



HEALTHGRADES®

Women's Health Excellence Award™

Methodology 2012

(2008-2010 MedPAR Data)

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To help consumers evaluate and compare hospital performance in women's health, HealthGrades analyzed female patient outcome data for virtually every hospital in the country and recognized best-performing hospitals in women's health with the HealthGrades Women's Health Excellence Award™. Of the nation's 4,783 short-term acute care hospitals, 881 hospitals were eligible for the award, and 176 hospitals had superior outcomes to be recognized with a HealthGrades Women's Health Excellence Award. A list of award recipients is available on the Internet at www.HealthGrades.com.

The women's health ratings used to determine award recipients were based upon HealthGrades risk-adjustment methodology for 16 procedures/diagnoses described below. The purpose of risk adjustment is to obtain fair statistical comparisons between disparate populations or groups. Significant differences in demographic and clinical risk factors are found among patients treated in different hospitals. Risk adjustment of the data is needed to make accurate and valid comparisons of clinical outcomes at different hospitals.

Data Acquisition

HealthGrades used Medicare inpatient data from the MedPAR database (purchased from the Centers for Medicare and Medicaid Services) for years 2008 through 2010.

Cohort Definition and Outcomes

For each of the 16 patient cohorts, HealthGrades developed a list of specific procedures and diagnoses that define the cohort and a list of cohort-specific exclusions for rare and/or clinically complex diagnoses and procedures that cannot be adequately risk adjusted (*Appendix A*).

For each of these cohorts, only hospitals with at least 30 female cases across three years of data and at least five female cases in the most current year were included.

For nine of the cohorts, the outcome measure is mortality. For seven of the cohorts, the outcome of measure is in-hospital major complications. For the cohorts where in-hospital major complications are the outcome of study, complications are defined by using clinical and coding experts. A list of major in-hospital complications by cohort can be found in *Appendix B*.

HealthGrades analyzed the following 16 procedures/diagnoses (cohorts) for each hospital's female patients:

Mortality-Based Cohorts

- Chronic Obstructive Pulmonary Disease
- Coronary Bypass Surgery
- Coronary Interventional Procedures (PTCA/Angioplasty, Stent)
- Heart Attack
- Heart Failure
- Pneumonia
- Resection / Replacement of Abdominal Aorta
- Stroke
- Valve Replacement Surgery

Complication-Based Cohorts

- Back and Neck Surgery (*with* Spinal Fusion)
- Back and Neck Surgery (*without* Spinal Fusion)
- Carotid Surgery
- Hip Fracture Treatment
- Hip Replacement
- Peripheral Vascular Bypass
- Total Knee Replacement

HealthGrades Risk-Adjustment Methodology

HealthGrades risk-adjustment methodology considers important differences in patient demographic and clinical characteristics. This methodology defines risk factors as those clinical and demographic variables that influence patient outcomes in significant and systematic ways. Risk factors may include age, specific procedure performed, and comorbid conditions such as hypertension, chronic renal failure, congestive heart failure, and diabetes. These risk factors are incorporated into multivariate logistic regression models to carry out the risk adjustment.

Statistical Models and Award Calculations

HealthGrades used the following steps to determine Women's Health Excellence Award recipients:

1. For each patient cohort, unique statistical, female-only models were developed using logistic regression. For most mortality cohorts, separate models were created for in-hospital mortality, in-hospital +30-day mortality, and in-hospital +180-day mortality. (Chronic obstructive pulmonary disease and heart failure do not have in-hospital +30-day mortality models.)
2. Comorbid diagnoses (e.g., hypertension, chronic renal failure, anemia, diabetes), demographic characteristics (e.g., age), and specific procedures were classified as possible risk factors. Some diagnosis codes were merged together (e.g., primary and secondary pulmonary hypertension) to minimize the impact of coding differences.

HealthGrades used logistic regression to determine which of these were correlated and to what extent with mortality or major complications. Those conditions or demographics with statistically significant odds ratios stayed in the model as final risk factors.

Potential risk factors with odds ratios less than one were removed from the model except in a few cases. Complications were not considered as potential risk factors predicting mortality. See *Appendix C* for a list of the top five risk factors for each procedure or diagnosis. The top five risk factors are procedures/diagnoses that are the most highly correlated with the outcome. They are not necessarily those with the highest volume.

The statistical models were checked for validity and finalized. All of the models were highly significant, with p values not greater than 0.0001. These cohort specific models were then used to estimate the probability of death or complication for each patient in the cohort.

3. Patients were then aggregated for each hospital to obtain the predicted outcome for each hospital.
4. For each hospital, cohort, and outcome, the observed and predicted numbers were summed and a z-score was calculated. Thus, the complication-based cohorts had a single z-score but most mortality-based cohorts had three z-scores (in-hospital, in-hospital +30 days, in-hospital +180 days).
5. The straight average of all z-scores was calculated across those cohorts for which the hospital had at least 30 female cases over the three-year period and at least five female cases in the most recent year. The eligible hospitals were then rank ordered by their average z-score and the top 20% of eligible hospitals were recognized with the HealthGrades Women's Health Excellence Award.

Of the nation's 4,783 short-term acute care hospitals, 881 hospitals were eligible for an award, and 176 hospitals had risk-adjusted mortality and complication rates low enough to be recognized with the HealthGrades Women's Health Excellence Award.

Hospital Eligibility Requirements

To receive a rating (z-score) in a cohort, a hospital must have had all of the following:

- A minimum of 30 female discharges over the three years, and at least five female discharges in the most recent year in the cohort.
- For stroke, a hospital must have transferred out less than 10% of stroke patients (female or male) to another acute care hospital over three years (2008–2010). This implies that the hospital is more likely to have onsite neurosurgical services.

To be eligible to receive a Women's Health Excellence Award, a hospital must be:

- Rated (have a z-score) in stroke and either coronary bypass or valve replacement surgery.
- Rated in at least six additional cohorts (of the sixteen cohorts listed above).

Limitations of the Data Models for Women's Health

It must be understood that while these models may be valuable in identifying hospitals that perform better than others, one should not use this information alone to determine the quality of care provided at each hospital. The models are limited by the following factors:

- Cases may have been coded incorrectly or incompletely by the hospital.
- The models can only account for risk factors that are coded into the billing data—if a particular risk factor was not coded into the billing data, such as a patient's socioeconomic status and health behavior, then it was not accounted for with these models.
- Although Health Grades, Inc. has taken steps to carefully compile these data using its proprietary methodology, no techniques are infallible, and therefore some information may be missing, outdated, or incorrect.

Please note that a high ranking for a particular hospital is not a recommendation or endorsement by Health Grades, Inc. of a particular hospital; it means that the data associated with a particular hospital has met the foregoing qualifications. Only individual patients can decide whether a particular hospital is suited for their unique needs.

Also note that if more than one hospital reported under a single provider ID, HealthGrades analyzed patient outcome data for those hospitals as a single unit. Throughout this document, therefore, "hospital" refers to one hospital or a group of hospitals reporting under a single provider ID.

Appendix A. Patient Cohorts and Related ICD-9-CM Codes

Excluded from each cohort were patients who have had any organ transplant or a complication thereof.

Back and Neck Surgery (*with* Spinal Fusion)

Inclusions

Principal Procedure: 81.00, 81.01, 81.02, 81.03, 81.04, 81.05, 81.06, 81.07, 81.08, 81.62, 81.63, 81.64

Exclusions

Diagnoses (Primary or Secondary): 198.5, 996.45, 996.46, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, E812.0, E812.1, E812.9, E814.7, E815.0, E816.0, E816.1, E819.0, E819.9, E849.1, E849.5, E881.0, E882, E929.0, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9, V45.4

Principal Diagnosis: 996.41, 996.42, 996.43

Procedures (Primary or Secondary): 37.51, 37.52, 37.53, 37.54, 78.69, 81.30, 81.31, 81.32, 81.33, 81.34, 81.35, 81.36, 81.37, 81.38, 81.39, 81.65, 81.66, 84.59, 84.60, 84.61, 84.62, 84.63, 84.64, 84.65, 84.66, 84.67, 84.68, 84.69, 84.80, 84.81, 84.82, 84.83, 84.84, 84.85

Diagnosis and Procedure Combination: Procedure 03.02 occurring with any of the following diagnoses: 722.80, 722.81, 722.82, 722.83

Back and Neck Surgery (*without* Spinal Fusion)

Inclusions

Principal Procedure: 03.09, 03.53, 80.50, 80.51, 80.59, 84.59, 84.60, 84.61, 84.62, 84.63, 84.64, 84.65, 84.80, 84.82, 84.84

Exclusions

Diagnoses (Primary or Secondary): 198.5, 996.45, 996.46, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, E812.0, E819.0, E819.9, E828.2, E849.1, E849.5, E881.0, E929.0, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9, V54.01, V54.09

Principal Diagnosis: 996.41, 996.42, 996.43, 996.47, 996.49, 996.78

Procedures (Primary or Secondary): 37.51, 37.52, 37.53, 37.54, 78.49, 78.69, 81.00, 81.01, 81.02, 81.03, 81.04, 81.05, 81.06, 81.07, 81.08, 81.30, 81.31, 81.32, 81.33, 81.34, 81.35, 81.36, 81.37, 81.38, 81.39, 81.62, 81.63, 81.64, 81.65, 81.66, 84.66, 84.67, 84.68, 84.69, 84.81, 84.83, 84.85

Diagnosis and Procedure Combination: Procedure 03.02 occurring with any of the following diagnoses: 722.80, 722.81, 722.82, 722.83

Carotid Surgery

Inclusions

Principal Procedure: 00.61, 00.63, 38.12, 39.74

Exclusions

Diagnoses (Primary or Secondary): 430, 431, 432.1, 432.9, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9

Procedures (Primary or Secondary): 36.10, 36.11, 36.12, 36.13, 36.14, 36.15, 36.16, 36.17, 36.19, 37.51, 37.52, 37.53, 37.54, 37.62, 37.63, 38.08, 38.16, 38.18, 38.36, 39.24, 39.25, 39.29, 39.59, 39.90

Chronic Obstructive Pulmonary Disease (COPD)

Inclusions

Principal Diagnosis: 91.1, 491.20, 491.21, 491.22, 491.8, 491.9, 492.0, 492.8, 493.20, 493.21, 493.22, 494.0, 494.1, 496

Exclusions

Diagnoses (Primary or Secondary): 196.0, 196.1, 196.2, 196.3, 196.5, 196.6, 196.8, 196.9, 197.0, 197.1, 197.2, 197.3, 197.4, 197.5, 197.6, 197.7, 197.8, 198.0, 198.1, 198.2, 198.3, 198.4, 198.5, 198.6, 198.7, 198.81, 198.82, 198.89, 203.02, 203.12, 203.82, 204.02, 204.12, 204.22, 204.82, 204.92, 205.02, 205.12, 205.22, 205.82, 205.92, 206.02, 206.12, 206.22, 206.82, 206.92, 207.02, 207.12, 207.22, 207.82, 208.02, 208.12, 208.22, 208.82, 208.92, 480.3, 480.8, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9, V43.21, V46.11, V66.7

Procedures (Primary or Secondary): 33.51, 33.52, 37.51, 37.52, 37.53, 37.54, 37.62, 37.63

Coronary Bypass Surgery

Inclusions

Principal Procedure: 36.10, 36.11, 36.12, 36.13, 36.14, 36.15, 36.16, 36.19

Exclusions

Diagnoses (Primary or Secondary): 414.06, 414.07, 441.00, 441.01, 441.02, 441.03, 441.2, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9

Procedures (Primary or Secondary): 35.10, 35.11, 35.12, 35.13, 35.14, 35.20, 35.21, 35.22, 35.23, 35.24, 35.25, 35.26, 35.27, 35.28, 35.33, 35.55, 35.96, 35.97, 36.31, 36.32, 36.33, 36.34, 37.51, 37.52, 37.53, 37.54, 37.62, 37.63, 38.12, 38.34, 38.44, 38.64, 39.71

Coronary Interventional Procedures

Inclusions

Principal Procedure: 00.66, 36.06, 36.07, 36.09

Principal Procedure (only when occurs with 00.66,36.06,36.07,36.09): 37.61

Exclusions

Diagnoses (Primary or Secondary): 414.06, 414.07, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9

Procedures (Primary or Secondary): 35.10, 35.11, 35.12, 35.13, 35.14, 35.20, 35.21, 35.22, 35.23, 35.24, 35.25, 35.26, 35.27, 35.28, 36.10, 36.11, 36.12, 36.13, 36.14, 36.15, 36.16, 36.19, 37.51, 37.52, 37.53, 37.54, 37.62, 37.63

Heart Attack

Inclusions

Principal Diagnosis: 410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.71, 410.81, 410.91

Exclusions

Diagnoses (Primary or Secondary): 196.0, 196.1, 196.2, 196.3, 196.5, 196.6, 196.8, 196.9, 197.0, 197.1, 197.2, 197.3, 197.4, 197.5, 197.6, 197.7, 197.8, 198.0, 198.1, 198.2, 198.3, 198.4, 198.5, 198.6, 198.7, 198.81, 198.82, 198.89, 203.02, 203.12, 203.82, 204.02, 204.12, 204.22, 204.82, 204.92, 205.02, 205.12, 205.22, 205.82, 205.92, 206.02, 206.12, 206.22, 206.82, 206.92, 207.02, 207.12, 207.22, 207.82, 208.02, 208.12, 208.22, 208.82, 208.92, 414.06, 414.07, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9, V43.21, V46.11, V66.7

Procedures (Primary or Secondary): 37.51, 37.52, 37.53, 37.54, 37.62, 37.63

Heart Failure

Inclusions

Principal Diagnosis: 398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 428.0, 428.1, 428.20, 428.21, 428.22, 428.23, 428.30, 428.31, 428.32, 428.33, 428.40, 428.41, 428.42, 428.43, 428.9

Exclusions

Diagnoses (Primary or Secondary): 196.0, 196.1, 196.2, 196.3, 196.5, 196.6, 196.8, 196.9, 197.0, 197.1, 197.2, 197.3, 197.4, 197.5, 197.6, 197.7, 197.8, 198.0, 198.1, 198.2, 198.3, 198.4, 198.5, 198.6, 198.7, 198.81, 198.82, 198.89, 203.02, 203.12, 203.82, 204.02, 204.12, 204.22, 204.82, 204.92, 205.02, 205.12, 205.22, 205.82, 205.92, 206.02, 206.12, 206.22, 206.82, 206.92, 207.02, 207.12, 207.22, 207.82, 208.02, 208.12, 208.22, 208.82, 208.92, 414.06, 414.07, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9, V43.21, V46.11, V66.7

Procedures (Primary or Secondary): 37.51, 37.52, 37.53, 37.54, 37.62, 37.63, 39.95, 55.69

Hip Fracture Treatment

Inclusions

Principal Diagnosis: 820.00, 820.02, 820.03, 820.09, 820.20, 820.21, 820.22, 820.8

Exclusions

Diagnoses (Primary or Secondary): 733.14, 733.15, 733.42, 733.82, 733.96, 800.61, 800.62, 800.63, 800.64, 800.65, 800.66, 800.69, 820.01, 820.10, 820.11, 820.12, 820.13, 820.19, 820.30, 820.31, 820.32, 820.9, 821.00, 821.01, 821.10, 821.11, 821.20, 821.21, 821.22, 821.23, 821.29, 821.30, 821.31, 821.32, 821.33, 821.39, 996.40, 996.41, 996.42, 996.43, 996.44, 996.45, 996.46, 996.47, 996.49, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9, V66.7

Principal Diagnosis: 996.78

Procedures (Primary or Secondary): 37.51, 37.52, 37.53, 37.54, 78.65, 78.66, 78.67, 80.05, 80.06, 81.54, 81.55

Procedures (Secondary only): 81.51, 81.53

Hip Replacement

Inclusions

Principal Procedure: 00.85, 00.86, 00.87, 81.51

Exclusions

Diagnoses (Primary or Secondary): 733.14, 820.09, 820.8, 996.45, 996.46, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, E800.0, E800.1, E800.2, E800.3, E800.8, E800.9, E801.0, E801.1, E801.2, E801.3, E801.8, E801.9, E802.0, E802.1, E802.2, E802.3, E802.8, E802.9, E803.0, E803.1, E803.2, E803.3, E803.8, E803.9, E804.0, E804.1, E804.2, E804.3, E804.8, E804.9, E805.0, E805.1, E805.2, E805.3, E805.8, E805.9, E806.0, E806.1, E806.2, E806.3, E806.8, E806.9, E807.0, E807.1, E807.2, E807.3, E807.8, E807.9, E810.0, E810.1, E810.2, E810.3, E810.4, E810.5, E810.6, E810.7, E810.8, E810.9, E811.0, E811.1, E811.2, E811.3, E811.4, E811.5, E811.6, E811.7, E811.8, E811.9, E812.0, E812.1, E812.2, E812.3, E812.4, E812.5, E812.6, E812.7, E812.8, E812.9, E813.0, E813.1, E813.2, E813.3, E813.4, E813.5, E813.6, E813.7, E813.8, E813.9, E814.0, E814.1, E814.2, E814.3, E814.4, E814.5, E814.6, E814.7, E814.8, E814.9, E815.0, E815.1, E815.2, E815.3, E815.4, E815.5, E815.6, E815.7, E815.8, E815.9, E816.0, E816.1, E816.2, E816.3, E816.4, E816.5, E816.6, E816.7, E816.8, E816.9, E817.0, E817.1, E817.2, E817.3, E817.4, E817.5, E817.6, E817.7, E817.8, E817.9, E818.0, E818.1, E818.2, E818.3, E818.4, E818.5, E818.6, E818.7, E818.8, E818.9, E819.0, E819.1, E819.2, E819.3, E819.4, E819.5, E819.6, E819.7, E819.8, E819.9, E820.0, E820.1, E820.2, E820.3, E820.4, E820.5, E820.6, E820.7, E820.8, E820.9, E821.0, E821.1, E821.2, E821.3, E821.4, E821.5, E821.6, E821.7, E821.8, E821.9, E822.0, E822.1, E822.2, E822.3, E822.4, E822.5, E822.6, E822.7, E822.8, E822.9, E823.0, E823.1, E823.2, E823.3, E823.4, E823.5, E823.6, E823.7, E823.8, E823.9, E824.0, E824.1, E824.2, E824.3, E824.4, E824.5, E824.6, E824.7, E824.8, E824.9, E825.0, E825.1, E825.2, E825.3, E825.4, E825.5, E825.6, E825.7, E825.8, E825.9, E826.0, E826.1, E826.2, E826.3, E826.4, E826.8, E826.9, E827.0, E827.2, E827.3, E827.4, E827.8, E827.9, E828.0, E828.2, E828.4, E828.8, E828.9, E829.0, E829.4, E829.8, E829.9, E830.0, E830.1, E830.2, E830.3, E830.4, E830.5, E830.6, E830.8, E830.9, E831.0, E831.1, E831.2, E831.3, E831.4, E831.5, E831.6, E831.8, E832.0, E832.1, E832.2, E832.3, E832.4, E832.5, E832.6, E832.8, E832.9, E833.0, E833.1, E833.2, E833.3, E833.4, E833.5, E833.6, E833.8, E833.9, E834.0, E834.1, E834.2, E834.3, E834.4, E834.5, E834.6, E834.8, E834.9, E835.0, E835.1, E835.2, E835.3, E835.4, E835.5, E835.6, E835.8, E835.9, E836.0, E836.1, E836.2, E836.3, E836.4, E836.5, E836.6, E836.8, E836.9, E837.0, E837.1, E837.2, E837.3, E837.4, E837.5, E837.6, E837.8, E837.9, E838.0, E838.1, E838.2, E838.3, E838.4, E838.5, E838.6, E838.8, E838.9, E840.0, E840.1, E840.2, E840.3, E840.4, E840.5, E840.6, E840.7, E840.8, E840.9, E841.0, E841.1, E841.2, E841.3, E841.4, E841.5, E841.6, E841.7, E841.8, E841.9, E842.6, E842.7, E842.8, E842.9, E843.0, E843.1, E843.2, E843.3, E843.4, E843.5, E843.6, E843.7, E843.8, E843.9, E844.0, E844.1, E844.2, E844.3, E844.4, E844.5, E844.6, E844.7, E844.8, E844.9, E845.0, E845.8, E845.9, E846, E847, E848, E849.0, E849.1, E849.2, E849.3, E849.4, E849.5, E849.6, E849.7, E849.8, E849.9, E880.0, E880.1, E880.9, E881.0, E881.1, E882, E883.0, E883.1, E883.2, E883.9, E884.0, E884.1, E884.2, E884.3, E884.4, E884.5, E884.6, E884.9, E885.0, E885.1, E885.2, E885.3, E885.4, E885.9, E886.0, E886.9, E887, E888.0, E888.1, E888.8, E888.9, E890.0, E890.8, E891.8, E916, E917.0, E917.1, E917.2, E917.3, E917.4, E917.5, E917.6, E917.7, E917.8, E917.9, E918, E919.0, E919.1, E919.2, E919.3, E919.4, E919.5, E919.6, E919.7, E919.8, E919.9, E920.0, E920.1, E920.2, E920.3, E920.4, E920.5, E920.8, E920.9, E921.0, E921.1, E921.8, E921.9, E922.0, E922.1, E922.2, E922.3, E922.4, E922.5, E922.8, E922.9, E923.0, E923.1, E923.2, E923.8, E923.9, E928.8, E928.9, E929.0, E929.1, E929.2, E929.3, E929.4, E929.5, E929.8, E929.9, E955.0, E955.1, E955.2, E955.3, E955.4, E955.5, E955.6, E955.7, E955.9, E956, E957.0, E957.1, E957.2, E957.9, E958.0, E958.5, E958.6, E960.0, E965.0, E965.1, E965.2, E965.3, E965.4, E965.5, E965.6, E965.7, E965.8, E965.9, E966, E968.1, E968.2, E968.5, E968.6, E969, E970, E973, E974, E977, E985.0, E985.1, E985.2, E985.3, E985.4, E985.5, E985.6, E985.7, E986, E987.0, E987.1, E987.2, E987.9, E988.0, E988.5, E989, V15.5, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9, V58.43, V58.49

Principal Diagnosis: 996.41, 996.43

Procedures (Primary or Secondary): 00.70, 00.71, 00.72, 00.73, 00.80, 00.81, 00.82, 00.83, 00.84, 37.51, 37.52, 37.53, 37.54, 78.65, 78.67, 80.05, 80.06, 81.53, 81.54, 81.55

Peripheral Vascular Bypass

Inclusions

Principal Diagnosis: 250.60, 250.61, 250.62, 250.63, 250.70, 250.71, 250.72, 250.73, 250.80, 250.81, 250.82, 250.83, 440.20, 440.21, 440.22, 440.23, 440.24, 440.29, 440.30, 440.32, 442.2, 442.3, 443.89, 443.9, 444.22, 444.81, 445.02, 447.1, 681.10, 682.6, 682.7, 686.8, 707.10, 707.12, 707.13, 707.14, 707.15, 707.19, 707.8, 730.06, 730.07, 730.16, 730.17, 730.18, 730.26, 730.27, 785.4, 902.53, 904.41

Principal Procedure: 39.29

Exclusions

Diagnoses (Primary or Secondary): 440.31, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9

Principal Diagnosis: 445.01, 996.74

Procedures (Primary or Secondary): 37.51, 37.52, 37.53, 37.54, 37.62, 37.63, 39.25, 39.49

Pneumonia

Inclusions

Principal Diagnosis: 481, 482.0, 482.1, 482.2, 482.30, 482.31, 482.32, 482.39, 482.40, 482.41, 482.42, 482.49, 482.81, 482.82, 482.83, 482.84, 482.89, 482.9, 483.0, 483.1, 483.8, 485, 486, 487.0

Exclusions

Diagnoses (Primary or Secondary): 196.0, 196.1, 196.2, 196.3, 196.5, 196.6, 196.8, 196.9, 197.0, 197.1, 197.2, 197.3, 197.4, 197.5, 197.6, 197.7, 197.8, 198.0, 198.1, 198.2, 198.3, 198.4, 198.5, 198.6, 198.7, 198.81, 198.82, 198.89, 203.02, 203.12, 203.82, 204.02, 204.12, 204.22, 204.82, 204.92, 205.02, 205.12, 205.22, 205.82, 205.92, 206.02, 206.12, 206.22, 206.82, 206.92, 207.02, 207.12, 207.22, 207.82, 208.02, 208.12, 208.22, 208.82, 208.92, 480.3, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9, V43.21, V66.7

Procedures (Primary or Secondary): 37.51, 37.52, 37.53, 37.54, 37.62, 37.63

Resection / Replacement of Abdominal Aorta

Inclusions

Principal Procedure: 38.34, 38.44, 39.71

Exclusions

Diagnoses (Primary or Secondary): 441.00, 441.01, 441.02, 441.03, 441.1, 441.2, 441.6, 441.7, 441.9, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9

Procedures (Primary or Secondary): 00.61, 35.10, 35.11, 35.12, 35.13, 35.14, 35.20, 35.21, 35.22, 35.23, 35.24, 35.25, 35.26, 35.27, 35.28, 36.10, 36.11, 36.12, 36.13, 36.14, 36.15, 36.16, 36.17, 36.19, 37.51, 37.52, 37.53, 37.54, 37.62, 37.63, 38.08, 38.16, 38.18, 38.36, 38.45, 38.64, 39.59

Procedures (Secondary only): 38.34, 38.44

Stroke

Inclusions

Principal Diagnosis: 430, 431, 432.9, 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91

Exclusions

Diagnoses (Primary or Secondary): 196.0, 196.1, 196.2, 196.3, 196.5, 196.6, 196.8, 196.9, 197.0, 197.1, 197.2, 197.3, 197.4, 197.5, 197.6, 197.7, 197.8, 198.0, 198.1, 198.2, 198.3, 198.4, 198.5, 198.6, 198.7, 198.81, 198.82, 198.89, 203.02, 203.12, 203.82, 204.02, 204.12, 204.22, 204.82, 204.92, 205.02, 205.12, 205.22, 205.82, 205.92, 206.02, 206.12, 206.22, 206.82, 206.92, 207.02, 207.12, 207.22, 207.82, 208.02, 208.12, 208.22, 208.82, 208.92, 432.1, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9, V43.21, V46.11, V66.7

Procedures (Primary or Secondary): 37.51, 37.52, 37.53, 37.54, 37.62, 37.63

Total Knee Replacement

Inclusions

Principal Procedure: 81.54

Exclusions

Diagnoses (Primary or Secondary): 996.45, 996.46, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9

Principal Diagnosis: 996.43

Procedures (Primary or Secondary): 00.74, 00.75, 00.76, 00.80, 00.81, 00.82, 00.83, 00.84, 37.51, 37.52, 37.53, 37.54, 78.65, 78.67, 80.05, 80.06, 81.51, 81.52, 81.53, 81.55

Valve Repair/Replacement Surgery

Inclusions

Procedures (Primary or Secondary): 35.10, 35.11, 35.12, 35.13, 35.14, 35.20, 35.21, 35.22, 35.23, 35.24, 35.25, 35.26, 35.27, 35.28

Exclusions

Diagnoses (Primary or Secondary): 414.06, 414.07, 441.00, 441.01, 441.02, 441.03, 441.2, 996.80, 996.81, 996.82, 996.83, 996.84, 996.85, 996.86, 996.87, 996.89, V42.0, V42.1, V42.4, V42.6, V42.7, V42.81, V42.82, V42.83, V42.84, V42.89, V42.9

Procedures (Primary or Secondary): 35.55, 35.96, 35.97, 36.31, 36.32, 36.33, 36.34, 37.51, 37.52, 37.53, 37.54, 37.62, 37.63, 38.12, 38.34, 38.44, 38.64, 39.71

Appendix B. Women's Health Major Complications

Back and Neck Surgery (*without Spinal Fusion*) – Independent Complications

Independent complications are conditions that are clearly hospital-acquired or by the coding definition are defined as post-operative. In 2009 and 2010, these conditions were not counted as complications if the POA indicator was "Yes" or "Clinically Undetermined."

038.0	STREPTOCOCCAL SEPTICEMIA	482.41	MSSA PNEUMONIA
038.10	STAPH SEPTICEMIA NOS	482.42	MRSA PNEUMONIA
038.11	MSSA SEPTICEMIA	482.49	STAPH PNEUMONIA NEC
038.12	MRSA SEPTICEMIA	482.81	PNEUMONIA D/T ANAEROBES
038.19	STAPH SEPTICEMIA NEC	482.82	E. COLI PNEUMONIA
038.2	PNEUMOCOCCAL SEPTICEMIA	482.83	GRAM-NEG PNEUMONIA NEC
038.3	ANAEROBIC SEPTICEMIA	482.84	LEGIONNAIRES' DISEASE
038.40	GRAM-NEG SEPTICEMIA NOS	482.89	BACTERIAL PNEUMONIA NEC
038.41	H. INFLUENZAE SEPTICEMIA	482.9	BACTERIAL PNEUMONIA NOS
038.42	E. COLI SEPTICEMIA	483.0	M. PNEUMONIAE PNEUMONIA
038.43	PSEUDOMONAS SEPTICEMIA	483.1	CHLAMYDIAL PNEUMONIA
038.44	SERRATIA SEPTICEMIA	483.8	PNEUMONIA D/T ORG NEC
038.49	GRAM-NEG SEPTICEMIA NEC	484.1	PNEUMONIA IN CMV DISEASE
038.8	SEPTICEMIA NEC	484.3	PNEUMONIA IN WHOOP COUGH
038.9	SEPTICEMIA NOS	484.6	PNEUM IN ASPERGILLOSIS
292.81	DRUG INDUCED DELIRIUM	484.7	PNEUM IN SYST MYCOSESNEC
293.0	DELIRIUM D/T CCE	486	PNEUMONIA ORGANISM NOS
349.31	ACC LAC DURA DURING PX	507.0	FOOD/VOMIT PNEUMONITIS
410.01	ANTEROLAT AMI-INITIAL	512.1	IATROGENIC PNEUMOTHORAX
410.11	ANT AMI NEC-INITIAL	518.5	POSTTR PULMON INSUFF
410.21	INFEROLAT AMI-INITIAL	518.7	TRALI
410.31	INFEROPOST AMI-INITIAL	518.81	AC RESPIRATORY FAILURE
410.41	INF AMI NEC-INITIAL	584.5	AC KF W TUBULAR NEPHR
410.51	LAT AMI NEC-INITIAL	584.8	ACUTE KIDNEY FAILURE NEC
410.61	POSTERIOR AMI-INITIAL	584.9	ACUTE KIDNEY FAILURE NOS
410.71	SUBEND INFARCT-INITIAL	785.52	SEPTIC SHOCK
410.81	AMI NEC-INITIAL EPISODE	799.1	RESPIRATORY ARREST
410.91	AMI NOS-INITIAL EPISODE	995.91	SEPSIS
415.11	IATRO PULM EMBOL/INFARCT	995.92	SEVERE SEPSIS
415.12	SEPTIC PULMON EMBOLISM	997.02	IATROGEN CV INFARCT/HEM
415.19	PULMON EMBOL/INFARCT NEC	997.09	NERV SYST SURG COMP NEC
423.3	CARDIAC TAMPONADE	997.1	SURG COMP-HEART
449	SEPTIC ARTERIAL EMBOLISM	997.3	SURG COMP-RESP NEC
480.0	ADENOVIRAL PNEUMONIA	997.31	VENT ASSOC PNEUMONIA
480.1	RSV PNEUMONIA	997.39	OTH SURG COMP-RESP
480.2	PARAINFLUENZA VIR PNEUM	997.4	SURG COMP-DIGESTIVE
480.3	SARS PNEUMONIA	997.5	SURG COMP-URINARY NEC
480.8	VIRAL PNEUMONIA NEC	998.0	POSTOPERATIVE SHOCK
481	PNEUMOCOCCAL PNEUMONIA	998.11	HEMORRHAGE COMP PX
482.0	K. PNEUMONIAE PNEUMONIA	998.2	ACCIDENTAL OP LACERATION
482.1	PSEUDOMONAL PNEUMONIA	998.30	DISRUPTION WOUND NOS
482.2	H. INFLUENZAE PNEUMONIA	998.31	DISRUPT INTERNAL OP WND
482.30	STREP PNEUMONIA NOS	998.32	DISRUPT EXTERNAL OP WND
482.31	GROUP A STREP PNEUMONIA	998.59	POSTOP INFECTION NEC
482.32	GROUP B STREP PNEUMONIA	999.31	INFECT D/T CVC
482.39	STREP PNEUMONIA NEC	999.39	INFECT COMP MED CARE NEC
482.40	STAPH PNEUMONIA NOS		

Back and Neck Surgery (*without Spinal Fusion*) – Dependent Complications

Dependent complications are conditions that must either have the POA indicator set to "No", or if the POA indicator is set to "Unknown" or is missing, there must also be the listed 900 post-operative complication code present in the patient record.

Must not occur with 707.20 PRESSURE ULCER, UNSPECIFIED STAGE or 707.21 PRESSURE ULCER, STAGE I or 707.22 PRESSURE ULCER, STAGE II

707.0	PRESSURE ULCER	707.04	PRESSURE ULCER-HIP
707.00	PRESSURE ULCER-SITE NOS	707.05	PRESSURE ULCER-BUTTOCK
707.01	PRESSURE ULCER-ELBOW	707.06	PRESSURE ULCER-ANKLE
707.02	PRESSURE ULCER-UP BACK	707.07	PRESSURE ULCER-HEEL
707.03	PRESSURE ULCER-LOW BACK	707.09	PRESSURE ULCER-SITE NEC

Must occur with 997.1 CARDIAC COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

434.11	CEREBRAL EMBOL W INFARCT	434.91	CEREB ART OCCL W INFARCT
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Must occur with 997.1 CARDIAC COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

427.0	PSVT	428.21	ACUTE SYSTOLIC HF
427.1	PVT	428.23	AC & CHR SYSTOLIC HF
427.31	ATRIAL FIBRILLATION	428.31	ACUTE DIASTOLIC HF
427.32	ATRIAL FLUTTER	428.33	AC & CHR DIASTOLIC HF
427.89	OTH CARDIAC DYSRHYTHMIAS	428.41	AC SYS & DIASTOLIC HF
427.9	CARDIAC DYSRHYTHMIA NOS	428.43	ACCHR SYS & DIASTOLIC HF
428.0	CHF NOS	428.9	HEART FAILURE NOS
428.1	LEFT HEART FAILURE		

Must occur with 997.3 RESPIRATORY COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

485	BRONCHOPNEUMONIA ORG NOS	518.4	ACUTE LUNG EDEMA NOS
511.9	PLEURAL EFFUSION NOS	518.84	AC & CHR RESP FAILURE

Must occur with 997.4 DIGESTIVE SYSTEM COMPLICATION

560.1	PARALYTIC ILEUS
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Must occur with 997.5 URINARY COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

593.9	RENAL/URETER DISORD NOS	788.20	RETENTION OF URINE NOS
599.0	URINARY TRACT INF NOS	788.29	RETENTION OF URINE NEC

Must occur with 998.59 OTHER POSTOPERATIVE INFECTION

008.45	C. DIFFICILE ENTERITIS
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Back and Neck Surgery (*with Spinal Fusion*) – Independent Complications

Independent complications are conditions that are clearly hospital-acquired or by the coding definition are defined as post-operative. In 2009 and 2010, these conditions were not counted as complications if the POA indicator was "Yes" or "Clinically Undetermined."

038.0	STREPTOCOCCAL SEPTICEMIA	482.42	MRSA PNEUMONIA
038.10	STAPH SEPTICEMIA NOS	482.49	STAPH PNEUMONIA NEC
038.11	MSSA SEPTICEMIA	482.81	PNEUMONIA D/T ANAEROBES
038.12	MRSA SEPTICEMIA	482.82	E. COLI PNEUMONIA
038.19	STAPH SEPTICEMIA NEC	482.83	GRAM-NEG PNEUMONIA NEC
038.2	PNEUMOCOCCAL SEPTICEMIA	482.84	LEGIONNAIRES' DISEASE
038.3	ANAEROBIC SEPTICEMIA	482.89	BACTERIAL PNEUMONIA NEC
038.40	GRAM-NEG SEPTICEMIA NOS	482.9	BACTERIAL PNEUMONIA NOS
038.41	H. INFLUENZAE SEPTICEMIA	483.0	M. PNEUMONIAE PNEUMONIA
038.42	E. COLI SEPTICEMIA	483.1	CHLAMYDIAL PNEUMONIA
038.43	PSEUDOMONAS SEPTICEMIA	483.8	PNEUMONIA D/T ORG NEC
038.44	SERRATIA SEPTICEMIA	484.1	PNEUMONIA IN CMV DISEASE
038.49	GRAM-NEG SEPTICEMIA NEC	484.3	PNEUMONIA IN WHOOP COUGH
038.8	SEPTICEMIA NEC	484.6	PNEUM IN ASPERGILLOSIS
038.9	SEPTICEMIA NOS	484.7	PNEUM IN SYST MYCOSESNEC
292.81	DRUG INDUCED DELIRIUM	485	BRONCHOPNEUMONIA ORG NOS
293.0	DELIRIUM D/T CCE	486	PNEUMONIA ORGANISM NOS
349.31	ACC LAC DURA DURING PX	507.0	FOOD/VOMIT PNEUMONITIS
410.01	ANTEROLAT AMI-INITIAL	512.1	IATROGENIC PNEUMOTHORAX
410.11	ANT AMI NEC-INITIAL	518.5	POSTTR PULMON INSUFF
410.21	INFEROLAT AMI-INITIAL	518.7	TRALI
410.31	INFEROPOST AMI-INITIAL	518.81	AC RESPIRATORY FAILURE
410.41	INF AMI NEC-INITIAL	584.5	AC KF W TUBULAR NEPHR
410.51	LAT AMI NEC-INITIAL	584.8	ACUTE KIDNEY FAILURE NEC
410.61	POSTERIOR AMI-INITIAL	584.9	ACUTE KIDNEY FAILURE NOS
410.71	SUBEND INFARCT-INITIAL	785.52	SEPTIC SHOCK
410.81	AMI NEC-INITIAL EPISODE	799.1	RESPIRATORY ARREST
410.91	AMI NOS-INITIAL EPISODE	995.91	SEPSIS
415.11	IATRO PULM EMBOL/INFARCT	995.92	SEVERE SEPSIS
415.12	SEPTIC PULMON EMBOLISM	997.02	IATROGEN CV INFARCT/HEM
415.19	PULMON EMBOL/INFARCT NEC	997.09	NERV SYST SURG COMP NEC
423.3	CARDIAC TAMPONADE	997.1	SURG COMP-HEART
449	SEPTIC ARTERIAL EMBOLISM	997.3	SURG COMP-RESP NEC
480.0	ADENOVIRAL PNEUMONIA	997.31	VENT ASSOC PNEUMONIA
480.1	RSV PNEUMONIA	997.39	OTH SURG COMP-RESP
480.2	PARAINFLUENZA VIR PNEUM	997.4	SURG COMP-DIGESTIVE
480.3	SARS PNEUMONIA	997.5	SURG COMP-URINARY NEC
480.8	VIRAL PNEUMONIA NEC	998.0	POSTOPERATIVE SHOCK
481	PNEUMOCOCCAL PNEUMONIA	998.11	HEMORRHAGE COMP PX
482.0	K. PNEUMONIAE PNEUMONIA	998.2	ACCIDENTAL OP LACERATION
482.1	PSEUDOMONAL PNEUMONIA	998.30	DISRUPTION WOUND NOS
482.2	H. INFLUENZAE PNEUMONIA	998.31	DISRUPT INTERNAL OP WND
482.30	STREP PNEUMONIA NOS	998.32	DISRUPT EXTERNAL OP WND
482.31	GROUP A STREP PNEUMONIA	998.59	POSTOP INFECTION NEC
482.32	GROUP B STREP PNEUMONIA	999.31	INFECT D/T CVC
482.39	STREP PNEUMONIA NEC	999.39	INFECT COMP MED CARE NEC
482.40	STAPH PNEUMONIA NOS		
482.41	MSSA PNEUMONIA		

Back and Neck Surgery (*with Spinal Fusion*) – Dependent Complications

Dependent complications are conditions that must either have the POA indicator set to "No", or if the POA indicator is set to "Unknown" or is missing, there must also be the listed 900 post-operative complication code present in the patient record.

Must not occur with 707.20 PRESSURE ULCER, UNSPECIFIED STAGE or 707.21 PRESSURE ULCER, STAGE I or 707.22 PRESSURE ULCER, STAGE II

707.0	PRESSURE ULCER	707.04	PRESSURE ULCER-HIP
707.00	PRESSURE ULCER-SITE NOS	707.05	PRESSURE ULCER-BUTTOCK
707.01	PRESSURE ULCER-ELBOW	707.06	PRESSURE ULCER-ANKLE
707.02	PRESSURE ULCER-UP BACK	707.07	PRESSURE ULCER-HEEL
707.03	PRESSURE ULCER-LOW BACK	707.09	PRESSURE ULCER-SITE NEC

Must occur with 997.02 IATROGENIC CEREBROVASCULAR INFARCTION OR HEMORRHAGE

434.11	CEREBRAL EMBOL W INFARCT	434.91	CEREB ART OCCL W INFARCT
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Must occur with 997.1 CARDIAC COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

427.0	PSVT	428.21	ACUTE SYSTOLIC HF
427.1	PVT	428.23	AC & CHR SYSTOLIC HF
427.31	ATRIAL FIBRILLATION	428.31	ACUTE DIASTOLIC HF
427.32	ATRIAL FLUTTER	428.33	AC & CHR DIASTOLIC HF
427.89	OTH CARDIAC DYSRHYTHMIAS	428.41	AC SYS & DIASTOLIC HF
427.9	CARDIAC DYSRHYTHMIA NOS	428.43	ACCHR SYS & DIASTOLIC HF
428.0	CHF NOS	428.9	HEART FAILURE NOS
428.1	LEFT HEART FAILURE		

Must occur with 997.3 RESPIRATORY COMPLICATIONS, NOT ELSEWHERE CLASSIFIED or 997.39 OTHER RESPIRATORY COMPLICATIONS

511.9	PLEURAL EFFUSION NOS	518.84	AC & CHR RESP FAILURE
518.4	ACUTE LUNG EDEMA NOS		

Must occur with 997.4 DIGESTIVE SYSTEM COMPLICATION

560.1	PARALYTIC ILEUS
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Must occur with 997.5 URINARY COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

593.9	RENAL/URETER DISORD NOS	788.20	RETENTION OF URINE NOS
599.0	URINARY TRACT INF NOS	788.29	RETENTION OF URINE NEC

Must occur with 998.59 OTHER POSTOPERATIVE INFECTION

008.45	C. DIFFICILE ENTERITIS
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Carotid Surgery – Independent Complications

Independent complications are conditions that are clearly hospital-acquired or by the coding definition are defined as post-operative. In 2009 and 2010 these conditions were not counted as complications if the POA indicator was "Yes" or "Clinically Undetermined."

292.81	DRUG INDUCED DELIRIUM	483.8	PNEUMONIA D/T ORG NEC
293.0	DELIRIUM D/T CCE	484.3	PNEUMONIA IN WHOOP COUGH
410.01	ANTEROLAT AMI-INITIAL	484.6	PNEUM IN ASPERGILLOSIS
410.11	ANT AMI NEC-INITIAL	484.7	PNEUM IN SYST MYCOSESNEC
410.21	INFEROLAT AMI-INITIAL	486	PNEUMONIA ORGANISM NOS
410.51	LAT AMI NEC-INITIAL	507.0	FOOD/VOMIT PNEUMONITIS
410.61	POSTERIOR AMI-INITIAL	518.5	POSTTR PULMON INSUFF
410.71	SUBEND INFARCT-INITIAL	518.7	TRALI
410.81	AMI NEC-INITIAL EPISODE	518.81	AC RESPIRATORY FAILURE
410.91	AMI NOS-INITIAL EPISODE	780.01	COMA
415.12	SEPTIC PULMON EMBOLISM	951.7	INJURY HYPOGLOSSAL NERVE
427.5	CARDIAC ARREST	957.1	INJURY TO NERVE NEC
449	SEPTIC ARTERIAL EMBOLISM	997.00	NERV SYST SURG COMP NOS
481	PNEUMOCOCCAL PNEUMONIA	997.01	CNS SURG COMP
482.0	K. PNEUMONIAE PNEUMONIA	997.02	IATROGEN CV INFARCT/HEM
482.1	PSEUDOMONAL PNEUMONIA	997.09	NERV SYST SURG COMP NEC
482.2	H. INFLUENZAE PNEUMONIA	997.1	SURG COMP-HEART
482.30	STREP PNEUMONIA NOS	997.3	SURG COMP-RESP NEC
482.31	GROUP A STREP PNEUMONIA	997.31	VENT ASSOC PNEUMONIA
482.32	GROUP B STREP PNEUMONIA	997.39	OTH SURG COMP-RESP
482.39	STREP PNEUMONIA NEC	997.4	SURG COMP-DIGESTIVE
482.40	STAPH PNEUMONIA NOS	997.5	SURG COMP-URINARY NEC
482.41	MSSA PNEUMONIA	997.91	SURG COMP-HYPERTENSION
482.42	MRSA PNEUMONIA	998.0	POSTOPERATIVE SHOCK
482.49	STAPH PNEUMONIA NEC	998.11	HEMORRHAGE COMP PX
482.81	PNEUMONIA D/T ANAEROBES	998.2	ACCIDENTAL OP LACERATION
482.82	E. COLI PNEUMONIA	998.30	DISRUPTION WOUND NOS
482.83	GRAM-NEG PNEUMONIA NEC	998.31	DISRUPT INTERNAL OP WND
482.84	LEGIONNAIRES' DISEASE	998.32	DISRUPT EXTERNAL OP WND
482.89	BACTERIAL PNEUMONIA NEC	998.59	POSTOP INFECTION NEC
482.9	BACTERIAL PNEUMONIA NOS	999.31	INFECT D/T CVC
483.0	M. PNEUMONIAE PNEUMONIA	999.39	INFECT COMP MED CARE NEC
483.1	CHLAMYDIAL PNEUMONIA		

Carotid Surgery – Dependent Complications

Dependent complications are conditions that must either have the POA indicator set to "No", or if the POA indicator is set to "Unknown" or is missing, there must also be the listed 900 post-operative complication code present in the patient record.

Must occur with 997.02 IATROGENIC CEREBROVASCULAR INFARCTION OR HEMORRHAGE

434.11	CEREBRAL EMBOL W INFARCT	434.91	CEREB ART OCCL W INFARCT
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Must occur with 997.1 CARDIAC COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

427.1	PVT	428.23	AC & CHR SYSTOLIC HF
427.31	ATRIAL FIBRILLATION	428.31	ACUTE DIASTOLIC HF
427.89	OTH CARDIAC DYSRHYTHMIAS	428.33	AC & CHR DIASTOLIC HF
428.0	CHF NOS	428.41	AC SYS & DIASTOLIC HF
428.1	LEFT HEART FAILURE	428.43	ACCHR SYS & DIASTOLIC HF
428.21	ACUTE SYSTOLIC HF	428.9	HEART FAILURE NOS

Must occur with 997.3 RESPIRATORY COMPLICATIONS or 997.39 OTHER RESPIRATORY COMPLICATIONS

485	BRONCHOPNEUMONIA ORG NOS
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Must occur with 997.4 DIGESTIVE SYSTEM COMPLICATION

560.1	PARALYTIC ILEUS
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Must occur with 997.5 URINARY COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

584.5	AC RF W TUBULAR NEPHR	593.9	RENAL/URETER DISORD NOS
584.8	ACUTE KIDNEY FAILURE NEC	599.0	URINARY TRACT INF NOS
584.9	ACUTE KIDNEY FAILURE NOS	788.20	RETENTION OF URINE NOS

Must occur with 998.59 OTHER POSTOPERATIVE INFECTION

038.0	STREPTOCOCCAL SEPTICEMIA	038.41	H. INFLUENZAE SEPTICEMIA
038.10	STAPH SEPTICEMIA NOS	038.42	E. COLI SEPTICEMIA
038.11	MSSA SEPTICEMIA	038.43	PSEUDOMONAS SEPTICEMIA
038.12	MRSA SEPTICEMIA	038.44	SERRATIA SEPTICEMIA
038.19	STAPH SEPTICEMIA NEC	038.49	GRAM-NEG SEPTICEMIA NEC
038.2	PNEUMOCOCCAL SEPTICEMIA	038.8	SEPTICEMIA NEC
038.3	ANAEROBIC SEPTICEMIA	038.9	SEPTICEMIA NOS
038.40	GRAM-NEG SEPTICEMIA NOS		

Hip Fracture Treatment– Independent Complications

Independent complications are conditions that are clearly hospital-acquired or by the coding definition are defined as post-operative. For 2009 these conditions were not counted as complications if the POA indicator was "Yes" or "Clinically Undetermined."

292.81	DRUG INDUCED DELIRIUM	997.31	VENT ASSOC PNEUMONIA
293.0	DELIRIUM D/T CCE	997.39	OTH SURG COMP-RESP
415.11	IATRO PULM EMBOL/INFARCT	997.4	SURG COMP-DIGESTIVE
415.12	SEPTIC PULMON EMBOLISM	997.5	SURG COMP-URINARY NEC
415.19	PULMON EMBOL/INFARCT NEC	998.0	POSTOPERATIVE SHOCK
449	SEPTIC ARTERIAL EMBOLISM	998.11	HEMORRHAGE COMP PX
512.1	IATROGENIC PNEUMOTHORAX	998.30	DISRUPTION WOUND NOS
518.5	POSTTR PULMON INSUFF	998.31	DISRUPT INTERNAL OP WND
518.7	TRALI	998.32	DISRUPT EXTERNAL OP WND
997.02	IATROGEN CV INFARCT/HEM	998.59	POSTOP INFECTION NEC
997.1	SURG COMP-HEART	999.31	INFECT D/T CVC
997.3	SURG COMP-RESP NEC	999.39	INFECT COMP MED CARE NEC

Hip Fracture Treatment – Dependent Complications

Dependent complications are conditions that must either have the POA indicator set to "No", or if the POA indicator is set to "Unknown" or is missing, there must also be the listed 900 post-operative complication code present in the patient record.

Must occur with 997.02 IATROGENIC CEREBROVASCULAR INFARCTION OR HEMORRHAGE

434.11	CEREBRAL EMBOL W INFARCT	434.91	CEREB ART OCCL W INFARCT
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Must occur with 997.1 CARDIAC COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

410.01	ANTEROLAT AMI-INITIAL	427.32	ATRIAL FLUTTER
410.11	ANT AMI NEC-INITIAL	427.89	OTH CARDIAC DYSRHYTHMIAS
410.21	INFEROLAT AMI-INITIAL	427.9	CARDIAC DYSRHYTHMIA NOS
410.31	INFEROPOST AMI-INITIAL	428.0	CHF NOS
410.41	INF AMI NEC-INITIAL	428.1	LEFT HEART FAILURE
410.51	LAT AMI NEC-INITIAL	428.21	ACUTE SYSTOLIC HF
410.61	POSTERIOR AMI-INITIAL	428.23	AC & CHR SYSTOLIC HF
410.71	SUBEND INFARCT-INITIAL	428.31	ACUTE DIASTOLIC HF
410.81	AMI NEC-INITIAL EPISODE	428.33	AC & CHR DIASTOLIC HF
410.91	AMI NOS-INITIAL EPISODE	428.41	AC SYS & DIASTOLIC HF
427.0	PSVT	428.43	ACC HR SYS & DIASTOLIC HF
427.1	PVT	428.9	HEART FAILURE NOS
427.31	ATRIAL FIBRILLATION		

Must not occur with V15.88 PERSONAL HISTORY OF FALL, PRESENTING HAZARDS TO HEALTH or V42.4 BONE REPLACED BY TRANSPLANT or V43.64 HIP JOINT REPLACED BY OTHER MEANS or V43.65 KNEE JOINT REPLACED BY OTHER MEANS or V45.4 ARTHRODESIS STATUS or V54.01 ENCOUNTER FOR REMOVAL OF INTERNAL FIXATION DEVICE or V54.02 ENCOUNTER FOR LENGTHENING/ADJUSTMENT OF GROWTH ROD or V54.09 OTHER AFTERCARE INVOLVING INTERNAL FIXATION DEVICE

996.78	COMP NEC ORTH DEV NEC
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Must not occur with V42.4 BONE REPLACED BY TRANSPLANT or V43.64 HIP JOINT REPLACED BY OTHER MEANS or V43.65 KNEE JOINT REPLACED BY OTHER MEANS or V45.4 ARTHRODESIS STATUS or V54.01 ENCOUNTER FOR REMOVAL OF INTERNAL FIXATION DEVICES or V54.02 ENCOUNTER FOR LENGTHENING/ ADJUSTMENT FOR GROWTH ROD or V54.09 OTHER AFTERCARE INVOLVING INTERNAL FIXATION DEVICE

996.77	COMP NEC D/T JT PROSTH
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Must occur with 997.3 RESPIRATORY COMPLICATIONS or 997.39 OTHER RESPIRATORY COMPLICATIONS

480.0	ADENOVIRAL PNEUMONIA	482.83	GRAM-NEG PNEUMONIA NEC
480.1	RSV PNEUMONIA	482.84	LEGIONNAIRES' DISEASE
480.2	PARAINFLUENZA VIR PNEUM	482.89	BACTERIAL PNEUMONIA NEC
480.3	SARS PNEUMONIA	482.9	BACTERIAL PNEUMONIA NOS
480.8	VIRAL PNEUMONIA NEC	483.0	M. PNEUMONIAE PNEUMONIA
481	PNEUMOCOCCAL PNEUMONIA	483.1	CHLAMYDIAL PNEUMONIA
482.0	K. PNEUMONIAE PNEUMONIA	483.8	PNEUMONIA D/T ORG NEC
482.1	PSEUDOMONAL PNEUMONIA	484.1	PNEUMONIA IN CMV DISEASE
482.2	H. INFLUENZAE PNEUMONIA	484.3	PNEUMONIA IN WHOOP COUGH
482.30	STREP PNEUMONIA NOS	484.6	PNEUM IN ASPERGILLOSIS
482.31	GROUP A STREP PNEUMONIA	484.7	PNEUM IN SYST MYCOSESNEC
482.32	GROUP B STREP PNEUMONIA	485	BRONCHOPNEUMONIA ORG NOS
482.39	STREP PNEUMONIA NEC	486	PNEUMONIA ORGANISM NOS
482.40	STAPH PNEUMONIA NOS	507.0	FOOD/VOMIT PNEUMONITIS
482.41	MSSA PNEUMONIA	511.9	PLEURAL EFFUSION NOS
482.42	MRSA PNEUMONIA	518.4	ACUTE LUNG EDEMA NOS
482.49	STAPH PNEUMONIA NEC	518.81	AC RESPIRATORY FAILURE
482.81	PNEUMONIA D/T ANAEROBES	518.84	AC & CHR RESP FAILURE
482.82	E. COLI PNEUMONIA	799.1	RESPIRATORY ARREST

Must occur with 997.4 DIGESTIVE SYSTEM COMPLICATION

560.1	PARALYTIC ILEUS
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Must occur with 997.5 URINARY COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

584.5	AC KF W TUBULAR NEPHR	599.0	URINARY TRACT INF NOS
584.8	ACUTE KIDNEY FAILURE NEC	788.20	RETENTION OF URINE NOS
584.9	ACUTE KIDNEY FAILURE NOS	788.29	RETENTION OF URINE NEC
593.9	RENAL/URETER DISORD NOS		

Must occur with 998.59 OTHER POSTOPERATIVE INFECTION

008.45	C. DIFFICILE ENTERITIS	038.42	E. COLI SEPTICEMIA
038.0	STREPTOCOCCAL SEPTICEMIA	038.43	PSEUDOMONAS SEPTICEMIA
038.10	STAPH SEPTICEMIA NOS	038.44	SERRATIA SEPTICEMIA
038.11	MSSA SEPTICEMIA	038.49	GRAM-NEG SEPTICEMIA NEC
038.12	MRSA SEPTICEMIA	038.8	SEPTICEMIA NEC
038.19	STAPH SEPTICEMIA NEC	038.9	SEPTICEMIA NOS
038.2	PNEUMOCOCCAL SEPTICEMIA	785.52	SEPTIC SHOCK
038.3	ANAEROBIC SEPTICEMIA	995.91	SEPSIS
038.40	GRAM-NEG SEPTICEMIA NOS	995.92	SEVERE SEPSIS
038.41	H. INFLUENZAE SEPTICEMIA		

Hip Replacement – Independent Complications

Independent complications are conditions that are clearly hospital-acquired or by the coding definition are defined as post-operative. In 2009 and 2010 these conditions were not counted as complications if the POA indicator was "Yes" or "Clinically Undetermined."

038.0	STREPTOCOCCAL SEPTICEMIA	482.49	STAPH PNEUMONIA NEC
038.10	STAPH SEPTICEMIA NOS	482.81	PNEUMONIA D/T ANAEROBES
038.11	MSSA SEPTICEMIA	482.82	E. COLI PNEUMONIA
038.12	MRSA SEPTICEMIA	482.83	GRAM-NEG PNEUMONIA NEC
038.19	STAPH SEPTICEMIA NEC	482.84	LEGIONNAIRES' DISEASE
038.2	PNEUMOCOCCAL SEPTICEMIA	482.89	BACTERIAL PNEUMONIA NEC
038.3	ANAEROBIC SEPTICEMIA	482.9	BACTERIAL PNEUMONIA NOS
038.40	GRAM-NEG SEPTICEMIA NOS	483.0	M. PNEUMONIAE PNEUMONIA
038.41	H. INFLUENZAE SEPTICEMIA	483.1	CHLAMYDIAL PNEUMONIA
038.42	E. COLI SEPTICEMIA	483.8	PNEUMONIA D/T ORG NEC
038.43	PSEUDOMONAS SEPTICEMIA	484.1	PNEUMONIA IN CMV DISEASE
038.44	SERRATIA SEPTICEMIA	484.3	PNEUMONIA IN WHOOP COUGH
038.49	GRAM-NEG SEPTICEMIA NEC	484.6	PNEUM IN ASPERGILLOSIS
038.8	SEPTICEMIA NEC	484.7	PNEUM IN SYST MYCOSESNEC
038.9	SEPTICEMIA NOS	485	BRONCHOPNEUMONIA ORG NOS
292.81	DRUG INDUCED DELIRIUM	486	PNEUMONIA ORGANISM NOS
293.0	DELIRIUM D/T CCE	507.0	FOOD/VOMIT PNEUMONITIS
410.01	ANTEROLAT AMI-INITIAL	512.1	IATROGENIC PNEUMOTHORAX
410.11	ANT AMI NEC-INITIAL	518.5	POSTTR PULMON INSUFF
410.21	INFEROLAT AMI-INITIAL	518.7	TRALI
410.31	INFEROPOST AMI-INITIAL	518.81	AC RESPIRATORY FAILURE
410.41	INF AMI NEC-INITIAL	584.5	AC KF W TUBULAR NEPHR
410.51	LAT AMI NEC-INITIAL	584.8	ACUTE KIDNEY FAILURE NEC
410.61	POSTERIOR AMI-INITIAL	584.9	ACUTE KIDNEY FAILURE NOS
410.71	SUBEND INFARCT-INITIAL	785.52	SEPTIC SHOCK
410.81	AMI NEC-INITIAL EPISODE	799.1	RESPIRATORY ARREST
410.91	AMI NOS-INITIAL EPISODE	995.91	SEPSIS
415.11	IATRO PULM EMBOL/INFARCT	995.92	SEVERE SEPSIS
415.12	SEPTIC PULMON EMBOLISM	996.42	DISLOCATION JOINT PROSTH
415.19	PULMON EMBOL/INFARCT NEC	996.44	PERI-PROSTHETIC FRACTURE
449	SEPTIC ARTERIAL EMBOLISM	997.02	IATROGEN CV INFARCT/HEM
480.0	ADENOVIRAL PNEUMONIA	997.1	SURG COMP-HEART
480.1	RSV PNEUMONIA	997.3	SURG COMP-RESP NEC
480.2	PARAINFLUENZA VIR PNEUM	997.31	VENT ASSOC PNEUMONIA
480.3	SARS PNEUMONIA	997.39	OTH SURG COMP-RESP
480.8	VIRAL PNEUMONIA NEC	997.4	SURG COMP-DIGESTIVE
481	PNEUMOCOCCAL PNEUMONIA	997.5	SURG COMP-URINARY NEC
482.0	K. PNEUMONIAE PNEUMONIA	998.0	POSTOPERATIVE SHOCK
482.1	PSEUDOMONAL PNEUMONIA	998.11	HEMORRHAGE COMP PX
482.2	H. INFLUENZAE PNEUMONIA	998.30	DISRUPTION WOUND NOS
482.30	STREP PNEUMONIA NOS	998.31	DISRUPT INTERNAL OP WND
482.31	GROUP A STREP PNEUMONIA	998.32	DISRUPT EXTERNAL OP WND
482.32	GROUP B STREP PNEUMONIA	998.59	POSTOP INFECTION NEC
482.39	STREP PNEUMONIA NEC	999.31	INFECT D/T CVC
482.40	STAPH PNEUMONIA NOS	999.39	INFECT COMP MED CARE NEC
482.41	MSSA PNEUMONIA	999.8	TRANSF/INFUS RXN NEC&NOS
482.42	MRSA PNEUMONIA		

Hip Replacement – Dependent Complications

Dependent complications are conditions that must either have the POA indicator set to "No", or if the POA indicator is set to "Unknown" or is missing, there must also be the listed 900 post-operative complication code present in the patient record.

Must not occur with 707.20 PRESSURE ULCER, UNSPECIFIED STAGE or 707.21 PRESSURE ULCER, STAGE I or 707.22 PRESSURE ULCER, STAGE II

707.0	PRESSURE ULCER	707.04	PRESSURE ULCER-HIP
707.00	PRESSURE ULCER-SITE NOS	707.05	PRESSURE ULCER-BUTTOCK
707.01	PRESSURE ULCER-ELBOW	707.06	PRESSURE ULCER-ANKLE
707.02	PRESSURE ULCER-UP BACK	707.07	PRESSURE ULCER-HEEL
707.03	PRESSURE ULCER-LOW BACK	707.09	PRESSURE ULCER-SITE NEC

Must occur with 997.02 IATROGENIC CEREBROVASCULAR INFARCTION OR HEMORRHAGE

434.11	CEREBRAL EMBOL W INFARCT	434.91	CEREB ART OCCL W INFARCT
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Must occur with 997.1 CARDIAC COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

427.0	PSVT	428.21	ACUTE SYSTOLIC HF
427.1	PVT	428.23	AC & CHR SYSTOLIC HF
427.31	ATRIAL FIBRILLATION	428.31	ACUTE DIASTOLIC HF
427.32	ATRIAL FLUTTER	428.33	AC & CHR DIASTOLIC HF
427.89	OTH CARDIAC DYSRHYTHMIAS	428.41	AC SYS & DIASTOLIC HF
427.9	CARDIAC DYSRHYTHMIA NOS	428.43	ACCHR SYS & DIASTOLIC HF
428.0	CHF NOS	428.9	HEART FAILURE NOS
428.1	LEFT HEART FAILURE		

Must occur with 997.3 RESPIRATORY COMPLICATIONS or 997.39 OTHER RESPIRATORY COMPLICATIONS

511.9	PLEURAL EFFUSION NOS	518.84	AC & CHR RESP FAILURE
518.4	ACUTE LUNG EDEMA NOS		

Must occur with 997.4 DIGESTIVE SYSTEM COMPLICATION

560.1	PARALYTIC ILEUS
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Must occur with 997.5 URINARY COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

593.9	RENAL/URETER DISORD NOS	788.20	RETENTION OF URINE NOS
599.0	URINARY TRACT INF NOS	788.29	RETENTION OF URINE NEC

Must occur with 998.59 OTHER POSTOPERATIVE INFECTION

008.45	C. DIFFICILE ENTERITIS
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Must not occur with V15.88 PERSONAL HISTORY OF FALL, PRESENTING HAZARDS TO HEALTH or V42.4 BONE REPLACED BY TRANSPLANT or V43.64 HIP JOINT PREPLACED BY OTHER MEANS or V43.65 KNEE JOINT REPLACED BY OTHER MEANS or V45.4 ARTHRODESIS STATUS or V54.01 ENCOUNTER FOR REMOVAL OF INTERNAL FIXATION DEVICE or V54.02 ENCOUNTER FOR LENGTHENING/ADJUSTMENT OF GROWTH ROD or V54.09 OTHER AFTERCARE INVOLVING INTERNAL FIXATION DEVICE

996.40	MECH COMP INT ORTH NOS	996.77	COMP NEC D/T JT PROSTH
996.47	MECH COMP JT PROSTH NEC	996.78	COMP NEC ORTH DEV NEC
996.49	MECH COMP INT ORTH NEC		

Peripheral Vascular Bypass – Independent Complications

Independent complications are conditions that are clearly hospital-acquired or by the coding definition are defined as post-operative. In 2009 and 2010 these conditions were not counted as complications if the POA indicator was "Yes" or "Clinically Undetermined."

292.81	DRUG INDUCED DELIRIUM	997.5	SURG COMP-URINARY NEC
293.0	DELIRIUM D/T CCE	998.0	POSTOPERATIVE SHOCK
415.12	SEPTIC PULMON EMBOLISM	998.11	HEMORRHAGE COMP PX
449	SEPTIC ARTERIAL EMBOLISM	998.2	ACCIDENTAL OP LACERATION
518.5	POSTTR PULMON INSUFF	998.30	DISRUPTION WOUND NOS
518.7	TRALI	998.31	DISRUPT INTERNAL OP WND
997.1	SURG COMP-HEART	998.32	DISRUPT EXTERNAL OP WND
997.3	SURG COMP-RESP NEC	998.59	POSTOP INFECTION NEC
997.31	VENT ASSOC PNEUMONIA	999.31	INFECT D/T CVC
997.39	OTH SURG COMP-RESP	999.39	INFECT COMP MED CARE NEC
997.4	SURG COMP-DIGESTIVE		

Peripheral Vascular Bypass – Dependent Complications

Dependent complications are conditions that must either have the POA indicator set to "No", or if the POA indicator is set to "Unknown" or is missing, there must also be the listed 900 post-operative complication code present in the patient record.

Must occur with 997.1 CARDIAC COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

410.01	ANTEROLAT AMI-INITIAL	427.89	OTH CARDIAC DYSRHYTHMIAS
410.11	ANT AMI NEC-INITIAL	428.0	CHF NOS
410.21	INFEROLAT AMI-INITIAL	428.1	LEFT HEART FAILURE
410.51	LAT AMI NEC-INITIAL	428.21	ACUTE SYSTOLIC HF
410.61	POSTERIOR AMI-INITIAL	428.23	AC & CHR SYSTOLIC HF
410.71	SUBEND INFARCT-INITIAL	428.31	ACUTE DIASTOLIC HF
410.81	AMI NEC-INITIAL EPISODE	428.33	AC & CHR DIASTOLIC HF
410.91	AMI NOS-INITIAL EPISODE	428.41	AC SYS & DIASTOLIC HF
427.1	PVT	428.43	ACCHR SYS & DIASTOLIC HF
427.31	ATRIAL FIBRILLATION	428.9	HEART FAILURE NOS
427.32	ATRIAL FLUTTER		

Must occur with 997.3 RESPIRATORY COMPLICATIONS or 997.39 OTHER RESPIRATORY COMPLICATIONS

481	PNEUMOCOCCAL PNEUMONIA	482.83	GRAM-NEG PNEUMONIA NEC
482.0	K. PNEUMONIAE PNEUMONIA	482.84	LEGIONNAIRES' DISEASE
482.1	PSEUDOMONAL PNEUMONIA	482.89	BACTERIAL PNEUMONIA NEC
482.2	H. INFLUENZAE PNEUMONIA	482.9	BACTERIAL PNEUMONIA NOS
482.30	STREP PNEUMONIA NOS	483.0	M. PNEUMONIAE PNEUMONIA
482.31	GROUP A STREP PNEUMONIA	483.1	CHLAMYDIAL PNEUMONIA
482.32	GROUP B STREP PNEUMONIA	483.8	PNEUMONIA D/T ORG NEC
482.39	STREP PNEUMONIA NEC	484.3	PNEUMONIA IN WHOOP COUGH
482.40	STAPH PNEUMONIA NOS	484.6	PNEUM IN ASPERGILLOSIS
482.41	MSSA PNEUMONIA	484.7	PNEUM IN SYST MYCOSESNEC
482.42	MRSA PNEUMONIA	485	BRONCHOPNEUMONIA ORG NOS
482.49	STAPH PNEUMONIA NEC	486	PNEUMONIA ORGANISM NOS
482.81	PNEUMONIA D/T ANAEROBES	507.0	FOOD/VOMIT PNEUMONITIS
482.82	E. COLI PNEUMONIA	518.81	AC RESPIRATORY FAILURE

Must occur with 997.4 DIGESTIVE SYSTEM COMPLICATION

560.1	PARALYTIC ILEUS
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Must occur with 997.5 URINARY COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

584.5	AC KF W TUBULAR NEPHR	593.9	RENAL/URETER DISORD NOS
584.8	ACUTE KIDNEY FAILURE NEC	599.0	URINARY TRACT INF NOS
584.9	ACUTE KIDNEY FAILURE NOS	788.20	RETENTION OF URINE NOS

Must occur with 998.59 OTHER POSTOPERATIVE INFECTION

008.45	C. DIFFICILE ENTERITIS	038.41	H. INFLUENZAE SEPTICEMIA
038.0	STREPTOCOCCAL SEPTICEMIA	038.42	E. COLI SEPTICEMIA
038.10	STAPH SEPTICEMIA NOS	038.43	PSEUDOMONAS SEPTICEMIA
038.11	MSSA SEPTICEMIA	038.44	SERRATIA SEPTICEMIA
038.12	MRSA SEPTICEMIA	038.49	GRAM-NEG SEPTICEMIA NEC
038.19	STAPH SEPTICEMIA NEC	038.8	SEPTICEMIA NEC
038.2	PNEUMOCOCCAL SEPTICEMIA	038.9	SEPTICEMIA NOS
038.3	ANAEROBIC SEPTICEMIA	995.92	SEVERE SEPSIS
038.40	GRAM-NEG SEPTICEMIA NOS		

Must occur with 998.59 OTHER POSTOPERATIVE INFECTION or 998.51 INFECTED POSTOPERATIVE SEROMA

041.04	GROUP D STREP INFECTION	041.7	PSEUDOMONAS INFECT NOS
041.11	MSSA		

Total Knee Replacement – Independent Complications

Independent complications are conditions that are clearly hospital-acquired or by the coding definition are defined as post-operative. In 2009 and 2010 these conditions were not counted as complications if the POA indicator was "Yes" or "Clinically Undetermined."

038.0	STREPTOCOCCAL SEPTICEMIA	482.42	MRSA PNEUMONIA
038.10	STAPH SEPTICEMIA NOS	482.49	STAPH PNEUMONIA NEC
038.11	MSSA SEPTICEMIA	482.81	PNEUMONIA D/T ANAEROBES
038.12	MRSA SEPTICEMIA	482.82	E. COLI PNEUMONIA
038.19	STAPH SEPTICEMIA NEC	482.83	GRAM-NEG PNEUMONIA NEC
038.2	PNEUMOCOCCAL SEPTICEMIA	482.84	LEGIONNAIRES' DISEASE
038.3	ANAEROBIC SEPTICEMIA	482.89	BACTERIAL PNEUMONIA NEC
038.40	GRAM-NEG SEPTICEMIA NOS	482.9	BACTERIAL PNEUMONIA NOS
038.41	H. INFLUENZAE SEPTICEMIA	483.0	M. PNEUMONIAE PNEUMONIA
038.42	E. COLI SEPTICEMIA	483.1	CHLAMYDIAL PNEUMONIA
038.43	PSEUDOMONAS SEPTICEMIA	483.8	PNEUMONIA D/T ORG NEC
038.44	SERRATIA SEPTICEMIA	484.1	PNEUMONIA IN CMV DISEASE
038.49	GRAM-NEG SEPTICEMIA NEC	484.3	PNEUMONIA IN WHOOP COUGH
038.8	SEPTICEMIA NEC	484.6	PNEUM IN ASPERGILLOSIS
038.9	SEPTICEMIA NOS	484.7	PNEUM IN SYST MYCOSESNEC
292.81	DRUG INDUCED DELIRIUM	485	BRONCHOPNEUMONIA ORG NOS
293.0	DELIRIUM D/T CCE	486	PNEUMONIA ORGANISM NOS
410.01	ANTEROLAT AMI-INITIAL	507.0	FOOD/VOMIT PNEUMONITIS
410.11	ANT AMI NEC-INITIAL	512.1	IATROGENIC PNEUMOTHORAX
410.21	INFEROLAT AMI-INITIAL	518.5	POSTTR PULMON INSUFF
410.31	INFEROPOST AMI-INITIAL	518.7	TRALI
410.41	INF AMI NEC-INITIAL	518.81	AC RESPIRATORY FAILURE
410.51	LAT AMI NEC-INITIAL	584.5	AC KF W TUBULAR NEPHR
410.61	POSTERIOR AMI-INITIAL	584.8	ACUTE KIDNEY FAILURE NEC
410.71	SUBEND INFARCT-INITIAL	584.9	ACUTE KIDNEY FAILURE NOS
410.81	AMI NEC-INITIAL EPISODE	785.52	SEPTIC SHOCK
410.91	AMI NOS-INITIAL EPISODE	799.1	RESPIRATORY ARREST
415.11	IATRO PULM EMBOL/INFARCT	995.91	SEPSIS
415.12	SEPTIC PULMON EMBOLISM	995.92	SEVERE SEPSIS
415.19	PULMON EMBOL/INFARCT NEC	996.42	DISLOCATION JOINT PROSTH
428.31	ACUTE DIASTOLIC HF	996.44	PERI-PROSTHETIC FRACTURE
428.33	AC & CHR DIASTOLIC HF	997.02	IATROGEN CV INFARCT/HEM
449	SEPTIC ARTERIAL EMBOLISM	997.1	SURG COMP-HEART
480.0	ADENOVIRAL PNEUMONIA	997.3	SURG COMP-RESP NEC
480.1	RSV PNEUMONIA	997.31	VENT ASSOC PNEUMONIA
480.2	PARAINFLUENZA VIR PNEUM	997.39	OTH SURG COMP-RESP
480.3	SARS PNEUMONIA	997.4	SURG COMP-DIGESTIVE
480.8	VIRAL PNEUMONIA NEC	997.5	SURG COMP-URINARY NEC
481	PNEUMOCOCCAL PNEUMONIA	998.0	POSTOPERATIVE SHOCK
482.0	K. PNEUMONIAE PNEUMONIA	998.11	HEMORRHAGE COMP PX
482.1	PSEUDOMONAL PNEUMONIA	998.30	DISRUPTION WOUND NOS
482.2	H. INFLUENZAE PNEUMONIA	998.31	DISRUPT INTERNAL OP WND
482.30	STREP PNEUMONIA NOS	998.32	DISRUPT EXTERNAL OP WND
482.31	GROUP A STREP PNEUMONIA	998.59	POSTOP INFECTION NEC
482.32	GROUP B STREP PNEUMONIA	999.31	INFECT D/T CVC
482.39	STREP PNEUMONIA NEC	999.39	INFECT COMP MED CARE NEC
482.40	STAPH PNEUMONIA NOS	999.8	TRANSF/INFUS RXN NEC&NOS
482.41	MSSA PNEUMONIA		

Total Knee Replacement – Dependent Complications

Dependent complications are conditions that must either have the POA indicator set to "No", or if the POA indicator is set to "Unknown" or is missing, there must also be the listed 900 post-operative complication code present in the patient record.

Must not occur with 707.20 PRESSURE ULCER, UNSPECIFIED STAGE or 707.21 PRESSURE ULCER, STAGE I or 707.22 PRESSURE ULCER, STAGE II

707.0	PRESSURE ULCER	707.04	PRESSURE ULCER-HIP
707.00	PRESSURE ULCER-SITE NOS	707.05	PRESSURE ULCER-BUTTOCK
707.01	PRESSURE ULCER-ELBOW	707.06	PRESSURE ULCER-ANKLE
707.02	PRESSURE ULCER-UP BACK	707.07	PRESSURE ULCER-HEEL
707.03	PRESSURE ULCER-LOW BACK	707.09	PRESSURE ULCER-SITE NEC

Must occur with 997.02 IATROGENIC CEREBROVASCULAR INFARCTION OR HEMORRHAGE

434.11	CEREBRAL EMBOL W INFARCT	434.91	CEREB ART OCCL W INFARCT
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Must occur with 997.1 CARDIAC COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

427.0	PSVT	428.1	LEFT HEART FAILURE
427.1	PVT	428.21	ACUTE SYSTOLIC HF
427.31	ATRIAL FIBRILLATION	428.23	AC & CHR SYSTOLIC HF
427.32	ATRIAL FLUTTER	428.41	AC SYS & DIASTOLIC HF
427.89	OTH CARDIAC DYSRHYTHMIAS	428.43	ACCHR SYS & DIASTOLIC HF
427.9	CARDIAC DYSRHYTHMIA NOS	428.9	HEART FAILURE NOS
428.0	CHF NOS		

Must occur with 997.3 RESPIRATORY COMPLICATIONS or 997.39 OTHER RESPIRATORY COMPLICATIONS

511.9	PLEURAL EFFUSION NOS	518.84	AC & CHR RESP FAILURE
518.4	ACUTE LUNG EDEMA NOS		

Must occur with 997.4 DIGESTIVE SYSTEM COMPLICATION

560.1	PARALYTIC ILEUS
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Must occur with 997.5 URINARY COMPLICATIONS, NOT ELSEWHERE CLASSIFIED

593.9	RENAL/URETER DISORD NOS	788.20	RETENTION OF URINE NOS
599.0	URINARY TRACT INF NOS	788.29	RETENTION OF URINE NEC

Must occur with 998.59 OTHER POSTOPERATIVE INFECTION

008.45	C. DIFFICILE ENTERITIS
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Must not occur with V15.88 PERSONAL HISTORY OF FALL, PRESENTING HAZARDS TO HEALTH or V42.4 BONE REPLACED BY TRANSPLANT or V43.64 HIP JOINT REPLACED BY OTHER MEANS or V43.65 KNEE JOINT REPLACED BY OTHER MEANS or V45.4 ARTHRODESIS STATUS or V54.01 ENCOUNTER FOR REMOVAL OF INTERNAL FIXATION DEVICE or V54.02 ENCOUNTER FOR LENGTHENING/ADJUSTMENT OF GROWTH ROD or V54.09 OTHER AFTERCARE INVOLVING INTERNAL FIXATION DEVICE

996.40	MECH COMP INT ORTH NOS	996.49	MECH COMP INT ORTH NEC
996.47	MECH COMP JT PROSTH NEC	996.78	COMP NEC ORTH DEV NEC

Must not occur with V42.4 BONE REPLACED BY TRANSPLANT or V43.64 HIP JOINT REPLACED BY OTHER MEANS or V43.65 KNEE JOINT REPLACED BY OTHER MEANS or V45.4 ARTHRODESIS STATUS or V54.01 ENCOUNTER FOR REMOVAL OF INTERNAL FIXATION DEVICES or V54.02 ENCOUNTER FOR LENGTHENING/ ADJUSTMENT FOR GROWTH ROD or V54.09 OTHER AFTERCARE INVOLVING INTERNAL FIXATION DEVICE

996.77	COMP NEC D/T JT PROSTH
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Appendix C. Top Five Risk Factors by Procedure or Diagnosis

Proc = Procedure Code Diag = Diagnosis Code

Back and Neck Surgery (<i>with</i> Spinal Fusion)	
Diag 348.30, 348.31, 348.39, 349.82	ENCEPHALOPATHY
Diag 260, 261, 262, 263.0, 263.1, 263.2, 263.8, 263.9	MALNUTRITION
Proc 81.04	DORSAL AND DORSOLUMBAR FUSION OF THE ANTERIOR COLUMN, ANTERIOR TECHNIQUE
Diag 344.00	QUADRIPLEGIA UNSPECIFIED
Diag 428.30, 428.32	CHRONIC DIASTOLIC HEART FAILURE
Back and Neck Surgery (<i>without</i> Spinal Fusion)	
Diag 260, 261, 262, 263.0, 263.1, 263.2, 263.8, 263.9	MALNUTRITION
Proc 99.04	TRANSFUSION OF PACKED CELLS
Diag 324.1	INTRASPINAL ABSCESS
Diag 348.30, 348.31, 348.39, 349.82	ENCEPHALOPATHY
Diag 491.0, 491.1, 491.20, 491.21, 491.22, 491.8, 491.9	CHRONIC BRONCHITIS
Carotid Surgery	
Proc 39.74	ENDOVASCULAR REMOVAL OF OBSTRUCTION FROM HEAD AND NECK VESSEL(S)
Diag 585.4	CHRONIC KIDNEY DISEASE STAGE IV (SEVERE)
Diag 491.0, 491.1, 491.20, 491.21, 491.22, 491.8, 491.9	CHRONIC BRONCHITIS
Diag 348.30, 348.31, 348.39, 349.82	ENCEPHALOPATHY
Diag 584.5, 584.8, 584.9	ACUTE RENAL FAILURE
Chronic Obstructive Pulmonary Disease (COPD)	
Diag 038.0, 038.10, 038.11, 038.19, 038.2, 038.3, 038.40, 038.41, 038.42, 038.43, 038.44, 038.49, 038.8, 038.9	SEPSIS
Diag 518.81	ACUTE RESPIRATORY FAILURE
Diag 518.84	ACUTE AND CHRONIC RESPIRATORY FAILURE
Diag 507.0	PNEUMONITIS DUE TO INHALATION OF FOOD OR VOMITUS
Diag 410.71	ACUTE MYOCARDIAL INFARCTION SUBENDOCARDIAL INFARCTION INITIAL EPISODE OF CARE
Coronary Bypass Surgery	
Proc 37.61	IMPLANT OF PULSATION BALLOON
Diag 585.6	END STAGE RENAL DISEASE
Diag 584.5, 584.8, 584.9	ACUTE RENAL FAILURE
Diag 427.5	CARDIAC ARREST
Diag 410.31, 410.41	INFERIOR WALL AMI

Coronary Interventional Procedures	
Proc 37.61	IMPLANT OF PULSATION BALLOON
Diag 410.01, 410.11, 410.21, 410.51, 410.61, 410.81, 410.91	ANTERIOR/LATERAL WALL AMI
Diag 585.6	END STAGE RENAL DISEASE
Diag 427.5	CARDIAC ARREST
Diag 410.31, 410.41	INFERIOR WALL AMI
Heart Attack	
Diag 427.5	CARDIAC ARREST
Proc 37.61	IMPLANT OF PULSATION BALLOON
Diag 410.01, 410.11, 410.21, 410.51, 410.61, 410.81, 410.91	ANTERIOR/LATERAL WALL AMI
Diag 585.6	END STAGE RENAL DISEASE
Diag 518.81	ACUTE RESPIRATORY FAILURE
Heart Failure	
Diag 410.01, 410.11, 410.21, 410.51, 410.61, 410.81, 410.91	ANTERIOR/LATERAL WALL AMI
Diag 518.81	ACUTE RESPIRATORY FAILURE
Diag 507.0	PNEUMONITIS DUE TO INHALATION OF FOOD OR VOMITUS
Diag 585.6	END STAGE RENAL DISEASE
Diag 518.84	ACUTE AND CHRONIC RESPIRATORY FAILURE
Hip Fracture Treatment	
Diag 038.0, 038.10, 038.11, 038.19, 038.2, 038.3, 038.40, 038.41, 038.42, 038.43, 038.44, 038.49, 038.8, 038.9	SEPSIS
Diag 518.81	ACUTE RESPIRATORY FAILURE
Diag 507.0	PNEUMONITIS DUE TO INHALATION OF FOOD OR VOMITUS
Diag 276.2	ACIDOSIS
Diag 428.31, 428.33	ACUTE DIASTOLIC HEART FAILURE
Hip Replacement	
Diag 276.50, 276.51, 276.52	DEHYDRATION
Diag 403.10, 403.90	NON-MALIGNANT RENAL DISEASE W/O FAILURE
Diag 491.0, 491.1, 491.20, 491.21, 491.22, 491.8, 491.9	CHRONIC BRONCHITIS
Diag 427.32	ATRIAL FLUTTER
Diag 250.02	DIABETES MELLITUS WITHOUT MENTION OF COMPLICATION TYPE II OR UNSPECIFIED TYPE UNCONTROLLED

Peripheral Vascular Bypass	
Diag 427.1	PAROXYSMAL VENTRICULAR TACHYCARDIA
Diag 585.4	CHRONIC KIDNEY DISEASE STAGE IV (SEVERE)
Diag 491.0, 491.1, 491.20, 491.21, 491.22, 491.8, 491.9	CHRONIC BRONCHITIS
Diag 260, 261, 262, 263.0, 263.1, 263.2, 263.8, 263.9	MALNUTRITION
Diag 428.20, 428.22	CHRONIC SYSTOLIC HEART FAILURE
Pneumonia	
Diag 518.81	ACUTE RESPIRATORY FAILURE
Diag 162.9	MALIGNANT NEOPLASM OF BRONCHUS AND LUNG UNSPECIFIED
Diag 518.82	OTHER PULMONARY INSUFFICIENCY NOT ELSEWHERE CLASSIFIED
Diag 518.84	ACUTE AND CHRONIC RESPIRATORY FAILURE
Diag 038.0, 038.10, 038.11, 038.19, 038.2, 038.3, 038.40, 038.41, 038.42, 038.43, 038.44, 038.49, 038.8, 038.9	SEPSIS
Resection / Replacement of Abdominal Aorta	
Diag 441.3	ABDOMINAL ANEURYSM RUPTURED
Diag 557.0	ACUTE VASCULAR INSUFFICIENCY OF INTESTINE
Proc 54.12	REOPENING OF RECENT LAPAROTOMY SITE
Proc 38.34	RESECTION OF AORTA WITH ANASTOMOSIS
Diag 585.6	END STAGE RENAL DISEASE
Stroke	
Diag 780.01	COMA
Diag 518.81	ACUTE RESPIRATORY FAILURE
Diag 585.6	END STAGE RENAL DISEASE
Diag 038.0, 038.10, 038.11, 038.19, 038.2, 038.3, 038.40, 038.41, 038.42, 038.43, 038.44, 038.49, 038.8, 038.9	SEPSIS
Diag 430	SUBARACHNOID HEMORRHAGE
Total Knee Replacement	
Diag 276.50, 276.51, 276.52	DEHYDRATION
Diag 276.7	HYPERPOTASSEMIA
Diag 403.10, 403.90	NON-MALIGNANT RENAL DISEASE W/O FAILURE
Diag 428.30, 428.32	CHRONIC DIASTOLIC HEART FAILURE
Diag 416.0, 416.1, 416.8, 416.9	PULMONARY HYPERTENSION
Valve Replacement Surgery	
Proc 37.61	IMPLANT OF PULSATION BALLOON
Diag 584.5, 584.8, 584.9	ACUTE RENAL FAILURE
Diag 585.6	END STAGE RENAL DISEASE
Proc 35.27	REPLACEMENT OF TRICUSPID VALVE WITH TISSUE GRAFT
Diag 427.5	CARDIAC ARREST