

**Supplementary Table 2.** 100 surgeries that were most frequently performed

Procedure name	ICD-9 code	Procedure frequency	No. of stroke	Incidence of stroke (%)
Low cervical cesarean section	741	516,134	41	0.01
Total knee replacement	8154	191,443	173	0.09
Percutaneous transluminal coronary angioplasty	0066	165,698	761	0.46
Laparoscopic cholecystectomy	5123	141,814	117	0.08
Hemodialysis	3995	115,663	454	0.39
Total hip replacement	8151	98,769	111	0.11
Laparoscopic appendectomy	4701	92,255	22	0.02
Other and unspecified total abdominal hysterectomy	6849	691,39	27	0.04
Open reduction of fracture with internal fixation; femur	7935	51,207	275	0.54
Percutaneous abdominal drainage	5491	46,708	93	0.2
Episiotomy	736	45,878	*	0.01
Thoracentesis	3491	45,733	175	0.38
Other cervical fusion of the anterior column, anterior technique	8102	41,651	45	0.11
Open reduction of fracture with internal fixation; tibia and fibula	7936	41,571	42	0.1
Other exploration and decompression of spinal canal	0309	37,627	77	0.2
Excision of intervertebral disc	8051	37,514	18	0.05
Partial hip replacement	8152	36,879	250	0.68
Other and unspecified vaginal hysterectomy	6859	33,798	*	0.02
Angioplasty of other non-coronary vessel(s)	3950	32,919	157	0.48
Other appendectomy	4709	32,117	13	0.04
Lumbar and lumbosacral fusion of the anterior column, posterior technique	8108	31,922	53	0.17
Radical prostatectomy	605	27,682	12	0.04
Endarterectomy; other vessels of head and neck	3812	27,172	433	1.59
Other transurethral prostatectomy	6029	25,617	33	0.13
Interruption of the vena cava	387	22,439	288	1.28
Closed reduction of fracture with internal fixation; femur	7915	22,214	114	0.51
Laparoscopically assisted vaginal hysterectomy	6851	20,672	*	0.01
Excision or destruction of other lesion or tissue of heart, endovascular approach	3734	20,145	62	0.31
Open and other right hemicolectomy	4573	20,075	117	0.58
Other partial resection of small intestine	4562	19,867	121	0.61
Lumbar and lumbosacral fusion of the anterior column, anterior technique	8106	18,861	23	0.12
Other lysis of peritoneal adhesions	5459	18,711	48	0.26
Open and other sigmoidectomy	4576	18,441	90	0.49
Cholecystectomy	5122	17,557	57	0.32
Nephroureterectomy	5551	16,516	45	0.27
Insertion of intercostal catheter for drainage	3404	16,069	52	0.32
Open and other replacement of aortic valve with tissue graft	3521	15,928	416	2.61
Complete thyroidectomy	064	15,238	*	0.04
Circumcision	640	15,138	*	0.01
Amputation of toe	8411	15,130	29	0.19
(Aorto)coronary bypass of two coronary arteries	3612	14,793	216	1.46
Other and unspecified subtotal abdominal hysterectomy	6839	14,602	*	0.01
Other excision or destruction of lesion or tissue of brain	0159	14,476	468	3.23
Lumbar and lumbosacral fusion of the posterior column, posterior technique	8107	14,067	29	0.21

Supplementary Table 2. Continued

Procedure name	ICD-9 code	Procedure frequency	No. of stroke	Incidence of stroke (%)
Open reduction of fracture with internal fixation; radius and ulna	7932	13,718	10	0.07
(Aorto)coronary bypass of three coronary arteries	3613	13,380	238	1.78
Other open incisional hernia repair with graft or prosthesis	5361	13,063	*	0.04
Laparoscopic total abdominal hysterectomy	6841	12,607	*	0.03
Open reduction of fracture with internal fixation; humerus	7931	12,565	10	0.08
Other (peripheral) vascular shunt or bypass	3929	12,302	57	0.46
Unilateral extended simple mastectomy	8543	12,087	*	0.02
Arteriovenostomy for renal dialysis	3927	11,559	70	0.61
Transurethral removal of obstruction from ureter and renal pelvis	560	11,027	10	0.09
Incision of cerebral meninges	0131	10,929	357	3.27
Biopsy of lymphatic structure	4011	10,455	36	0.34
Internal fixation of bone without fracture reduction; femur	7855	10,171	40	0.39
Other transurethral excision or destruction of lesion or tissue of bladder	5749	10,151	28	0.28
Laparoscopic right hemicolectomy	1733	10,009	24	0.24
Percutaneous nephrostomy without fragmentation	5503	9,998	41	0.41
Laparoscopic lysis of peritoneal adhesions	5451	9,655	11	0.11
Arthroplasty; other total shoulder replacement	8180	9,130	11	0.12
Other amputation below knee	8415	8,776	66	0.75
Unilateral thyroid lobectomy	062	8,775	*	0
Open and other replacement of aortic valve	3522	8,633	205	2.37
Open and other partial gastrectomy	4389	8,582	*	0.08
Excision of axillary lymph node	4023	8,537	*	0.02
Laparoscopic sigmoidectomy	1736	8,432	12	0.14
Endovascular implantation of other graft in abdominal aorta	3971	8,414	37	0.44
Thoracoscopic excision of lesion or tissue of lung	3220	8,401	31	0.37
Revision of hip replacement, both acetabular and femoral components	0070	7,814	21	0.27
Excision of lesion of other soft tissue	8339	7,457	13	0.17
Other free skin graft to other sites	8669	7,308	15	0.21
Dorsal and dorsolumbar fusion of the posterior column, posterior technique	8105	7,204	18	0.25
Other unilateral salpingo-oophorectomy	6549	7,105	*	0.01
Other kidney transplantation	5569	7,093	*	0.13
Revision of knee replacement, total (all components)	0080	6,983	*	0.11
(Aorto)coronary bypass of four or more coronary arteries	3614	6,942	134	1.93
Implant of pulsation balloon	3761	6,913	151	2.18
Open and other left hemicolectomy	4575	6,733	56	0.83
Other removal of both ovaries and tubes at same operative episode	6561	6,644	*	0.11
Other endovascular procedures on other vessels	3979	6,577	76	1.16
Other lobectomy of lung	3249	6,539	37	0.57
Other revision of vascular procedure	3949	6,309	35	0.55
Other repair of urinary stress incontinence	5979	6,230	*	0.03
Arthroplasty; partial shoulder replacement	8181	6,110	*	0.08
(Aorto)coronary bypass of one coronary artery	3611	6,108	79	1.29
Other cervical fusion of the posterior column, posterior technique	8103	5,539	20	0.36
Incision of perirectal tissue	4881	5,520	*	0.04

**Supplementary Table 2.** Continued

Procedure name	ICD-9 code	Procedure frequency	No. of stroke	Incidence of stroke (%)
Other anterior resection of rectum	4863	5,506	15	0.27
Other myectomy	8345	5,416	21	0.39
Unilateral simple mastectomy	8541	5,286	*	0.02
Single internal mammary-coronary artery bypass	3615	5,282	69	1.31
Attachment of pedicle or flap graft to other sites	8674	5,254	*	0.11
Partial nephrectomy	554	5,180	*	0.15
Other and unspecified hysterectomy	689	5,129	*	0.06
Amputation above knee	8417	5,021	53	1.06
Percutaneous vertebral augmentation	8166	4,749	*	0.19
Laparoscopy	5421	4,724	*	0.11
Amputation through foot	8412	4,686	20	0.43
Open heart valvuloplasty of mitral valve without replacement	3512	4,597	79	1.72

ICD-9, International Classification of Diseases, 9th revision.

\*Any results showing numbers less than 10 patients to maintain patient privacy.