415–420.91 Diseases of the Circulatory System

415 Acute pulmonary heart disease

415.0 Acute cor pulmonale

**ICD-10**:
Cor pulmonale NOS (416.9)

**DEF:** A heart lung disease marked by dilation and failure of the right side of heart due to pulmonary embolism; ventilatory function is impaired and pulmonary hypertension results.

**CC Excl:**
045.0-416, 619.6, 459.00-459.9

**415.1 Pulmonary embolism and infarction**

**ICD-10**:
Pulmonary (artery) (vein): embolism (hemorrhagic) thrombosis

**DEF:** Chronic pulmonary embolism (416.2) personal history of pulmonary embolism (V12.51) that complicating: abrasion (414-460) with: 6, 459.00-459.9 pregnancy, childbirth, or the puerperium (735.6-767.30)

**CC Excl:**
Emboli: Clot formation in the pulmonary artery or branches, due to thromboembolism (blood clot).

**CC Excl:**
Infarction: Necrosis of long term due to obstructed arterial blood supply, most often by pulmonary embolism.

**AHA:**
410, 92, 29

**x**

**415.11**

**ICD-10**:
Interruption pulmonary embolism and infarction

**DEF:** Use additional code for associated septic pulmonary embolism, if applicable, 415.1.2

**CC Excl:**
411.11-411.19, 416.2, 444.01-446.00, 459.0-459.9

**AHA:**
410, 92, 29

**TIP:** Do not report code 407.39 Other respiratory complications, with code 415.1.1

**415.12**

**ICD-10**:
Septic pulmonary embolism

**DEF:** Septic embolism NOS

**CODE First underlying infection, such as: pneumonia (018.0-018.9, 415.1.2)

**AHA:**
413.0, 37, 94, 96

**CC Excl:**
415.11-415.19, 416.2, 444.01-446.00, 459.0-459.9

**AHA:**
410, 92, 29

**TIP:** Do not report code 407.39 Other respiratory complications, with code 415.1.1

**415.13**

**ICD-10**:
Saddle embolus of pulmonary artery

**DEF:** See code: 415.11

**CC Excl:**
413.1, 110, 108

**415.19**

**ICD-10**:
Other

**DEF:** See code: 415.11

**CC Excl:**
413.1, 10, 10, 42.0, 40.9, 96

**AHA:**
413.1, Other pulmonary emboli w/o acute cor pulmonale

**416 Chronic pulmonary heart disease**

**416.0**

**ICD-10**:
Primary pulmonary hypertension

**DEF:** Idiopathic pulmonary arteriosclerosis

**CC Excl:**
Pulmonary hypertension (essential) (idiopathic) (primary)

**CC Excl:**
Secondary pulmonary hypertension NOS (416.0)

**DEF:** A rise in pulmonary circulation, often resulting in right ventricular failure or heart failure.

**CC Excl:**
278.02, 416, 416.4-416.6, 416.7, 416.8-416.9, 459.89-459.9

**416.1**

**ICD-10**:
Raynaud's cyanotic heart disease

**DEF:** High blood pressure within the large as a result of constriction of the spine

**CC Excl:**
278.02, 416, 416.4-416.6, 416.7, 416.8-416.9, 459.89-459.9

**416.2**

**ICD-10**:
Chronic pulmonary embolism

**DEF:** Use additional code, if applicable, for associated long-term (current) use of anticoagulants (V08.6-1)

**CC Excl:**
Personal history of pulmonary embolism (V12.51)

**DEF:** Pulmonary hypertension in which a small blood clot (embolus) travels to the lungs repeatedly over many weeks, months, or years; requiring continuation of established anticoagulant or thrombolytic therapy.

**CC Excl:**
411.11-411.19, 416.2, 444.01-446.00, 459.0-459.9

**AHA:**
42.0, 42.3, 85, 86

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420 Acute pericarditis

**ICD-10**:
Acute pericarditis, unspecified

**DEF:**
Mycopericarditis
Pericardial effusion
Pleuropericarditis
Postmyocardial infarction syndrome
Secondary pericarditis
Syphilitic (093.81)
Postmyocardial infarction syndrome [Dressler's] (411.0)

**CC Excl:**
Information of the pericardial heart, pericardial effusion results from this information and is heard as a scratchy or feathery sound.

**420.0 Acute pericarditis in diseases classified elsewhere**

**DEF:**
Code first underlying disease, or:
achnurasiasis (009.8)
myocarditis (427.4-0)
gonococcal (097.83)
Asthma (140.9-140.95)
Coxsackie (virus) (074.21)
Syphilis (383.81)
Histoplasmosis (115.0-115.9 with fifth-digit 3)

**CC Excl:**
381.0-381.9, 413.0-413.9, 423.3-423.9, 459.00-459.9

**420.0 Acute pericarditis, unspecified**

**ICD-10**:
Acute pericarditis (420.0)

**DEF:**
Pericarditis (acute) NOS
Pericarditis (acute) NOS

**CC Excl:**
420.0-420.9

**420.30**

**ICD-10**:
Acute pericarditis, unspecified

**DEF:**
Pericarditis (acute) NOS

**CC Excl:**
420.0-420.9

**420.91**

**ICD-10**:
Acute idiopathic pericarditis

**DEF:**
Pericarditis, acute: nonspecific

**CC Excl:**
420.0-420.9

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**456.8**

**ICD-10**:
Other chronic pulmonary heart diseases

**DEF:**
Chronic pulmonary hypertension NOS

**CC Excl:**
Pulmonary hypertension, secondary

**AHA:**
410, 92, 47, 11, 10, 20, 10, 10

**456.9**

**ICD-10**:
Chronic pulmonary heart disease, unspecified

**DEF:**
Chronic pulmonary artery disease

**CC Excl:**
Pulmonary NOS

**417 Other diseases of the pulmonary circulation**

**417.0**

**ICD-10**:
Arteriovenous fistula of pulmonary vessels

**DEF:**
Aneurysm of pulmonary artery

**CC Excl:**
Abnormal communication between blood vessels within lung.

**CC Excl:**
417.0-417.9

**417.1**

**ICD-10**:
Anoxemia of pulmonary artery

**DEF:**
Congenital anoxemia (474.39)
Congenital anoxemia (474.39)

**CC Excl:**
See code: 417.0

**417.2**

**ICD-10**:
Other specified diseases of pulmonary circulation

**DEF:**
Pulmonary arteritis endarteritis
Rupture
Structure
Pulmonary vessel

**417.9**

**ICD-10**:
Unspecified disease of pulmonary circulation

**DEF:**
Other Forms of Heart Disease (420-429)

**420 Acute pericarditis**

**ICD-10**:
Acute pericarditis, unspecified

**DEF:**
Pericarditis (acute) NOS
Pericarditis (acute) NOS

**CC Excl:**
420.0-420.9

**420.91**

**ICD-10**:
Acute idiopathic pericarditis

**DEF:**
Pericarditis, acute: nonspecific

**CC Excl:**
420.0-420.9
420.99–423.2 Diseases of the Circulatory System

**420.99 Other**

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**421 Acute and subacute endocarditis**

**DEF:** Bacterial inflammation of the endocardium (intracardiac area); major symptoms include fever, fatigue, heart murmurs, splenomegaly, embolic episodes and areas of infarction.

**421.0 Acute and subacute bacterial endocarditis**

- Endocarditis (acute) (chronic) (subacute): bacterial, infective, NOS, lenta, malignant, purulent, septic, ulcerative, vegetative, infective atheromatous.
- Subacute bacterial endocarditis (SBE).
- Infections: streptococcal (391.2), staphylococcal, endocarditis (in): Coxsackie (virus) (074.22), gonococcal (098.84), histoplasmosis (113.0, 113.9 with fifth-digit 4), meningococcal infection (034.42).

**CC Excl:**

- 391.1-391.5, 420.0-420.9, 424.90-424.99, 459.89-459.9

**AHA:**

- 4Q, '08, 73; 1Q, '99, 12; 1Q, '91, 15

**421.1 Acute and subacute infective endocarditis in diseases classified elsewhere**

**Codes first underlying disease as:**

- endocarditis (acute or subacute): influenza (088.09), staphylococcal, Coxsackie (virus) (074.22), pneumonia (018.0), meningococcal infection (034.42), histoplasmosis (113.0, 113.9 with fifth-digit 4).

**CC Excl:**

- See code: 421.0

**421.9 Acute endocarditis, unspecified**

**DEF:** Myocarditis (acute): bacterial, infective, NOS, lenta, malignant, purulent, septic, ulcerative, vegetative, infective atheromatous.

**Codes first underlying disease as:**

- endocarditis (acute or subacute): influenza (088.09), staphylococcal, Coxsackie (virus) (074.22), pneumonia (018.0), meningococcal infection (034.42).

**CC Excl:**

- See code: 421.0

**422 Acute myocarditis**

**DEF:** Acute inflammation of the muscular walls of the heart (myocardium).

**422.0 Acute myocarditis in diseases classified elsewhere**

**Code first underlying disease as:**

- myocarditis (acute): influenza (088.09), staphylococcal, Coxsackie (virus) (074.22), pneumonia (018.0), meningococcal infection (034.42).

**CC Excl:**

- 391.2, 398.0, 422.0-422.99, 429.0, 429.71-429.79, 459.89-459.9

**422.9 Idiopathic myocarditis**

**DEF:** Acute inflammation of the heart muscle due to an adverse reaction to certain drugs or chemicals reaching the heart through the bloodstream.

**Codes first underlying disease as:**

- myocarditis (acute): influenza (088.09), staphylococcal, Coxsackie (virus) (074.22), pneumonia (018.0), meningococcal infection (034.42), toxoplasmosis (130.3).

**CC Excl:**

- See code: 422.0

**422.91 Idiopathic myocarditis**

**DEF:** Acute or subacute myocarditis.

**422.92 Septic myocarditis**

**DEF:** Myocarditis, acute or subacute: pneumopericardium, purpuricum, suppurative, purulent, staphylococcal.

**Use additional code to identify infectious organism [e.g., Staphylococcus 041.1].**

**CC Excl:**

- See code: 422.0

**422.93 Toxic myocarditis**

**DEF:** Myocarditis, acute or subacute: pneumopericardium, purpuricum, suppurative, purulent, staphylococcal.

**Use additional code to identify infectious organism [e.g., Pneumococcus 041.1].**

**CC Excl:**

- See code: 422.0

**423 Other diseases of pericardium**

**423.0 Hemopericardium**

**DEF:** Blood in the pericardial sac (pericardium).

**423.1 Adhesive pericarditis**

**DEF:** Adherent pericardium: Fibrinous pericarditis: fibrous, infectious, adhesive, leukemic, psoriasiform patches.

**CC Excl:**

- See code: 421.0

**423.2 Constrictive pericarditis**

**DEF:** Constrictive pericarditis: Thickening of the pericardium: infarcted pericardium, restrictive pericarditis, syndrome of the heart not adequately filling: competitive heart failure may result.

**CC Excl:**

- See code: 421.0
00.22 Intravascular imaging of intrathoracic vessels
- Aorta and aortic arch
  - Intravascular ultrasound (IVUS), intrathoracic vessels
  - Transoesophageal echocardiography (TOE)
  - Localisation by (electro)magnetic navigation

00.23 Intravascular imaging of peripheral vessels
- Imaging of vessels of arm(s) or leg(s)
  - Intravascular ultrasound (IVUS), peripheral vessels

00.24 Intravascular imaging of coronary vessels
- Intravascular ultrasound (IVUS), coronary vessels
  - Diagnostic ultrasonography (US) of heart valves
  - Intravascular echocardiography (ICE)

00.25 Intravascular imaging of renal vessels
- Intravascular ultrasound (IVUS), renal vessels

00.28 Intravascular imaging, other specified vessels(s)
- Procedure on vessel bifurcation

00.29 Intravascular imaging, unspecified vessel(s)
- Computer assisted surgery (CAS) on intravascular imaging
- Imageless computer assisted surgery (ICAS)
- Image guided navigation (IGN)
- Computer assisted surgery with MR/MRA
- Computer assisted surgery with CT/CTA

00.44 Adjunct vascular system procedures
- Aortic arch endarterectomy (17.54-17.56)
- Aortic arch angioplasty (17.57)
- Intravascular ultrasound (IVUS)
- Intravascular imaging of blood vessels
- Intravascular imaging of renal vessels
- Intravascular imaging of peripheral vessels
- Intravascular imaging of coronary vessels
- Intravascular mapping (17.51)
- Intravascular ultrasound (IVUS)
- Intravascular imaging of intrathoracic vessels
- Intravascular imaging of intracardiac vessels
- Intravascular imaging of blood vessels

00.46 Procedure on single stent
- Number of vessels, unspecified
- Intravascular imaging (00.21-00.29)
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<td>Code also any synchronous resection (45.34, 45.61-45.63)</td>
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<td>Fixation of stoma of small intestine</td>
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<tr>
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<td>Fixation of stoma of small intestine</td>
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<td>Other enterostomy</td>
<td>Creation of artificial anus by bringing small intestine through abdominal wall to body surface</td>
</tr>
<tr>
<td></td>
<td>Code also any synchronous resection (45.61-45.63)</td>
<td>Creation of artificial anus by bringing other small intestine through abdominal wall to body surface</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Creation of artificial anus by bringing large intestine through abdominal wall to body surface</td>
</tr>
</tbody>
</table>

### Notes
- **46.1** Fixation of intestinal stoma: Other fixation of intestinal stoma, not otherwise specified
- **46.2** Fixation of intestinal stoma: Other fixation of intestinal stoma, not otherwise specified
- **46.3** Fixation of intestinal stoma: Other fixation of intestinal stoma, not otherwise specified
- **46.4** Fixation of intestinal stoma: Other fixation of intestinal stoma, not otherwise specified
- **46.5** Fixation of intestinal stoma: Other fixation of intestinal stoma, not otherwise specified
- **46.6** Fixation of intestinal stoma: Other fixation of intestinal stoma, not otherwise specified
- **46.7** Fixation of intestinal stoma: Other fixation of intestinal stoma, not otherwise specified
- **46.8** Fixation of intestinal stoma: Other fixation of intestinal stoma, not otherwise specified

### Definitions
- **46.1** Closure of intestinal stoma: Closure or take-down of colostomy
- **46.2** Closure of intestinal stoma: Closure or take-down of colostomy
- **46.3** Closure of intestinal stoma: Closure or take-down of colostomy
- **46.4** Closure of intestinal stoma: Closure or take-down of colostomy
- **46.5** Closure of intestinal stoma: Closure or take-down of colostomy
- **46.6** Closure of intestinal stoma: Closure or take-down of colostomy
- **46.7** Closure of intestinal stoma: Closure or take-down of colostomy
- **46.8** Closure of intestinal stoma: Closure or take-down of colostomy

### Procedures
- **46.1** Colostomy: Creation of opening from large intestine through abdominal wall to skin surface
- **46.2** Ileostomy: Creation of opening from third part of small intestine through abdominal wall, with pouch outside abdomen
- **46.3** Other enterostomy: Creation of artificial anus by bringing small intestine through abdominal wall to body surface
- **46.4** Delayed opening of colostomy: Creation of opening surgically created from intestine through abdominal wall through the reduction of the small intestine through the abdominal wall
- **46.5** Delayed opening of ileostomy: Creation of opening surgically created from intestine through abdominal wall through the reduction of the small intestine through the abdominal wall
- **46.6** Delayed opening of ileostomy: Creation of opening surgically created from intestine through abdominal wall through the reduction of the small intestine through the abdominal wall

### Additional Codes
- **46.1** Colostomy: Code also any synchronous resection (45.49, 45.71-45.79, 46.41-46.43)
- **46.2** Ileostomy: Code also any synchronous resection (45.34, 45.61-45.63)
- **46.3** Other enterostomy: Code also any synchronous resection (45.61-45.63)
- **46.4** Revision of intestinal stoma: Revision of opening surgically created from intestine through abdominal wall to skin surface
- **46.5** Closure of intestinal stoma: Code also any synchronous resection (45.34, 45.49, 45.61-45.63)