

Appendix – Criteria used for the automated chart review

A. Heart attack

- a. Chart review is positive if ANY of the following ICD-9 codes are listed as a final diagnosis and not listed as the admitting diagnosis.
 - i. 410.01 (Acute myocardial infarction of anterolateral wall...initial episode of care)
 - ii. 410.11 (Acute myocardial infarction of other anterior wall...initial episode of care)
 - iii. 410.21 (Acute myocardial infarction of inferolateral wall...initial episode of care)
 - iv. 410.31 (Acute myocardial infarction of inferoposterior wall...initial episode of care)
 - v. 410.41 (Acute myocardial infarction of other inferior wall...initial episode of care)
 - vi. 410.51 (Acute myocardial infarction of other lateral wall...initial episode of care)
 - vii. 410.61 (True posterior wall infarction...initial episode of care)
 - viii. 410.71 (Subendocardial infarction ... initial episode of care)
 - ix. 410.81 (Acute myocardial infarction of other specified sites ... initial episode of care)
 - x. 410.91 (Acute myocardial infarction of unspecified site ... initial episode of care)

B. Your heart stopped beating (cardiac arrest)

- a. Chart review is positive if ANY of the following ICD-9 codes are listed as a final diagnosis and not listed as the admitting diagnosis.
 - i. 427.4X (Ventricular fibrillation and flutter)
 - ii. 427.5 (Cardiac arrest)

C. Heart failure (congestive heart failure)

- a. Chart review is positive if ANY of the following ICD-9 codes are listed as a final diagnosis and not listed as the admitting diagnosis.
 - i. 428.1 (Left heart failure)
 - ii. 428.21 (Acute systolic heart failure)
 - iii. 428.23 (Acute on chronic systolic heart failure)
 - iv. 428.31 (Acute diastolic heart failure)
 - v. 428.33 (Acute on chronic diastolic heart failure)
 - vi. 428.41 (Acute combined systolic and diastolic heart failure)
 - vii. 428.43 (Acute on chronic combined systolic and diastolic heart failure)

D. Abnormal heart rhythm such as atrial fibrillation

- a. Chart review is positive if the patient meets ANY of the following criteria.
 - i. A post-procedure electrocardiogram shows atrial fibrillation or atrial flutter, and the patient was not in atrial fibrillation/flutter prior to the procedure
 - ii. There is a post-procedure order for amiodarone, and amiodarone was not on the patient's home medication list
 - iii. ICD-9 procedure code 99.61 (Atrial cardioversion) is listed
 - iv. A post-procedure electrocardiogram shows ventricular tachycardia, supraventricular tachycardia, ectopic atrial rhythm, atrioventricular block, junctional rhythm, or wide QRS rhythm, and the rhythm was not also present on a pre-procedure electrocardiogram.

- E. Severe pain coming from your heart (angina)
 - a. Chart review is positive if there is at least one post-procedure pain score with Location = "Substernal" and intensity of 7/10 or greater.

- F. Stroke (for example, weakness on one side of the body or difficulty speaking)
 - a. Chart review is positive if ANY of the following ICD-9 codes are listed as a final diagnosis and not listed as the admitting diagnosis.
 - i. 430 (Subarachnoid hemorrhage)
 - ii. 431 (Intracerebral hemorrhage)
 - iii. 433.01 (Occlusion and stenosis of basilar artery ...with cerebral infarction)
 - iv. 433.11 (Occlusion and stenosis of carotid artery ...with cerebral infarction)
 - v. 433.21 (Occlusion and stenosis of vertebral artery ...with cerebral infarction)
 - vi. 433.31 (Occlusion and stenosis of multiple and bilateral precerebral arteries ...with cerebral infarction)
 - vii. 433.81 (Occlusion and stenosis of other specified precerebral artery ...with cerebral infarction)
 - viii. 433.91 (Occlusion and stenosis of unspecified precerebral artery ...with cerebral infarction)
 - ix. 434.01 (Cerebral thrombosis ...with cerebral infarction)
 - x. 434.11 (Cerebral embolism ...with cerebral infarction)
 - xi. 434.91 (Cerebral artery occlusion unspecified ...with cerebral infarction)
 - xii. 997.02 (Iatrogenic cerebrovascular infarction or hemorrhage)

- G. Blood clot in your leg
 - a. Chart review is positive if ICD-9 code 453.4X (Acute venous embolism and thrombosis of deep vessels of lower extremity) is listed as a final diagnosis and not listed as the admitting diagnosis.

- H. Blood clot in your lung
 - a. Chart review is positive if ICD-9 code 415.1X (Pulmonary embolism and infarction) is listed as a final diagnosis and not listed as the admitting diagnosis.

- I. Infection in the surgical wound
 - a. Chart review is positive if ANY of the following ICD-9 codes are listed as a final diagnosis and not listed as the admitting diagnosis.
 - i. 519.01 (Infection of tracheostomy)
 - ii. 530.86 (Infection of esophagostomy)
 - iii. 536.41 (Infection of gastrostomy)
 - iv. 539.01 (Infection due to gastric band procedure)
 - v. 539.81 (Infection due to other bariatric procedure)
 - vi. 569.61 (Infection of colostomy or enterostomy)
 - vii. 596.81 (Infection of cystostomy)
 - viii. 635.0X (Legally induced abortion complicated by genital tract and pelvic infection)
 - ix. 636.0X (Illegal abortion complicated by genital tract and pelvic infection)
 - x. 637.0X (Unspecified abortion complicated by genital tract and pelvic infection)

- xi. 638.0X (Failed attempted abortion complicated by genital tract and pelvic infection)
- xii. 639.0X (Genital tract and pelvic infection following abortion or ectopic and molar pregnancies)
- xiii. 996.6X (Infection and inflammatory reaction due to internal prosthetic device implant and graft)
- xiv. 998.5X (Postoperative infection not elsewhere classified)
- xv. 999.3X (Other infection due to medical care not elsewhere classified)

J. You stopped breathing (respiratory arrest)

- a. Chart review is positive if ICD-9 code 799.1 (Respiratory arrest) is listed as a final diagnosis and not listed as the admitting diagnosis.

K. You were placed on a breathing machine because you were struggling to breathe on your own (respiratory failure)

- a. Chart review is positive if ANY of the following ICD-9 procedure codes are listed.
 - i. 93.90 (Non-invasive mechanical ventilation)
 - ii. 93.91 (Intermittent positive pressure breathing [IPPB])
 - iii. 96.70 (Continuous invasive mechanical ventilation of unspecified duration)
 - iv. 96.71 (Continuous invasive mechanical ventilation for less than 96 consecutive hours)
 - v. 96.72 (Continuous invasive mechanical ventilation for 96 consecutive hours or more)

L. An infection in your lungs (pneumonia)

- a. Chart review is positive if ANY of the following ICD-9 codes are listed as a final diagnosis and not listed as the admitting diagnosis.
 - i. 011.6X (Tuberculous pneumonia)
 - ii. 073.0 (Ornithosis with pneumonia)
 - iii. 112.4 (Candidiasis of lung)
 - iv. 136.3 (Pneumocystosis)
 - v. 480.X (Viral pneumonia)
 - vi. 481 (Pneumococcal pneumonia)
 - vii. 482.X (Other bacterial pneumonia)
 - viii. 483.X (Pneumonia due to other specified organism)
 - ix. 484.X (Pneumonia in infectious diseases classified elsewhere)
 - x. 485 (Bronchopneumonia, organism unspecified)
 - xi. 486 (Pneumonia, organism unspecified)
 - xii. 487.0 (Influenza with pneumonia)
 - xiii. 510.X (Empyema)
 - xiv. 997.31 (Ventilator associated pneumonia)
 - xv. 997.32 (Postprocedural aspiration pneumonia)

M. Kidney failure and you needed dialysis

- a. Chart review is positive if the patient is not on dialysis at home AND if ANY of the following ICD-9 procedure codes are listed.
 - i. 39.95 (Hemodialysis)
 - ii. 54.98 (Peritoneal dialysis)

N. Nerve injury related to your procedure

- a. Chart review is positive if ANY of the following ICD-9 codes are listed as a final diagnosis and not listed as the admitting diagnosis.
 - i. 354.X (Mononeuritis of upper limb and mononeuritis multiplex)
 1. Except do not count 354.0 (Carpal tunnel syndrome)
 - ii. 355.X (Mononeuritis of lower limb and unspecified site)
 - iii. 950.X (Injury to optic nerve and pathways)
 - iv. 951.X (Injury to other cranial nerve(s))
 - v. 952.X (Spinal cord injury without evidence of spinal bone injury)
 - vi. 953.X (Injury to nerve roots and spinal plexus)
 - vii. 954.X (Injury to other nerve(s) of trunk, excluding shoulder and pelvic girdles)
 - viii. 955.X (Injury to peripheral nerve(s) of shoulder girdle and upper limb)
 - ix. 956.X (Injury to peripheral nerve(s) of pelvic girdle and lower limb)
 - x. 957.X (Injury to other and unspecified nerves)

O. Internal bleeding from your stomach or intestine (GI bleed)

- a. Chart review is positive if ANY of the following ICD-9 codes are listed as a final diagnosis and not listed as the admitting diagnosis.
 - i. 530.21 (Ulcer of esophagus with hemorrhage)
 - ii. 530.82 (Esophageal hemorrhage)
 - iii. 531.0X (Acute gastric ulcer with hemorrhage)
 - iv. 531.2X (Acute gastric ulcer with hemorrhage and perforation)
 - v. 531.4X (Chronic or unspecified gastric ulcer with hemorrhage)
 - vi. 531.6X (Chronic or unspecified gastric ulcer with hemorrhage and perforation)
 - vii. 532.0X (Acute duodenal ulcer with hemorrhage)
 - viii. 532.2X (Acute duodenal ulcer with hemorrhage and perforation)
 - ix. 532.4X (Chronic or unspecified duodenal ulcer with hemorrhage)
 - x. 532.6X (Chronic or unspecified duodenal ulcer with hemorrhage and perforation)
 - xi. 533.0X (Acute peptic ulcer of unspecified site with hemorrhage)
 - xii. 533.2X (Acute peptic ulcer of unspecified site with hemorrhage and perforation)
 - xiii. 533.4X (Chronic or unspecified peptic ulcer of unspecified site with hemorrhage)
 - xiv. 533.6X (Chronic or unspecified peptic ulcer of unspecified site with hemorrhage and perforation)
 - xv. 534.0X (Acute gastrojejunal ulcer with hemorrhage)
 - xvi. 534.2X (Acute gastrojejunal ulcer with hemorrhage and perforation)
 - xvii. 534.4X (Chronic or unspecified gastrojejunal ulcer with hemorrhage)
 - xviii. 534.6X (Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation)
 - xix. 535.01 (Acute gastritis with hemorrhage)
 - xx. 535.11 (Atrophic gastritis with hemorrhage)
 - xxi. 535.21 (Gastric mucosal hypertrophy with hemorrhage)
 - xxii. 535.31 (Alcoholic gastritis with hemorrhage)
 - xxiii. 535.41 (Other specified gastritis with hemorrhage)
 - xxiv. 535.51 (Unspecified gastritis and gastroduodenitis with hemorrhage)
 - xxv. 535.61 (Duodenitis with hemorrhage)
 - xxvi. 535.71 (Eosinophilic gastritis with hemorrhage)

- xxvii. 537.83 (Angiodysplasia of stomach and duodenum with hemorrhage)
- xxviii. 537.84 (Dieulafoy lesion (hemorrhagic) of stomach and duodenum)
- xxix. 562.02 (Diverticulosis of small intestine with hemorrhage)
- xxx. 562.03 (Diverticulitis of small intestine with hemorrhage)
- xxxi. 562.12 (Diverticulosis of colon with hemorrhage)
- xxxii. 562.13 (Diverticulitis of colon with hemorrhage)
- xxxiii. 569.3 (Hemorrhage of rectum and anus)
- xxxiv. 569.85 (Angiodysplasia of intestine with hemorrhage)
- xxxv. 569.86 (Dieulafoy lesion (hemorrhagic) of intestine)
- xxxvi. 578.X (Gastrointestinal hemorrhage)

P. Stomach or intestinal ulcer

- a. Chart review is positive if ANY of the following ICD-9 codes are listed as a final diagnosis and not listed as the admitting diagnosis.
 - i. 531.0X (Acute gastric ulcer with hemorrhage)
 - ii. 531.1X (Acute gastric ulcer with perforation)
 - iii. 531.2X (Acute gastric ulcer with hemorrhage and perforation)
 - iv. 531.3X (Acute gastric ulcer without mention of hemorrhage or perforation)
 - v. 532.0X (Acute duodenal ulcer with hemorrhage)
 - vi. 532.1X (Acute duodenal ulcer with perforation)
 - vii. 532.2X (Acute duodenal ulcer with hemorrhage and perforation)
 - viii. 532.3X (Acute duodenal ulcer without mention of hemorrhage or perforation)
 - ix. 533.0X (Acute peptic ulcer of unspecified site with hemorrhage)
 - x. 533.1X (Acute peptic ulcer of unspecified site with perforation)
 - xi. 533.2X (Acute peptic ulcer of unspecified site with hemorrhage and perforation)
 - xii. 533.3X (Acute peptic ulcer of unspecified site without mention of hemorrhage and perforation)
 - xiii. 534.0X (Acute gastrojejunal ulcer with hemorrhage)
 - xiv. 534.1X (Acute gastrojejunal ulcer with perforation)
 - xv. 534.2X (Acute gastrojejunal ulcer with hemorrhage and perforation)
 - xvi. 534.3X (Acute gastrojejunal ulcer without mention of hemorrhage or perforation)

Q. Severe pain lasting for more than one day

- a. Chart review is positive if there is at least one pain score intensity of 7/10 or greater on post-procedure day 1 or later.

R. Severe nausea and vomiting lasting for more than one day

- a. Chart review is positive if the patient received ANY of the following medications on post-procedure day 1 or later.
 - i. Dexamethasone
 - ii. Metoclopramide
 - iii. Ondansetron
 - iv. Prochlorperazine
 - v. Scopolamine