

Supplementary Online Content

Chen YH, Zink T, Chen YW, et al. Postoperative aspiration pneumonia among adults using GLP-1 receptor agonists. *JAMA Netw Open*. 2025;8(3):e250081. doi:10.1001/jamanetworkopen.2025.0081

eTable 1. The 14 Common Surgeries Identified by *Current Procedural Terminology* Codes

eTable 2. Outcome Variables Identified by the *ICD-10*

eTable 3. Number of Patients in Each Procedure

eFigure. Patient Selection Flowchart

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

eTable 1. The 14 common surgeries identified by *Current Procedural Terminology* (CPT) codes

Surgeries	CPT code
Bariatric surgical treatment	43621, 43633, 43644, 43645, 43770, 43771, 43772, 43773, 43774, 43775, 43842, 43843, 43845, 43846, 43847, 43848
Knee arthroplasty	27438, 27440, 27441, 27442, 27443, 27445, 27446, 27447, 27486, 27487
Hip arthroplasty	27125, 27130, 27132, 27134, 27137, 27138
Colorectal resection	44140, 44141, 44143, 44144, 44145, 44146, 44147, 44150, 44151, 44155, 44156, 44157, 44158, 44160, 44188, 44204, 44205, 44206, 44207, 44208, 44210, 44211, 44212, 44213
Laminectomy	22220, 22222, 22224, 22856, 22857, 22861, 22862, 22867, 62287, 62351, 62380, 63001, 63003, 63005, 63011, 63012, 63015, 63016, 63017, 63020, 63030, 63035, 63040, 63042, 63045, 63046, 63047, 63048, 63050, 63051, 63055, 63056, 63064, 63075, 63077, 63081, 63082, 63085, 63086, 63087, 63088, 63090, 63091, 63101, 63102, 63103, 63170, 63172, 63173, 63180, 63182, 63185, 63190, 63191, 63194, 63195, 63196, 63197, 63198, 63199, 63200, 63250, 63251, 63252, 63265, 63266, 63267, 63268, 63270, 63271, 63272, 63273, 63275, 63276, 63277, 63278, 63280, 63281, 63282, 63283, 63285, 63286, 63287, 63290, 63709, 63740, 0202T, 0219T, 0220T, 0221T
Spinal fusion	22532, 22533, 22548, 22551, 22554, 22556, 22558, 22586, 22590, 22595, 22600, 22610, 22612, 22630, 22633, 22800, 22802, 22804, 22808, 22810, 22812, 27280
Coronary artery bypass graft	33510, 33511, 33512, 33513, 33514, 33516 33533, 33534, 33535, 33536
Groin hernia repair	11008, 49491, 49492, 49495, 49496, 49500, 49501, 49505, 49507, 49520, 49521, 49525, 49550, 49553, 49555, 49557, 49560, 49561, 49565, 49566, 49570, 49572, 49580, 49582, 49585, 49587, 49590, 49600, 49605, 49606, 49610, 49611, 49650, 49651, 49652, 49653, 49654, 49655, 49656, 49657, 49659
Thyroidectomy	60240, 60252, 60254, 60260, 60270, 60271
Hysterectomy	58150, 58152, 58180, 58200, 58210, 58240, 58541, 58542, 58543, 58544, 58548, 58550, 58552, 58553, 58554, 58570, 58571, 58572, 58573, 58951, 58953, 58954, 58956, 59525, 58575 51925, 58260, 58262, 58263, 58267, 58270, 58275, 58280, 58285, 58290, 58291, 58292, 58293, 58294
Lower extremity amputation	27290, 27590, 27591, 27592, 27598, 27880, 27881, 27882, 27884, 27886, 27888, 27889, 28124, 28126, 28160, 28800, 28805, 28810, 28820, 28825
Appendectomy	44950, 44955, 44960, 44970
Hip fracture surgery	27244, 27245, 27248, 27254, 27269, 27506, 27507, 27511, 27513, 27514
Tibial and ankle shaft fracture	27535, 27536, 27540, 27758, 27759, 27766, 27769, 27784, 27792, 27814, 27822, 27823, 27826, 27827, 27828

eTable 2. Outcome variables identified by the *International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10)*

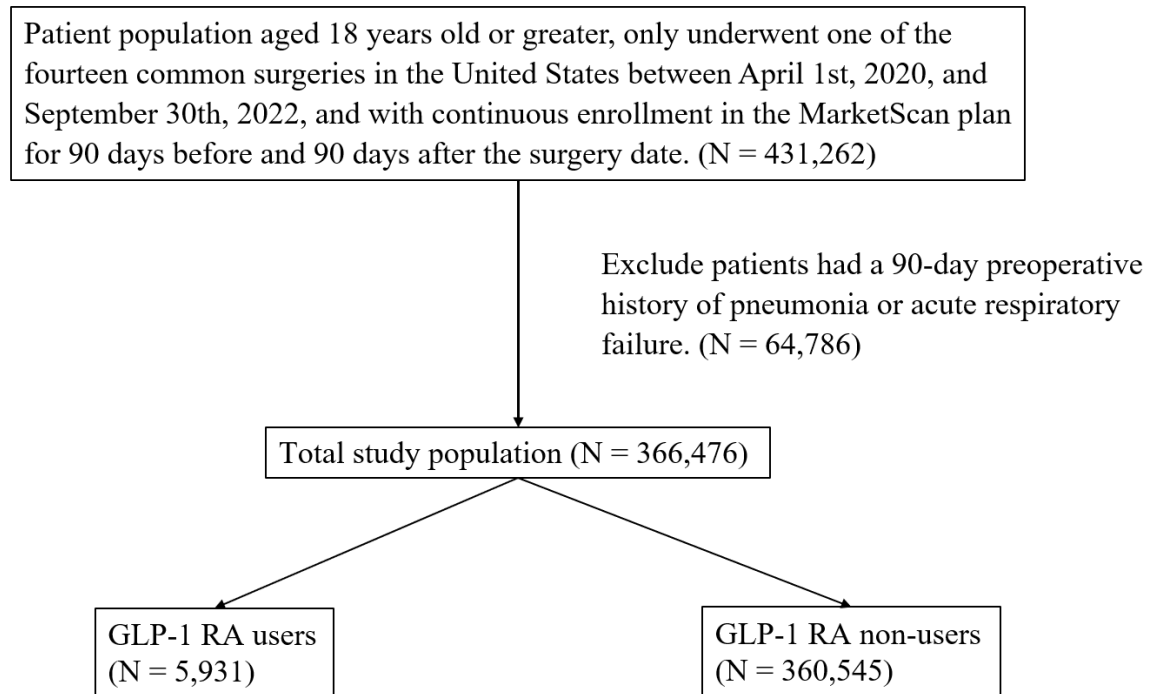
Primary outcome	ICD-10
Aspiration pneumonia	J69 Pneumonitis due to solids and liquids J69.0 Pneumonitis due to inhalation of food and vomit J69.1 Pneumonitis due to inhalation of oils and essences J69.8 Pneumonitis due to inhalation of other solids and liquids J95.4 Chemical pneumonitis due to anesthesia J95.89 Other postprocedural complications and disorders of respiratory system, not elsewhere classified
Other pneumonia	J13-J18 J13 Pneumonia due to <i>Streptococcus pneumoniae</i> J14 Pneumonia due to <i>Hemophilus influenzae</i> J15 Bacterial pneumonia, not elsewhere classified J15.0 Pneumonia due to <i>Klebsiella pneumoniae</i> J15.1 Pneumonia due to <i>Pseudomonas</i> J15.2 Pneumonia due to staphylococcus J15.20 Pneumonia due to staphylococcus, unspecified J15.21 Pneumonia due to staphylococcus aureus J15.211 Pneumonia due to Methicillin susceptible <i>Staphylococcus aureus</i> J15.212 Pneumonia due to Methicillin resistant <i>Staphylococcus aureus</i> J15.29 Pneumonia due to other staphylococcus J15.3 Pneumonia due to streptococcus, group B J15.4 Pneumonia due to other streptococci J15.5 Pneumonia due to <i>Escherichia coli</i> J15.6 Pneumonia due to other Gram-negative bacteria J15.61 Pneumonia due to <i>Acinetobacter baumannii</i> J15.69 Pneumonia due to other Gram-negative bacteria J15.7 Pneumonia due to <i>Mycoplasma pneumoniae</i> J15.8 Pneumonia due to other specified bacteria J15.9 Unspecified bacterial pneumonia J16 Pneumonia due to other infectious organisms, not elsewhere classified J16.0 Chlamydial pneumonia J16.8 Pneumonia due to other specified infectious organisms J17 Pneumonia in diseases classified elsewhere J18 Pneumonia, unspecified organism J18.0 Bronchopneumonia, unspecified organism J18.1 Lobar pneumonia, unspecified organism J18.2 Hypostatic pneumonia, unspecified organism J18.8 Other pneumonia, unspecified organism J18.9 Pneumonia, unspecified organism
Secondary outcomes	ICD-10
Acute respiratory failure	J45, J80-84, J90, J91, J93, J95, J96, R06, R09

We extended our inclusion beyond aspiration pneumonia because patients with aspiration pneumonia might be coded in other ways, such as bacterial pneumonia or streptococcal pneumonia.

eTable 3. Number of patients in each procedure

Procedures	Number of patients
Total	366,476
Groin hernia repair	70,579 (19.3%)
Hysterectomy	58,977 (16.1%)
Knee arthroplasty	53,841 (14.7%)
Hip arthroplasty	34,118 (9.3%)
Appendectomy	28,577 (7.8%)
Laminectomy	25,792 (7.0%)
Bariatric surgery	21,138 (5.8%)
Spinal fusion	20,325 (5.5%)
Tibial and ankle shaft fractures	16,849 (4.6%)
Colectomy	12,608 (3.4%)
Lower extremity amputation	7,296 (2.0%)
Thyroidectomy	6,336 (1.7%)
Hip fracture (femoral, intertrochanter)	5,733 (1.6%)
Coronary artery bypass graft	4,307 (1.2%)

eFigure. Patient Selection Flowchart



Abbreviations: glucagon-like peptide-1 receptor agonists (GLP-1 RAs).