**Appendix 2.** IDC-9-CM Diagnosis and Procedure codes utilized for the identification of the study population

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| **ICD-9-CM Code** | **Description** |
| 278.01 | Morbid obesity |
| 43.11 | Percutaneous [endoscopic] gastrostomy [PEG] |
| 43.19 | Other gastrostomy |
| 43.7 | Partial gastrectomy with anastomosis to jejunum |
| 43.82 | Laparoscopic vertical (sleeve) gastrectomy |
| 43.89 | Open and other partial gastrectomy |
| 44.31 | High gastric bypass |
| 44.38 | Laparoscopic gastroenterostomy |
| 44.39 | Other gastroenterostomy without gastrectomy |
| 44.68 | Laparoscopic gastroplasty |
| 44.69 | Other repair of stomach |
| 44.95 | Laparoscopic gastric restrictive procedure |
| 45.51 | Isolation of segment of small intestine |
| 45.91 | Small-to-small intestinal anastomosis |
| 44.5 | Revision of gastric anastomosis |
| 44.96 | Laparoscopic revision of gastric restrictive procedure |
| 44.97 | Laparoscopic removal of gastric restrictive device(s) |
| 44.98 | (Laparoscopic) adjustment of size of adjustable gastric restrictive device |
| 44.99 | Other operations on stomach |
| 81.01 | Atlas-axis spinal fusion |
| 81.02 | Other cervical fusion of the anterior column, anterior technique |
| 81.03 | Other cervical fusion of the posterior column, posterior technique |
| 81.31 | Refusion of atlas-axis spine |
| 81.32 | Refusion of other cervical spine, anterior column, anterior technique |
| 81.33 | Refusion of other cervical spine, posterior column, posterior technique |
| 81.04 | Dorsal and dorsolumbar fusion of the anterior column, anterior technique |
| 81.05 | Dorsal and dorsolumbar fusion of the posterior column, posterior technique |
| 81.06 | Lumbar and lumbosacral fusion of the anterior column, anterior technique |
| 81.07 | Lumbar and lumbosacral fusion of the posterior column, posterior technique |
| 81.08 | Lumbar and lumbosacral fusion of the anterior column, posterior technique |
| 81.34 | Refusion of dorsal and dorsolumbar spine, anterior column, anterior technique |
| 81.35 | Refusion of dorsal and dorsolumbar spine, posterior column, posterior technique |
| 81.36 | Refusion of lumbar and lumbosacral spine, anterior column, anterior technique |
| 81.37 | Refusion of lumbar and lumbosacral spine, posterior column, posterior technique |
| 81.38 | Refusion of lumbar and lumbosacral spine, anterior column, posterior technique |
| 81.39 | Refusion of spine, not elsewhere specified |