Supplement Table S11: Summary of Posterior Distribution (Pain at Site of Surgery at Three Months)

	Median	95% Credible Intervall	Probability of being inside of Region of Practical Equivalence	Probability of Direction	r̂	Maximum A Posteriori based p-Value	Effective Sample Size
Age (years)	-0.0500000	[-0.230, 0.040]	73%	81%	1.004	0.997	46,446
Sex Female	0.1400000	[-0.070, 0.69]	42%	84%	1.006	0.978	22,406
Race (Consolidated): Not White	0.0500000	[-0.150, 0.76]	57%	72%	1.001	0.987	476,000
Race (Consolidated): No Response	0.0300000	[-0.210, 0.68]	62%	66%	1.004	0.963	47,858
Body Mass Index (kg/m^2)	-0.0300000	[-0.310, 0.090]	73%	72%	1.011	0.987	8,894
ASA Physical Status: III or IV	-0.0700000	[-0.58, 0.100]	55%	77%	1.025	0.987	3,721
Relationship: Not a Couple	-0.0200000	[-0.42, 0.150]	71%	66%	1.002	0.961	140,000
Occupation: Not Employed	0.0500000	[-0.120, 0.54]	62%	72%	1.006	0.988	20,238
Preoperative Taking Opioids	0.3900000	[-0.0300, 0.99]	20%	93%	1.013	0.991	7,861
Preoperative Taking Non-Opioid Analgesics	0.0100000	[-0.180, 0.330]	76%	60%	1.001	0.995	726,000
Preoperative Anxiety Score	0.0200000	[-0.060, 0.140]	93%	70%	1.013	0.987	7,495
Preoperative Depression Score	0.0100000	[-0.070, 0.140]	94%	67%	1.011	0.994	9,361
Preoperative Physical Function Score	0.0200000	[-0.060, 0.160]	91%	70%	1.020	0.997	4,736
Preoperative Pain Last Week at Surgical Site	0.9500000	[0.370, 1.49]#	0%*	100%	1.015	0.019	6,408
Surgery Type - Total Hip	-0.0037300	[-0.52, 0.340]	68%	54%	1.002	0.959	288,000
Surgery Type - Knee Replacement	1.4200000	[0.55, 2.19]#	0%*	100%	1.010	0.034	10,720
Surgery Type - Spine Surgery	1.0200000	[0.330, 1.61]#	0%*	100%	1.012	0.057	8,070
Surgery Type - Open Thoracic	0.1300000	[-0.170, 1.68]	44%	76%	1.001	0.970	384,000
Surgery Type - Mastectomy	1.0300000	[0, 1.87]	5%	97%	1.002	0.989	231,000
General Anesthesia	-0.1300000	[-1.15, 0.120]	45%	79%	1.054	0.987	1,666
Neuraxial Anesthesia	0.0600000	[-0.120, 0.63]	57%	75%	1.005	0.967	28,229
Anesthesia Duration (minutes)	0.0100000	[-0.040, 0.100]	100%	70%	1.005	0.998	25,938
Intraoperative Parenteral Morphine Equivalent	0.0024200	[-0.080, 0.090]	100%^	55%	1.027	0.979	3,287
Intraoperative Non-Opioid Analgesics Administer	0.0019400	[-0.300, 0.370]	72%	53%	1.001	0.962	632,000

The Credible Interval is positive, i.e., does not straddle 0.

* Null Hypothesis Rejected

^ Null Hypothesis Accepted

Anxiety, Depression, and Physical Function scores were collected using Patient-Reported Outcomes Measurement Information System Score forms (Physical Function short form 4a, Anxiety short form 4a, Depression short form 4a, as described in Cella D, Yount S, Rothrock N, Gershon R, Cook K, Reeve B, et al. The Patient-Reported Outcomes Measurement Information System (PROMIS): Progress of an NIH Roadmap Cooperative Group During its First Two Years. Med Care. 2007;45(5 Suppl 1):S3-S11.

(ASA, American Society of Anesthesiologists)

Median: Midpoint of posterior distribution values of unobserved parameter

95% Credible Interval: Interval within which a parameter value falls with 95% probability

Probability of direction: Index of a parameter being strictly positive or strictly negative; 50% probability = parameter equally likely to be positive or negative;
100% probability = parameter almost certainly strictly positive or strictly negative;
Probability of Direction range is 50% to 100%

Region of Practical Equivalence: A decision rule for asserting a zero value of no importance for a parameter in the regression if the Credible Interval lies close to the zero value; for logistic regression the limits of ROPE are-0.18 to 0.18 (approximately an odds ratio of 0.84 to 1.20);
0% = almost all of posterior distribution outside the Regio of Practical Equivalence = zero value for parameter effectively rejected:
100% = almost all the posterior distribution lies within the Region of Practical Equivalence = parameter effectively equivalent to a zero value.

Gelman-Rubin Convergence Diagnostic (r̂): Good mixing of the Markov Chain Monte Carlo estimation of the Bayesian Posterior Distribution is demonstrated by an r̂ value very close to 1.

The Maximum A Posteriori Based p Value: Reflects the odds that the parameter has against the null hypothesis. It is mathematically defined as the density value at 0 divided by the density at the mode of the posterior distribution.

Effective Sample Size: A measure of the success of the Markov Chain Monte Carlo search to fully explore the parameter space of the regression model; Effective Sample Size should be greater than 1000.