	57.8 (57.3 to 58.3)	0.1 (−0.5 to 0.6)	.872
Preperitoneal	58.7 (58.5 to 58.9)	0.9 (0.7 to 1.2)	< .001
Intraperitoneal	58.1 (57.8 to 58.5)	0.4 (0.0 to 0.8)	.075

Findings were consistent with the main analysis. CI, confidence interval.

Table S7

Abdominal Hernia-Q (AHQ) sum scores by mesh placement using inverse probability weighting

	Adjusted mean	Adjusted difference	
	Estimate (95% CI)	Estimate (95% CI)	p-value
Onlay	57.7 (57.5 to 57.9)	Reference	—
Retromuscular	58.0 (57.5 to 58.6)	0.3 (−0.3 to 0.9)	.318
Preperitoneal	58.6 (58.4 to 58.9)	0.9 (0.6 to 1.2)	< .001
Intraperitoneal	57.8 (57.4 to 58.3)	0.1 (−0.4 to 0.5)	.808

Findings were consistent with the main analysis. CI, confidence interval.