

Supplementary File of Tables

Anesthetic Techniques and Patients -Related Determinant of Perioperative Outcomes in Orthopedics Surgery: Across-Sectional Analytical Study.

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Table S1. Preoperative anxiety according to anesthesia drug

Anesthesia Drug	Preoperative anxiety		Total
	Yes	No	
1.00 Propofol	2	0	2
2.00 Thiopental	4	0	4
3.00 Marcaine	11	9	20
4.00 Lidocaine	9	3	12
5.00 Ketamine	0	1	1
6.00 Succinylcholine	0	1	1
7.00 Propofol, ketamine, atracurium, isoflorine	7	2	9
8.00 Marcaine, propofol, isoflorine	1	0	1
9.00 propofol, ketamine, atracurium, sevoflorine	8	7	15
10.00 sevoflorine	1	0	1
11.00 propofol, succinylcholine, atracurium, isoflorine	3	0	3
12.00 propofol, atracurium, isoflorine	3	0	3
13.00 propofol, atracurium, sevoflorine	6	0	6
14.00 ketamine, Esmeron, sevoflorine	2	2	4
15.00 ketamine, atracurium, sevoflorine	2	1	3
16.00 ketamine, esmeron	1	0	1
17.00 propofol, succinylcholine, atracurium, seveoflorine	3	0	3
18.00 propofol, sevoflorine	8	2	10
19.00 propofol, lidocaine, seveflorine	1	0	1
20.00 thiopental, isoflorine	2	0	2
21.00 propofol, isoflorine	2	0	2
22.00 propofol, ketamine, sevoflorine	5	2	7
23.00 propofol, esmeron, sevoflorine	3	0	3
24.00 propofol, succinylcholine, isoflorine	1	0	1
25.00 propofol, ketamine, esmeron, seveflorine	5	4	9
26.00 propofol, ketamine, esmeron, isoflorine	4	2	6
27.00 marcaine, lidocaine	2	3	5
28.00 propofol, ketamine, succinylcholine, isoflorine	2	0	2
29.00 propofol, ketamine, succinylcholine, sevoflorine	4	1	5
30.00 propofol, thiopental, succinylcholine, isoflorine,	2	0	2
31.00 propofol, thiopentsl, atracurium, seveflorine	1	0	1
32.00 propofol, isoflorine	3	0	3
33.00 propofol, thiopental, ketamine, isoflorine	0	1	1
34.00 propofol, succinylcholine, seveoflorine	1	0	1
35.00 propofol, ketamine, succinylcholine, atracurium, seveoflorine	1	1	2
36.00 thiopental, atracurium, seveflorine	1	0	1
37.00 thiopental, ketamine, atracurium, seveflorine	1	0	1
38.00 propofol, ketamine, atracurium, esmeron, seveflorine	0	1	1
39.00 propofol, ketamine, esmeron, seveflorine,	4	1	5
40.00 propofol, thiopental, atracurium, seveflorine	1	0	1
Total	117	44	161

Chi square = 39.956; P=0.427

Table S2. Postoperative pain according to anesthesia drugs

Anesthesia drugs	Postoperative pain		Total
	Yes	No	
1.00 Propofol	2	0	2
2.00 Thiopental	4	0	4
3.00 Marcaine	9	11	20
4.00 Lidocaine	7	5	12
5.00 Ketamine	0	1	1
6.00 Succinylcholine	1	0	1
7.00 Propofol, ketamine, atracurium, isoflorine	9	0	9
8.00 Marcaine, propofol, isoflorine	1	0	1
9.00 propofol, ketamine, atracurium, sevoflorine	12	3	15
10.00 sevoflorine	0	1	1
11.00 propofol, succinylcholine, atracurium, isoflorine	3	0	3
12.00 propofol, atracurium, isoflorine	3	0	3
13.00 propofol, atracurium, sevoflorine	6	0	6
14.00 ketamine, Esmeron, sevoflorine	2	2	4
15.00 ketamine, atracurium, sevoflorine	3	0	3
16.00 ketamine, esmeron	1	0	1
17.00 propofol, succinylcholine, atracurium, seveoflorine	3	0	3
18.00 propofol, sevoflorine	9	1	10
19.00 propofol, lidocaine, seveflorine	1	0	1
20.00 thiopental, isoflorine	2	0	2
21.00 propofol, isoflorine	2	0	2
22.00 propofol, ketamine, sevoflorine	5	2	7
23.00 propofol, esmeron, sevoflorine	3	0	3
24.00 propofol, succinylcholine, isoflorine	1	0	1
25.00 propofol, ketamine, esmeron, seveflorine	5	4	9
26.00 propofol, ketamine, esmeron, isoflorine	6	0	6
27.00 marcaine, lidocaine	5	0	5
28.00 propofol, ketamine, succinylcholine, isoflorine	2	0	2
29.00 propofol, ketamine, succinylcholine, sevoflorine	5	0	5
30.00 propofol, thiopental, succinylcholine, isoflorine,	2	0	2
31.00 propofol, thiopentsl, atracurium, seveflorine	1	0	1
32.00 propofol, isoflorine	3	0	3
33.00 propofol, thiopental, ketamine, isoflorine	1	0	1
34.00 propofol, succinylcholine, seveoflorine	1	0	1
35.00 propofol, ketamine, succinylcholine, atracurium, seveoflorine	1	1	2
36.00 thiopental, atracurium, seveflorine	1	0	1
37.00 thiopental, ketamine, atracurium, seveflorine	1	0	1
38.00 propofol, ketamine, atracurium, esmeron, seveflorine	0	1	1
39.00 propofol, ketamine, esmeron, seveflorine,	4	1	5
40.00 propofol, thiopental, atracurium, seveflorine	1	0	1
Total	128	33	161

Chi-Square=55.957; P=0.038

Table S3. Pain level according to anesthesia drugs

Anesthesia drug	Pain Level				Total
	No pain	Mild	Moderate	Severe	
1.00 Propofol	0	0	0	2	2
2.00 Thiopental	0	2	2	0	4
3.00 Marcaine	11	7	1	1	20
4.00 Lidocaine	5	4	2	1	12
5.00 Ketamine	1	0	0	0	1
6.00 Succinylcholine	0	0	0	1	1
7.00 Propofol, ketamine, atracurium, isoflurine	0	4	4	1	9
8.00 Marcaine, propofol, isoflurine	0	0	1	0	1
9.00 propofol, ketamine, atracurium, sevoflurine	3	1	10	1	15
10.00 sevoflurine	1	0	0	0	1
11.00 propofol, succinylcholine, atracurium, isoflurine	0	2	0	1	3
12.00 propofol, atracurium, isoflurine	0	3	0	0	3
13.00 propofol, atracurium, sevoflurine	0	2	4	0	6
14.00 ketamine, Esmeron, sevoflurine	2	1	1	0	4
15.00 ketamine, atracurium, sevoflurine	0	3	0	0	3
16.00 ketamine, esmeron	0	0	1	0	1
17.00 propofol, succinylcholine, atracurium, seveoflurine	0	0	2	1	3
18.00 propofol, sevoflurine	1	0	9	0	10
19.00 propofol, lidocaine, seveflurine	0	0	1	0	1
20.00 thiopental, isoflurine	0	0	2	0	2
21.00 propofol, isoflurine	0	0	2	0	2
22.00 propofol, ketamine, sevoflurine	2	1	4	0	7
23.00 propofol, esmeron, sevoflurine	0	3	0	0	3
24.00 propofol, succinylcholine, isoflurine	0	0	1	0	1
25.00 propofol, ketamine, esmeron, seveflurine	4	2	3	0	9
26.00 propofol, ketamine, esmeron, isoflurine	0	4	2	0	6
27.00 marcaine, lidocaine	0	0	3	2	5
28.00 propofol, ketamine, succinylcholine, isoflurine	0	0	2	0	2
29.00 propofol, ketamine, succinylcholine, sevoflurine	0	1	2	2	5
30.00 propofol, thiopental, succinylcholine, isoflurine,	0	0	2	0	2
31.00 propofol, thiopentl, atracurium, seveflurine	0	0	1	0	1
32.00 propofol, isoflurine	0	0	3	0	3
33.00 propofol, thiopental, ketamine, isoflurine	0	0	1	0	1
34.00 propofol, succinylcholine, seveoflurine	0	0	0	1	1
35.00 propofol, ketamine, succinylcholine, atracurium, seveoflurine	1	0	1	0	2
36.00 thiopental, atracurium, seveflurine	0	0	1	0	1
37.00 thiopental, ketamine, atracurium, seveflurine	0	0	1	0	1
38.00 propofol, ketamine, atracurium, esmeron, seveflurine	1	0	0	0	1
39.00 propofol, ketamine, esmeron, seveflurine,	1	2	2	0	5
40.00 propofol, thiopental, atracurium, seveflurine	0	0	1	0	1
Total	33	42	72	14	161

Chi square = 188.84; P = 0.000

Table S4. Side effects in relation to anesthesia drugs

Anesthesia drugs		Side Effect		Total
		Yes	No	
1.00 Propofol		1	1	2
2.00 Thiopental		4	0	4
3.00 Marcaine		2	18	20
4.00 Lidocaine		1	11	12
5.00 Ketamine		0	1	1
6.00 Succinylcholine		1	0	1
7.00 Propofol, ketamine, atracurium, isoflurine		9	0	9
8.00 Marcaine, propofol, isoflurine		1	0	1
9.00 propofol, ketamine, atracurium, sevoflurine		10	5	15
10.00 sevoflurine		0	1	1
11.00 propofol, succinylcholine, atracurium, isoflurine		2	1	3
12.00 propofol, atracurium, isoflurine		3	0	3
13.00 propofol, atracurium, sevoflurine		6	0	6
14.00 ketamine, Esmeron, sevoflurine		4	0	4
15.00 ketamine, atracurium, sevoflurine		2	1	3
16.00 ketamine, esmeron		1	0	1
17.00 propofol, succinylcholine, atracurium, seveoflurine		3	0	3
18.00 propofol, sevoflurine		9	1	10
19.00 propofol, lidocaine, seveflurine		1	0	1
20.00 thiopental, isoflurine		2	0	2
21.00 propofol, isoflurine		2	0	2
22.00 propofol, ketamine, sevoflurine		3	4	7
23.00 propofol, esmeron, sevoflurine		2	1	3
24.00 propofol, succinylcholine, isoflurine		1	0	1
25.00 propofol, ketamine, esmeron, seveflurine		8	1	9
26.00 propofol, ketamine, esmeron, isoflurine		6	0	6
27.00 marcaine, lidocaine		0	5	5
28.00 propofol, ketamine, succinylcholine, isoflurine		2	0	2
29.00 propofol, ketamine, succinylcholine, sevoflurine		5	0	5
30.00 propofol, thiopental, succinylcholine, isoflurine,		2	0	2
31.00 propofol, thiopentsl, atracurium, seveflurine		1	0	1
32.00 propofol, isoflurine		2	1	3
33.00 propofol, thiopental, ketamine, isoflurine		1	0	1
34.00 propofol, succinylcholine, seveoflurine		1	0	1
35.00 propofol, ketamine, succinylcholine, atracurium, seveoflurine		1	1	2
36.00 thiopental, atracurium, seveflurine		1	0	1
37.00 thiopental, ketamine, atracurium, seveflurine		1	0	1
38.00 propofol, ketamine, atracurium, esmeron, seveflurine		0	1	1
39.00 propofol, ketamine, esmeron, seveflurine,		5	0	5
40.00 propofol, thiopental, atracurium, seveflurine		1	0	1
Total		107	54	161

Chi square = 101.96; P = 0.000

Table S5. Analgesia needs in relation to anesthesia type

Anesthesia drugs	Analgesia Needs		Total
	Yes	No	
1.00 Propofol	2	0	2
2.00 Thiopental	4	0	4
3.00 Marcaine	10	10	20
4.00 Lidocaine	5	7	12
5.00 Ketamine	1	0	1
6.00 Succinylcholine	1	0	1
7.00 Propofol, ketamine, atracurium, isoflurine	5	4	9
8.00 Marcaine, propofol, isoflurine	1	0	1
9.00 propofol, ketamine, atracurium, sevoflurine	11	4	15
10.00 sevoflurine	0	1	1
11.00 propofol, succinylcholine, atracurium, isoflurine	3	0	3
12.00 propofol, atracurium, isoflurine	3	0	3
13.00 propofol, atracurium, sevoflurine	6	0	6
14.00 ketamine, Esmeron, sevoflurine	1	3	4
15.00 ketamine, atracurium, sevoflurine	2	1	3
16.00 ketamine, esmeron	1	0	1
17.00 propofol, succinylcholine, atracurium, seveoflurine	3	0	3
18.00 propofol, sevoflurine	8	2	10
19.00 propofol, lidocaine, seveflurine	1	0	1
20.00 thiopental, isoflurine	2	0	2
21.00 propofol, isoflurine	2	0	2
22.00 propofol, ketamine, sevoflurine	5	2	7
23.00 propofol, esmeron, sevoflurine	2	1	3
24.00 propofol, succinylcholine, isoflurine	1	0	1
25.00 propofol, ketamine, esmeron, seveflurine	5	4	9
26.00 propofol, ketamine, esmeron, isoflurine	6	0	6
27.00 marcaine, lidocaine	3	2	5
28.00 propofol, ketamine, succinylcholine, isoflurine	2	0	2
29.00 propofol, ketamine, succinylcholine, sevoflurine	5	0	5
30.00 propofol, thiopental, succinylcholine, isoflurine,	2	0	2
31.00 propofol, thiopentsl, atracurium, seveflurine	1	0	1
32.00 propofol, isoflurine	3	0	3
33.00 propofol, thiopental, ketamine, isoflurine	1	0	1
34.00 propofol, succinylcholine, seveoflurine	1	0	1
35.00 propofol, ketamine, succinylcholine, atracurium, seveoflurine	1	1	2
36.00 thiopental, atracurium, seveflurine	1	0	1
37.00 thiopental, ketamine, atracurium, seveflurine	1	0	1
38.00 propofol, ketamine, atracurium, esmeron, seveflurine	0	1	1
39.00 propofol, ketamine, esmeron, seveflurine,	4	1	5
40.00 propofol, thiopental, atracurium, seveflurine	1	0	1
Total	117	44	161

Chi square = 45.663; P = 0.215

Table S6. Postoperative movement time in relation to anesthesia drugs.

Anesthesia drugs	Postoperative movement time			Total
	Same day	1 -3 days	> 3 days	
1.00 Propofol	0	2	0	2
2.00 Thiopental	2	2	0	4
3.00 Marcaine	11	5	4	20
4.00 Lidocaine	11	1	0	12
5.00 Ketamine	0	0	1	1
6.00 Succinylcholine	0	0	1	1
7.00 Propofol, ketamine, atracurium, isoflurine	4	3	2	9
8.00 Marcaine, propofol, isoflurine	1	0	0	1
9.00 propofol, ketamine, atracurium, sevoflurine	8	5	2	15
10.00 sevoflurine	0	1	0	1
11.00 propofol, succinylcholine, atracurium, isoflurine	1	2	0	3
12.00 propofol, atracurium, isoflurine	2	1	0	3
13.00 propofol, atracurium, sevoflurine	3	3	0	6
14.00 ketamine, Esmeron, sevoflurine	4	0	0	4
15.00 ketamine, atracurium, sevoflurine	3	0	0	3
16.00 ketamine, esmeron	0	0	1	1
17.00 propofol, succinylcholine, atracurium, sevoflurine	2	1	0	3
18.00 propofol, sevoflurine	4	5	1	10
19.00 propofol, lidocaine, sevoflurine	0	1	0	1
20.00 thiopental, isoflurine	0	2	0	2
21.00 propofol, isoflurine	1	1	0	2
22.00 propofol, ketamine, sevoflurine	7	0	0	7
23.00 propofol, esmeron, sevoflurine	1	2	0	3
24.00 propofol, succinylcholine, isoflurine	1	0	0	1
25.00 propofol, ketamine, esmeron, sevoflurine	7	1	1	9
26.00 propofol, ketamine, esmeron, isoflurine	4	2	0	6
27.00 marcaine, lidocaine	0	3	2	5
28.00 propofol, ketamine, succinylcholine, isoflurine	0	2	0	2
29.00 propofol, ketamine, succinylcholine, sevoflurine	1	2	2	5
30.00 propofol, thiopental, succinylcholine, isoflurine,	0	2	0	2
31.00 propofol, thiopental, atracurium, sevoflurine	1	0	0	1
32.00 propofol, isoflurine	1	2	0	3
33.00 propofol, thiopental, ketamine, isoflurine	0	1	0	1
34.00 propofol, succinylcholine, sevoflurine	0	1	0	1
35.00 propofol, ketamine, succinylcholine, atracurium, sevoflurine	0	2	0	2
36.00 thiopental, atracurium, sevoflurine	1	0	0	1
37.00 thiopental, ketamine, atracurium, sevoflurine	1	0	0	1
38.00 propofol, ketamine, atracurium, esmeron, sevoflurine	0	1	0	1
39.00 propofol, ketamine, esmeron, sevoflurine,	3	1	1	5
40.00 propofol, thiopental, atracurium, sevoflurine	1	0	0	1
Total	86	57	18	161

Chi square = 103.192; P = 0.030

Table S7. Frequency of cases according to anesthesia drugs

Anesthesia drugs	Frequency	Percent	Valid Percent	Cumulative Percent
1.00	2	1.2	1.2	1.2
2.00	4	2.5	2.5	3.7
3.00	20	12.4	12.4	16.1
4.00	12	7.5	7.5	23.6
5.00	1	.6	.6	24.2
6.00	1	.6	.6	24.8
7.00	9	5.6	5.6	30.4
8.00	1	.6	.6	31.1
9.00	15	9.3	9.3	40.4
10.00	1	.6	.6	41.0
11.00	3	1.9	1.9	42.9
12.00	3	1.9	1.9	44.7
13.00	6	3.7	3.7	48.4
14.00	4	2.5	2.5	50.9
15.00	3	1.9	1.9	52.8
16.00	1	.6	.6	53.4
17.00	3	1.9	1.9	55.3
18.00	10	6.2	6.2	61.5
19.00	1	.6	.6	62.1
20.00	2	1.2	1.2	63.4
21.00	2	1.2	1.2	64.6
22.00	7	4.3	4.3	68.9
23.00	3	1.9	1.9	70.8
24.00	1	.6	.6	71.4
25.00	9	5.6	5.6	77.0
26.00	6	3.7	3.7	80.7
27.00	5	3.1	3.1	83.9
28.00	2	1.2	1.2	85.1
29.00	5	3.1	3.1	88.2
30.00	2	1.2	1.2	89.4
31.00	1	.6	.6	90.1
32.00	3	1.9	1.9	91.9
33.00	1	.6	.6	92.5
34.00	1	.6	.6	93.2
35.00	2	1.2	1.2	94.4
36.00	1	.6	.6	95.0
37.00	1	.6	.6	95.7
38.00	1	.6	.6	96.3
39.00	5	3.1	3.1	99.4
40.00	1	.6	.6	100.0
Total	161	100.0	100.0	

Table. S8. Summary of Age-Related Findings

Outcome	Statistical Significance	Key Pattern
Preoperative anxiety	No (p=0.316)	No age effect
Postoperative pain (presence)	Yes (p=0.002)	Younger age → more pain
Pain level (intensity)	Yes (p=0.021)	Younger age → higher intensity
Side effects	No (p=0.207)	No age effect
Analgesia needs	Yes (p=0.008)	Younger age → more needs
Mobilization time	Yes (p=0.002)	Younger age → faster mobilization

Table.S9. Summary of Education-Related Findings

Outcome	Statistical Significance	Key Pattern
Preoperative anxiety	No (p=0.151)	No clear effect
Postoperative pain (presence)	Yes (p=0.026)	Higher education → less pain
Pain level (intensity)	Yes (p=0.001)	Higher education → milder pain
Side effects	No (p=0.238)	No effect
Analgesia needs	No (p=0.24)	No significant effect
Mobilization time	Trend (p=0.093)	Possible slower mobilization in lower education

Tabl.S10. Summary of Operation-Type Findings

Outcome	Statistical Significance	Key Pattern
Preoperative anxiety	No (p=0.473)	No effect
Postoperative pain (presence)	No (p=0.553)	No effect (most procedures painful)
Pain level (intensity)	No (p=0.389)	No significant effect (trends observed)
Side effects	Yes (p=0.001)	Significant variation – highest in developmental dislocation, hip replacement, frozen shoulder; lowest in amputation
Analgesia needs	No (p=0.551)	No effect
Mobilization time	Trend (p=0.099)	Possible earlier mobilization in minor procedures

Table.11. Summary of Anesthesia-Type Findings

Outcome	p-value	Key Pattern
Preoperative anxiety	0.046	Higher anxiety with general/epidural
Postoperative pain (presence)	0.001	Lowest pain with spinal (51.9%)
Pain level (intensity)	0.004	Mildest pain with regional (75%)
Side effects	<0.001	Lowest side effects with spinal (11.1%) and regional (8.3%)
Analgesia needs	0.001	Lowest needs with regional (33.3%)
Mobilization time	0.010	Earliest mobilization with regional (91.7% same day)

Table.12. Summary of Findings by Reason for Anesthesia Selection

Outcome	p-value	Significant?	Key Pattern
Preoperative anxiety	0.012	Yes	Highest when anesthetist decides (78.5%)
Postoperative pain (presence)	0.176	No	–
Pain level (intensity)	0.088	Trend (NS)	–
Side effects	0.016	Yes	Highest with anesthetist decision (73.8%)
Analgesia needs	0.522	No	–
Mobilization time	<0.001	Yes	Slowest when patient illness is reason (36.4% delayed >3 days)

Table.13. Summary of Findings by Operation Duration

Outcome	p-value	Significant?	Key Pattern
Preoperative anxiety	0.546	No	–
Postoperative pain (presence)	0.59	No	–
Pain level (intensity)	0.039	Yes	Longer duration → more severe pain
Side effects	0.447	No	–
Analgesia needs	0.541	No	–
Mobilization time	<0.001	Yes	Shorter duration → earlier mobilization

Table S14. Summary of Findings by Preoperative Explanation

Outcome	p-value	Significant?	Key Pattern
Preoperative anxiety	0.461	No	–
Postoperative pain (presence)	<0.001	Yes	No explanation → much less pain reported (28.6% vs 84.4%)
Pain level (intensity)	0.027	Yes	No explanation → higher proportion of severe pain (28.6% vs 8.2%) among those with pain
Side effects	0.857	No	–
Analgesia needs	0.001	Yes	No explanation → fewer analgesic needs (35.7% vs 76.2%)
Mobilization time	0.275	No	–

Table.S15. Summary of Sample Characteristics

Variable	Predominant Category	Proportion
Sex	Male	62.7%
Age	21–30 years	39.1%
Education	≥ College	52.8%
Operation	Fracture fixation	28.0%
Anesthesia	General	72.0%
Reason for anesthesia	Anesthetist decision	66.5%
Operation duration	1–2 hours	36.0%
Preoperative explanation	Yes	91.3%
Preoperative anxiety	Yes	72.7%
Postoperative pain	Yes	79.5%
Side effects	Yes	66.5%
Analgesia needs	Yes	72.7%
Mobilisation	Same day	53.4%

Table S16. Clinical Recommendations Based on Identified Risk Factors for Severe Postoperative Pain

Risk Factor	Clinical Recommendation	Level of Evidence*
Younger age (especially < 50 years)	Use age-adapted, multimodal analgesia including regional techniques; avoid undertreating younger patients who report higher pain scores	IIb
Lower educational level	Provide simplified preoperative education using plain language, visual aids, and teach-back methods; assess health literacy	Ib
High-pain operation types (e.g., OpType 9, 10, 2, 6)	Implement procedure-specific preventive multimodal analgesia (acetaminophen, NSAIDs, gabapentinoids, regional anaesthesia) as per ERAS protocols	Ia
Multiple risk factors present	Flag patient in electronic health record (EHR) for proactive pain management; reassess pain every 4 hours for first 24 hours	IIb
All surgical patients	Perform brief preoperative risk stratification including age, education, and operation type to guide pain management intensity	IIa

*Level of evidence based on modified Sackett scale: Ia = systematic review of RCTs; Ib = individual RCT; IIa = well-designed cohort study; IIb = lower quality cohort or case-control; III = consensus/expert opinion.

Table S17. Clinical Recommendations Based on Risk Factors for Severe Postoperative Pain

Risk Factor	Clinical Recommendation	Level of Evidence
Younger age (<50 y)	Age-adapted multimodal analgesia (including regional techniques); avoid undertreatment of younger patients	IIb
Lower educational level	Simplified preoperative education (plain language, teach-back); assess health literacy	Ib
High-pain operation types (OpType 9,10,2,6)	Procedure-specific preventive multimodal analgesia (acetaminophen, NSAIDs, gabapentinoids, regional anesthesia) per ERAS	Ia
Multiple risk factors	EHR flag for proactive pain management; reassess pain q4h × 24 h	IIb
All surgical patients	Preoperative risk stratification (age, education, operation type) to guide pain management	IIa