Cardiology Commonly Coded

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AGENDA

• Atrial fibrillation and atrial flutter
• Paroxysmal tachycardia
• Other cardiac arrhythmias
• Atrioventricular and bundle branch block
• Congestive heart failure
• Angina pectoris
Atrial fibrillation and atrial flutter
Atrial fibrillation and atrial flutter

- **Atrial fibrillation**
  - The heart’s electrical signals begin in another part of the atria or nearby pulmonary veins instead of the SA node.
  - The disorganized signals cause the atria to fibrillate

- **Atrial flutter**
  - The electrical signal travels along a pathway within the right atrium, moving in a “circuit”

The codes for atrial fibrillation and atrial flutter are:

- Paroxysmal atrial fibrillation (I48.0)
- Persistent atrial fibrillation (I48.1)
- Chronic atrial fibrillation (I48.2)
- Typical atrial flutter (I48.3)
- Atypical atrial flutter (I48.4)

**Example**

- POSTOPERATIVE DIAGNOSIS: PAF
- PROCEDURE PERFORMED: Cardioversion
- PROCEDURE NOTE: The patient was brought to the endoscopy suite and was prepped and draped in the usual manner. Using adhesive anterior-posterior patches at 250 joule synchronized biphasic shock resulted in normal sinus rhythm in the 60s. Anesthesia was provided by Smith anesthesia.

I48.1 Persistent atrial fibrillation
Paroxysmal tachycardia

• The codes for this condition are located in category I47, Paroxysmal tachycardia and are broken down by type.

• Re-entry ventricular tachycardia (I47.0)

• Supraventricular tachycardia (I47.1)

• Ventricular tachycardia (I47.2)

Example

• The cardiologist is called to the emergency department. A 60-year-old male, who is a skydiving instructor was giving lessons. He was urgently rushed to the ED after experiencing a terrifying episode during a jump. The patient states that he began to have weakness and fatigue during his last jump; while making his descent from the plane, he became very dizzy and thinks that he may have passed out for a brief period of time. He states that he barely made it to the ground without major injury.

Example, cont.

• Upon arrival to the ED, he was found to be in a wide complex ventricular tachycardia (VT) at a rate of 214 beats per minute (bpm). His systolic blood pressure was found to be 58 mmHg. He was cardioverted and given a bolus of IV amiodarone. The patient was then rushed to the cardiac cath lab.

I47.2 Ventricular tachycardia
Other cardiac arrhythmias

- Category I49 in ICD-10-CM contains codes for other cardiac arrhythmias. They are broken down by type of arrhythmia, and include:
  - Ventricular fibrillation (I49.01)
  - Ventricular flutter (I49.02)
  - Atrial premature depolarization (I49.1)
  - Junctional premature depolarization (I49.2)
  - Ventricular premature depolarization (I49.3)
  - Sick sinus syndrome (I49.5)

Example

- A 22-year-old female is seen in consultation for the evaluation of symptomatic premature ventricular contractions (PVCs). The patient had been experiencing fatigue, shortness of breath, frequent palpitations, and exercise intolerance for the last 5 years. Her past medical history was otherwise unremarkable, including no sudden death in the family. Further, she reported that the beta blockers and lifestyle modification had failed to resolve her symptoms. A review of 24-hour Holter monitoring demonstrated a total burden of 25,000 PVCs with left bundle morphology, in bigeminal and trigeminal pattern. Ischemic workup is negative. In view of the increased burden of symptomatic PVCs as well as no response to medication, she is considered for RF ablation.

Atrioventricular and bundle branch block

- Atrioventricular (AV) block involves impairment of the conduction between the atria and ventricles. There are three degrees of AV block recognized. In ICD-10-CM the codes are broken down by degree.
  - First degree AV block (I44.0)
  - Second degree AV block (I44.1)
  - Third degree AV block (I44.2)
**Atrioventricular and bundle branch block**

- Bundle branch blocks (BBB) occur when one or both of the bundle branches (discussed earlier) do not conduct electrical impulses normally. Codes for bundle branch blocks are located in ICD-10-CM in categories I44 and I45 and are broken down by laterality and specific site.
- Left anterior fascicular block (I44.4)
- Left posterior fascicular block (I44.5)
- Right fascicular block (I45.0)
- Bifascicular block (I45.2)
- Trifascicular block (I45.3)

**Example**

Wendy presents for evaluation. She is a 25-year-old that works as a medical transcriptionist. She has always been healthy. She is capable of doing housework, exercising, and can ride a bicycle without discomfort. She has a family history of coronary artery disease and recent ECG indicated right fascicular block.

I45.0 Right fascicular block
Z82.49 Family history of ischemic heart disease and other diseases of the circulatory system

**Congestive heart failure**

- Category I50 in ICD-10-CM contains the codes for heart failure. The subcategories indicate the type:
  - I50.1 Left ventricular
  - I50.2 Systolic
  - I50.3 Diastolic
  - I50.4 Combined systolic and diastolic
Congestive heart failure

- The codes are further broken down by time parameters acute, chronic, and acute on chronic. There is also an instructional note under I50 that states that the following conditions should be coded first, if applicable:
  - heart failure complicating abortion or ectopic or molar pregnancy (O00-O07, O08.8)
  - heart failure following surgery (I97.13-)
  - heart failure due to hypertension (I11.0)
  - heart failure due to hypertension with chronic kidney disease (I13.1-)
  - obstetric surgery and procedures (O75.4)
  - rheumatic heart failure (I09.81)

Example

Sheila comes in today for a check-up of her chronic diastolic heart failure. She reports feeling better on Vasotec. She is less fatigued and is sleeping better. Patient to return in 3 months. Will get echo before next visit.

I50.32 Chronic diastolic (congestive) heart failure

Example

- **SUBJECTIVE:** The patient is a 78-year-old female who returns for recheck. She has acute on chronic systolic heart failure due to hypertension. Today, she denies difficulty with chest pain, palpitations, orthopnea, nocturnal dyspnea, or edema.

  **FAMILY HISTORY / PERSONAL HISTORY:** Mother died from congestive heart failure. Father died from myocardial infarction at the age of 58. Family history is positive for ischemic cardiac disease. She has one brother living who has had angioplasties x 2. **IMPRESSION/PLAN:** Acute on chronic systolic heart failure due to HTN. She is advised to continue with the same medication.

  I11.0 Hypertensive heart disease with heart failure
  I50.23 Acute on chronic systolic (congestive) heart failure
  Z82.49 Family history of ischemic heart disease and other disease of the circulatory system
Cardiology – Commonly Coded

Angina pectoris

• There are three specific codes in ICD-10-CM for angina:
  – Unstable angina (I20.0)
  – Angina pectoris with documented spasm (I20.1)
  – Other forms of angina pectoris (I20.8)

Example

• A 50-year-old man with type 2 diabetes mellitus and hypertension presents after experiencing 1 hour of midsternal chest pain that began after eating a large meal. Pain is now present, but lessened. On exam his pulse is 80/min, regular, BP is 110/80 mm Hg. Cardiovascular exam is normal. Current medications include glimepiride 1mg daily, metformin 500 mg twice daily, telmisartan 40mg daily, and aspirin 75mg daily. After diagnostics including ECG and troponin, patient is diagnosed with unstable angina.

  I20.0 Unstable angina
  I10 Essential (primary) hypertension
  E11.9 Type 2 diabetes mellitus without complications

Example

• Cardiology is called to the ED for a patient with angina equivalent. The patient has shortness of breath, extreme fatigue, and jaw pain. The patient has elevated cardiac enzymes and an abnormal ECG.

  I20.8 Other forms of angina
  R06.02 Shortness of breath
  R53.83 Other fatigue
  R68.84 Jaw pain
Cardiomyopathy

- May be acquired or congenital
- Found in categories I42 and I42
- Are broken down by type

Cardiomyopathy

- Codes for cardiomyopathy include:
  - Dilated cardiomyopathy – I42.0
  - Obstructive hypertrophic cardiomyopathy – I42.1
  - Other hypertrophic cardiomyopathy - I42.2
  - Endomyocardial (eosinophilic) disease - I42.3
  - Endocardial fibroelastosis - I42.4

Cardiomyopathy

- Other restrictive cardiomyopathy (RCM) - I42.5
- Alcoholic cardiomyopathy – I42.6
- Cardiomyopathy due to drug and external agent - I42.7
- Other cardiomyopathies - I42.8
- Cardiomyopathy, unspecified - I42.9
- Cardiomyopathy in diseases classified elsewhere – I43
Patient presented with a 1 month history of shortness of breath that has been worsening. Exertion of any kind exacerbated it. He denied any history of cough, tobacco use, or drug use. On exam, his JVP was elevated and he had a displaced apex beat with a parasternal thrill. On auscultation, he had a loud P2, and a third heart sound. Chest X-ray performed indicated a prominent pulmonary trunk with a grossly dilated cardiac shadow, prompting a cardiac ultrasound. The US reveals a globally dilated and hypokinetic left ventricle, leading to a diagnosis of dilated cardiomyopathy.

I42.0 Dilated cardiomyopathy

Example

• Familial hypercholesterolemia
  – Coded to either E78.0, Pure hypercholesterolemia, or E78.4, Other hyperlipidemia

• Combined hyperlipidemia
  – Coded to E78.1, Pure hyperglyceridemia

• Mixed hyperlipidemia
  – Coded to E78.2, Mixed hyperlipidemia

A 53-year-old woman was referred for evaluation and treatment of hypercholesterolemia. Her medical history includes CABG at age 50. She is a nonsmoker, reporting consuming 3-4 alcoholic beverages a week. She reports a paternal family history of CAD.

E78.0 Pure hypercholesterolemia
Z95.1 Presence of aortocoronary bypass graft
Z82.49 Family history of ischemic heart disease and other diseases of the circulatory system
Congenital defects

- Congenital heart defects are the most common type of birth defect
- Present in 9 out of every 1,000 births
- May range from simple to severe
- Can increase risk of developing other cardiac conditions

Congenital defects

- Atrial septal defect (ASD) – Q21.1, Q21.2
  - Among the most common heart defects
- Aortic valvular stenosis – Q23.0
  - Causes obstruction to blood flow between the left ventricle and aorta
- Ventricular septal defect (VSD) – Q21.0
  - Holes in the septum between the ventricles
  - May close on their own

Example

- An 11-year-old boy presented for closure of an atrial septal defect after a transthoracic echocardiogram showed an ostium secundum atrial septal defect. The defect measured 13 x 14 mm by TEE. A 14 mm AMPLATZER® Septal Occluder (ASO) was chosen and deployed across the defect.

  Q21.2 Atrioventricular septal defect
**Congenital defects**

- **Pulmonary valvular stenosis** – Q22.1
  - Causes obstruction to blood flow from the right ventricle to the pulmonary artery
- **Patent ductus arteriosus (PDA)** – Q25.0
  - Occurs when the ductus arteriosus does not close on its own after birth
  - If persists after the neonatal period, surgical intervention is warranted

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**Example**

- During a routine physical exam for participation in interscholastic sports, the physician noted that a twelve-year-old boy had a long continuous heart murmur at the second intercostal space near the left sternal border. A systolic thrill was also noted in the same region. When questioned, the patient’s mother recalled that the child had periods of cyanosis and breathlessness as an infant. The child mentioned that he tires easily during physical activity. Doppler ultrasound was ordered, which revealed a patent ductus arteriosus.

  Q25.0 Patent ductus arteriosus

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**Congenital defects**

- **Transposition of great vessels (TGV)** – Q20.3
  - Refers to the aorta and pulmonary artery
  - The vessels arise from the wrong ventricle (transposed from normal position)
- **Tetralogy of Fallot (TOF)** – Q21.3
  - Combination of 4 related heart defects
  - Pulmonary stenosis, ventricular septal defect, overriding aorta, and right ventricular hypertrophy
A four month old male born at 40 weeks gestation was brought in for a check-up. Shortly after birth, the patient appeared cyanotic which led to further examination. A cardiac catheterization was performed and indicated Tetralogy of Fallot. Parents bring the baby in today for examination and discussion on next surgical interventions needed.

Q21.3 Tetralogy of Fallot

Acute myocardial infarction

Coding for myocardial infarction

- STEMI
- NSTEMI
- 4 week rule
- Initial and subsequent different in ICD-10-CM

There are two categories for myocardial infarction in ICD-10-CM. They are:

- I21 ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
- I22 Subsequent ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
Acute myocardial infarction

- The codes are then broken down by type and specific site of necrosis.
- I21.01 ST elevation (STEMI) myocardial infarction involving left main coronary artery
- I21.02 ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery
- I21.09 ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall
- I21.11 ST elevation (STEMI) myocardial infarction involving right coronary artery
- I21.19 ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall
- I21.21 ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery
- I21.29 ST elevation (STEMI) myocardial infarction involving other sites
- I21.3 ST elevation (STEMI) myocardial infarction of unspecified site
- I21.4 Non-ST elevation (NSTEMI) myocardial infarction

Example

- Cardiology is called to the ED. A 59-year-old man has presented with a 90-minute history of severe crushing chest pain. His ECG shows 3mm ST segment elevation, and he is diagnosed with an acute MI.
- He is given loading doses of aspirin and clopidogrel. Forty-five minutes after admission, he undergoes successful PCI with the insertion of a drug eluting stent into his critically narrowed LAD.
Myocardial infarction

- Following are the subsequent MI codes:
  - I22.0 Subsequent ST elevation (STEMI) myocardial infarction of anterior wall
  - I22.1 Subsequent ST elevation (STEMI) myocardial infarction of inferior wall
  - I22.2 Subsequent non-ST elevation (NSTEMI) myocardial infarction
  - I22.8 Subsequent ST elevation (STEMI) myocardial infarction of other sites
  - I22.9 Subsequent ST elevation (STEMI) myocardial infarction of unspecified site

Example

- Martha was admitted to the hospital after suffering an acute STEMI of the left circumflex. Two days after admission, she suffered a second anteroapical STEMI. Cardiology is called back to the hospital to see her for the new MI.

I22.0 Subsequent ST elevation (STEMI) myocardial infarction of anterior wall
I21.21 ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery

Myocardial infarction versus aftercare

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<tr>
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<th>ICD-9-CM</th>
<th>ICD-10-CM</th>
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<tr>
<td>Old myocardial infarction</td>
<td>412</td>
<td>I25.2</td>
</tr>
<tr>
<td>Chronic myocardial infarction</td>
<td>414.8</td>
<td>NO CODE</td>
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Example

• John suffered an acute MI of the right coronary artery 3 weeks ago. He is presenting for his 2 week hospital follow-up.

I21.11 ST elevation (STEMI) myocardial infarction involving right coronary artery

Example

• Barbara suffered an acute MI of the LAD and underwent stent placement. She is presenting 6 weeks postinfarction. She is complaining of continued fatigue.

Z51.89 Encounter for other specified aftercare
Z48.812 Encounter for surgical aftercare following surgery on the circulatory system

Example

• Robert presents for a check-up. He suffered an MI of the left main coronary artery. He is asymptomatic and requires no continued care for the MI, but is being followed due to his history.

I25.2 Old myocardial infarction
THANK YOU!

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