Circulatory and Endocrine
Related CM Review

AHIMA Approved ICD-10-CM/PCS Trainer
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ICD-10 Chapter 9 & 4

• Highlight major vascular and circulatory issues unique to I-10
• Review need-to-know vascular related data elements
• Describe endocrine related items found in I-10
• Emphasize major differences between ICD-9 and ICD-10
• Review documentation expectations for cardiac/endocrine chapters

Cardiovascular/Circulatory
## HYPERTENSION

<table>
<thead>
<tr>
<th>Primary</th>
<th>Secondary</th>
<th>Transient</th>
</tr>
</thead>
<tbody>
<tr>
<td>• I10-vascular origin</td>
<td>• I15 – result of another primary dz</td>
<td>• R03.0 - ↑BP w/o diagnosis of HTN</td>
</tr>
<tr>
<td>• I11 – end organ involvement</td>
<td>• Two codes are needed to capture both underlying cause and 2nd HTN</td>
<td>• O13.X - gestational</td>
</tr>
<tr>
<td>• I12 – Chronic renal dz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• I13 – Heart and chronic renal dz</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HTN Heart Disease
- Coders will STILL need a causal relationship stated by physician to report as a combination code
  - CHF *due to* HTN (I11.0 + I50.9)
  - Hypertensive heart disease (I11.0)
- Causal relationship is presumed for a cardiac condition when it is associated with another condition stated to be hypertensive heart disease
  - HTN cardiovascular dz with CHF (I11.0 + I50.9)

### HTN and CKD
- ICD-10 assumes a relationship between HTN and CHRONIC kidney disease
- Use an additional code N18 to capture the stage of the CKD

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**ICD-10 describes chronic kidney disease**

**Includes:** Any condition in N18 and N19 - due to hypertension
- Chronic kidney disease
- Diabetes nephropathy (chronic) (N18.1)
- Hypertensive nephropathy

**Excluded:**
- Hypertension due to kidney disease (I11.0, I11.1)
- Nephrotic hypertension (I15.8)
- Secondary hypertension (I15.1)
- Acute kidney failure (N17)

**ICD-10 describes hypertensive chronic kidney disease**

**Includes:**
- Hypertensive chronic kidney disease with stage < chronic kidney disease or end stage renal disease
  - Use additional code to identify the stage of chronic kidney disease (N18.1, N18.4)
- Hypertensive chronic kidney disease with stage 4 through stage 6 chronic kidney disease, or unspecified chronic kidney disease
  - Hypertensive chronic kidney disease NOS
  - Chronic renal disease NOS

**Excluded:**
- Acute kidney failure (N17)
Hypertensive heart and CKD

- Even though there is an implied relationship between HTN and CKD, we continue to need a cause/effect relationship between HTN and heart dz
- When documentation exists, combination code I13. Conditions classified to I11 and I12 are included in I13.
  - Hypertension
  - Heart disease
  - CKD
- Cardiac (i.e. CHF) and renal condition (i.e. CKD) codes are coded separately/secondary

Other Hypertension

- Diabetes – causal relationship (due to) continues to be necessary in ICD-10
- Secondary HTN - Usually the result of an other condition. HTN will typically disappear when condition is treated/brought under control.
  - Two codes are always reported
    - I15. Secondary Hypertension (code also underlying condition)

Other Hypertension

- Gestational or complicating pregnancy – ICD-10 presumes this to be a complication of the pregnancy unless MD states it is not. This includes:
  - Hypertension arising during pregnancy (or transient)
  - Pre-existing
- Transient – Review record to ascertain if HTN is actually pre-existing. If just one high read, R03.0 (elevated BP read w/o HTN dx)
Atrial Fib/Flutter

148 Atrial fibrillation and flutter
148.0 Paroxysmal atrial fibrillation
148.1 Persistent atrial fibrillation
148.2 Chronic atrial fibrillation
148.38 Typical atrial flutter
Type I atrial flutter
Type II atrial flutter
148.48 Atypical atrial flutter
Type I atrial flutter
Type II atrial flutter
148.9 Unspecified atrial fibrillation and atrial flutter
148.91 Unspecified atrial fibrillation
148.923 Unspecified atrial flutter

Myocardial Infarction

• MIs are still classified by the wall involved
  – Electrocardiogram findings
• MIs are still classified to NSTEMIs and STEMIs
  – If no documentation specifies, query or default to I21.3

121.3 ST elevation (STEMI) myocardial infarction of unspecified site
Acute transmural myocardial infarction of unspecified site
Myocardial infarction (acute) NOS
Transmural (Q wave) myocardial infarction NOS

STEMI and NSTEMI

121 ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
Includes: cardiac infarction
- coronary (artery) embolism
- coronary (artery) occlusion
- coronary (artery) stenosis
- infection (other), myocardium, or ventricle
- myocardial infarction specified as acute or with a stated duration of 4 weeks (28 days) or less from onset

Use additional code, if applicable, to identify:
- exposure to environmental tobacco smoke (277.22)
- occupational exposure to environmental tobacco smoke (257.31)
- status post administration of IVA (993.94): in a different facility within the last 24 hours prior to admission to current facility (252.82)
- tobacco dependence (717.5)

Excludes 2: acute myocardial infarction (121.2), postmyocardial infarction syndrome (124.1), subsequent myocardial infarction (122.7)
STEMIs are classified by the coronary artery affected

121.8 ST elevation (STEMI) myocardial infarction of anterior wall
121.011 ST elevation (STEMI) myocardial infarction involving left main coronary artery
121.021 ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery

121.999 ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall

121.099 Anterior wall myocardial infarction of anterior wall
Anterior wall myocardial infarction (acute)
Anterior wall myocardial infarction (subacute)
Anterior wall myocardial infarction (chronic)

121.1 ST elevation (STEMI) myocardial infarction involving right coronary artery

New to ICD-10

• Demand Ischemia – I24.8
  – No myocardial occlusion
  – Without angina or NSTEMI is reported as Other Acute Ischemic Heart disease

• Transmural MI – I21.3
  – By definition, these are infarcts that extend through the whole thickness of the heart muscle, and usually a result of complete occlusion of area’s blood supply (major coronary vessel)
  – ST MI without mention of site/wall
  – This code also captures the Q wave MI
  – Acute MI (NOS)
Evolving MI

• DON’T report two codes if one evolves/converts to another

• If NSTEMI evolves to a STEMI – report the STEMI

• IF a STEMI converts to a NSTEMI due to thrombolytics, report the STEMI

Which of the following IS NOT a coronary artery?

A. Right coronary artery
B. Posterior descending artery
C. Right marginal artery
D. Left coronary artery
E. Left circumflex
F. Left Ventricle
G. Left anterior descending

Anatomy -

• Get Body Smart – Tutorial of the heart wall anatomy as well as the major vessels of the heart
  

• Inner Body -
  
  http://www.innerbody.com/image/cardov.ht ml
Timeline difference

• MIs are NOW classified as acute when has occurred within 4 weeks or less

• MI timelines - Categories I21, I22, and I23 for MI state the codes are used for 4 weeks or less from onset.
  – ICD-9 – 5th digit character designated the (8 week) time period
  – ICD-10 – SAME code is reported when an MI onset has been within 4 weeks

I22 – Subsequent STEMI and non-STEMI MI

• I22 is reported whenever there is a second (another) MI occurring within 4 weeks of initial/another MI
• I22 cannot be reported independently. It must be coded in conjunction with I21
• I22 will be sequenced first if the Subsequent infarction is the reason for admission
• I22 will be sequenced as secondary when the subsequent MI occurs during the encounter of the initial MI
• The concept of a subsequent episode of care for an acute MI does not exist in ICD-10....

Sequencing of Acute Myocardial Infarction with Subsequent Infarction
Fourth Quarter 2012 Page 102

[Diagram of Decision Tree for Coding Acute Myocardial Infarction]
MI Coding Exercise

• Patient had a STEMI of the right coronary artery during this encounter. Patient needs continued recovery of the MI so is transferred to SNF after discharge. What is the principal diagnosis at the nursing home?
  A. I21.11 (STEMI of right coronary artery)
  B. I22.8 (Subsequent STEMI of other site)
  C. I25.2 (Old MI)
  D. Z51.89 (Other specified aftercare)

Comparison of Data
Office visit - MI F/U

<table>
<thead>
<tr>
<th>Time line</th>
<th>ICD 9</th>
<th>ICD 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 weeks post MI</td>
<td>410.72 Subendocardial infarction, subsequent episode of care</td>
<td>I21.4 Non-ST elevation myocardial infarction (NSTEMI) (MCC)</td>
</tr>
<tr>
<td>6 weeks post MI</td>
<td>410.72 Subendocardial infarction, subsequent episode of care</td>
<td>I25.2 Old/Healed MI</td>
</tr>
</tbody>
</table>

Comparison of Data
(not apples to apples)
Pneumonia with hx of MI 3 weeks ago

<table>
<thead>
<tr>
<th>ICD 9</th>
<th>ICD 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>486 Pneumonia</td>
<td>J18.9 Pneumonia</td>
</tr>
<tr>
<td>410.72 Subendocardial infarction, subsequent episode of care</td>
<td>I21.4 Non-ST elevation myocardial infarction (NSTEMI) (MCC)</td>
</tr>
<tr>
<td>MS-DRG 195 Simple pneumonia without CC/MCC RW 0.7096</td>
<td>MS-RG 193 Simple pneumonia with MCC RW 1.4796</td>
</tr>
</tbody>
</table>
Apples to Apples

- Timeline differences will affect how we look at our data
- Definitions and terminology changes affect the meaning and intent of the code
- When we begin to use our GEMs or use our data, we’ll need to reconcile their differences
  - Know the differences in the codes to make sound decisions
  - Method used to reconcile differences may vary
    - Forward mapping will not always provide accurate information
    - Backward mapping may provide more information but still won’t be perfect
    - Book searches may be best
- Knowledge of both code sets will be needed to interpret data across transition

ASHD – I25

- AKA or code represents...
  - Atherosclerotic cardiovascular disease
  - Coronary artery disease
  - Coronary artery sclerosis
- 5th character – with/without angina
- 6th character - Type of angina (unstable, w/spasm, other or unspecified)

ASHD – I25 cont.

<table>
<thead>
<tr>
<th>I25</th>
<th>Chronic ischemic heart disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use additional code to identify:</td>
<td></td>
</tr>
<tr>
<td>chronic total occlusion of coronary artery (I25.82)</td>
<td></td>
</tr>
<tr>
<td>exposure to environmental tobacco smoke (W27.22)</td>
<td></td>
</tr>
<tr>
<td>history of tobacco use (R57.89)</td>
<td></td>
</tr>
<tr>
<td>occupational exposure to environmental tobacco smoke (Z37.31)</td>
<td></td>
</tr>
<tr>
<td>tobacco dependence (P17-)</td>
<td></td>
</tr>
<tr>
<td>tobacco use (Z22.0)</td>
<td></td>
</tr>
</tbody>
</table>
Angina --- Index in ICD-10

Angina (attack) (cardiac) (chest) (heart) (pectoris) (syndrome) (vasomotor) **120.9**
with
atherosclerotic heart disease - see Arteriosclerosis, coronary (artery),
documented spasm **120.1**

Angina --- Tabular in ICD-10

Use additional code to identify presence of hypertension (110-115)

110. Angina pectoris
Use additional code to identify:
exposure to environmental tobacco smoke (277.22)
History of tobacco use (287.851)
occupational exposure to environmental tobacco smoke (257.51)
tobacco dependence (317.7-)
tobacco use (275.0)

Excludes: angina pectoris with atherosclerotic heart disease of native coronary arteries (125.1);
atherosclerosis of coronary artery bypass graft(s) and coronary artery of
transplanted heart: with angina pectoris (123.11)

123.7

Angina

125.11 Atherosclerotic heart disease of native coronary artery with angina pectoris

125.1101 Atherosclerotic heart disease of native coronary artery with unstable angina pectoris

Excludes: unstable angina without atherosclerotic heart disease (120.8)

125.111 Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm

Excludes: angina pectoris with documented spasm without atherosclerotic heart disease (126.1)

125.118 Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris

Excludes: other forms of angina pectoris without atherosclerotic heart disease (120.8)

125.119 Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris

Atherosclerotic heart disease with angina NOS
Atherosclerotic heart disease with ischemic chest pain

Excludes: unspecified angina pectoris without atherosclerotic heart

ASHD - categories

- Native artery
- Bypass artery/graft
  - Autologous artery
  - Autologous vein
  - Nonautologous biological
  - Specified type
- Transplanted heart
**MI Coding Exercise**

- Patient is discharged from hospital on 12-30-14 – diagnosis with a left anterior descending coronary artery MI. Patient comes into the clinic on 1-14-15 for follow-up. Patient complains of continued discomfort and is diagnosed with post-infarction angina. The ICD-10-CM codes for the January clinic visit will be:
  A. I21.02 (STEMI LAD), I23.7 (Post-infarct angina)
  B. I22.0 (Subsequent STEMI), I23.7 (Post-infarct angina)
  C. I23.7 (Post-infarct angina), I21.02 (STEMI LAD)

**CHF**

- Many same elements in I-10
  - Acute/Chronic and Acute on Chronic
  - Systolic, Diastolic, and both
- Like I-9, Coding Clinic for ICD-10 asks/responds....
  "What is the appropriate ICD-10-CM code assignment for a diagnosis of chronic systolic heart failure, currently decompensated?"
  Assign code I50.23, Acute on chronic systolic heart failure, for decompensated systolic heart failure. As previously stated, “decompensated” indicates that there has been a flare-up (acute phase) of a chronic condition.”

**New to ICD-10**

- In I-10, documentation of the term “congestive” is not required.
- When systolic and/or diastolic heart failure is present, “congestive” is included in the code

150.2 Systolic (congestive) heart failure
   Excluded: combined systolic (congestive) and diastolic (congestive) heart failure (150.4)
150.20 Unspecified systolic (congestive) heart failure
150.211 Acute systolic (congestive) heart failure
150.221 Chronic systolic (congestive) heart failure
150.231 Acute on chronic systolic (congestive) heart failure
150.3 Diastolic (congestive) heart failure
   Excluded: combined systolic (congestive) and diastolic (congestive) heart failure (150.4)
150.301 Unspecified diastolic (congestive) heart failure
150.311 Acute diastolic (congestive) heart failure
150.321 Chronic diastolic (congestive) heart failure
150.331 Acute on chronic diastolic (congestive) heart failure
Rheumatic Heart disease

- Rheumatic valve disease
  - I05.0 Rheumatic mitral stenosis
  - I06.2 Rheumatic aortic stenosis with insufficiency
  - I07.1 Rheumatic tricuspid insufficiency

- Nonrheumatic valve disease
  - I34.1 Nonrheumatic mitral valve prolapse
  - I35.0 Nonrheumatic aortic stenosis
  - I36.2 Nonrheumatic tricuspid stenosis with insufficiency

Rheumatic Heart Disease

- A diagnosis of heart failure in a patient with rheumatic heart disease is classified as Rheumatic, unless the physician specified otherwise.
  - An additional heart failure code is assigned to capture the type

Valve disorders

- ICD-10 presumes certain mitral valve disorders are rheumatic in origin
- Disorders affecting both the mitral and aortic valves is assumed to be rheumatic in origin
  - Mitral valve insufficiency with aortic valve insufficiency – I08.0
- When documentation indicates more than one condition affects the mitral valves, one of which is rheumatic, all are classified as rheumatic
  - Mitral valve stenosis and insufficiency – I05.2
Coding Exercise - Cardiac Question

Patient has mitral valve insufficiency and aortic valve insufficiency. Because two valves are affected, this can be coded as “rheumatic” (Rheumatic disorders of both mitral and aortic valves).

True
False

Cerebrovascular disorders I60-I68

- **I60** – Subarachnoid hemorrhage with detailed artery
- **I61** – Intracerebral by hemisphere, brain stem, intraventricular, or multiple bleeds
- **I62** – Subdural or extradural
- **I65 & I66** – Occlusion/stenosis precerebral/cerebral arteries not resulting in infarction by artery and laterality
- **I67** – Other cerebrovascular disorders
- **I68** – Cerebral disorders in conditions classified elsewhere
Cerebrovascular Infarction I63

- Subdivided on basis of due to thrombosis, embolism, occlusion, or stenosis
- Precerebral or cerebral artery
- Specific artery (sixth character)
- Laterality

- I63 applies to the acute encounter only
- Reminder – occlusion/stenosis without infarction is coded to I65/I66
- Like I-9, residuals are reported even if they resolve at the time of discharge

Cerebrovascular disease

- CVA – paraplegia
  - When Hemiplegic/affected side is documented, but not specified as dominant or nondominant, default is right handed. If right/left handed is not documented:
    - Left sided hemiplegia, the default is non-dominant
    - Right sided hemiplegia, the default is dominant

Cerebrovascular disorders

- Each component of the cerebrovascular disorder should be coded unless the Alpha Index instructs otherwise
  - Subdural hemorrhage with cerebrovascular arteriosclerosis – I62.00 & I67.2
Sequela I69 (PKA late effect)

- The sequela include those neurologic deficits that persist after the initial onset of cerebral condition classified by I60-I67
- 4th character captures the causal condition
- 5th character captures details regarding the neurologic deficit
- Some conditions include “Assign additional code” instructions to indicate the type of paralysis of dysphagia

Sequela I69 (PKA late effect)

- I69 (sequela) can be assigned as additional code with I60-I67 if the patient has a residual deficit from an old CVA AND a current cerebrovascular disease
  - Patient admitted for an acute cerebral stenosis and also has residual dysphasia from previous CVA -- I66.9 & I69.321

I69 cont...

- Can be assigned as principal or secondary – sequencing will depend on the circumstance of the encounter
  - Reported as principal when encounter is to deal with the late effect
  - Reported as secondary when it is significant for the current episode of care
- Z86.73 (personal hx of TIA/CVA) when no residual conditions
  - NEVER coded with I69
Atherosclerosis – 170

- Like ASHD, can classify if the arteriosclerosis is due to:
  - Native artery
  - Bypass graft — Autologous, Nonautologous biological, or nonbiological graft
  - Transplanted
- Like I-9, can classify if the arteriosclerosis is associated with:
  - Gangrene, rest pain, claudication, or ulceration

Atherosclerosis with Ulcer distinguishes the specific site of the leg

- 170.23 Atherosclerosis of native arteries of right leg with ulceration
  - Includes: any condition classifiable to 170.211 and 170.221
  - Use additional code to identify severity of ulcer (637-)
- 170.231 Atherosclerosis of native arteries of right leg with ulceration of thigh
- 170.232 Atherosclerosis of native arteries of right leg with ulceration of calf
- 170.233 Atherosclerosis of native arteries of right leg with ulceration of ankle
- 170.234 Atherosclerosis of native arteries of right leg with ulceration of heel and instep
- 170.235 Atherosclerosis of native arteries of right leg with ulceration of other part of foot
  - Atherosclerosis of native arteries of right leg extremities with ulceration of toe
- 170.236 Atherosclerosis of native arteries of right leg with ulceration of other part of lower leg
- 170.239 Atherosclerosis of native arteries of right leg with ulceration of unspecified site

- 170.9 Other and unspecified atherosclerosis
  - 170.90 Unspecified atherosclerosis
  - 170.91 Generalized atherosclerosis
- 170.92 Chronic total occlusion of artery of the extremities
  - Complete occlusion of artery of the extremities
  - Total occlusion of artery of the extremities
  - Code first atherosclerosis of artery of the extremities (170.2, 170.3, 170.4, 170.5, 170.6, 170.7)

- 170.92 – captures the chronic/total occlusion of the extremities
  - CC for inpatient assignments
- Two codes will be needed
- Code First the 170.2/7 category
Documentation expectations

Does your documentation include this information

Complications

Intraoperative

• I97.710 - Intraoperative cardiac arrest during cardiac surgery
• I97.711 - Intraoperative cardiac arrest during other surgery
• I97.791 - Other intraoperative cardiac functional disturbances during other surgery
• I97.810 - Intraoperative cerebrovascular infarction during cardiac surgery
• I97.811 - Intraoperative cerebrovascular infarction during other surgery

Postoperative

• I97.3 - Postprocedural hypertension
• I97.820 - Postprocedural cerebrovascular infarction during cardiac surgery
• I97.821 - Postprocedural cerebrovascular infarction during other surgery
• I97.13 - Postprocedural heart failure following cardiac surgery

Official Coding Guideline C, 19, 4

"4) Complication codes that include the external cause

• As with certain other T codes, some of the complications of care codes have the external cause included in the code. The code includes the nature of the complication as well as the type of procedure that caused the complication. No external cause code indicating the type of procedure is necessary for these codes."
18

Circulatory Same

- CHF –
  - Systolic versus diastolic
  - Right versus left region
- Atherosclerosis of native versus graft
- Coding rules for HTN heart and kidney dz
- Cause of cerebral hemorrhage
  - Traumatic versus non-traumatic

Circulatory Difference

- HTN no longer classified as benign or malignant
- MI Specific coronary artery involved
- Many new combination codes:
  - CAD and angina with spasm
  - Atherosclerosis of Native, Autologous, or non-Biological artery, plus site and laterality and WITH rest pain, ulceration, gangrene, or intermittent claudication built into one code
- Cerebral hemorrhage
  - Thrombosis, embolism, or unspecified occlusion/stenosis
  - Specific artery
  - Laterality
Documentation elements for ICD-10

- Continue to need the cause/relationship between HTN and heart dz
- Rheumatic causal relationship to heart dz
- MI wall and coronary artery involved
- Tobacco use, history, or exposure
- Cause of cardiac arrest (cardiac or other origin)
- Atrial Fibr – Permanent, Persistent, Paroxysmal or Chronic
- Atrial flutter will be categorized by Atypical or Typical – or with atrial fibrillation

ENDOCRINE ICD-10-CM

The endocrine system refers to the system of glands and tissues that secrete hormones directly into the bloodstream needed to control the organisms' physiological and behavioral activities.

- Pituitary gland
- Parathyroid
- Adrenal glands
- Pineal
- Thyroid
- Parathyroid
- Pancreas
- Reproductive
- Thymus
Thyroid Disorders

- Hypothyroidism
- Goiter
- Hyperthyroidism
- Thyroiditis
- Other

Hyperparathyroidism

- **Primary – E21.0** - When calcium levels are too low, the body responds by making more parathyroid hormone. This hormone causes calcium levels in the blood to rise, as more calcium is taken from the bone and reabsorbed by the intestines and kidney. One or more of the parathyroid glands may grow larger. This leads to too much parathyroid hormone.

- **Secondary – E21.1** – non-renal - When another disease of the body causes low levels of hypothyroid hormone
  - Secondary parathyroidism of renal origin is N25.81

- **Tertiary – E21.2** - A state of excessive secretion of parathyroid hormone (PTH) after a long period of secondary hyperparathyroidism and resulting in hypocalcaemia. It reflects development of autonomous (unregulated) parathyroid function

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<table>
<thead>
<tr>
<th>Hyperthyroidism</th>
<th>Hypothyroidism</th>
</tr>
</thead>
<tbody>
<tr>
<td>• With or without mention of goiter</td>
<td>• Acquired</td>
</tr>
<tr>
<td>• With or without crisis or storm</td>
<td>- With or without goiter</td>
</tr>
<tr>
<td>• Single or multinodular</td>
<td>- Secondary</td>
</tr>
<tr>
<td></td>
<td>- Post radiation</td>
</tr>
<tr>
<td></td>
<td>- Post thyroid removal (post-resection)</td>
</tr>
<tr>
<td></td>
<td>- Due to drugs</td>
</tr>
</tbody>
</table>
### Protein Calorie Malnutrition

<table>
<thead>
<tr>
<th>DX</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Other/Unspecified severe protein calorie malnutrition</td>
<td>262 (MCC)</td>
<td>E43(MCC)</td>
</tr>
<tr>
<td>Malnutrition of moderate degree</td>
<td>263.0 (CC)</td>
<td>E44.0 (CC)</td>
</tr>
<tr>
<td>Malnutrition of mild degree</td>
<td>263.1 (CC)</td>
<td>E44.1 (CC)</td>
</tr>
<tr>
<td>Other protein calorie malnutrition</td>
<td>263.8 (CC)</td>
<td></td>
</tr>
<tr>
<td>Unspecified protein calorie malnutrition</td>
<td>263.9 (CC)</td>
<td>E46 (CC)</td>
</tr>
</tbody>
</table>

### Obesity – type and origin is classified as:

- Adrenal
- Constitutional
- Drug induced
- Excess calories
  - Morbid
    - Severe
  - Endocrine
- Endogenous
- Familial
- Glandular
- Morbid
  - With Alveolar hypoventilation
  - Due to excessive calories
- Nutritional
- Pituitary
- Severe

### BMI

<table>
<thead>
<tr>
<th>BMI</th>
<th>Weight Status</th>
<th>Obesity Codes</th>
<th>BMI Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 or less</td>
<td>Underweight</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>20-24.9</td>
<td>Normal</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>25-29.9</td>
<td>Overweight</td>
<td>278.02</td>
<td>E66.3</td>
</tr>
<tr>
<td>30-39.9</td>
<td>Obese</td>
<td>278.00</td>
<td>E66.9</td>
</tr>
<tr>
<td>40 or greater</td>
<td>Morbidly Obese</td>
<td>278.01</td>
<td>E66.01</td>
</tr>
</tbody>
</table>
Pathophysiology of DM

• The pancreas produces insulin. Insulin converts glucose into fuel.
• The diabetic pancreas does not make enough insulin OR their muscle, fat, and liver cells do not respond to insulin normally, OR both.
• The abnormalities of carbohydrate, fat and protein metabolism are due to deficient action of insulin on target tissues resulting from insensitivity or lack of insulin.

Insulin is the key that glucose needs to enter the body’s cells so that it can be used as fuel.

Simply stated,

• The blood glucose level is regulated with the help of insulin, a hormone (or chemical messenger) made in the pancreas.
• If the body doesn’t produce insulin, the glucose can’t enter the cells to use as fuel, then blood glucose/sugar rises
• Diets, exercise, and/or drugs are required to lower blood sugars
Diabetes Coding Exercise

Diabetes is a disorder of the:

a. Patient’s metabolism
b. Patient’s nutrition
c. Endocrine system
d. Immune system
e. All of the above

Diabetes in I-10

• Category for each:
  – Type 1
  – Type 2
  – Secondary
  – Other/Unspecified
  – Gestational

Borderline Guidelines

OCG 0 Section I B 17. Borderline Diagnosis

If the provider documents a "borderline" diagnosis at the time of discharge, the diagnosis is coded as confirmed, unless the classification provides a specific entry (e.g., borderline diabetes). If a borderline condition has a specific index entry in ICD-10-CM, it should be coded as such. Since borderline conditions are not uncertain diagnoses, no distinction is made between the care setting (inpatient versus outpatient).

Whenever the documentation is unclear regarding a borderline condition, coders are encouraged to query for clarification.
Borderline DM - R73.09

DM Type I - E10.

- Pancreas produces little or no insulin due to autoimmune destruction of the beta cells
- Onset usually acute
- Over 90% developed before the age of 30
- Typical family history of Type I or other endocrine disorder
- Clinical onset may occur in some patients years after the insidious onset of the underlying autoimmune process.
- Equal incidence in both sexes – increased prevalence in white population

DM Type I

- Requires insulin replacement
  - All Type I patients are IDDM, but not all IDDM are Type I
- Require multiple daily insulin injections
- Require regular blood glucose measurement
- Insulin levels fluctuate with daily activity and dietary intake
- Higher risk of major sugar swings (i.e. hypoglycemia and ketoacidosis)
DM Type II – E11.-

- Pancreas continues to produce insulin; however the body develops a resistance in peripheral tissues and an insulin defect forms in the beta cell
- Typically occurs in individuals older than 40 years who have a family history of diabetes.
- 90% are overweight
- Often do not need treatment with oral antidiabetic medication or insulin if they lose weight
- It is more common in women, especially women with a history of gestational diabetes, and in blacks, Hispanics and Native Americans
- Etiology of type 2 diabetes mellitus is multifactorial and probably genetically based, but it also has strong behavioral components.

DM Type II – E11.-

- More prevalent now, for people live longer.
- Some can control with diet, weight reduction, exercise
- May need oral hypoglycemics – some patients benefit with insulin using
- Require daily glucose monitoring
- Regular follow-up required

Diabetes Guidelines

When the Type of Diabetes is not specified, default is Type 2 (E11.- Type 2 DM)

Z79.4 (Long term use of Insulin) is only reported when:
- Patient is Type 2, as insulin use is mandatory with Type 1
- Type of diabetes is not documented but states the patient is using insulin

Z79.4 (Long term use of Insulin) is NOT reported:
- If documentation states patient is Type 1
- If Insulin is used on short term basis, as this is not “long term”
1. Pregnant patient with DM

Diabetes mellitus is a significant complicating factor in pregnancy. Pregnant women who are diabetic should be assigned a code from category O24, Diabetes mellitus in pregnancy, childbirth, and the puerperium first, followed by the appropriate diabetes code(s) (E08-E13) from Chapter 4.

Long term use of insulin - Code Z79.4, Long-term (current) use of insulin, should also be assigned if the pre-existing diabetes mellitus is being treated with insulin.

2. Gestational DM – O24.4-

- Diabetes commencing during pregnancy
- Poses risk to mom and baby
- Requires more monitoring and diet restrictions
- It is not true DM, but GDM patients are likely to develop DM later in life
- In the United States, it is estimated that 135,000 pregnant women develop gestational diabetes every year. GDM complicates approximately 4% of all pregnancies in the US.

3. Gestational DM Guidelines O24.4-

Gestational (pregnancy induced) diabetes can occur during the second and third trimester of pregnancy in women who were not diabetic prior to pregnancy.

No other code from category O24, (pre-existing) Diabetes mellitus in pregnancy, childbirth, and the puerperium, should be used with a code from O24.4- (gestational DM in pregnancy).
Gestational DM Guidelines

If a patient with gestational diabetes is treated with both diet and insulin, only the code for insulin-controlled is required.

Code Z79.4, Long-term (current) use of insulin, should not be assigned with codes from subcategory O24.4-

An abnormal glucose tolerance in pregnancy is assigned a code from subcategory O99.81, Abnormal glucose complicating pregnancy, childbirth, and the puerperium—but O99.81 is not coded with O24.4-

Diabetes Coding Exercise

Clinic visit - Diabetic Type 1 comes in for pregnancy test. The results are positive. CM code(s)

a. Z32.01 (encounter for pregnancy test, result positive), E10.9 (Type I DM w/o complication)

b. E10.9 (Type I DM w/o complication), Z32.01 (encounter for pregnancy test, result positive),

c. Z32.01 (encounter for pregnancy test, result positive), O24.419 (Gestational DM, unspec control)
E13.- Other specified diabetes

- Secondary diabetes is always caused by another condition or event (e.g., cystic fibrosis, malignant neoplasm of pancreas, pancreatectomy, adverse effect of drug, or poisoning).

Secondary Diabetes

- Reported when Diabetes is a result of or caused by another condition or event
  - E08.- Diabetes mellitus due to underlying condition
  - E09.- Drug or chemical induced diabetes mellitus
  - E13.- Other specified diabetes mellitus
- Patient still produces some insulin, but will need augmented supply to maintain health

Secondary Diabetes Guidelines C 4a6

Codes under categories E08, Diabetes mellitus due to underlying condition, E09, Drug or chemical induced diabetes mellitus, and E13, Other specified diabetes mellitus, identify complications/manifestations associated with secondary diabetes mellitus.

Secondary diabetes mellitus and the use of insulin - Again, Z79.4, Long-term (current) use of insulin, should also be assigned, for those that routinely use insulin.
Assigning and sequencing secondary diabetes codes and its causes - The sequencing of the secondary diabetes codes in relationship to codes for the cause of the diabetes is based on the Tabular List instructions for categories E08, E09 and E13.

Secondary diabetes mellitus due to pancreatectomy - For postpancreatectomy diabetes mellitus (lack of insulin due to the surgical removal of all or part of the pancreas), assign code E89.1, Postprocedural hypoinsulinemia. Assign a code from category E13 and a code from subcategory Z90.41-, Acquired absence of pancreas, as additional codes.

Secondary diabetes due to drugs - Secondary diabetes may be caused by an adverse effect of correctly administered medications, a poisoning due to accident/injury, or sequela of poisoning.
Combination Codes Prevalent in I-10
DM type 1 with peripheral angiopathy with gangrene

<table>
<thead>
<tr>
<th>I-9</th>
<th>I-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 250.71 (DM Type 1)</td>
<td>• E10.52 (Type 1 DM with diabetic peripheral angiopathy with gangrene)</td>
</tr>
<tr>
<td>• 443.81 (peripheral angiopathy in dz classified elsewhere)</td>
<td></td>
</tr>
<tr>
<td>• 785.4 (Gangrene)</td>
<td></td>
</tr>
</tbody>
</table>

DM – New language regarding uncontrolled

• ICD-10 diabetes codes are no longer classified as controlled or uncontrolled
  – No longer a 5th digit extension
• Index now tells us that inadequately controlled, out of control, and poorly controlled are coded to **Diabetes, by Type, with hyperglycemia**
  – *Uncontrolled will be an added index entry*
DM with hyperglycemia

- Hyperglycemia occurring in DM patients is coded to E08-E13 category:
  - Fifth and sixth digits - .65
- This reaction may occur due to lack of medicinal regime or inability to control sugars

Manifestations will be an additional code

<table>
<thead>
<tr>
<th>Type 2 with hyperglycemia. Also has diabetic CKD (stage 3) with hypertensive renal disease</th>
<th>I-10 code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E11.65</td>
<td>Type 2 DM with hyperglycemia</td>
<td></td>
</tr>
<tr>
<td>E12.22</td>
<td>Type 2 DM with diabetic CKD</td>
<td></td>
</tr>
<tr>
<td>I12.0</td>
<td>Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease</td>
<td></td>
</tr>
<tr>
<td>N18.3</td>
<td>Chronic kidney disease, stage 3 (moderate)</td>
<td></td>
</tr>
</tbody>
</table>

With Hypoglycemia

- Hypoglycemia occurring in DM patients is coded to E08-E13 category
  - .641 if with coma
  - .649 when no coma
- These reactions may occur when there is an imbalance in eating or exercise patterns and dosing of insulin/antidiabetic agent
- Hypoglycemia due to insulin may also occur in a newly diagnosed type 1 diabetic patient during initial phase of therapy while dose is being adjusted
Hypoglycemia

- Like Hyperglycemia, if patient has a manifestation, a hypoglycemia DM code, as well as the manifestation combo code will be required
  - Type I with hypoglycemia. Also has diabetic neuropathy – E10.649 (Type I DM with hypoglycemia w/o coma) and E10.41 (Type I DM with diabetic mononeuropathy)
- E15 and E16.- are for drug induced hypoglycemia w/ or w/o coma in nondiabetic patients

Coding Exercise

Diabetic patient is diagnosed with bilateral diabetic retinopathy. Blood sugars are poorly controlled. There will only be one diabetic CM Endocrine code reported for this patient
True
False

Coding Clinic entries

- CC 3rd Q ’13 – If patient has hyperglycemia with ketoacidosis, assign only code E10.10, Type 1 diabetes mellitus with ketoacidosis without coma. Ketoacidosis signifies uncontrolled diabetes.
What is the correct code assignment for type 2 diabetes mellitus with diabetic ketoacidosis?

• Coding Clinic, First Quarter 2013 Page: 26

Question: What is the correct code assignment for type 2 diabetes mellitus with diabetic ketoacidosis?

Answer: Assign code E13.10, Other specified diabetes mellitus with ketoacidosis without coma, for a patient with type 2 diabetes with ketoacidosis. Given the less than perfect limited choices, it was felt that it would be clinically important to identify the fact that the patient has ketoacidosis. The National Center for Health Statistics (NCHS), who has oversight for volumes I and II of ICD-10-CM, has agreed to consider a future ICD-10-CM Coordination and Maintenance Committee meeting proposal.

Diabetes and Osteomyelitis
Coding Clinic, Fourth Quarter 2013 Page: 114

• Question: Coding Clinic, First Quarter 2004, pages 14-15, indicated that “ICD-9-CM assumes a relationship between diabetes and osteomyelitis when both conditions are present, unless the physician has indicated in the medical record that the acute osteomyelitis is totally unrelated to the diabetes.” Is the same relationship between diabetes and osteomyelitis true for ICD-10-CM?

• Answer: No, ICD-10-CM does not presume a linkage between diabetes and osteomyelitis. The provider will need to document a linkage or relationship between the two conditions before it can be coded as such.

Diabetic Gastroparesis
Coding Clinic, Fourth Quarter 2013 Page: 114

Question: What is the appropriate code assignment for diabetic gastroparesis?

Answer: Assign first the code for the appropriate type of diabetes mellitus with diabetic autonomic (poly) neuropathy. Assign also code K31.84, Gastroparesis, if desired, to specify the actual neuropathic complication.

Although “diabetes mellitus with diabetic gastroparesis” is listed as an inclusion term under the appropriate diabetes codes (E08.43, E09.43, E10.43, E11.43, and E13.43), the code titles are not specific for this condition. Therefore, it is appropriate to assign a secondary code to identify the manifestation as gastroparesis.
I-9 versus I-10

<table>
<thead>
<tr>
<th>I-9</th>
<th>I-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 5th digit specifies type</td>
<td>• Each &quot;TYPE&quot; has it's own 3 character category</td>
</tr>
<tr>
<td>• 5th digit also captures in/out of control</td>
<td>• Out of control, poorly controlled, etc., all coded to &quot;With hyperglycemia&quot; E11.65 (fifth digit 5)</td>
</tr>
<tr>
<td>• Diabetes code and a complication code (2 codes)</td>
<td>• Diabetes mellitus codes are combination codes (1 code)</td>
</tr>
<tr>
<td>‒ Diabetic neuropathy 250.60 357.20</td>
<td>‒ Diabetic neuropathy E11.40</td>
</tr>
<tr>
<td>• Use as many codes as necessary to show all the complications</td>
<td>• Use as many codes as necessary to code all the complications</td>
</tr>
<tr>
<td>• Sequencing depends on the reason for admission</td>
<td>• Sequencing depends on the reason for admission</td>
</tr>
</tbody>
</table>

Documenting Diabetes

• Type
  ‒ I, II, secondary, due to….
  ‒ OB – If pre-existing or gestational

• Manifestations
  ‒ Relationship between DM and manifestations

• Status of control
  ‒ Poorly controlled, out of control
  ‒ With hyper or hypoglycemia

QUESTIONS?

Thank You!