CMS annually publishes Physician Fee Schedule (PFS) information on its website (www.cms.hhs.gov/Physician-FeeSched/) and posts the formula for calculating PFS payment amounts. The published formula for calculating the 2011 PFS payment amount is:

\[
PE = \text{Physician Expense}
\]

\[
MP = \text{Malpractice}
\]

\[
GPCI = \text{Geographic practice cost index} \quad \text{(this is used to realize the varying cost based on geographic location)}
\]

\[
CF = \text{Conversion Factor} \quad \text{(this is a fixed dollar amount used to translate the RVUs into fees)}
\]

\[
\text{Non-Facility Pricing Amount} = [\text{(Work RVU} \times \text{Work GPCI}) + \text{(Transitioned Non-Facility PE RVU} \times \text{PE GPCI}) + \text{(MP RVU} \times \text{MP GPCI})] \times \text{(CF)}
\]

\[
\text{Facility Pricing Amount} = [\text{(Work RVU} \times \text{Work GPCI}) + \text{(Transitioned Facility PE RVU} \times \text{PE GPCI}) + \text{(MP RVU} \times \text{MP GPCI})] \times \text{CF}
\]

The published conversion factor for CY 2011 is $33.9764. RVUs and the conversion factor may change from year to year and may be updated throughout the year based on legislative changes.

### RVU table for E/M codes New Patient and Established Patients (99201–99215)

<table>
<thead>
<tr>
<th>HCPCS</th>
<th>DESCRIPTION</th>
<th>WORK RVU</th>
<th>TRANSITIONED NON-FACILITY PE RVU</th>
<th>TRANSITIONED FACILITY PE RVU</th>
<th>MP RVU</th>
</tr>
</thead>
<tbody>
<tr>
<td>99201</td>
<td>Office/outpatient visit, new</td>
<td>0.48</td>
<td>0.69</td>
<td>0.24</td>
<td>0.04</td>
</tr>
<tr>
<td>99202</td>
<td>Office/outpatient visit, new</td>
<td>0.93</td>
<td>1.09</td>
<td>0.44</td>
<td>0.07</td>
</tr>
<tr>
<td>99203</td>
<td>Office/outpatient visit, new</td>
<td>1.42</td>
<td>1.47</td>
<td>0.64</td>
<td>0.14</td>
</tr>
<tr>
<td>99204</td>
<td>Office/outpatient visit, new</td>
<td>2.43</td>
<td>2.00</td>
<td>1.06</td>
<td>0.23</td>
</tr>
<tr>
<td>99205</td>
<td>Office/outpatient visit, new</td>
<td>3.17</td>
<td>2.36</td>
<td>1.34</td>
<td>0.27</td>
</tr>
<tr>
<td>99211</td>
<td>Office/outpatient visit, est.</td>
<td>0.18</td>
<td>0.39</td>
<td>0.08</td>
<td>0.01</td>
</tr>
<tr>
<td>99212</td>
<td>Office/outpatient visit, est.</td>
<td>0.48</td>
<td>0.70</td>
<td>0.22</td>
<td>0.04</td>
</tr>
<tr>
<td>99213</td>
<td>Office/outpatient visit, est.</td>
<td>0.97</td>
<td>0.99</td>
<td>0.41</td>
<td>0.07</td>
</tr>
<tr>
<td>99214</td>
<td>Office/outpatient visit, est.</td>
<td>1.50</td>
<td>1.41</td>
<td>0.63</td>
<td>0.10</td>
</tr>
<tr>
<td>99215</td>
<td>Office/outpatient visit, est.</td>
<td>2.11</td>
<td>1.80</td>
<td>0.90</td>
<td>0.14</td>
</tr>
</tbody>
</table>

*Table 1.2*

*Source: CMS (www.cms.gov); PPRVU11_082511_v2.*
**Anatomic Positions and Planes**

The standard body position is considered the “anatomic position.” The anatomic position is an upright, face-forward position with the arms by the side and palms facing forward. The feet are parallel and slightly apart.

**Anatomical Planes and Directions**

- **Superior** (cranial) — Above; toward the head.
- **Inferior** (caudal) — Below; toward the lower end of the spine.
- **Superficial** (external) — Closer to the surface of the body.
- **Deep** (internal) — Closer to the center of the body.

For radiological studies, the body is often virtually cut along a flat surface called a plane. The most frequently used planes include:

- **Sagittal** — Cuts through the midline of the body from front to back, dividing the body into right and left sections.
- **Frontal (coronal)** — Cuts at a right angle to the midline, from side to side, dividing the body into front (anterior) and back (posterior) sections.
- **Transverse (horizontal)** — Cuts horizontally through the body, separating the body into upper (superior) and lower (inferior) sections.

**Structure of the Human Body**

The structure of the human body falls into four categories:

1. **The cell** is the basic unit of all living things. Human anatomy is composed of cells that vary in size and shape according to function.
2. **Tissue** is a group of similar cells performing a specific task; for instance, muscle tissue produces movement. Connective tissue is divided into four general groups: adipose tissue, cartilage, bone, and blood.
3. **Organs** are two or more kinds of tissue that together perform special body functions. As an example, the skin is an organ composed of epithelial, connective, and nerve tissue.
4. **Systems** are groups of organs that work together to perform complex body functions. For example, the nervous system is made up of the brain, spinal cord, and nerves. Its function is to coordinate and control other body parts.
condition. Selecting a code with the NEC classification means the provider documented more specific information regarding the patient’s condition, but there is not a code in ICD-9-CM that reports the condition accurately.

**NOS Not otherwise specified**
This abbreviation is the equivalent of “unspecified” and is used only when the coder lacks the information necessary to code to a more specific fourth- or fifth-digit subcategory.

[ ] Brackets are used to enclose synonyms, alternate wording, or explanatory phrases.

**Example:**

- **√** 5th 008.0 Escherichia coli [E. coli]

[ ] Slanted brackets are used to indicate multiple codes are required.

**Example:**

Diabetes, diabetic 250.0
cataract 250.5 [366.41]

In this example, two codes are required: 250.5x *Diabetes with ophthalmic manifestations*, which requires a fifth digit to indicate the type of diabetes and whether it is controlled or uncontrolled; and 366.41 *Diabetic cataract*.

( ) Parentheses are used to enclose supplementary words that may be present or absent in the statement of a disease or procedure without affecting the code number to which it is assigned.

**Example:**

Cyst (mucus) (retention) (serous) (simple)

: The colon is used in Volume 1 (Tabular List) after an incomplete term requiring one or more of the descriptions that follow to make it assignable to a given category.

**Example:**

553.21 Incisional Hernia:
  - postoperative recurrent, ventral

**Other Conventions**

**Boldface** Boldface type is used for all codes and titles in the Tabular List.

**Italicized** Italicized type is used for all exclusion notes and to identify codes that should not be used for describing the primary diagnosis.

**EXCLUDES** Terms following “excludes” notes are to be reported with a code from another category. The use of “excludes” in the Tabular List guides the coder to a more appropriate code for a specific condition than is listed in the current category.

**Example:**

599.0 Urinary tract infection, site not specified
  **EXCLUDES**
  - candidiasis of urinary tract (112.2)
  - urinary tract infection of newborn (771.82)

In this example, we see that if the patient has candidiasis of the urinary tract, the correct code is 112.2.

<table>
<thead>
<tr>
<th><strong>Testing Technique</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Highlight conditions following “excludes” notes. This will help draw your eye to the excluded conditions while you are taking your exam.</td>
</tr>
</tbody>
</table>

**INCLUDES** The “includes” note appears immediately after a three-digit code title to further define or clarify the category.
Modifiers

CPT® modifiers may be used when coding for respiratory, hemic/lymphatic, or mediastinum/diaphragm procedures and services. Several specific instances of modifier use have been illustrated throughout this chapter. Rules for applying modifiers are consistent throughout all portions of the CPT® codebook.

Glossary

Allogenic—Genetically different, but obtained from the same species.

Alveoli (air sacs)—The primary units for the exchange of oxygen and carbon dioxide in the lungs.

Apheresis—Filtering of blood to remove stem cells.

Autologous—Obtained from the patient.

Bone Marrow—The flexible tissue found in the center of many bones, primarily in cancellous tissue of the ribs, vertebrae, sternum, and bones of the pelvis.

Bronchi—Bottom portion of the trachea that splits into airways to the right and left lung; the right is shorter and wider than the left.

Carina—The ridge that separates the opening of the right and left bronchi.

Chronic Obstructive Pulmonary Disease (COPD)—A progressive disease that causes coughing, wheezing, shortness of breath, and difficulty breathing. The primary cause is smoking.

Cilia—Microscopic filaments bathed in nasal mucus that cover the surface of the tissue in the nose.

Concha Bullosa—Enlargement of the nasal turbinate.

Croup—A common, high-pitched, barking cough found in infants and children with nasal-type symptoms.

Diaphragm—Muscle separating the abdominal cavity from the thoracic cavity; assists in respiration by contracting (inflating) and relaxing (deflating) the lungs.

Dacryocystorhinostomy—Surgical procedure that restores the flow of tears into the nose from the lacrimal sac when the nasolacrimal duct does not function.

Decortication—Separating the pleura adhering to lungs to assist with expansion of the lungs.

Direct Endoscopy—Use of an endoscope to look directly at the larynx.

Empyema—Collection of pus between the lung and the lining of the lung (pleural space).

En bloc—In total or in full; as a single piece.

Epiglottis—A lid or flap that covers the larynx to protect the trachea from inhaled food or liquid.

Glottis—Vocal cords separated by a triangular opening, through which air flows. The glottis narrows, controlling the flow of air, which causes the vocal cords to vibrate and create sound.

Hemic—Pertaining to blood.

Hyoid Bone—A horseshoe-shaped bone in the anterior midline of the neck. It is not part of the trachea and does not articulate with any other bone. It provides attachment to the muscles of the floor of the mouth and the tongue above, the larynx below, and the epiglottis and pharynx behind.

Indirect Endoscopy—Use of mirrors with a rigid laryngoscope to view the larynx.

Instill—To introduce gradually.

Larynx (Voice Box)—Connects the nasopharynx to the trachea, covered by the epiglottis during swallowing to prevent aspiration.

Lungs—The right lung has three lobes and the left lung has two lobes.

Mediastinum—The portion of the thoracic cavity between the lungs containing the heart, aorta, esophagus, trachea, and thymus gland, as well as blood vessels and nerves.

Pleura—A serous membrane that folds back onto itself to form a two-layered structure.

Pleural Cavity—The space between the two pleural layers.

Pneumonectomy—Removal of a lung.
Pneumonolysis—A procedure that separates the chest wall from the lungs to prevent collapse.

Pneumothorax—Collapse of the lung.

Pulmonary Function Tests—Tests to diagnosis breathing problems.

Trachea (windpipe)—Cartilaginous structure that carries air from the nasopharynx to the lungs via the bronchi.

Turbinates—Superior, middle, and inferior bony structures found in each right and left nasal cavity to assist with air movement.

Septum—Bony structure that separates the left nasal cavity from the right nasal cavity.

Splenoportography—A method of using X-ray imaging to view the portal system via the spleen.

Video-Assisted Thoracoscopic Surgery (VATS)—Use of endoscope and video to perform diagnostic and surgical procedures.

Vital Capacity (VC)—The maximum volume of air a person can exhale after maximum inhalation. The measure is used in diagnostic pulmonary testing.

Chapter Review Questions

1. The term “pneumomediastinum” describes what condition?
   A. Inflammation of the mediastinum
   B. Puncture of the alveoli of the lungs
   C. Presence of a cyst or tumor in the mediastinum
   D. The presence of air in the mediastinum

2. A respiratory disease characterized by overexpansion and destruction of the alveoli is identified as:
   A. Cystic fibrosis
   B. Pneumoconiosis
   C. Emphysema
   D. Respiratory distress syndrome

3. A 35-year-old was diagnosed with stage I ductal carcinoma in situ in her right breast. She underwent a localized biopsy of sentinel lymph and axillary nodes in her right breast. An incision was made with the scalpel, once the glandular tissue of the breast was intercepted; dissection was carried down through the skin and subcutaneous tissue. One to two centimeters of the breast tissue was dissected free to the lymph node. The incision was carried deep to the right axilla and two sentinel and non-sentinel lymph nodes were identified and excised. What CPT® code should be used to report this procedure?
   A. 38525
   B. 38570
   C. 38500
   D. 38505
10. Operative Report #2

Preoperative Diagnosis: Angina

Postoperative Diagnosis: Angina

Procedure: Coronary artery bypass x2 with left internal mammary artery bypass to the left anterior descending; saphenous vein graft to the posterior descending branch of the right coronary artery; harvesting of saphenous vein

Anesthesia: General endotracheal anesthesia.

Indications: As described in admission note.

Description of Procedure: Mr. Williams was taken to the operating room. After general endotracheal anesthesia, his entire chest and abdomen were prepped and draped and exposed in a sterile field. A midline sternotomy was performed. The left internal mammary artery was taken down from its retrosternal location. It proved to be a suitable conduit with the bypass. The saphenous vein was harvested. Once both conduits were felt to be suitable, the pericardium was opened, incised, and sutured to the skin edges. The patient was heparinized and appropriate cannulas were placed. The patient was then placed on cardiopulmonary bypass at approximately 5.0 L per minute. The heart was then mechanically arrested with a combination of antegrade and retrograde cold cardioplegia and topical saline.

With cardiac arrest now stable, the midportion of the left anterior descending was identified and dissected free. In the epicardial fat, the posterior descending branch of the right coronary artery was also dissected free. Longitudinal arteriotomy was made in the posterior descending, and a segment of saphenous vein was sutured without difficulty. In like fashion the left internal mammary artery was sutured to the left anterior descending at its midposition. The single proximal end of the right coronary graft was placed around the ascending aorta.

Once completed, the aortic cross-clamp was removed. The air was evacuated from the graft. The patient regained sinus rhythm immediately and appropriate ejection. A single set of pacing wires was placed on the inferior surface of the left ventricular wall. Two chest tubes were positioned. The patient was subsequently decannulated and hemodynamically remained stable, and eventually closure was accomplished with heavy stainless steel sternal wires in a figure-of-eight fashion. All wounds were covered with a dressing.

The patient was returned to the intensive care unit in satisfactory condition. He appeared to have tolerated the procedure without event.

What are the CPT® and ICD-9-CM codes for this procedure?
Using the results from Tables C, D, and E, complete the table below to determine the overall MDM level. The column with two items selected or the column in the middle will be the level for the MDM.

**Table F: MDM**

<table>
<thead>
<tr>
<th>Final Result of Tables C, D, E = Level of Medical Decision Making (MDM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table C</td>
</tr>
<tr>
<td>Table D</td>
</tr>
<tr>
<td>Table E</td>
</tr>
<tr>
<td>MDM Level</td>
</tr>
</tbody>
</table>

Using the results from the Tables of History, Exam, and MDM, we will complete the table below resulting in the office visit level of our patient.

**Table G: Established Patient Office Visit**

<table>
<thead>
<tr>
<th>Established patient office visit table</th>
</tr>
</thead>
<tbody>
<tr>
<td>History (Table A)</td>
</tr>
<tr>
<td>Exam (Table B)</td>
</tr>
<tr>
<td>MDM (Table F)</td>
</tr>
<tr>
<td>Level of Visit</td>
</tr>
</tbody>
</table>

Two of three key components are needed to make established patient level visit. The level for the visit is 99213.

**Contributory Factors to E/M Service Leveling**

Contributory factors include counseling, coordination of care, and nature of the present problem. The first two factors are important in E/M, but are not required for each visit. The nature of the presenting problem is considered as the disease, illness, condition, injury, symptom, signs, finding, complaint, or other problem with or without a diagnosis.

**Counseling**

Counseling may be included during the visit of a patient and reflect topics such as diet exercise and weight control. The provider may counsel the patient on the adverse effects of a sedentary lifestyle and unhealthy eating habits. He also may prescribe weight loss management and an exercise program.

**Nature of Presenting Problems**

Nature of a presenting problem includes five types:

- **Minimal**—A problem that may not require the presence of the physician; however, services provided are under the physician’s supervision.
- **Self-limited or minor**—Does not permanently alter health status, and with management and compliance has an outcome of “good.”
- **Low severity**—Risk of morbidity/mortality without treatment is low and full recovery with no functional impairment is expected.
- **Moderate severity**—Risk of morbidity/mortality without treatment is moderate; uncertain prognosis or increased probability of prolonged functional impairment.