

Supplementary Online Content

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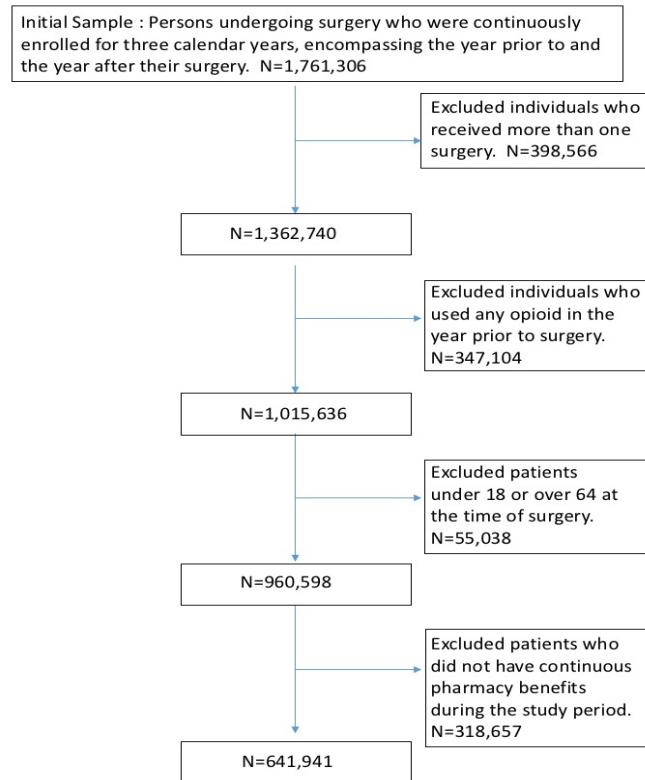
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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. List of CPT codes

	CPT Codes
Total Knee Arthroplasty ¹	27447
Total Hip Arthroplasty ¹	27130
Laparoscopic Cholecystectomy ²	47562, 47563, 47564
Open Cholecystectomy ³	47600, 47605, 47610
Laparoscopic Appendectomy ⁴	44970, 44979
Open Appendectomy ⁵	44950, 44960
Cesarean Section ⁶	59510, 59514, 59515
FESS ⁷	31237, 31240, 31254, 31255, 31256, 31267, 31276, 31287, 31288
Cataract Surgery ⁸	66982, 66983, 66984
TURP ⁹	52601, 52612, 52614
Simple Mastectomy ¹⁰⁻¹²	19301, 19302, 19303, 19180

eFigure. Sample Construction Flow Chart



eTable 2. List of Drug Classes

<i>Benzodiazepenes</i>	
	Alprazolam, chlordiazepoxide, clonazepam, clorazepate, diazepam, estazolam, flurazepam, halazepam, lorazepam, midazolam, oxazepam, prazepam, quazepam, temazepam, triazolam
<i>Antidepressants</i>	
SSRI	Citalopram, escitalopram, paroxetine, fluoxetine, fluvoxamine, sertraline
SNRI	Desvenlafaxine, duloxetine, levomilnacipran, milnacipran, tofenacin, venlafaxine
SMS	Vilazodone, vortioxetine
SARI	Etooperidone, trazodone, nefazodone
NRI	Reboxetine, viloxazine
TCAs	Amitriptyline, butriptyline, clomipramine, desipramine, dosulepin, imipramine, iprindole, lofepramine, melitracen, nortriptyline, protriptyline, trimipramine, opipramol, tianeptine
TeCAs	Amoxapine, maprotiline, mianserin, mirtazapine, setiptiline
MAOIs	Isocarboxazid, phenelzine, tranylcypromine, selegiline, metralindole, moclobemide, pirlindole, toloxatone
<i>Antipsychotics</i>	
Typical	Chlorpromazine, thioridazine, mesoridazine, levomepromazine, loxapine, molindone, perphenazine, thiothixene, trifluoperazine, haloperidol, fluphenazine, droperidol, zuclopenthixol, prochlorperazine
Atypical	Amisulpride, aripiprazole, asenapine, blonanserine, clotiapine, clozapine, iloperidone, lurasidone, mosapramine, olanzapine, paliperidone, perospirone, quetiapine, remoxipride, risperidone, sertindole, sulpiride, ziprasidone, zotepine

eTable 3. List of Medical Comorbidities and ICD-9 Codes

Congestive Heart Failure	398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 425.4-425.9, 428.x
Peripheral Vascular Disease	093.0, 437.3, 440.x, 441.x, 443.1-443.9, 447.1, 557.1, 557.9, V43.4
Hypertension	401-405
Chronic Obstructive Pulmonary Disease	416.8, 416.9, 490.x-505.x, 506.4, 508.1, 508.8
Diabetes Mellitus	250.x
Chronic Kidney Disease	403.01, 403.11, 403.91, 404.02, 404.03, 404.12, 404.13, 404.92, 404.93, 585.x, 586.x, 588.0, V42.0, V45.1, V56.x
Cancer	140.x-172.x, 174.x-202.x, 203.0, 238.6
Cerebrovascular Disease	430.x-438.x
Myocardial Infarction	410.x, 412.x
Dementia	290.x
Liver Disease	070.22, 070.23, 070.32, 070.33, 070.44, 070.54, 070.6, 070.9, 456.0-456.2, 570.x, 571.x, 572.2-572.8, 573.3, 573.4, 573.8, 573.9, V42.7
Alcohol Abuse	265.2, 291.1-291.3, 291.5-291.9, 303.0, 303.9, 305.0, 357.5, 425.5, 535.3, 571.0-571.3, 980.x, V11.3
Drug Abuse	292.x, 304.x, 305.2-305.9, V65.42
Psychosis	293.8, 295.x, 296.04, 296.14, 296.44, 296.54, 297.x, 298.x
Depression	296.2, 296.3, 296.5, 300.4, 309.x, 311

eTable 4. Sample Summary Characteristics, by procedure

	Non-Surgical	TKA	THA	LC	OC	LA	OA
<i>N</i>	18,011,137	40,672	22,074	170,012	6,263	50,899	14,928
<i>Demographics</i>							
Male (%)	42.4 (0.00298)	41.4**** (0.244)	54.6**** (0.335)	26.7**** (0.107)	44.3**** (0.627)	52.3**** (0.221)	55.2 (0.407)
Age (Years)	49.1 (0.0118)	57.5**** (0.0244)	55.3**** (0.0453)	46.8**** (0.0268)	51.2 (0.125)	39.6**** (0.0593)	42.3** (0.109)
<i>Pre-operative Drug Use</i>							
Benzodiazepines (%)	11.8 (0.00761)	10.7**** (0.154)	9.12**** (0.194)	11.8**** (0.0783)	11.6 (0.404)	7.09**** (0.114)	7.37**** (0.214)
Anti-depressants (%)	1.03 (0.00238)	19.9**** (0.198)	14.4**** (0.236)	19.4**** (0.0959)	18.5 (0.491)	13.3**** (0.150)	12.8**** (0.274)
Anti-psychotics (%)	6.69 (0.00589)	1.37**** (0.0576)	1.01 (0.0675)	1.94**** (0.0334)	3.47 (0.231)	1.25**** (0.0493)	1.56**** (0.101)
<i>Medical Comorbidities</i>							
Congestive Heart Failure (%)	0.453 (0.0158)	1.74**** (0.0648)	2.12**** (0.0971)	1.57**** (0.0302)	3.50**** (0.232)	0.862**** (0.0499)	1.15**** (0.0874)
Peripheral Vascular Disease (%)	0.525 (0.00170)	1.56**** (0.0614)	3.02**** (0.115)	2.13**** (0.0351)	3.77**** (0.240)	1.14**** (0.0471)	1.43**** (0.0971)
Hypertension (%)	13.0 (0.00793)	52.6**** (0.248)	41.0**** (0.331)	30.3**** (0.111)	40.8**** (0.621)	17.3**** (0.168)	19.7**** (0.326)
Chronic Obstructive Pulmonary Disease (%)	4.46 (0.00486)	8.33**** (0.137)	12.0**** (0.219)	13.7**** (0.0833)	14.0**** (0.439)	10.6**** (0.136)	10.1**** (0.246)
<p>eTable 4 presents summary statistics for our sample, broken down by procedure. “Non-surgical” indicates our reference sample of nonsurgical patients. TKA=total knee arthroplasty; THA=Total Hip Arthroplasty; LC=laparoscopic cholecystectomy; OC=open cholecystectomy; LA=laparoscopic appendectomy; OA=open appendectomy. Standard errors shown in parentheses. For each procedure, a t-test or chi-square test was used to test for differences against the reference sample of nonsurgical patients. *p<0.05; **p<0.01;***p<0.001,****p<0.0001</p>							

eTable 4 – Sample Summary Characteristics, by procedure (cont)

	Non-Surgical	TKA	THA	LC	OC	LA	OA
<i>N</i>	18,011,137	40,672	22,074	170,012	6,263	50,899	14,928
<i>Medical Comorbidities</i>							
Diabetes Mellitus (%)	4.94 (0.00511)	20.3**** (0.199)	11.4**** (0.214)	11.4**** (0.0770)	19.3**** (0.499)	5.36* (0.0998)	6.79**** (0.206)
Chronic Kidney Disease (%)	0.299 (0.00129)	1.53**** (0.0609)	1.30**** (0.0764)	0.892**** (0.0228)	2.20**** (0.186)	0.462**** (0.0301)	0.616**** (0.0641)
Cancer (%)	1.60 (0.00295)	6.12**** (0.118)	5.80**** (0.157)	3.76**** (0.0462)	9.55**** (0.371)	2.27**** (0.0660)	2.93**** (0.138)

Cerebrovascular Disease (%)	0.502 (0.00167)	3.18 ^{****} (0.0871)	2.37 ^{****} (0102)	2.14 ^{****} (0.0351)	2.83 ^{****} (0.209)	1.17 ^{****} (0.0476)	1.24 ^{****} (0.0906)
Dementia (%)	0.0299 (0.000408)	0.0836 ^{****} (0.0143)	0.0725 ^{***} (0.0181)	0.0871 ^{****} (0.00715)	0.128 ^{****} (0.0451)	0.0884 (0.0132)	0.0670 ^{***} (0.0212)
Myocardial Infarction (%)	0.229 (0.00113)	1.40 ^{****} (0.0582)	1.23 ^{****} (0.0741)	0.816 ^{****} (0.0218)	1.49 ^{****} (0.153)	0.548 ^{****} (0.0328)	0.690 ^{****} (0.0678)
Liver Disease (%)	0.961 (0.00230)	4.65 ^{****} (0.104)	3.96 ^{****} (0.131)	5.22 ^{****} (0.0540)	7.36 ^{****} (0.330)	2.41 ^{****} (0.0680)	2.57 ^{****} (0.130)
Alcohol Abuse (%)	0.388 (0.00146)	0.824 ^{****} (0.0448)	1.12 ^{****} (0.0709)	0.649 ^{****} (0.0195)	1.42 ^{****} (0.150)	0.914 ^{****} (0.0422)	0.878 ^{****} (0.0763)
Drug Abuse (%)	0.247 (0.00117)	0.342 ^{***} (0.0289)	0.394 ^{****} (0.0422)	0.414 ^{****} (0.0156)	0.415 ^{***} (0.0813)	0.609 ^{****} (0.0345)	0.543 ^{****} (0.0601)
Psychosis (%)	0.213 (0.00109)	0.524 ^{****} (0.0358)	0.471 ^{****} (0.0461)	0.547 ^{****} (0.0179)	1.05 ^{****} (0.129)	0.424 [*] (0.0288)	0.409 ^{****} (0.0522)
Depression (%)	5.37 (0.00531)	12.2 ^{****} (0.162)	10.9 ^{****} (0.211)	13.5 ^{****} (0.0829)	12.4 ^{****} (0.416)	11.8 ^{****} (0.143)	10.2 ^{****} (0.248)

eTable 4 presents summary statistics for our sample, broken down by procedure. “Non-surgical” indicates our reference sample of nonsurgical patients. TKA=total knee arthroplasty; THA=Total Hip Arthroplasty; LC=laparoscopic cholecystectomy; OC=open cholecystectomy; LA=laparoscopic appendectomy; OA=open appendectomy. Standard errors shown in parentheses. For each procedure, a t-test or chi-square test was used to test for differences against the reference sample of nonsurgical patients. *p<0.05; **p<0.01;***p<0.001;****p<0.0001

eTable 4 – Sample Summary Characteristics, by procedure (cont)

	Non-Surgical	TKA	THA	LC	OC	LA	OA
<i>N</i>	18,011,137	40,672	22,074	170,012	6,263	50,899	14,928
<i>Preoperative Health Care Utilization</i>							
Total Inpatient Claims (n)	0.956 (0.215)	1.21 ^{****} (0.0399)	1.32 ^{****} (0.0741)	2.96 ^{****} (0.0377)	1.35 ^{****} (0.0349)	10.4 ^{****} (0.563)	1.82 (0.0872)
Total Outpatient Claims (n)	20.1 (0.747)	53.1 ^{****} (0.204)	50.2 ^{****} (0.277)	44.2 ^{****} (0.0952)	25.6 ^{****} (0.137)	53.4 ^{****} (0.856)	25.2 (0.287)
Total Pharmacy Claims (n)	11.0 (0.374)	23.8 ^{****} (0.112)	18.3 ^{****} (0.130)	16.9 (0.0455)	11.1 0.0662	20.6 ^{****} (0.282)	12.0 (0.132)

eTable 4 presents summary statistics for our sample, broken down by procedure. “Non-surgical” indicates our reference sample of nonsurgical patients. TKA=total knee arthroplasty; THA=Total Hip Arthroplasty; LC=laparoscopic cholecystectomy; OC=open cholecystectomy; LA=laparoscopic appendectomy; OA=open appendectomy. Standard errors shown in parentheses. For each procedure, a t-test or chi-square test was used to test for differences against the reference sample of nonsurgical patients. *p<0.05; **p<0.01;***p<0.001;****p<0.0001

eTable 4 – Sample Summary Characteristics, by procedure

	Non-Surgical	Csec	FESS	Cat	TURP	Mast
<i>N</i>	18,011,137	201,662	30,848	68,854	5,568	30,161
<i>Demographics</i>						
Male (%)	42.4 (0.00298)	N/A	50.8 ^{****} (0.285)	52.2 ^{****} (0.190)	N/A	N/A
Age (Years)	49.1 (0.0118)	32.5 ^{****} (1.18)	45.4 ^{****} (0.0673)	56.8 ^{****} (0.0245)	58.5 ^{****} (0.0619)	52.0 ^{****} (0.0476)
<i>Pre-operative Drug Use</i>						
Benzodiazepines (%)	11.8 (0.00761)	3.97 ^{****} (0.0435)	11.3 ^{****} (0.180)	9.74 ^{****} (0.113)	10.8 ^{****} (0.416)	23.6 ^{****} (0.244)
Anti-depressants (%)	1.03 (0.00238)	7.75 ^{****} (0.0596)	19.0 ^{****} (0.223)	15.1 ^{****} (0.136)	12.1 (0.436)	19.1 ^{****} (0.226)
Anti-psychotics (%)	6.69 (0.00589)	7.50 ^{****} (0.0192)	1.55 (0.0704)	1.37 ^{****} (0.0443)	1.62 ^{****} (0.169)	3.74 ^{****} (0.109)
<i>Medical Comorbidities</i>						
Congestive Heart Failure (%)	0.453 (0.0158)	0.226 ^{****} (0.0106)	1.37 ^{****} (0.0663)	3.55 ^{****} (0.706)	3.07 ^{****} (0.231)	1.44 ^{****} (0.0686)
Peripheral Vascular Disease (%)	0.525 (0.00170)	0.273 ^{****} (0.0116)	1.90 ^{****} (0.0778)	4.32 ^{****} (0.0775)	4.36 ^{****} (0.274)	1.98 ^{****} (0.0803)
Hypertension (%)	13.0 (0.00793)	5.46 ^{****} (0.0506)	24.9 ^{****} (0.246)	43.0 ^{****} (0.189)	45.2 ^{****} (0.668)	29.6 ^{****} (0.263)
Chronic Obstructive Pulmonary Disease (%)	4.46 (0.00486)	7.79 ^{****} (0.0597)	22.4 ^{****} (0.237)	13.7 ^{****} (0.131)	12.3 ^{****} (0.440)	12.3 ^{****} (0.189)
<p>eTable 4 presents summary statistics for our sample, broken down by procedure. “Non-surgical” indicates our reference sample of nonsurgical patients. Csec=Cesarean Section; FESS=Functional Endoscopic Sinus Surgery; Cat=cataract surgery; TURP=Transurethral Prostate Resection; Mast=Sample Mastectomy. Standard errors shown in parentheses. For each procedure, a t-test or chi-square test was used to test for differences against the reference sample of nonsurgical patients. *p<0.05; **p<0.01; ***p<0.001; ****p<0.0001</p>						

eTable 4 – Sample Summary Characteristics, by procedure (cont)

	Non-Surgical	Csec	FESS	Cat	TURP	Mast
<i>N</i>	18,011,137	201,662	30,848	68,854	5,568	30,161
<i>Medical Comorbidities</i>						
Diabetes Mellitus (%)	4.94 (0.00511)	3.06**** (0.0383)	7.95**** (0.154)	23.7**** (0.162)	17.4**** (0.508)	9.74**** (0.171)
Chronic Kidney Disease (%)	0.299 (0.00129)	0.150**** (0.00863)	0.299**** (0.00129)	2.84**** (0.0633)	2.75**** (0.219)	0.773**** (0.0504)
Cancer (%)	1.60 (0.00295)	0.941**** (0.0215)	1.60**** (0.00295)	6.08**** (0.0911)	8.66**** (0.377)	18.7**** (0.225)
Cerebrovascular Disease (%)	0.502 (0.00167)	0.448**** (0.0149)	2.05**** (0.0808)	3.30**** (0.0680)	3.83**** (0.257)	2.01**** (0.0807)
Dementia (%)	0.0299 (0.000408)	0.0139**** (0.00262)	0.0875**** (0.0168)	0.160**** (0.0152)	0.216**** (0.0622)	0.149**** (0.0222)
Myocardial Infarction (%)	0.229 (0.00113)	0.0347**** (0.00415)	0.609**** (0.0443)	1.69**** (0.0492)	2.28**** (0.201)	0.517**** (0.0413)
Liver Disease (%)	0.961 (0.00230)	1.13**** (0.0236)	3.40**** (0.103)	4.04**** (0.0750)	4.53**** (0.279)	4.07**** (0.114)
Alcohol Abuse (%)	0.388 (0.00146)	0.318**** (0.0125)	0.830**** (0.0517)	1.04**** (0.0387)	1.11**** (0.141)	0.511**** (0.0410)
Drug Abuse (%)	0.247 (0.00117)	0.324**** (0.0127)	0.515**** (0.0408)	0.362**** (0.0229)	0.305**** (0.0739)	0.272**** (0.0299)
Psychosis (%)	0.213 (0.00109)	0.224**** (0.0105)	0.447**** (0.0380)	0.596**** (0.0294)	0.665**** (0.109)	0.448**** (0.0384)
Depression (%)	5.37 (0.00531)	10.4**** (0.0681)	14.2**** (0.198)	9.75**** (0.113)	9.21**** (0.387)	13.5 (0.197)
<p>eTable 4 presents summary statistics for our sample, broken down by procedure. “Non-surgical” indicates our reference sample of nonsurgical patients. Csec=Cesarean Section; FESS=Functional Endoscopic Sinus Surgery; Cat=cataract surgery; TURP=Transurethral Prostate Resection; Mast=Sample Mastectomy. Standard errors shown in parentheses. For each procedure, a t-test or chi-square test was used to test for differences against the reference sample of nonsurgical patients. *p<0.05; **p<0.01;***p<0.001;****p<0.0001</p>						

eTable 4 – Sample Summary Characteristics, by procedure (cont)

	Non-Surgical	Csec	FESS	Cat	TURP	Mast
<i>N</i>	18,011,137	201,662	30,848	68,854	5,568	30,161
<i>Preoperative Health Care Utilization</i>						
Total Inpatient Claims (n)	0.956 (0.215)	1.30**** (0.0178)	1.47**** (0.0632)	1.99**** (0.0576)	3.89**** (0.268)	0.923 (0.0460)
Total Outpatient Claims (n)	20.1 (0.747)	59.5**** (0.0929)	43.2**** (0.240)	39.1**** (0.193)	50.5**** (0.519)	66.3**** (0.329)
Total Pharmacy Claims (n)	11.0 (0.374)	9.32**** (0.0213)	20.7**** (0.116)	22.2**** (0.0882)	22.3**** (0.279)	15.4**** (0.0987)
<p>eTable 4 presents summary statistics for our sample, broken down by procedure. “Non-surgical” indicates our reference sample of nonsurgical patients. TKA=total knee arthroplasty; THA=Total Hip Arthroplasty; LC=laparoscopic cholecystectomy; OC=open cholecystectomy; LA=laparoscopic appendectomy; OA=open appendectomy Standard errors shown in parentheses. For each procedure, a t-test or chi-square test was used to test for differences against the reference sample of nonsurgical patients. *p<0.05; **p<0.01;***p<0.001;****p<0.0001</p>						

eTable 5 – Risk Factors for Chronic Opioid Use Following Surgery Among Opioid Naïve Patients

	Procedure										
	TKA	THA	LC	OC	LA	OA	Csec	FESS	Cataract	TURP	Mast
<i>Demographics</i>											
Male	1.11 (0.09 95) p=0.2 29	0.919 (0.17 2) p=0.6 54	1.58 (0.14 3) p<0.0 01	1.68 (0.45 8) p=0.0 59	1.18 (0.28 0) p=0.4 76	1.22 (0.42 5) p=0.5 60	N/A	1.07 (0.24 1) p=0.7 79	1.58 (0.25 2) p=0.0 04	N/A	N/A
Age>50	0.699 (0.10 3) p=0.0 16	0.919 (0.13 0) p=0.0 17	1.23 (0.11 3) p=0.0 23	0.949 (0.26 1) p=0.8 49	1.46 (0.37 3) p=0.1 43	1.09 (0.41 0) p=0.8 23	N/A	1.15 (0.27 1) p=0.5 45	1.18 (0.33 0) p=0.5 71	0.404 (0.30 7) p=0.2 33	0.727 (0.11 9) p=0.0 52
<i>Pre-operative Drug Use</i>											
Benzodiazepines	1.68 (0.20 2) p<0.0 01	0.974 (0.29 2) p=0.9 29	1.87 (0.19 1) p<0.0 01	1.41 (0.44 0) p=0.2 78	1.58 (0.49 9) p=0.1 52	1.02 (0.56 0) p=0.9 78	2.21 (0.46 5) p<0.0 01	1.25 (0.38 6) p=0.4 70	1.80 (0.35 6) p=0.0 03	3.42 (1.84) p=0.0 21	1.98 (0.31 4) p<0.0 01
Antidepressants	1.10 (0.12 6) p=0.4 03	1.36 (0.34 3) p=0.2 18	1.73 (0.17 7) p<0.0 01	1.34 (0.42 9) p=0.3 68	1.29 (0.41 9) p=0.4 30	1.67 (0.82 6) p=0.3 04	2.86 (0.50 6) p<0.0 01	1.44 (0.38 0) p=0.1 65	1.81 (0.36 7) p=0.0 03	0.779 (0.69 5) p=0.7 80	1.11 (0.21 8) p=0.6 03
Antipsychotics	1.21 (0.33 6) p=0.4 98	0.734 (0.55 4) p=0.6 82	1.29 (0.23 3) p=0.1 60	1.52 (0.75 6) p=0.4 02	0.625 (0.56 7) p=0.6 05	a	2.18 (0.76 5) p=0.0 27	0.742 (0.48 1) p=0.6 45	0.838 (0.37 7) p=0.6 95	0.153 (0.14 5) p=0.0 45	1.64 (1.17) p=0.4 85

eTable 5 presents the results of a multivariable logistic regression in which the dependent variable is chronic opioid use and the independent variables of interest are pre-operative use of benzodiazepines, antidepressants, and antipsychotics. The table displays the odds ratio for chronic use associated with each risk factor, with robust standard errors shown in parentheses. Not shown are controls for the remaining medical variables listed in table 1, as well as controls for year of surgery. N/A=procedure is gender/age specific. a=risk factor not analyzed because the incidence of chronic pain was zero for patients in the category. TKA=Total Knee Arthroplasty; THA=Total Hip Arthroplasty; LC=Laparoscopic Cholecystectomy; OC=Open Cholecystectomy; LA=Laparoscopic Appendectomy; OA=Open Appendectomy; CSec=Cesarean Section; FESS=Functional Endoscopic Sinus Surgery; TURP=Transurethral Prostate Resection; Mast=Simple mastectomy

eTable 5 – Risk Factors for Chronic Opioid Use Following Surgery Among Opioid Naïve Patients (cont.)

	Procedure										
	TKA	THA	LC	OC	LA	OA	Csec	FESS	Cataract	TURP	Mast
<i>Medical Comorbidities</i>											
Depression	0.806 (0.116) p=0.133	1.58 (0.434) p=0.095	1.61 (0.176) p<0.001	1.05 (0.357) p=0.887	0.994 (0.324) p=0.986	1.40 (0.701) p=0.508	1.03 (0.201) p=0.897	1.35 (0.425) p=0.339	1.44 (0.354) p=0.134	0.203 (0.156) p=0.038	1.11 (0.219) p=0.603
Psychosis	1.03 (0.476) p=0.951	2.86 (2.32) p=0.196	0.757 (0.348) p=0.546	1.52 (0.756) p=0.402	1.32 (1.65) p=0.823	a	1.07 (0.848) p=0.929	0.624 (0.729) p=0.686	0.619 (0.624) p=0.634	39.8 (36.3) p<0.001	1.65 (1.17) p=0.485
Alcohol Abuse	2.08 (0.605) p=0.012	0.744 (0.698) p=0.752	1.19 (0.434) p=0.630	2.46 (1.64) p=0.174	2.89 (2.19) p=0.140	3.42 (4.31) p=0.329	0.737 (0.585) p=0.700	3.19 (2.05) p=0.071	2.42 (1.15) p=0.062	9.12 (7.61) p=0.008	2.87 (1.57) p=0.053
Drug Abuse	3.74 (1.31) p<0.001	1.22 (1.35) p=0.857	5.90 (1.82) p<0.001	a	1.22 (1.41) p=0.864	3.20 (4.68) p=0.206	5.79 (2.33) p<0.001	2.27 (2.31) p=0.416	3.97 (2.48) p=0.027	4.46 (3.69) p=0.071	3.77 (2.35) p=0.033

eTable 5 presents the results of a multivariable logistic regression in which the dependent variable is chronic opioid use and the independent variables of interest are pre-operative use of benzodiazepines, antidepressants, and antipsychotics. The table displays the odds ratio for chronic use associated with each risk factor, with robust standard errors shown in parentheses. Not shown are controls for the remaining medical variables listed in table 1, as well as controls for year of surgery. a=risk factor not analyzed because the incidence of chronic pain was zero for patients in the category. TKA=Total Knee Arthroplasty; THA=Total Hip Arthroplasty; LC=Laparoscopic Cholecystectomy; OC=Open Cholecystectomy; LA=Laparoscopic Appendectomy; OA=Open Appendectomy; CSec=Cesarean Section; FESS=Functional Endoscopic Sinus Surgery; TURP=Transurethral Prostate Resection; Mast=Simple mastectomy

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