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The International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes have been implemented to identify diagnoses with dates of service, or dates of discharge for inpatients, that occur on or after October 1, 2015. ICD-10-CM overall format is very much the same as ICD-9-CM, with changes primarily in its organization and structure, code composition, and level of detail.

A minimum of one diagnosis code is required on all claims, and it is possible to report up to eighteen for facility claims, or twelve for physician claims.¹ Payers may require additional clinical information specific to each patient to determine coverage and payment for the reported procedure. Diagnosis codes should be reported to the highest level of specificity available – a code is invalid if it has not been coded to the full number of characters required for that code.¹

The Table below includes ICD-10-CM diagnosis codes commonly used to report peripheral vascular and cerebrovascular conditions. It is the responsibility of the provider to determine the appropriate diagnosis code(s) for each patient.

ICD-10-CM Diagnosis Codes – Peripheral Vascular Conditions	
Diagnosis Code²	Description
I26.0 – I26.99	Pulmonary embolism
I27.82	Chronic pulmonary embolism
I63.00 – I63.09	Cerebral infarction due to thrombosis of precerebral artery
I63.10 – I63.19	Cerebral infarction due to embolism of precerebral artery
I70.0	Atherosclerosis of aorta
I70.1	Atherosclerosis of renal artery
I70.201 – I70.299	Atherosclerosis of native arteries of the extremities
I70.301 – I70.799	Atherosclerosis of bypass graft(s) of the extremities
I70.92	Chronic total occlusion of artery of the extremities
I70.8	Atherosclerosis of other arteries
I70.90 – I70.91	Other and unspecified atherosclerosis
I73.9	Peripheral vascular disease, unspecified
I74.2 – I74.5	Arterial embolism and thrombosis of the extremities
I74.8 – I74.9	Arterial embolism and thrombosis of other specified arteries
I75.011 – I75.89	Atheroembolism
I77.1	Stricture of artery

¹ Medicare Claims Processing Manual, Chapter 26. <https://www.cms.gov/regulations-and-guidance/guidance/manuals/internet-only-manuals-ioms-items/cms018912.html>

² International Classification of Diseases, Tenth Revision, Clinical Modification, National Center for Health Statistics, July 2016, <http://www.cdc.gov/nchs/icd/icd10cm.htm>.

ICD-10-CM Diagnosis Codes – Peripheral Vascular Conditions	
Diagnosis Code ²	Description
I77.3	Arterial fibromuscular dysplasia (renal, carotid arteries)
I82.0 – I82.891	Acute / chronic venous embolism and thrombosis of vessels of various specified sites

The following Table includes ICD-10-CM diagnosis codes commonly used to report coronary conditions. It is the responsibility of the provider to determine the appropriate diagnosis code(s) for each patient.

ICD-10-CM Diagnosis Codes – Coronary Conditions	
Diagnosis Code	Description
I20.0 – I20.9	Angina pectoris
I21.01 – I22.9	Acute myocardial infarction
I24.0 – I24.9	Other acute ischemic heart diseases
I25.10 – I25.119	Coronary atherosclerosis
I25.700 – I25.799	Atherosclerosis of coronary artery bypass graft(s) and coronary artery of transplanted heart with angina pectoris
I25.82	Chronic total occlusion of coronary artery
I25.83	Coronary atherosclerosis due to lipid rich plaque
I25.84	Coronary atherosclerosis due to calcified coronary lesion
I25.810 – I25.812, I25.89	Other forms of chronic ischemic heart disease
I25.9	Chronic ischemic heart disease, unspecified

The following Table includes ICD-10-CM diagnosis codes commonly used to report carotid artery conditions. It is the responsibility of the provider to determine the appropriate diagnosis code(s) for each patient.

ICD-10-CM Diagnosis Codes – Carotid Artery Conditions	
Diagnosis Code ³	Description
I63.20 – I63.29	Cerebral infarction due to unspecified occlusion or stenosis of precerebral arteries
I65.01 – I65.9	Occlusion and stenosis of precerebral arteries, not resulting in cerebral infarction

The Table below includes ICD-10-CM diagnosis codes, which are relevant for biliary interventions:

ICD-10-CM Diagnosis Codes – Relevant for Biliary Interventions	
Diagnosis Code ⁴	Description
C22.0	Liver cell carcinoma
C22.3, C22.4, C22.7, C22.8	Other primary malignant neoplasms of liver (hepatoblastoma, angiosarcoma, other, unspecified)
C22.1	Intrahepatic bile duct carcinoma
C22.9	Malignant neoplasm of liver, not specified as primary or secondary
C24.0	Malignant neoplasm of extrahepatic bile ducts

³ International Classification of Diseases, Tenth Revision, Clinical Modification, National Center for Health Statistics, July 2016, <http://www.cdc.gov/nchs/icd/icd10cm.htm>.

⁴ International Classification of Diseases, Tenth Revision, Clinical Modification, National Center for Health Statistics, July 2016, <http://www.cdc.gov/nchs/icd/icd10cm.htm>.

ICD-10-CM Diagnosis Codes – Relevant for Biliary Interventions	
Diagnosis Code ⁴	Description
C24.1	Malignant neoplasm of ampulla of Vater
C23	Malignant neoplasm of gallbladder
C24.8	Malignant neoplasm of overlapping sites of biliary tract
C24.9	Malignant neoplasm of biliary tract, part unspecified
C78.7	Secondary malignant neoplasm of liver and intrahepatic bile duct
C78.8 –	Secondary malignant neoplasm of other and unspecified digestive organs
C7B.02	Secondary carcinoid neuroendocrine tumor of liver
D01.5	Carcinoma in situ of liver, gallbladder, and bile ducts
D13.4, D13.5	Benign neoplasm of liver and biliary ducts
D37.6	Neoplasm of uncertain behavior of liver, gallbladder, and bile ducts
D49.0	Neoplasm of unspecified behavior of digestive system
K80.20	Calculus of bile duct without mention of cholecystitis or obstruction
K80.21	Calculus of bile duct without mention of cholecystitis, with obstruction
K83.1	Obstruction of bile duct

Complications and Comorbidities (CCs) and Major Complications and Comorbidities (MCCs)

Hospitals must report the principal diagnosis using an appropriate ICD-10-CM code, as well as any secondary diagnoses – some of which may be considered CCs or MCCs for Medicare Severity Diagnosis-Related Group (MS-DRG) assignment.⁵ The principal diagnosis is defined in the Uniform Hospital Discharge Data Set (UHDDS) as “that condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.” The circumstances of inpatient admission always govern the selection of principal diagnosis.⁶

The CC and MCC conditions generally correspond to longer and more complicated inpatient stays due to a need for services such as intensive monitoring, expensive and technically complex procedures, and/or extensive nursing care. Secondary conditions documented in a patient’s medical record may impact the reimbursement a hospital receives. While there are typically only two levels of MS-DRG for coronary procedures, with or without MCC, some endovascular MS-DRGs include reference to CCs. Under the MS-DRG system, a CC or MCC must represent a secondary diagnosis in combination with the principal diagnosis, although there are a few combination codes in ICD-10-CM which reflect their own CC or MCC. Whether a complication or comorbidity is classified as a CC or MCC is defined by Medicare.⁷

The following two Tables provide diagnosis codes that may be comorbidities in cardiovascular patients, which have been identified as CCs or MCCs and may therefore affect MS-DRG assignment.⁷

⁵ CMS Inpatient Prospective Payment System Final Rule, CMS-1694-F

<https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/FY2019-IPPS-Final-Rule-Home-Page.html>

⁶ The UHDDS definitions are used by acute care short-term hospitals to report inpatient data elements in a standardized manner. These data elements and their definitions can be found in the July 31, 1985, Federal Register (Vol. 50, No. 147), pp. 31038-40.

⁷ Centers for Medicare and Medicaid Services, FY19 Final Notice Data, Table 6J - CC List; <http://www.cms.gov/AcuteInpatientPPS/> (under Acute Inpatient – Files for Download)

Partial List of ICD-10-CM Codes – Complications and Comorbidities (CCs) ⁸	
Diagnosis Code	Description
E44.0, E44.1	Mild or moderate protein-calorie malnutrition
E46	Unspecified protein-calorie malnutrition
E87.0 – E87.3	Hypernatremia, hyponatremia, acidosis, alkalosis
I12.0	Hypertensive chronic kidney disease, stage V or end stage renal disease
I13.11	Hypertensive heart and chronic kidney disease, without heart failure, with stage V or end stage renal disease
I13.0, I13.2	Hypertensive heart and chronic kidney disease, out heart failure, any stage renal disease
I20.0, I20.1	Unstable angina, angina pectoris with documented spasm
I24.1, I24.8, I24.9	Other acute and subacute forms of ischemic heart disease
I27.0	Primary pulmonary hypertension
I27.82	Chronic pulmonary embolism
I42.0 – I42.9	Cardiomyopathy
I47.0 – I47.2	Tachycardias (supraventricular, ventricular, AVNRT)
I48.1	Persistent atrial fibrillation
I48.3, I48.4, I48.92	Atrial flutter
I50.1	Left ventricular failure
I50.20, I50.22, I50.30, I50.32, I50.40, I50.42	Unspecified or chronic systolic, diastolic, or combined systolic and diastolic heart failure
G45.0, G45.1	Basilar artery syndrome, vertebral artery syndrome, carotid artery syndrome, or vertebrobasilar artery syndrome
G45.8, G45.9	Other specified or unspecified transient cerebral ischemias, subclavian steal syndrome
I67.89	Acute, but ill-defined, cerebrovascular disease
I67.81, I67.82, I67.89	Other generalized ischemic cerebrovascular disease
I70.261 – I70.269	Atherosclerosis of native arteries of the extremities with gangrene
I70.92	Chronic total occlusion of artery of the extremities
I74.09 – I74.9	Arterial embolism and thrombosis of aorta, artery of upper or lower extremity, iliac artery, other specified artery, or unspecified artery
I75.011 – I75.89	Atheroembolism
I77.2	Rupture of artery
I82.210 – I82.C29	Acute / chronic venous embolism and thrombosis of vessels of specified sites
J45.21, J45.22, J45.31, J45.32, J45.41, J45.42, J45.51, J45.52, J45.901, J45.902	Mild intermittent, mild persistent, moderate persistent, severe persistent, or unspecified asthma with status asthmaticus or (acute) exacerbation
J96.10 – J96.12	Chronic respiratory failure
N17.8, N17.9	Other or unspecified acute kidney failure
N18.4, N18.5	Chronic kidney disease, Stage IV or V
N39.0	Urinary tract infection, site not specified

⁸ Centers for Medicare and Medicaid Services, FY19 Final Notice Data, Table 6J - CC List; <http://www.cms.gov/AcuteInpatientPPS/> (under Acute Inpatient – Files for Download)

Partial List of ICD-10-CM Codes – Complications and Comorbidities (CCs) ⁸	
Diagnosis Code	Description
L02.01 – L03.91	Cellulitis, abscess, and acute lymphangitis of various specified sites
L97.101 – L97.929	Non-pressure chronic ulcer of lower limb
R17	Jaundice, unspecified, not of newborn
T82.01XA – T82.599A	Mechanical complication of vascular device, implant, and graft
T82.6XXA – T82.7XXA	Infection and inflammatory reaction due to other vascular device, implant, and graft
T82.817A – T82.9XXA	Other complications due to other vascular device, implant, and graft
I97.710 – I97.89	Cardiac, cerebrovascular, or peripheral vascular complications, not elsewhere classified
Z68.1, Z68.41 - Z68.45	Body Mass Index less than 19, or 40 and over, adult

Partial List of ICD-10-CM Codes – Major Complications and Comorbidities (MCCs) ⁹	
Diagnosis Code	Description
E08.00 – E08.11, E08.641, E09.00 – E09.11, E09.641	Secondary diabetes mellitus with ketoacidosis, hyperosmolality or other coma
E10.10, E10.11, E10.641, E11.00, E11.01, E11.641, E13.00 – E13.11, E13.641	Diabetes mellitus with ketoacidosis, hyperosmolality or other coma
I21.01 – I22.9	Acute myocardial infarction
I25.42	Dissection of coronary artery
I26.01 – I26.99	Pulmonary embolism and infarction
I49.01, I49.02	Ventricular fibrillation, ventricular flutter
I46.2 – I46.9	Cardiac arrest
I50.21, I50.23	Acute or acute on chronic systolic heart failure
I50.31, I50.33	Acute or acute on chronic diastolic heart failure
I50.41, I50.43	Acute or acute on chronic combined systolic and diastolic heart failure
I63.00 – I63.9	Cerebral infarction due to thrombosis, embolus, or occlusion / stenosis of precerebral or cerebral artery
I71.00 – I71.03	Dissection of aorta, unspecified site, thoracic, abdominal, or thoracoabdominal
I77.71 – I77.79	Dissection of artery: carotid, iliac, renal, vertebral, or other artery
I82.220, I82.221	Acute or chronic embolism and thrombosis of inferior vena cava
J95.821, J95.822	Acute or acute and chronic post-procedure acute respiratory failure
N18.6	End stage renal disease
O90.3	Peripartum cardiomyopathy
L89. – 3, L89. – 4	Pressure ulcer, stage III or stage IV (*principal diagnosis can be its own MCC)
R57.0 – R57.1	Cardiogenic, septic, or other shock without mention of trauma

⁹ Centers for Medicare and Medicaid Services, FY19 Final Notice Data, Table 6I - MCC List; <http://www.cms.hhs.gov/AcuteInpatientPPS/> (under Acute Inpatient – Files for Download)

Partial List of ICD-10-CM Codes – Major Complications and Comorbidities (MCCs) ⁹	
Diagnosis Code	Description
S25.00XA – S25.499A, S35.00XA – S35.59XA, S45.001A – S45.099A, S75.001A – S75.199A, S85.001A – S85.599A	Traumatic injuries to specified blood vessels
A41.9, R65.10 – R65.21	Sepsis, severe sepsis, systemic inflammatory response syndrome due to noninfectious process with acute organ dysfunction
T81.11XA	Postoperative shock, cardiogenic

Six diagnosis categories which are closely associated with patient mortality are assigned different CC subclasses, depending upon whether the patient is discharged alive or deceased: ventricular fibrillation (I49.01); cardiac arrest (I46.2 – I46.9); cardiogenic shock (R57.0); other shock without mention of trauma (R57.1 – R57.9); post-procedural shock (T81.1-) or respiratory arrest (R09.2). These diagnoses are assigned an MCC subclass for patients who are discharged alive, and a CC subclass for patients who expire.¹⁰

¹⁰ National Institutes of Health, Health Care Finance Review. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4193498/>.

The information in this guide is broad-based and references many different procedures and types of devices. Such a broad discussion is not intended to suggest or imply that Cordis® offers products for every use or procedure discussed and the FDA-cleared or approved labeling for all products may not be consistent with the information in this guide. Important information: Prior to use, refer to the instruction for use supplied with this device for indications, contraindications, side effects, suggested procedure, warnings and precautions.

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