



## ICD-10-CM Overview and Mapping For Environmental Epidemiology Program

APRIL 8, 2015

ICD-10

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## International Classification of Diseases, Tenth Revision, **Clinical Modification** (ICD-10-CM)



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## ICD-10-CM Chapters

(paraphrased)

#	Codes	Descriptions	#	Codes	Descriptions
1	A00-B99	Infections	11	K00-K93	Digestive System
2	C00-D48	Neoplasms	12	L00-L99	Skin
3	D50-D98	Blood Disorders	13	M00-M99	Muscle/Bone
4	E00-E90	Endocrine/Metabolism	14	N00-N99	Genitourinary
5	F01-F99	Mental	15	O00-O99	Pregnancy
6	G00-G99	Nervous System	16	P00-P96	Perinatal Period
7	H00-H59	Eye	17	Q00-Q99	Malformations
8	H60-H95	Ear	18	R00-R99	Symptoms
9	<b>I00-I99</b>	<b>Circulatory System</b>	19	S00-T98	Injuries, External causes
10	J00-J99	Respiratory System	20	V01-Y98	External Causes Morbidity
			21	Z00-Z99	Health Factors

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## Chapter 9 (10 Blocks)

Block	Description
i00-i02	Acute rheumatic fever
i05-i09	Chronic rheumatic heart diseases
i10-i15	Hypertensive diseases
<b>i20-i25</b>	<b>Ischemic heart diseases</b>
i26-i28	Pulmonary heart disease and diseases of pulmonary circulation
i30-i52	Other forms of heart disease
i60-i69	Cerebrovascular diseases
i70-i79	Diseases of arteries, arterioles and capillaries
i80-i89	Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified
i95-i99	Other and unspecified disorders of the circulatory system

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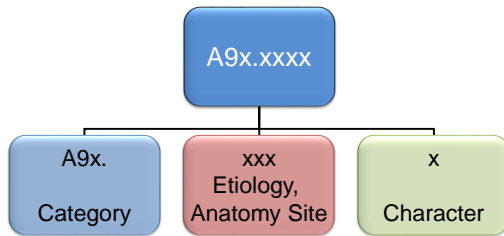
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## ICD-10-CM

(International Classification of Diseases, 10<sup>th</sup> Revision, Clinical Modification)

### Diagnosis

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## Diagnosis Format and Updated Terms

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### • ICD-9-CM

- Intermediate Coronary Syndrome: Includes Impending infarction, Preinfarction angina, Preinfarction syndrome, and Unstable Angina.

4 1 1 . 1

### • ICD-10-CM

- Unstable Angina: Includes Accelerated angina, Crescendo angina, De novo effort angina, intermediate coronary syndrome, Preinfarction syndrome, Worsening effort angina.

i 2 0 . 0

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## One-to-Many Concept

Atrial Fibrillation = ICD-9-CM code 427.31

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- **Paroxysmal** atrial fibrillation

i 4 0 . 0

- **Persistent** atrial fibrillation

i 4 0 . 1

- **Chronic** atrial fibrillation

i 4 0 . 2

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## ICD-9-CM:

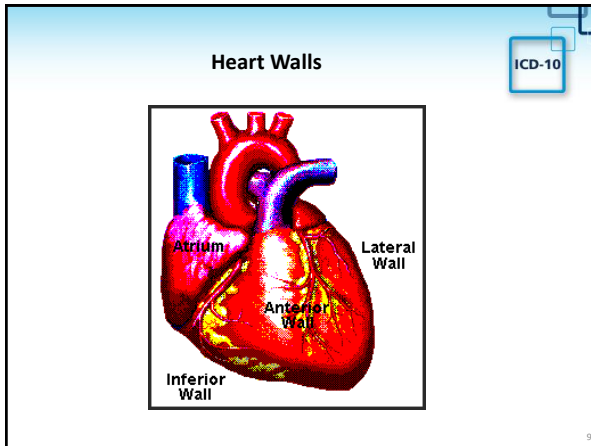
### Acute Myocardial Infarctions Report these codes if within 8 weeks

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- Acute MI Anteriorlateral Wall
- Acute MI Other Anterior Wall
- Acute MI Inferior Wall
- Acute MI Inferiorlateral Wall
- Acute MI Other Inferior Wall
- Acute MI Lateral Wall
- Acute MI True Posterior Wall
- Acute MI Subendocardial
- Acute MI Other Specified Sites
- Acute MI Unspecified Site

4 1 0

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**ICD-10-CM:**  
**Acute (first) Myocardial Infarctions**  
**Report these codes if within 28 days**

- ST elevation (STEMI) MI **Anterior Wall**
  - i21.01 ST (STEMI) MI involving left main coronary artery
  - i21.02 ST (STEMI) MI involving left anterior descending coronary artery
  - i21.09 ST (STEMI) MI involving other coronary artery of anterior wall
- ST elevation (STEMI) MI **Inferior Wall**
  - i21.11 ST (STEMI) MI involving right coronary artery
  - i21.19 ST (STEMI) MI involving other coronary artery of inferior wall
- ST elevation (STEMI) MI **Other Sites**
  - i21.21 ST (STEMI) MI involving left circumflex coronary artery
  - i21.29 ST (STEMI) MI involving other sites
- ST elevation (STEMI) MI **Unspecified Site**
  - i21.3 Includes Acute Transmural MI of unspecified site
  - i21.3 Includes Acute MI, NOS
- Non-ST elevation (NSTEMI) MI
  - i21.4 Includes Acute Subendocardial MI or Non-Q wave MI

i 2 1

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**ICD-10-CM:**  
**Subsequent (Another) Myocardial Infarctions**  
**Report these codes if within 28 days**

- Subsequent ST elevation (STEMI) MI **Anterior Wall**
  - i22.0
- Subsequent ST elevation (STEMI) MI **Inferior Wall**
  - i22.1
- Subsequent Non-ST elevation (NSTEMI) MI
  - i22.2
- Subsequent ST elevation (STEMI) MI Other Sites
  - i22.8
- Subsequent ST elevation (STEMI) Unspecified Site
  - i22.9

i 2 2

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**ICD-10-CM Official Coding Guidelines**

- ICD-9-CM Guidelines
  - Apply MI codes for those within 8 weeks
  - During 8 weeks (last digit)
    - Initial episode of care without a discharge
    - Subsequent episode of care after-discharge care or follow-up visits and encounters
  - **After 8 completed weeks**
    - Report old MI (412)
- ICD-10-CM Guidelines
  - Apply MI codes for those within 4 weeks (specifically 28 days)
  - During 4 weeks (28 days or less)
    - i21 codes (first attack) and/or i22 codes (another attack)
    - Apply from its onset in all healthcare settings.
  - **After 4 completed weeks (29 days or more)**
    - Report aftercare codes (i24 or i25 or Z48.812)
    - Report old MI (i25.2)

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### Placeholder X

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ICD-10-CM utilizes a placeholder character 'X'.

'X' is used as a placeholder at certain codes to allow for future expansion. "X" is a valid code.

For codes less than 6 characters that require a 7<sup>th</sup> character, a placeholder X must be used for all characters less than 6. The 7<sup>th</sup> character must always be the 7<sup>th</sup> character of a code.

**Example:** Sepsis following immunization is T88.0. The 4-digit code has a coding instruction to use 7<sup>th</sup> character.

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### X Fillers are Valid Values

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- Sepsis following Immunization, Initial Encounter

T	8	8	.	0	X	X	A
---	---	---	---	---	---	---	---

- Sepsis following Immunization, Subsequent Encounter

t	8	8	.	0	x	x	d
---	---	---	---	---	---	---	---

- Sepsis following Immunization, Sequela

T	8	8	.	0	X	x	S
---	---	---	---	---	---	---	---

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### 7<sup>th</sup> Character

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Also called "7<sup>th</sup> character extensions"

They are found predominately in two chapters:

Chapter 15 Pregnancy, Childbirth, Puerperium

**7<sup>th</sup> character:** Fetus is identified which fetus(s) is affected by the complication of pregnancy.

Chapter 19 Injury, Poisoning, and External Causes

**7<sup>th</sup> character:** **Episode of Care** as initial, subsequent, or sequela.

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### Encounters for certain chapters

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- Sepsis following Immunization, **Initial Encounter**

T	8	8	.	0	X	X	A
---	---	---	---	---	---	---	---

- Sepsis following Immunization, **Subsequent Encounter**

t	8	8	.	0	x	x	d
---	---	---	---	---	---	---	---

- Sepsis following Immunization, **Sequela**

T	8	8	.	0	X	x	S
---	---	---	---	---	---	---	---

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### Episode of Care

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- **A = Initial Encounter** is defined as the period when the patient is receiving 'active' treatment for the injury, poisoning, or other consequences of an external cause.
- **Example:** An "A" may be assigned on more than one record.
  - If a patient is seen in the ER for a head injury evaluated by ER physician, then a CT scan is read by the radiologist, and a consultation by a neurologist, the 7<sup>th</sup> character "A" is reported for all three encounters (ER, Xray, New Doctor visit).
  - If the patient is admitted to the acute care hospital, the 7<sup>th</sup> character "A" is used for the entire period that the patient receives active treatment for the injury.

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### Episode of Care

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- **D = Subsequent Encounter** is defined as the period after the active phase of treatment and when the patient is receiving routine care for the injury during the period of healing or recovery.
- **Subsequent encounter include:** cast change, removal of external or internal fixation device, medication adjustment, and follow-up of fracture treatments.
- **Example:** A patient with an ankle sprain may return to the office to have joint stability re-evaluated and to ensure that the injury is healing properly. In this case, 7<sup>th</sup> character "D" is reported.

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### Episode of Care

ICD-10

- **S = Sequela Encounter** is defined late effect where the residual condition developed long after the current injury healed.
- **Example:** Scar due to old lacerations, deformity due to a nonunion fracture three months ago, paralysis due to previous accident, and brain damage from drug reaction that was discontinued six months ago.

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### Combination Codes

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- ICD-9-CM multiple coding rules are complex and confusing. There are very few combination codes.
- To eliminate the confusion, ICD-10-CM created many combination codes, such as:
 

<b>i25.110</b>	Atherosclerotic heart disease of native coronary artery, <u>with</u> unstable angina pectoris
<b>K50.011</b>	Crohn's disease of small intestine <u>with</u> rectal bleeding
<b>K57.21</b>	Diverticulitis of large intestine <u>with</u> perforation and abscess <u>with</u> bleeding
<b>E11.341</b>	Type 2 diabetes mellitus <u>with</u> severe nonproliferative diabetic retinopathy <u>with</u> macular edema.

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## Diagnosis Combination Code Concept

ICD-10

2 codes	ICD-9-CM
414.01	Arteriosclerotic heart disease of native coronary artery
411.1	Unstable angina
1 code	ICD-10-CM
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris

ICD-10-CM has more combination codes.

Condition + Site/Symptom + Attribute about the diagnosis.

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## List of Codes

ICD-10

A	B
Start: Original ICD 9 CM Codes From Set AMI notepad ICD-9 to ICD-10	
ICD 9 CM	Description
1	Code
2	410.00 Acute myocardial infarction of anterolateral wall, episode of care unspecified
3	410.01 Acute myocardial infarction of anterolateral wall, initial episode of care
4	410.02 Acute myocardial infarction of anterolateral wall, subsequent episode of care
5	410.10 Acute myocardial infarction of other anterior wall, episode of care unspecified
6	410.11 Acute myocardial infarction of other anterior wall, initial episode of care
7	410.12 Acute myocardial infarction of other anterior wall, subsequent episode of care
8	410.20 Acute myocardial infarction of inferolateral wall, episode of care unspecified
9	410.21 Acute myocardial infarction of inferolateral wall, initial episode of care
10	410.22 Acute myocardial infarction of inferolateral wall, subsequent episode of care
11	410.30 Acute myocardial infarction of inferoposterior wall, episode of care unspecified
12	410.31 Acute myocardial infarction of inferoposterior wall, initial episode of care
13	410.32 Acute myocardial infarction of inferoposterior wall, subsequent episode of care
14	410.40 Acute myocardial infarction of other inferior wall, episode of care unspecified
15	410.41 Acute myocardial infarction of other inferior wall, initial episode of care
16	410.42 Acute myocardial infarction of other inferior wall, subsequent episode of care
17	410.50 Acute myocardial infarction of other lateral wall, episode of care unspecified
18	410.51 Acute myocardial infarction of other lateral wall, initial episode of care
19	410.52 Acute myocardial infarction of other lateral wall, subsequent episode of care
20	410.60 True posterior wall infarction, episode of care unspecified
21	410.61 True posterior wall infarction, initial episode of care
22	410.62 True posterior wall infarction, subsequent episode of care
23	410.70 Subendocardial infarction, episode of care unspecified
24	410.71 Subendocardial infarction, initial episode of care
25	410.72 Subendocardial infarction, subsequent episode of care
26	410.80 Acute myocardial infarction of other specified sites, episode of care unspecified
27	410.81 Acute myocardial infarction of other specified sites, initial episode of care
28	410.82 Acute myocardial infarction of other specified sites, subsequent episode of care
29	410.90 Acute myocardial infarction of unspecified site, episode of care unspecified
30	410.91 Acute myocardial infarction of unspecified site, initial episode of care
31	410.92 Acute myocardial infarction of unspecified site, subsequent episode of care
32	414.10 Aneurysm of heart (wall)
33	
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## Stage 1: Map Original ICD-9 Codes to ICD-10 Codes

ICD-10

Stage 1: ICD-10 Codes Identified Through Forward and Reverse Backward Mapping from Original ICD-9 Codes									
ICD-9 Code	Description	Map Type	ICD-10 Code	Description	Approx	No Map	Combo	Scenario	Choice
410.00	Acute myocardial infarction of anterolateral wall, episode of care unspecified	F Map	21.00	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	1	0	0	0	0
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	F Map	21.00	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	1	0	0	0	0
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	RB Map	22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall	1	0	0	0	0
410.02	Acute myocardial infarction of anterolateral wall, subsequent episode of care	F Map	21.00	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	1	0	0	0	0

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## Stage 2: Map new ICD-10 Codes from Stage 1 to find more ICD-9 Codes Stage 3: Map new ICD-9 Codes from Stage 2 to find more ICD-10 Codes

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Stage 2: New ICD-9 Codes Identified Through Backward and Reverse Forward Mapping from Stage 1 ICD-10 Codes									
ICD-9 Code	Description	Map Type	ICD-10 Code	Description	Approx	No Map	Combo	Scenario	Choice
414.10	Other aneurysm of heart	B Map	25.3	Aneurysm of heart	1	0	0	0	0
Stage 3: New ICD-10 Codes Identified Through Forward and Reverse Backward Mapping from Stage 2 ICD-9 Codes									
ICD-9 Code	Description	Map Type	ICD-10 Code	Description	Approx	No Map	Combo	Scenario	Choice

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### MAPPING Concept: Proper Direction

ICD-10

9-to-10  **Forward Map**

ICD-9	Description	Map	ICD-10	Description
410.11	Acute MI of <u>other anterior wall</u> , initial episode of care	F Map	i21.09	ST elevation (STEMI) MI involving <u>other coronary artery of anterior wall</u>

10-to-9  **Backward Map**

ICD-10	Description	Map	ICD-9	Description
i21.09	ST elevation (STEMI) MI involving <u>other coronary artery of anterior wall</u>	B Map	410.11	Acute MI of <u>other anterior wall</u> , initial episode of care

Match in general description

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### MAPPING Concept: Reverse Direction

ICD-10

**Reverse Map**  10-to-9

ICD-10	Description	Map	ICD-9	Description
i21.01	ST elevation (STEMI) MI involving <u>left main coronary artery</u>	RB Map	410.11	Acute MI of <u>other anterior wall</u> , initial episode of care
i21.02	ST elevation (STEMI) MI involving <u>left anterior descending coronary artery</u>	RB Map		
i22.0	<u>Subsequent</u> ST elevation (STEMI) MI of <u>anterior wall</u>	RB Map		

Reverse Backward mapping logic

Use the backward map and reverse the lookup

Provide more specific codes .....

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### GEM Flags – What do they tell you?

ICD-10

**Stage 1: ICD-10 Codes Identified Through Forward and Reverse Backward Mapping from Original ICD-9 Codes**

ICD-9 Code	Description	Map Type	ICD-10 Code	Description	Approx	No Map	Combo	Scenario	Choice	Add	Delete	Comment
410.00	Acute myocardial infarction of anterolateral wall, episode of care unspecified	F Map	i21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	1	0	0	0	0			
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	F Map	i21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	1	0	0	0	0			
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	RB Map	i22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall	1	0	0	0	0			
410.02	Acute myocardial infarction of anterolateral wall, subsequent episode of care	F Map	i21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	1	0	0	0	0			

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### GEM Flag: Exact Match

ICD-10

ICD-9	Desc	ICD10	Desc	Approx	No Map	Comb	Scenario	Choice
411.81	Acute coronary occlusion without myocardial infarction	i24.0	Acute coronary thrombosis not resulting in myocardial infarction	0	0	0	0	0

- ☐ The Approximate Flag: code 0 means exact match.
- ☐ Business rule:
  - ☐ Do you take them as face-value?
  - ☐ Do you want to evaluate these exact-matches as well?

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## GEM Flag: Approximate Match

ICD-10

ICD-9	Desc	ICD10	Desc	Approx	No Map	Comb	Scenario	Choice
518.53	Acute and chronic resp failure following surgery	J96.20	Acute and chronic resp failure with hypoxia  (no mention of surgery)	1	0	0	0	0

- ☐ The **Approximate** Flag: code **1** means approximate match in descriptions.
- ☐ Business rule:
  - ☐ How will these descriptions affect your project or study?

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## GEM Flag: No Map

ICD-10

ICD-9	Desc	ICD10	Desc	Approx	No Map	Comb	Scenario	Choice
707.25	Pressure ulcer, unstageable	NoDx	No Dx	1	1	0	0	0

- ☐ The **No Map** Flag: code **1** means there are no codes to match the description (often found in the proper direction).
- ☐ Business rule:
  - ☐ Are there any other codes to consider?
  - ☐ Consider reverse map to find additional codes?

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## GEM Flag: Example of "No Map"

ICD-10

ICD9	Description	Map	ICD10	Description
707.25	Pressure Ulcer, unstageable	F Map	No DX	No DX
		RB Map	L89.000	Pressure ulcer, unstageable, unspec. elbow
		RB Map	L89.010	Pressure ulcer, unstageable, right elbow
		RB Map	L89.020	Pressure ulcer, unstageable, left elbow
		RB Map	L89.100	Pressure ulcer, unstageable, unspec. back
		RB Map	L89.110	Pressure ulcer, unstageable, rt.upper back
		RB Map	L89.120	Pressure ulcer, unstageable, lt.upper back
		RB Map	L89.130	Pressure ulcer, unstageable, rt.lower back
		RB Map	L89.140	Pressure ulcer, unstageable, lt.lower back
		RB Map	L89.1xx	Many, many more!

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## GEM Flag: Combination

Source: 415.11 Iatrogenic pulmonary embolism and infarction

ICD-10

ICD10 Target	Description	Approx	No Map	Comb	Scenario	Choice
T80.0xxA	Air embolism following infusion, transfusion, therapeutic injection, initial encounter	1	0	1	1	1
i26.90	Septic pulmonary embolism without acute cor pulmonale	1	0	1	1	2
i26.99	Other pulmonary embolism without acute cor pulmonale	1	0	1	1	2

- ☐ The **Combination** Flag: code **1** means it takes more than one target code to satisfy all the meaning of the source code.
- ☐ Business rule:
  - ☐ Do you want to capture all choices or are you limited to one choice?

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### GEM Flag: Example of Combination Clusters

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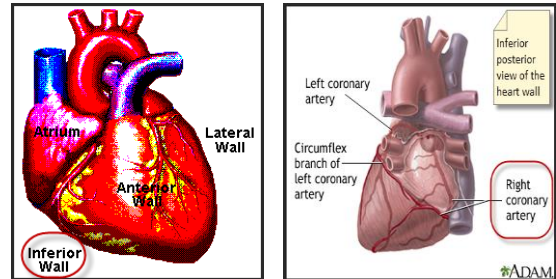
Scenario	Choice	ICD-10	Description
1	1	T80.0xxA	Air embolism following infusion, transfusion, therapeutic injection, initial encounter
1	2	i26.90	Septic pulmonary embolism without acute cor pulmonale
Scenario	Choice	ICD-10	Description
1	1	T80.0xxA	Air embolism following infusion, transfusion, therapeutic injection, initial encounter
1	2	i26.99	Other pulmonary embolism without acute cor pulmonale

Source: **415.11 Iatrogenic pulmonary embolism and infarction**

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### Inferior Wall and Right Coronary Artery

ICD-10



ADAM

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### How to Interpret and Decide?

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Code	ICD-10-CM (4 weeks concept)
i21.11	ST Elevation (STEMI) MI involving <b>right coronary artery</b>
i22.19	ST Elevation (STEMI) MI involving <b>other coronary artery of inferior wall</b>
i22.1	Subsequent ST Elevation (STEMI), <b>inferior wall</b>

Code	ICD-9-CM (8 weeks concept)
410.30	Acute MI of <b>inferior posterior wall</b> , unspec. episode of care
410.31	Acute MI of <b>inferior posterior wall</b> , initial episode of care
410.32	Acute MI of <b>inferior posterior wall</b> , subsequent episode of care

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### ICD-10-CM Official Guidelines for Coding and Reporting

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- Guidelines can be found in front of the ICD-10-CM codebook.
- Guidelines are located in the website:
- For ICD-9-CM (bottom of this webpage)  
<http://www.cdc.gov/nchs/icd/icd10cm.htm>
- For ICD-10-CM (for each release year)  
<http://www.cms.gov/Medicare/Coding/ICD10/2015-ICD-10-CM-and-GEMs.html>

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<http://www.ahacentraloffice.org/codes/products.shtml>

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AHA ICD-10-CM and ICD-10-PCS Coding Handbook with Answers is a wonderful resource for the coding community. May be helpful to you.

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Questions?

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**Thank You**

Ginger Cox, RHIT, CCS

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