

Supplementary Material

10.1302/0301-620X.105B4.BJJ-2022-0704.R1

Table i. Baseline characteristics for all included patients, stratified by the number of previous operations

Variable	All included cases	Previous operations				
		None	One	Two	Three	Four or more
Total, n	26,723	20,412	4,107	1,137	336	128
Age, yrs						
Mean (95% CI)	56.5 (56.3 to 56.7)	56.0 (55.7 to 56.2)	58.0 (57.6 to 58.5)	58.3 (57.5 to 59.2)	61.2 (59.9 to 62.6)	61.4 (59.2 to 63.6)
Missing, n (%)	74 (0.3)					
Sex, n (%)						
Male	14,047 (52.6)	10,577 (51.8)	2,250 (54.8)	625 (55.0)	191 (56.8)	67 (52.3)
Female	12,676 (47.4)	9,838 (48.2)	1,857 (45.2)	512 (45.0)	145 (43.2)	61 (47.7)
Smoking status, n (%)						
Smoker	5,624 (21.0)	4,160 (20.4)	939 (22.9)	259 (22.8)	85 (25.3)	26 (20.3)
Non-smoker	20,864 (78.1)	16,068 (78.7)	3,132 (76.3)	869 (76.4)	249 (74.1)	101 (78.9)

Missing	235 (0.9)					
Level of education, n (%)						
Primary school or equivalent	5,302 (19.8)	3,977 (19.5)	853 (20.8)	245 (21.5)	76 (22.6)	29 (22.7)
High school	11,766 (44.0)	8,908 (43.6)	1,851 (45.1)	529 (46.5)	145 (43.1)	55 (42.9)
College/university	9,339 (34.9)	7,284 (35.7)	1,356 (33.0)	356 (31.3)	110 (32.7)	39 (30.5)
Missing	316 (1.2)					
Marital status, n (%)	16,084 (60.2)	12,187 (59.7)	2551 (62.1)	704 (61.9)	210 (62.5)	75 (58.6)
Married						
Cohabitant	4,068 (15.2)	3,127 (15.3)	596 (14.5)	186 (16.4)	41 (12.2)	17 (13.3)
Single	6,415 (24.0)	4,970 (24.3)	937 (22.8)	245 (21.5)	84 (25.0)	36 (28.1)
Missing	156 (0.6)					
Native language, n (%)						
Norwegian	25,270 (94.6)	19,241 (94.3)	3,911 (95.2)	1,095 (96.3)	321 (95.5)	126 (98.4)
Sami	28 (0.1)	24 (0.1)	4 (0.1)	0	0	0
Other	1,324 (5.0)	1,065 (5.2)	181 (4.4)	37 (3.3)	14 (4.2)	2 (1.6)
Missing	101 (0.4)					
Mean BMI, kg/m² (95 % CI)	27.2 (27.1 to 27.2)	27.1 (27.0 to 27.1)	27.5 (27.4 to 27.6)	27.7 (27.4 to 28.0)	27.4 (26.9 to 27.9)	27.6 (26.7 to 28.5)
Missing, n (%)	1,533 (5.7)					
Working status, n (%)						
Working	4,820 (18.0)	3,892 (19.1)	646 (15.7)	137 (12.0)	30 (8.9)	19 (14.8)
Homemaker	408 (1.5)	312 (1.5)	65 (1.6)	19 (1.7)	4 (1.2)	1 (0.8)
Student	315 (1.2)	280 (1.4)	24 (0.6)	6 (0.5)	1 (0.3)	0
Pensioner	8,149 (30.5)	6,164 (30.2)	1,295 (31.5)	366 (32.2)	113 (33.6)	39 (30.5)
Unemployed	241 (0.9)	181 (0.9)	43 (1.0)	11 (1.0)	2 (0.6)	1 (0.8)
Sick leave (full or partial)	8,117 (30.5)	6,453 (31.6)	1,128 (27.5)	283 (24.9)	56 (16.7)	12 (9.3)

Work assessment allowance	972 (3.6)	1,973 (9.7)	562 (13.7)	225 (19.8)	25 (7.4)	7 (5.5)
Disability pension	2,993 (11.2)	618 (3.0)	228 (5.6)	76 (6.7)	96 (28.6)	47 (36.7)
Missing	708 (2.6)					
Applied for disability pension, n %						
Yes	554 (2.1)	378 (1.9)	114 (2.8)	27 (2.4)	16 (4.8)	7 (5.5)
No	20,122 (75.3)	15,878 (77.8)	2,886 (70.0)	719 (63.2)	177 (52.7)	49 (38.3)
Planning to apply	465 (1.7)	312 (1.5)	101 (2.5)	29 (2.6)	6 (1.8)	4 (3.1)
Already granted	3,197 (12.0)	2,117 (10.4)	590 (14.4)	239 (21.0)	99 (29.5)	51 (39.8)
Missing	2,385 (8.9)					
Mean NRS back pain (95% CI)	6.4 (6.3 to 6.4)	6.3 (6.2 to 6.3)	6.60 (6.5 to 6.7)	7.0 (6.9 to 7.2)	7.1 (6.9 to 7.4)	7.2 (6.7 to 7.6)
Missing, n (%)	1,190 (4.1)					
Mean NRS leg pain (95% CI)	6.7 (6.73 to 6.7)	6.7 (6.63 to 6.7)	6.9 (6.83 to 7.0)	7.0 (6.93 to 7.2)	7.2 (6.93 to 7.4)	7.1 (6.73 to 7.5)
Missing, n (%)	1,183 (4.4)					
Mean ODI (95% CI)	42.9 (42.73 to 43.2)	42.1 (41.83 to 42.4)	44.7 (44.13 to 45.3)	46.9 (45.83 to 48.0)	48.6 (46.53 to 50.7)	47.8 (44.63 to 50.9)
Missing, n (%)	126 (0.5)					
Mean EQ-5D (95% CI)	0.32 (0.323 to 0.33)	0.34 (0.333 to 0.34)	0.29 (0.283 to 0.30)	0.25 (0.233 to 0.28)	0.20 (0.163 to 0.24)	0.22 (0.163 to 0.28)
Missing, n (%)	1501 (5.6)					
Duration of back pain, n (%)						
No symptoms	702 (2.6)	571 (2.8)	93 (2.3)	23 (2.0)	7 (2.1)	1 (0.8)
Less than 3 mths	2,566 (9.6)	1,986 (9.7)	392 (9.5)	128 (11.3)	20 (6.0)	10 (7.8)
3 to 12 mths	8,167 (30.6)	6,276 (30.7)	1,262 (30.7)	394 (34.7)	76 (22.6)	29 (22.7)
12 to 24 mths	4,478 (16.8)	3,337 (17.5)	759 (18.5)	213 (18.7)	60 (17.9)	23 (18.0)
More than 24 months	9,520 (35.6)	7,277 (35.7)	1,402 (34.1)	324 (28.5)	154 (45.8)	54 (42.2)

Missing	1,290 (4.8)					
Duration of radiating pain, n (%)						
No symptoms	666 (2.5)	498 (2.4)	120 (2.9)	26 (2.3)	8 (2.4)	3 (2.3)
Less than 3 mths	3,696 (13.8)	2,902 (14.2)	530 (12.9)	128 (11.3)	34 (10.1)	10 (7.8)
3 to 12 mths	9,675 (36.2)	7,541 (36.9)	1,415 (34.5)	394 (34.7)	88 (26.2)	29 (22.7)
12 to 24 mths	4,750 (17.8)	3,569 (17.5)	775 (18.9)	213 (18.7)	70 (20.8)	23 (18.0)
More than 24 mths	6,342 (23.7)	4,677 (22.9)	1,033 (25.2)	324 (28.5)	108 (32.1)	54 (42.2)
Missing	1,594 (6.0)					
Use of painkillers, n (%)						
Yes	22,034 (82.5)	1,6561 (81.1)	3,511 (85.5)	1,017 (89.4)	308 (91.7)	117 (91.4)
No	4,401 (16.5)	3,621 (17.7)	556 (13.5)	114 (10.0)	27 (8.0)	11 (8.6)
Missing	288 (1.1)					
Previous operation, n (%)						
Yes, same level	3,522 (13.2)		2,361 (57.5)	601 (52.9)	161 (47.9)	50 (39.1)
Yes, different level	2,396 (9.0)	0	1,625 (39.6)	373 (32.8)	114 (33.9)	47 (36.7)
Yes, same and different level	393 (1.5)	0	121 (2.9)	163 (14.3)	61 (18.2)	31 (24.2)
No	20,412 (76.4)	20,412	0	0	0	0
Any comorbidity, n (%)						
Yes	12,419 (46.5)	9,138 (44.8)	2,119 (51.6)	626 (55.1)	204 (60.7)	90 (70.3)
No	11,930 (44.6)	9,539 (46.7)	1,627 (39.6)	402 (35.4)	103 (30.7)	34 (26.6)
Missing	2,374 (8.9)					
ASA grade, n (%)						
I	8,228 (30.8)	6,717 (32.9)	1,045 (25.4)	233 (20.7)	46 (13.7)	10 (7.8)
II	14,553 (54.4)	10,843 (53.1)	2,386 (58.1)	701 (61.7)	205 (61.0)	78 (60.9)
III	3,599 (13.5)	2,584 (12.7)	626 (15.2)	192 (16.9)	79 (23.9)	39 (30.5)
IV	58 (0.2)	42 (0.2)	10 (0.2)	2 (0.2)	1 (0.3)	0
Missing	285 (1.1)					

Anxiety/depression, n (%)						
No	15,573 (58.3)	12,023 (58.9)	2,308 (56.2)	647 (56.9)	182 (54.2)	73 (57.0)
Moderate	9,608 (36.0)	7,224 (35.4)	1,540 (37.5)	433 (38.1)	134 (39.9)	49 (38.3)
Severe	790 (3.0)	575 (2.8)	146 (3.6)	36 (3.2)	13 (3.9)	2 (1.6)
Missing	752 (2.8)					
Paresis, n (%)						
Yes	3,660 (13.7)	2,783 (13.6)	556 (13.5)	167 (14.7)	48 (14.3)	16 (12.5)
No	23,063 (86.3)	17,629 (86.4)	3,551 (86.5)	970 (85.3)	288 (85.7)	112 (87.5)

ASA, American Society of Anesthesiologists; CI, confidence interval; EQ-5D, EuroQol five-dimension health questionnaire; NRS, numerical rating scale; ODI, Oswestry Disability Index.

Table ii. Baseline characteristics of included cases and cases lost to follow-up.

Variable	Included cases	Lost to follow-up
Total, n	26,723	10,717
Mean age, yrs (95% CI)	56.5 (56.3 to 56.7)	48.9 (48.6 to 49.2)
Missing, n (%)	74 (0.3)	65 (0.6)
Sex, n (%)		
Male	14,047 (52.6)	6,040 (56.4)
Female	12,676 (47.4)	4,677 (43.6)
Smoking status, n (%)		
Smoker	5,624 (21.0)	3,350 (31.3)
Non-smoker	20,864 (78.1)	7,267 (67.8)
Missing	235 (0.9)	100 (0.9)
Level of education, n (%)		
Primary school or equivalent	5,302 (19.8)	2,053 (19.2)
High school	11,766 (44.0)	5,081 (47.4)
College/university	9,339 (34.9)	3,431 (32.0)
Missing	316 (1.2)	152 (1.4)
Marital status, n (%)		
Married	16,084 (60.2)	5,154 (48.1)
Cohabitant	4,068 (15.2)	2,319 (21.6)
Single	6,415 (24.0)	3,169 (29.6)
Missing	156 (0.6)	75 (0.7)
Native language, n (%)		
Norwegian	25,270 (94.6)	9,926 (92.6)
Sami	28 (0.1)	18 (0.2)
Other	1,324 (5.0)	734 (6.8)
Missing	101 (0.4)	39 (0.4)
Mean BMI, kg/m² (95 % CI)	27.2 (27.1 to 27.2)	27.4 (27.3 to 27.5)
Missing, n (%)	1,533 (5.7)	631 (5.9)
Working status, n (%)		
Working	4,820 (18.0)	2,018 (18.8)
Homemaker	408 (1.5)	140 (1.3)
Student	315 (1.2)	234 (2.2)
Pensioner	8,149 (30.5)	1,779 (16.6)
Unemployed	241 (0.9)	190 (1.8)
Sick leave (full or partial)	8,117 (30.5)	969 (31.4)
Work assessment allowance	972 (3.6)	595 (5.6)
Disability pension	2,993 (11.2)	1,236 (11.5)
Missing	708 (2.6)	342 (0.21)
Applied for disability pension, n (%)		
Yes	554 (2.1)	254 (2.4)
No	20,122 (75.3)	8,358 (78.0)
Planning to apply	465 (1.7)	211 (2.0)

Already granted	3,197 (12.0)	1,206 (11.3)
Missing	2,385 (8.9)	688 (6.4)
Mean NRS back pain (95% CI)	6.4 (6.3 to 6.4)	6.5 (6.4 to 6.5)
Missing, n (%)	1,190 (4.1)	451 (4.2)
Mean NRS leg pain (95% CI)	6.7 (6.7 to 6.8)	6.8 (6.8 to 6.9)
Missing, n (%)	1,183 (4.4)	479 (4.5)
Mean ODI (95% CI)	42.9 (42.7 to 43.2)	44.5 (44.1 to 44.9)
Missing, n (%)	126 (0.5)	73 (0.7)
Mean EQ-5D (95% CI)	0.32 (0.32 to 0.33)	0.28 (0.27 to 0.29)
Missing, n (%)	1,501 (5.6)	654 (6.1)
Duration of back pain, n (%)		
No symptoms	702 (2.6)	220 (2.1)
Less than 3 mths	2,566 (9.6)	1,053 (9.8)
3 to 12 mths	8,167 (30.6)	3,542 (33.1)
12 to 24 mths	4,478 (16.8)	1,775 (16.6)
More than 24 mths	9,520 (35.6)	3,583 (33.4)
Missing	1,290 (4.8)	544 (5.1)
Duration of radiating pain, n (%)		
No symptoms	666 (2.5)	196 (1.8)
Less than 3 mths	3,696 (13.8)	1,520 (14.2)
3 to 12 mths	9,675 (36.2)	4,098 (38.2)
12 to 24 mths	4,750 (17.8)	1,817 (17.0)
More than 24 mths	6,342 (23.7)	2,418 (22.6)
Missing	1,594 (6.0)	668 (6.2)
Use of painkillers, n (%)		
Yes	2,2034 (82.5)	8,949 (83.5)
No	4,401 (16.5)	1,629 (15.2)
Missing	288 (1.1)	139 (1.3)
Previous operation, n (%)		
Yes, same level	3,522 (13.2)	1,751 (16.3)
Yes, different level	2,396 (9.0)	882 (8.2)
Yes, same and different level	393 (1.5)	171 (1.6)
No	2,0412 (76.4)	7,800 (72.8)
Missing	0 (0)	113 (1.1)
Number of previous operations, n (%)		
0	20,412 (76.4)	7,805 (72.8)
1	4,107 (15.4)	1,822 (17.0)
2	1,137 (4.3)	507 (4.7)
3	336 (1.3)	153 (1.4)
4 to 10	128 (0.4)	68 (0.6)
Missing	603 (2.3)	362 (3.4)
Any comorbidity, n (%)		
Yes	12,419 (46.5)	4,278 (39.9)
No	11,930 (44.6)	5,404 (50.4)
Missing	2,374 (8.9)	1,035 (9.7)

ASA grade, n (%)		
I	8,228 (30.8)	3,924 (36.6)
I	14,553 (54.4)	5,557 (51.9)
III	3,599 (13.5)	1,106 (10.3)
IV	58 (0.2)	14 (0.1)
Missing	285 (1.1)	116 (1.1)
Anxiety/depression, n (%)		
No	15,573 (58.3)	5,603 (52.3)
Moderate	9,608 (36.0)	4,240 (39.6)
Severe	790 (3.0)	530 (4.9)
Missing	752 (2.8)	344 (3.2)
Paresis, n (%)		
Yes	3,660 (13.7)	1,489 (13.9)
No	23,063 (86.3)	9,228 (86.1)

ASA, American Society of Anesthesiologists; CI, confidence interval; EQ-5D, EuroQol five-dimension health questionnaire; NRS, numerical rating scale; ODI, Oswestry Disability Index.

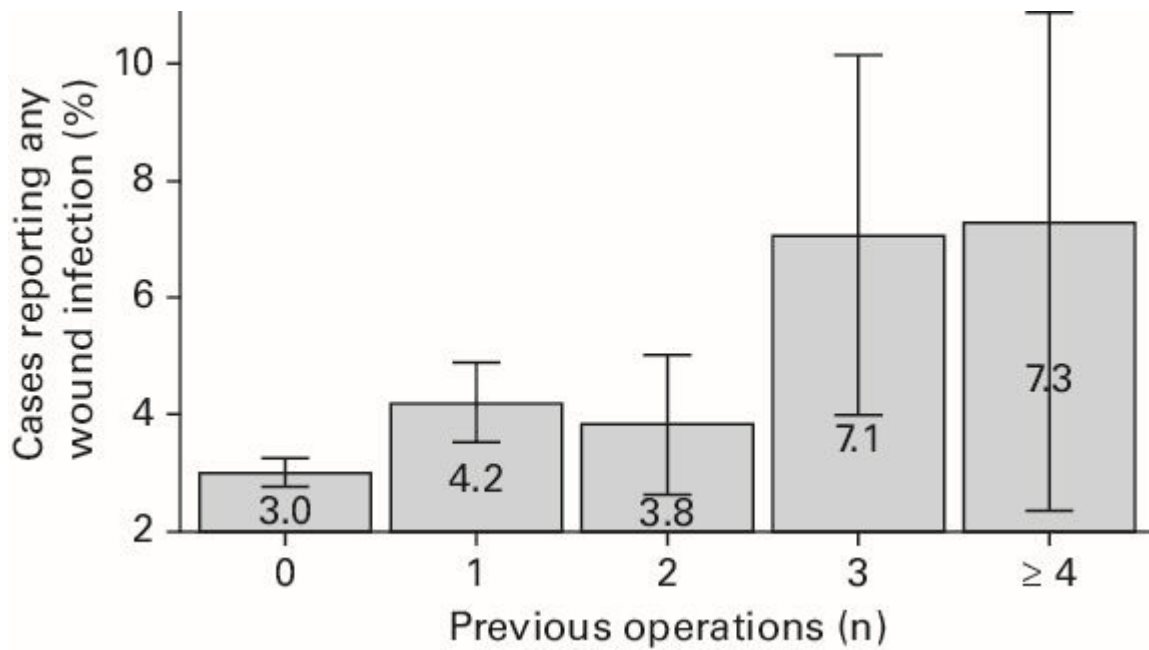


Fig a. Proportion of cases reporting any wound infection at three-month follow-up, stratified by the number of previous operations. Error bars represent 95% confidence intervals.

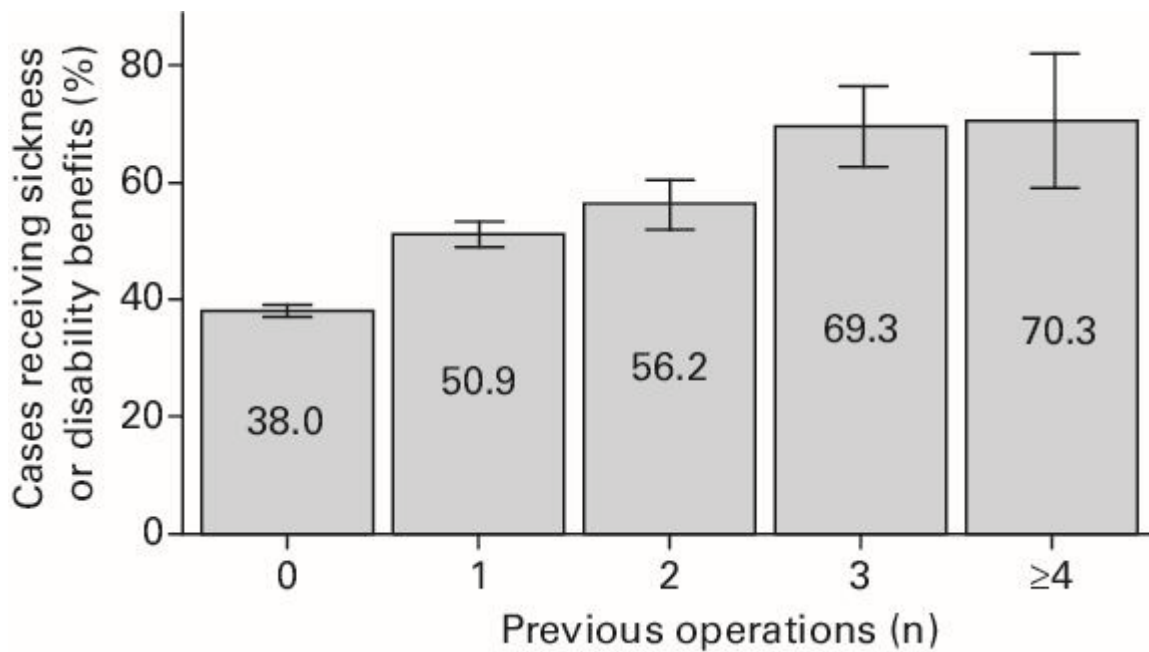


Fig b. Proportion of cases who received sickness or disability benefits preoperatively who still receive sickness or disability benefits at 12-month follow-up, stratified by the number of previous operations. Error bars represent 95% confidence intervals.

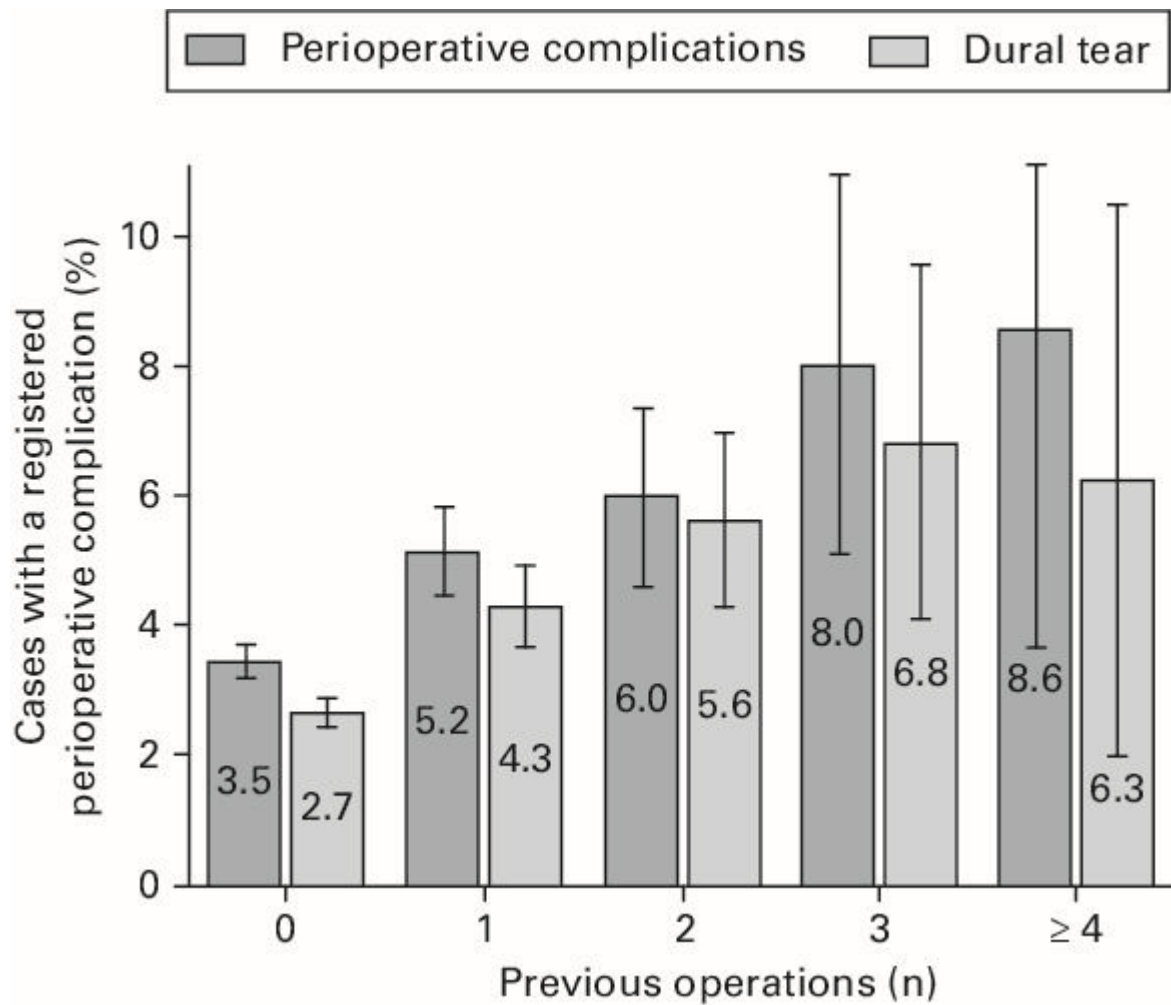


Fig c. Proportion of cases with a registered perioperative complication, including dural tear, stratified by the number of previous operations. Error bars represent 95% confidence intervals.