

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Centers for Medicare & Medicaid Services



Official CMS Information for  
Medicare Fee-For-Service Providers

# Evaluation and Management Services Guide



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## Chief Complaint

A CC is a concise statement that describes the symptom, problem, condition, diagnosis, or reason for the patient encounter. The CC is usually stated in the patient's own words. For example, patient complains of upset stomach, aching joints, and fatigue. The medical record should clearly reflect the CC.

## History of Present Illness

**HPI** is a chronological description of the development of the patient's present illness from the first sign and/or symptom or from the previous encounter to the present. HPI elements are:

- ❖ Location (example: left leg);
- ❖ Quality (example: aching, burning, radiating pain);
- ❖ Severity (example: 10 on a scale of 1 to 10);
- ❖ Duration (example: started three days ago);
- ❖ Timing (example: constant or comes and goes);
- ❖ Context (example: lifted large object at work);
- ❖ Modifying factors (example: better when heat is applied); and
- ❖ Associated signs and symptoms (example: numbness in toes).

There are two types of HPIs: brief and extended.

**A brief HPI** includes documentation of one to three HPI elements.

In the following example, three HPI elements – location, quality, and duration – are documented:

- ❖ CC: Patient complains of earache.
- ❖ Brief HPI: Dull ache in left ear over the past 24 hours.

### **An extended HPI:**

- ❖ 1995 documentation guidelines – Should describe four or more elements of the present HPI or associated comorbidities.
- ❖ 1997 documentation guidelines – Should describe at least four elements of the present HPI or the status of at least three chronic or inactive conditions.

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In the following example, five HPI elements – location, quality, duration, context, and modifying factors – are documented:

- ❖ CC: Patient complains of earache.
- ❖ Extended HPI: Patient complains of dull ache in left ear over the past 24 hours. Patient states he went swimming two days ago. Symptoms somewhat relieved by warm compress and ibuprofen.

### Review of Systems

ROS is an inventory of body systems obtained by asking a series of questions in order to identify signs and/or symptoms that the patient may be experiencing or has experienced. The following systems are recognized for ROS purposes:

- ❖ Constitutional Symptoms (e.g., fever, weight loss);
- ❖ Eyes;
- ❖ Ears, Nose, Mouth, Throat;
- ❖ Cardiovascular;
- ❖ Respiratory;
- ❖ Gastrointestinal;
- ❖ Genitourinary;
- ❖ Musculoskeletal;
- ❖ Integumentary (skin and/or breast);
- ❖ Neurological;
- ❖ Psychiatric;
- ❖ Endocrine;
- ❖ Hematologic/Lymphatic; and
- ❖ Allergic/Immunologic.



There are three types of ROS: problem pertinent, extended, and complete.

A **problem pertinent ROS** inquires about the system directly related to the problem identified in the HPI.

In the following example, one system – the ear – is reviewed:

- ❖ CC: Earache.
- ❖ ROS: Positive for left ear pain. Denies dizziness, tinnitus, fullness, or headache.

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An **extended ROS** inquires about the system directly related to the problem(s) identified in the HPI and a limited number (two to nine) of additional systems.

In the following example, two systems – cardiovascular and respiratory – are reviewed:

- ❖ CC: Follow up visit in office after cardiac catheterization. Patient states “I feel great.”
- ❖ ROS: Patient states he feels great and denies chest pain, syncope, palpitations, and shortness of breath. Relates occasional unilateral, asymptomatic edema of left leg.

A **complete ROS** inquires about the system(s) directly related to the problem(s) identified in the HPI plus all additional (**minimum of ten**) **organ systems**. Those systems with positive or pertinent negative responses must be individually documented. For the remaining systems, a notation indicating all other systems are negative is permissible. In the absence of such a notation, at least ten systems must be individually documented.

In the following example, ten signs and symptoms are reviewed:

- ❖ CC: Patient complains of “fainting spell.”
- ❖ ROS:
  - Constitutional: Weight stable, + fatigue.
  - Eyes: + loss of peripheral vision.
  - Ear, Nose, Mouth, Throat: No complaints.
  - Cardiovascular: + palpitations; denies chest pain; denies calf pain, pressure, or edema.
  - Respiratory: + shortness of breath on exertion.
  - Gastrointestinal: Appetite good, denies heartburn and indigestion. + episodes of nausea. Bowel movement daily; denies constipation or loose stools.
  - Urinary: Denies incontinence, frequency, urgency, nocturia, pain, or discomfort.
  - Skin: + clammy, moist skin.
  - Neurological: + fainting; denies numbness, tingling, and tremors.
  - Psychiatric: Denies memory loss or depression. Mood pleasant.

### ***Past, Family, and/or Social History***

**PFSH consists of a review of three areas:**

- ❖ **Past history** including experiences with **illnesses, operations**, injuries, and treatments;
- ❖ **Family history** including a review of medical events, diseases, and hereditary conditions that may place the patient at risk; and

- ❖ **Social history** including an age appropriate review of past and current activities.

The two types of PFSH are: pertinent and complete.

**A pertinent PFSH** is a review of the history areas directly related to the problem(s) identified in the HPI. The pertinent PFSH must document **at least one item from any of the three history areas.**

In the following example, the patient's past surgical history is reviewed as it relates to the identified HPI:

- ❖ HPI: Coronary artery disease.
- ❖ PFSH: Patient returns to office for follow up of coronary artery bypass graft in 1992. Recent cardiac catheterization demonstrates 50 percent occlusion of vein graft to obtuse marginal artery.

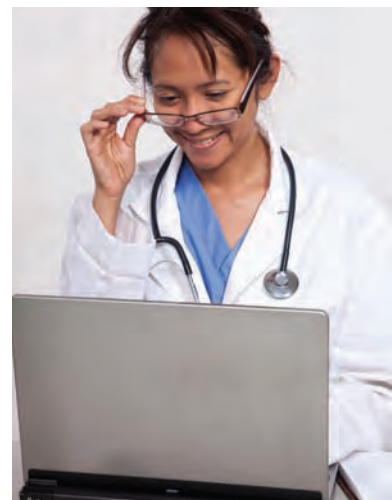
**A complete PFSH** is a review of two or all three of the areas, depending on the category of E/M service. A complete PFSH requires a review of **all three history areas** for services that, by their nature, include a comprehensive assessment or reassessment of the patient. A review of two history areas is sufficient for other services.

At least one specific item from two of the three history areas must be documented for a complete PFSH for the following categories of E/M services:

- ❖ Office or other outpatient services, established patient;
- ❖ ED;
- ❖ Domiciliary care, established patient;
- ❖ Subsequent NF care (if following the 1995 documentation guidelines); and
- ❖ Home care, established patient.

At least one specific item from each of the history areas must be documented for the following categories of E/M services:

- ❖ Office or other outpatient services, new patient;
- ❖ Hospital observation services;
- ❖ Hospital inpatient services, initial care;
- ❖ Comprehensive NF assessments;
- ❖ Domiciliary care, new patient; and
- ❖ Home care, new patient.



A **complete PFSH** is a review of two or all three of the areas, depending on the category of E/M service. A complete PFSH requires a review of all three history areas for services that, by their nature, include a comprehensive assessment or reassessment of the patient. A review of two history areas is sufficient for other services.

You must document at least one specific item from **two** of the three history areas for a complete PFSH for these categories of E/M services:

- Office or other outpatient services, established patient
- ED
- Domiciliary care, established patient
- Subsequent NF care (if following the 1995 documentation guidelines)
- Home care, established patient

You must document at least one specific item from **each** of the history areas for these categories of E/M services:

- Office or other outpatient services, new patient
- Hospital observation services
- Hospital inpatient services, initial care
- Consultations
- Comprehensive NF assessments
- Domiciliary care, new patient
- Home care, new patient

In this example, the patient's genetic history is reviewed as it relates to the current HPI:

- HPI: Coronary artery disease
- PFSH: Family history reveals:
  - Maternal grandparents – Both + for coronary artery disease; grandfather: deceased at age 69; grandmother: still living
  - Paternal grandparents – Grandmother: + diabetes, hypertension; grandfather: + heart attack at age 55
  - Parents – Mother: + obesity, diabetes; father: + heart attack at age 51, deceased at age 57 of heart attack
  - Siblings – Sister: + diabetes, obesity, hypertension, age 39; brother: + heart attack at age 45, living

#### Notes on the Documentation of History and Exam

- To simplify documentation of history and exam for established patients for office/outpatient visits, when relevant information is already contained in the medical record, practitioners may choose to focus their documentation on what has changed since the last visit, or on pertinent items that have not changed, and need not re-record the defined list of required elements if there is evidence that the practitioner reviewed the previous information and updated it as needed.

Any part of the chief complaint or history that is recorded in the medical record by ancillary staff or the beneficiary does not need to be re-documented by the billing practitioner, and may instead review the information, update or supplement it as necessary, and indicate in the medical record that he or she has done so.

(see FAQ posted here):

<https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/Downloads/E-M-Visit-FAQs-PFS.pdf>

- You may list the CC, ROS, and PFSH as separate elements of history or you may include them in the description of the HPI.
- You do not need to re-record a ROS and/or a PFSH obtained during an earlier encounter if there is evidence that the physician reviewed and updated the previous information. This may occur when a physician updates his or her own record or in an institutional setting or group practice where many physicians use a common record. You may document the review and update by:
  - Describing any new ROS and/or PFSH information or noting there is no change in the information.
  - Noting the date and location of the earlier ROS and/or PFSH.
- Ancillary staff may record the HPI, ROS and/or PFSH. Alternatively, the patient may complete a form to provide the ROS and/or PFSH. You must provide a notation supplementing or confirming the information recorded by others to document that the physician reviewed the information.
- If the physician is unable to obtain a history from the patient or other source, the record should describe the patient's condition or other circumstance which precludes obtaining a history.

## Examination

The most substantial differences in the 1995 and 1997 versions of the documentation guidelines occur in the examination documentation section. For billing Medicare, you may use either version of the documentation guidelines for a patient encounter, not a combination of the two. For reporting services furnished on and after September 10, 2013, to Medicare, you may use the 1997 documentation guidelines for an extended HPI along with other elements from the 1995 documentation guidelines to document an E/M service.

The levels of E/M services are based on four types of examination:

1. **Problem Focused** – A limited examination of the affected body area or organ system
2. **Expanded Problem Focused** – A limited examination of the affected body area or organ system and any other symptomatic or related body area(s) or organ system(s)
3. **Detailed** – An extended examination of the affected body area(s) or organ system(s) and any other symptomatic or related body area(s) or organ system(s)
4. **Comprehensive** – A general multi-system examination or complete examination of a single organ system (and other symptomatic or related body area(s) or organ system(s) – 1997 documentation guidelines)

An examination may involve several organ systems or a single organ system. The type and extent of the examination performed is based on clinical judgment, the patient's history, and nature of the presenting problem(s).

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In the following example, the patient's genetic history is reviewed as it relates to the current HPI:

- ❖ HPI: Coronary artery disease.
- ❖ PFSH: Family history reveals the following:
  - Maternal grandparents – Both + for coronary artery disease; grandfather: deceased at age 69; grandmother: still living.
  - Paternal grandparents – Grandmother: + diabetes, hypertension; grandfather: + heart attack at age 55.
  - Parents – Mother: + obesity, diabetes; father: + heart attack at age 51, deceased at age 57 of heart attack.
  - Siblings – Sister: + diabetes, obesity, hypertension, age 39; brother: + heart attack at age 45, living.

### Notes on the Documentation of History

- ❖ The CC, ROS, and PFSH may be listed as separate elements of history or they may be included in the description of the history of the present illness.
- ❖ A ROS and/or a PFSH obtained during an earlier encounter does not need to be re-recorded if there is evidence that the physician reviewed and updated the previous information. This may occur when a physician updates his or her own record or in an institutional setting or group practice where many physicians use a common record. The review and update may be documented by:
  - Describing any new ROS and/or PFSH information or noting there has been no change in the information; and
  - Noting the date and location of the earlier ROS and/or PFSH.
- ❖ The ROS and/or PFSH may be recorded by ancillary staff or on a form completed by the patient. To document that the physician reviewed the information, there must be a notation supplementing or confirming the information recorded by others.
- ❖ If the physician is unable to obtain a history from the patient or other source, the record should describe the patient's condition or other circumstance which precludes obtaining a history.

### Examination

As stated previously, there are two versions of the documentation guidelines – the 1995 version and the 1997 version. The most substantial differences between the two versions occur in the examination documentation section. Either version of the documentation guidelines, not a combination of the two, may be used by the provider for a patient encounter.



A **single organ system examination** involves a more extensive examination of a specific organ system, as depicted in the chart below.

**Single Organ System Examination** 1995 documentation guidelines

TYPE OF EXAMINATION	DESCRIPTION
<b>Problem Focused</b>	Include performance and documentation of one to five elements identified by a bullet, whether in a box with a shaded or unshaded border.
<b>Expanded Problem Focused</b>	Include performance and documentation of at least six elements identified by a bullet, whether in a box with a shaded or unshaded border.
<b>Detailed</b>	Examinations other than the eye and psychiatric examinations should include performance and documentation of at least twelve elements identified by a bullet, whether in a box with a shaded or unshaded border.  Eye and psychiatric examinations include the performance and documentation of at least nine elements identified by a bullet, whether in a box with a shaded or unshaded border.
<b>Comprehensive</b>	<p style="background-color: yellow;">Include performance of all elements identified by a bullet, whether in a shaded or unshaded box.</p> <p style="background-color: yellow;">Documentation of every element in each box with a shaded border and at least one element in a box with an unshaded border is expected.</p>

Both types of examinations may be performed by any physician, regardless of specialty.

Below are some important points to keep in mind when documenting general multi-system and single organ system examinations (in both the 1995 and the 1997 documentation guidelines):

- ❖ Document specific abnormal and relevant negative findings of the examination of the affected or symptomatic body area(s) or organ system(s). A notation of “abnormal” without elaboration is not sufficient;
- ❖ Describe abnormal or unexpected findings of the examination of any asymptomatic body area(s) or organ system(s); and
- ❖ It is sufficient to provide a brief statement or notation indicating “negative” or “normal” to document normal findings related to unaffected area(s) or asymptomatic organ system(s).

The levels of E/M services are based on four types of examination:

- ❖ **Problem Focused** – A limited examination of the affected body area or organ system;
- ❖ **Expanded Problem Focused** – A limited examination of the affected body area or organ system and any other symptomatic or related body area(s) or organ system(s);
- ❖ **Detailed** – An extended examination of the affected body area(s) or organ system(s) and any other symptomatic or related body area(s) or organ system(s); and
- ❖ **Comprehensive** – A general multi-system examination or complete examination of a single organ system (and other symptomatic or related body area(s) or organ system(s) – 1997 documentation guidelines).

An examination may involve several organ systems or a single organ system. The type and extent of the examination performed is based upon clinical judgment, the patient’s history, and nature of the presenting problem(s).

The 1997 documentation guidelines describe two types of comprehensive examinations that can be performed during a patient’s visit: general multi-system examination and single organ examination.

A **general multi-system examination** involves the examination of one or more organ systems or body areas, as depicted in the chart below.

TYPE OF EXAMINATION	DESCRIPTION
<b>Problem Focused</b>	Include performance and documentation of one to five elements identified by a bullet in one or more organ system(s) or body area(s).
<b>Expanded Problem Focused</b>	Include performance and documentation of at least six elements identified by a bullet in one or more organ system(s) or body area(s).
<b>Detailed</b>	Include at least six organ systems or body areas. For each system/area selected, performance and documentation of at least two elements identified by a bullet is expected. Alternatively, may include performance and documentation of at least twelve elements identified by a bullet in two or more organ systems or body areas.
<b>Comprehensive</b>	Include at least nine organ systems or body areas. For each system/area selected, all elements of the examination identified by a bullet should be performed, unless specific directions limit the content of the examination. For each area/system, documentation of at least two elements identified by bullet is expected.*

\* The 1995 documentation guidelines state that the medical record for a general multi-system examination should include findings about eight or more organ systems.

- ❖ Relevant findings from the **review of old records** and/or the receipt of additional history from the family, caretaker, or other source to supplement information obtained from the patient. You should document that there is no relevant information beyond that already obtained, as appropriate. **A notation of “Old records reviewed” or “Additional history obtained from family” without elaboration is not sufficient;**
- ❖ Discussion about results of laboratory, radiology, or other diagnostic tests with the physician who performed or interpreted the study; and
- ❖ **The direct visualization and independent interpretation of an image, tracing, or specimen** previously or subsequently interpreted by another physician.

### ***Risk of Significant Complications, Morbidity, and/or Mortality***

The risk of significant complications, morbidity, and/or mortality is based on the risks associated with the following categories:

- ❖ Presenting problem(s);
- ❖ Diagnostic procedure(s); and
- ❖ Possible management options.

**The assessment of risk of the presenting problem(s) is based on the risk related to the disease process anticipated between the present encounter and the next encounter.**

The assessment of risk of selecting diagnostic procedures and management options is based on the risk during and immediately following any procedures or treatment. **The highest level of risk in any one category determines the overall risk.**

The level of risk of significant complications, morbidity, and/or mortality can be:

- ❖ Minimal;
- ❖ Low;
- ❖ Moderate; or
- ❖ High.

Below are some important points to keep in mind when documenting level of risk. You should document:

- ❖ Comorbidities/underlying diseases or other factors that increase the complexity of medical decision making by increasing the risk of complications, morbidity, and/or mortality;
- ❖ The type of procedure, if a surgical or invasive diagnostic procedure is ordered, planned, or scheduled at the time of the E/M encounter;
- ❖ The specific procedure, if a surgical or invasive diagnostic procedure is performed at the time of the E/M encounter; and
- ❖ The referral for or decision to perform a surgical or invasive diagnostic procedure on an urgent basis. This point may be implied.

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#### **D. DOCUMENTATION OF AN ENCOUNTER DOMINATED BY COUNSELING OR COORDINATION OF CARE**

In the case where counseling and/or coordination of care dominates (more than 50%) of the physician/patient and/or family encounter (face-to-face time in the office or other outpatient setting or floor/unit time in the hospital or nursing facility), time is considered the key or controlling factor to qualify for a particular level of E/M services.

- *DG: If the physician elects to report the level of service based on counseling and/or coordination of care, the total length of time of the encounter (face-to-face or floor time, as appropriate) should be documented and the record should describe the counseling and/or activities to coordinate care.*

### III. DOCUMENTATION OF E/M SERVICES

This publication provides definitions and documentation guidelines for the three key components of E/M services and for visits which consist predominately of counseling or coordination of care. The three key components--history, examination, and medical decision making--appear in the descriptors for office and other outpatient services, hospital observation services, hospital inpatient services, consultations, emergency department services, nursing facility services, domiciliary care services, and home services. While some of the text of CPT has been repeated in this publication, the reader should refer to CPT for the complete descriptors for E/M services and instructions for selecting a level of service. Documentation guidelines are identified by the symbol • DG.

The descriptors for the levels of E/M services recognize seven components which are used in defining the levels of E/M services. These components are:

- history;
- examination;
- medical decision making;
- counseling;
- coordination of care;
- nature of presenting problem; and
- time.

The first three of these components (i.e., history, examination and medical decision making) are the key components in selecting the level of E/M services. In the case of visits which consist predominantly of counseling or coordination of care, time is the key or controlling factor to qualify for a particular level of E/M service.

Because the level of E/M service is dependent on two or three key components, performance and documentation of one component (eg, examination) at the highest level does not necessarily mean that the encounter in its entirety qualifies for the highest level of E/M service.

These Documentation Guidelines for E/M services reflect the needs of the typical adult population. For certain groups of patients, the recorded information may vary slightly from that described here. Specifically, the medical records of infants,

- **Problem Focused Examination** – should include performance and documentation of one to five elements identified by a bullet (•) in one or more organ system(s) or body area(s).
- **Expanded Problem Focused Examination** – should include performance and documentation of at least six elements identified by a bullet (•) in one or more organ system(s) or body area(s).
- **Detailed Examination** – should include at least six organ systems or body areas. For each system/area selected, performance and documentation of at least two elements identified by a bullet (•) is expected. Alternatively, a detailed examination may include performance and documentation of at least twelve elements identified by a bullet (•) in two or more organ systems or body areas.
- **Comprehensive Examination** – should include at least nine organ systems or body areas. For each system/area selected, all elements of the examination identified by a bullet (•) should be performed, unless specific directions limit the content of the examination. For each area/system, documentation of at least two elements identified by a bullet is expected.

## **SINGLE ORGAN SYSTEM EXAMINATIONS**

The single organ system examinations recognized by CPT are described in detail beginning on page 18. Variations among these examinations in the organ systems and body areas identified in the left columns and in the elements of the examinations described in the right columns reflect differing emphases among specialties. To qualify for a given level of single organ system examination, the following content and documentation requirements should be met:

- **Problem Focused Examination** – should include performance and documentation of one to five elements identified by a bullet (•), whether in a box with a shaded or unshaded border.
- **Expanded Problem Focused Examination** – should include performance and documentation of at least six elements identified by a bullet (•), whether in a box with a shaded or unshaded border.
- **Detailed Examination** – examinations other than the eye and psychiatric examinations should include performance and documentation of at least twelve elements identified by a bullet (•), whether in a box with a shaded or unshaded border.

Eye and psychiatric examinations should include the performance and documentation of at least nine elements identified by a bullet (•), whether in a box with a shaded or unshaded border.

System/Body Area	Elements of Examination
Skin	<ul style="list-style-type: none"> <li>• Palpation of scalp and inspection of hair of scalp, eyebrows, face, chest, pubic area (when indicated) and extremities</li> <li>• Inspection and/or palpation of skin and subcutaneous tissue (eg, rashes, lesions, ulcers, susceptibility to and presence of photo damage) in <b>eight of the following ten</b> areas: <ul style="list-style-type: none"> <li>• Head, including the face and</li> <li>• Neck</li> <li>• Chest, including breasts and axillae</li> <li>• Abdomen</li> <li>• Genitalia, groin, buttocks</li> <li>• Back</li> <li>• Right upper extremity</li> <li>• Left upper extremity</li> <li>• Right lower extremity</li> <li>• Left lower extremity</li> </ul> </li> </ul> <p>NOTE: For the comprehensive level, the examination of at least eight anatomic areas must be performed and documented. For the three lower levels of examination, each body area is counted separately. For example, inspection and/or palpation of the skin and subcutaneous tissue of the right upper extremity and the left upper extremity constitutes two elements.</p> <ul style="list-style-type: none"> <li>• Inspection of eccrine and apocrine glands of skin and subcutaneous tissue with identification and location of any hyperhidrosis, chromhidroses or bromhidrosis</li> </ul>
Neurological/ Psychiatric	<p>Brief assessment of mental status including</p> <ul style="list-style-type: none"> <li>• Orientation to time, place and person</li> <li>• Mood and affect (eg, depression, anxiety, agitation)</li> </ul>

### Content and Documentation Requirements

<u>Level of Exam</u>	<u>Perform and Document:</u>
Problem Focused	<b>One to five</b> elements identified by a bullet.
Expanded Problem Focused	<b>At least six</b> elements identified by a bullet.
Detailed	<b>At least twelve</b> elements identified by a bullet.
Comprehensive	Perform <b>all</b> elements identified by a bullet; <b>document every element in each box with a shaded border</b> and <b>at least one element in each box with an unshaded border.</b>

## Skin Examination 1995 documentation guidelines

System/Body Area	Elements of Examination
Constitutional	<ul style="list-style-type: none"> <li>• Measurement of <b>any three of the following seven</b> vital signs: 1) sitting or standing blood pressure, 2) supine blood pressure, 3) pulse rate and regularity, 4) respiration, 5) temperature, 6) height, 7) weight (May be measured and recorded by ancillary staff)</li> <li>• General appearance of patient (eg, development, nutrition, body habitus, deformities, attention to grooming)</li> </ul>
Head and Face	
Eyes	<ul style="list-style-type: none"> <li>• Inspection of conjunctivae and lids</li> </ul>
Ears, Nose, Mouth and Throat	<ul style="list-style-type: none"> <li>• Inspection of teeth and gums</li> <li>• Examination of oropharynx (eg, oral mucosa, hard and soft palates, tongue, tonsils, posterior pharynx)</li> </ul>
Neck	<ul style="list-style-type: none"> <li>• Examination of thyroid (eg, enlargement, tenderness, mass)</li> </ul>
Respiratory	
Cardiovascular	<ul style="list-style-type: none"> <li>• Examination of peripheral vascular system by observation (eg, swelling, varicosities) and palpation (eg, pulses, temperature, edema, tenderness)</li> </ul>
Chest (Breasts)	
Gastrointestinal (Abdomen)	<ul style="list-style-type: none"> <li>• Examination of liver and spleen</li> <li>• Examination of anus for condyloma and other lesions</li> </ul>
Genitourinary	
Lymphatic	<ul style="list-style-type: none"> <li>• Palpation of lymph nodes in neck, axillae, groin and/or other location</li> </ul>
Musculoskeletal	
Extremities	<ul style="list-style-type: none"> <li>• Inspection and palpation of digits and nails (eg, clubbing, cyanosis, inflammation, petechiae, ischemia, infections, nodes)</li> </ul>



System/Body Area	Elements of Examination
Skin	<ul style="list-style-type: none"> <li>• Palpation of scalp and inspection of hair of scalp, eyebrows, face, chest, pubic area (when indicated) and extremities</li> <li>• Inspection and/or palpation of skin and subcutaneous tissue (eg, rashes, lesions, ulcers, susceptibility to and presence of photo damage) in <b>eight of the following ten</b> areas: <ul style="list-style-type: none"> <li>• Head, including the face and</li> <li>• Neck</li> <li>• Chest, including breasts and axillae</li> <li>• Abdomen</li> <li>• Genitalia, groin, buttocks</li> <li>• Back</li> <li>• Right upper extremity</li> <li>• Left upper extremity</li> <li>• Right lower extremity</li> <li>• Left lower extremity</li> </ul> </li> </ul> <p>NOTE: For the comprehensive level, the examination of at least eight anatomic areas must be performed and documented. For the three lower levels of examination, each body area is counted separately. For example, inspection and/or palpation of the skin and subcutaneous tissue of the right upper extremity and the left upper extremity constitutes two elements.</p> <ul style="list-style-type: none"> <li>• Inspection of eccrine and apocrine glands of skin and subcutaneous tissue with identification and location of any hyperhidrosis, chromhidroses or bromhidrosis</li> </ul>
Neurological/ Psychiatric	<p>Brief assessment of mental status including</p> <ul style="list-style-type: none"> <li>• Orientation to time, place and person</li> <li>• Mood and affect (eg, depression, anxiety, agitation)</li> </ul>

### Content and Documentation Requirements

<u>Level of Exam</u>	<u>Perform and Document:</u>
Problem Focused	<b>One to five</b> elements identified by a bullet.
Expanded Problem Focused	<b>At least six</b> elements identified by a bullet.
Detailed	<b>At least twelve</b> elements identified by a bullet.
Comprehensive	Perform <b>all</b> elements identified by a bullet; <b>document every element in each box with a shaded border</b> and <b>at least one element in each box with an unshaded border.</b>

## GENERAL MULTISYSTEM EXAM FOR ESTABLISHED PATIENTS

### Content and Documentation Requirements

<u>Level of Exam</u>	<u>Perform and Document:</u>
Level 2 Problem Focused	<b>One to five</b> elements identified by a bullet.
Level 3 Expanded Problem Focused	<b>At least six</b> elements identified by a bullet.
Level 4 Detailed	<b>At least two</b> elements identified by a bullet <b>from each of six areas/systems</b> OR <b>at least twelve</b> elements identified by a bullet <b>in two or more areas/systems</b> .
Level 5 Comprehensive	Perform <b>all elements</b> identified by a bullet in <b>at least nine</b> organ systems or body areas and document <b>at least two</b> elements identified by a bullet <b>from each of nine areas/systems</b> .

A general multi-system examination or a single organ system examination may be performed by any physician, regardless of specialty. The type (general multi-system or single organ system) and content of examination are selected by the examining physician and are based upon clinical judgment, the patient's history, and the nature of the presenting problem(s).

The content and documentation requirements for each type and level of examination are summarized below and described in detail in tables beginning on page 13. In the tables, organ systems and body areas recognized by CPT for purposes of describing examinations are shown in the left column. The content, or individual elements, of the examination pertaining to that body area or organ system are identified by bullets (•) in the right column.

Parenthetical examples “(eg,...)”, have been used for clarification and to provide guidance regarding documentation. Documentation for each element must satisfy any numeric requirements (such as “Measurement of *any three of the following seven...*”) included in the description of the element. Elements with multiple components but with no specific numeric requirement (such as “Examination of *liver and spleen*”) require documentation of at least one component. It is possible for a given examination to be expanded beyond what is defined here. When that occurs, findings related to the additional systems and/or areas should be documented.

- *DG: Specific abnormal and relevant negative findings of the examination of the affected or symptomatic body area(s) or organ system(s) should be documented. A notation of “abnormal” without elaboration is insufficient.*
- *DG: Abnormal or unexpected findings of the examination of any asymptomatic body area(s) or organ system(s) should be described.*
- *DG: A brief statement or notation indicating “negative” or “normal” is sufficient to document normal findings related to unaffected area(s) or asymptomatic organ system(s).*

## **GENERAL MULTI-SYSTEM EXAMINATIONS**

General multi-system examinations are described in detail beginning on page 13. To qualify for a given level of multi-system examination, the following content and documentation requirements should be met:

- **Comprehensive Examination** – should include performance of all elements identified by a bullet (•), whether in a shaded or unshaded box. Documentation of every element in each box with a shaded border and at least one element in a box with an unshaded border is expected.

**CONTENT AND DOCUMENTATION REQUIREMENTS** 1997 documentation guidelines

**General Multi-System Examination**

System/Body Area	Elements of Examination
Constitutional	<ul style="list-style-type: none"> <li>• Measurement of any three of the following seven vital signs: 1) sitting or standing blood pressure, 2) supine blood pressure, 3) pulse rate and regularity, 4) respiration, 5) temperature, 6) height, 7) weight (May be measured and recorded by ancillary staff)</li> <li>• General appearance of patient (eg, development, nutrition, body habitus, deformities, attention to grooming)</li> </ul>
Eyes	<ul style="list-style-type: none"> <li>• Inspection of conjunctivae and lids</li> <li>• Examination of pupils and irises (eg, reaction to light and accommodation, size and symmetry)</li> <li>• Ophthalmoscopic examination of optic discs (eg, size, C/D ratio, appearance) and posterior segments (eg, vessel changes, exudates, hemorrhages)</li> </ul>
Ears, Nose, Mouth and Throat	<ul style="list-style-type: none"> <li>• External inspection of ears and nose (eg, overall appearance, scars, lesions, masses)</li> <li>• Otoscopic examination of external auditory canals and tympanic membranes</li> <li>• Assessment of hearing (eg, whispered voice, finger rub, tuning fork)</li> <li>• Inspection of nasal mucosa, septum and turbinates</li> <li>• Inspection of lips, teeth and gums</li> <li>• Examination of oropharynx: oral mucosa, salivary glands, hard and soft palates, tongue, tonsils and posterior pharynx</li> </ul>
Neck	<ul style="list-style-type: none"> <li>• Examination of neck (eg, masses, overall appearance, symmetry, tracheal position, crepitus)</li> <li>• Examination of thyroid (eg, enlargement, tenderness, mass)</li> </ul>

System/Body Area	Elements of Examination
Respiratory	<ul style="list-style-type: none"> <li>• Assessment of respiratory effort (eg, intercostal retractions, use of accessory muscles, diaphragmatic movement)</li> <li>• Percussion of chest (eg, dullness, flatness, hyperresonance)</li> <li>• Palpation of chest (eg, tactile fremitus)</li> <li>• Auscultation of lungs (eg, breath sounds, adventitious sounds, rubs)</li> </ul>
Cardiovascular	<ul style="list-style-type: none"> <li>• Palpation of heart (eg, location, size, thrills)</li> <li>• Auscultation of heart with notation of abnormal sounds and murmurs</li> </ul> <p>Examination of:</p> <ul style="list-style-type: none"> <li>• carotid arteries (eg, pulse amplitude, bruits)</li> <li>• abdominal aorta (eg, size, bruits)</li> <li>• femoral arteries (eg, pulse amplitude, bruits)</li> <li>• pedal pulses (eg, pulse amplitude)</li> <li>• extremities for edema and/or varicosities</li> </ul>
Chest (Breasts)	<ul style="list-style-type: none"> <li>• Inspection of breasts (eg, symmetry, nipple discharge)</li> <li>• Palpation of breasts and axillae (eg, masses or lumps, tenderness)</li> </ul>
Gastrointestinal (Abdomen)	<ul style="list-style-type: none"> <li>• Examination of abdomen with notation of presence of masses or tenderness</li> <li>• Examination of liver and spleen</li> <li>• Examination for presence or absence of hernia</li> <li>• Examination (when indicated) of anus, perineum and rectum, including sphincter tone, presence of hemorrhoids, rectal masses</li> <li>• Obtain stool sample for occult blood test when indicated</li> </ul>

System/Body Area	Elements of Examination
Genitourinary	<p><b>MALE:</b></p> <ul style="list-style-type: none"> <li>• Examination of the scrotal contents (eg, hydrocele, spermatocele, tenderness of cord, testicular mass)</li> <li>• Examination of the penis</li> <li>• Digital rectal examination of prostate gland (eg, size, symmetry, nodularity, tenderness)</li> </ul> <p><b>FEMALE:</b></p> <p>Pelvic examination (with or without specimen collection for smears and cultures), including</p> <ul style="list-style-type: none"> <li>• Examination of external genitalia (eg, general appearance, hair distribution, lesions) and vagina (eg, general appearance, estrogen effect, discharge, lesions, pelvic support, cystocele, rectocele)</li> <li>• Examination of urethra (eg, masses, tenderness, scarring)</li> <li>• Examination of bladder (eg, fullness, masses, tenderness)</li> <li>• Cervix (eg, general appearance, lesions, discharge)</li> <li>• Uterus (eg, size, contour, position, mobility, tenderness, consistency, descent or support)</li> <li>• Adnexa/parametria (eg, masses, tenderness, organomegaly, nodularity)</li> </ul>
Lymphatic	<p>Palpation of lymph nodes in <b>two or more</b> areas:</p> <ul style="list-style-type: none"> <li>• Neck</li> <li>• Axillae</li> <li>• Groin</li> <li>• Other</li> </ul>

System/Body Area	Elements of Examination
Musculoskeletal	<ul style="list-style-type: none"> <li>• Examination of gait and station</li> <li>• Inspection and/or palpation of digits and nails (eg, clubbing, cyanosis, inflammatory conditions, petechiae, ischemia, infections, nodes)</li> </ul> <p>Examination of joints, bones and muscles of <b>one or more of the following six</b> areas: 1) head and neck; 2) spine, ribs and pelvis; 3) right upper extremity; 4) left upper extremity; 5) right lower extremity; and 6) left lower extremity. The examination of a given area includes:</p> <ul style="list-style-type: none"> <li>• Inspection and/or palpation with notation of presence of any misalignment, asymmetry, crepitation, defects, tenderness, masses, effusions</li> <li>• Assessment of range of motion with notation of any pain, crepitation or contracture</li> <li>• Assessment of stability with notation of any dislocation (luxation), subluxation or laxity</li> <li>• Assessment of muscle strength and tone (eg, flaccid, cog wheel, spastic) with notation of any atrophy or abnormal movements</li> </ul>
Skin	<ul style="list-style-type: none"> <li>• Inspection of skin and subcutaneous tissue (eg, rashes, lesions, ulcers)</li> <li>• Palpation of skin and subcutaneous tissue (eg, induration, subcutaneous nodules, tightening)</li> </ul>
Neurologic	<ul style="list-style-type: none"> <li>• Test cranial nerves with notation of any deficits</li> <li>• Examination of deep tendon reflexes with notation of pathological reflexes (eg, Babinski)</li> <li>• Examination of sensation (eg, by touch, pin, vibration, proprioception)</li> </ul>
Psychiatric	<ul style="list-style-type: none"> <li>• Description of patient's judgment and insight</li> </ul> <p>Brief assessment of mental status including:</p> <ul style="list-style-type: none"> <li>• orientation to time, place and person</li> <li>• recent and remote memory</li> <li>• mood and affect (eg, depression, anxiety, agitation)</li> </ul>

## Medical Decision Making

Medical decision making refers to the complexity of establishing a diagnosis and/or selecting a management option, which is determined by considering these factors:

- The number of possible diagnoses and/or the number of management options that must be considered
- The amount and/or complexity of medical records, diagnostic tests, and/or other information that must be obtained, reviewed, and analyzed
- The risk of significant complications, morbidity, and/or mortality as well as comorbidities associated with the patient's presenting problem(s), the diagnostic procedure(s), and/or the possible management options

This table shows the progression of the elements required for each level of medical decision making. Note that to qualify for a given type of medical decision making, two of the three elements must either be met or exceeded.

### Elements for Each Level of Medical Decision Making

TYPE OF DECISION MAKING	NUMBER OF DIAGNOSES OR MANAGEMENT OPTIONS	AMOUNT AND/OR COMPLEXITY OF DATA TO BE REVIEWED	RISK OF SIGNIFICANT COMPLICATIONS, MORBIDITY, AND/OR MORTALITY
<b>Straightforward</b>	Minimal	Minimal or None	Minimal
<b>Low Complexity</b>	Limited	Limited	Low
<b>Moderate Complexity</b>	Multiple	Moderate	Moderate
<b>High Complexity</b>	Extensive	Extensive	High

Table 4: Elements for Each Level of Medical Decision Making

### Number of Diagnoses and/or Management Options

The number of possible diagnoses and/or the number of management options to consider is based on:

- The number and types of problems addressed during the encounter
- The complexity of establishing a diagnosis
- The management decisions made by the physician

In general, decision making for a diagnosed problem is easier than decision making for an identified but undiagnosed problem. The number and type of diagnosed tests performed may be an indicator of the number of possible diagnoses. Problems that are improving or resolving are less complex than those problems that are worsening or failing to change as expected. Another indicator of the complexity of diagnostic or management problems is the need to seek advice from other health care professionals.



## MEDICAL DECISION-MAKING POINT SYSTEM

A casual review of the official rules for interpreting the key component of Medical Decision-Making shows that the criteria for quantifying physician cognitive labor are quite ambiguous. Medicare discovered that auditors were having a hard time nailing down the level of medical Decision-Making during the medical review process. In response to this problem, a more objective **Medical Decision-Making (MDM) Point System was developed by CMS**. Although not part of the official E&M guidelines, this MDM point System was distributed to all Medicare carriers to be used on a "voluntary" basis. **In point of fact, this is the way your medical Decision-Making will be graded in the event of an audit.**

### Problem Points

The "nature and number of clinical problems" are quantified into Problem Points by referring to the following table:

PROB LEMS	POINTS
Self-limited or minor (maximum of two)	1
Established Problem, stable or improving	1
Established Problem, Worsening	2
<b>New problem</b> , with no additional work-up planned (maximum of 1)	3
<b>New problem</b> , with <b>additional work-up</b> planned	4

The above table is fairly self-explanatory. An example of a "self-limited or minor" problem may be a common cold or an insect bite. An "established problem" refers to a diagnosis which is already known to the examiner, such as hypertension, osteoarthritis or diabetes. An example of a "new problem with no additional work-up planned" may be a new diagnosis of essential hypertension. Examples of a "new problem, with additional work-up planned" may include any new clinical issue which requires further investigation such as chest pain, proteinuria, anemia, shortness of breath, etc.

### Data Points

The amount and complexity of the data reviewed" are quantified by referring to the following table:

DATA REVIEWED	POINTS
<b>Review or order clinical lab tests</b>	1
Review or order radiology test (except heart catheterization or echo)	1
Review or order medicine test (PFTs, EKG, cardiac echo or catheterization)	1
Discuss test with performing physician	1
Independent review of image, tracing or specimen	2
Decision to obtain old records	1
<b>Review and summation of old records</b>	2

The physician should be aware that no double dipping" is allowed. For example, if you review lab results and order labs during the same visit, you only get one point (not one point for ordering and one point for reviewing). This same rules applies to imaging studies or other medicine tests such as EKGs or PFTs. Commonly overlooked points are those garnered for obtaining or reviewing old records. If you do review old records, you *must* summarize your findings in the chart. It is not acceptable to just say, "Old records were reviewed."

## TABLE OF RISK

Level of Risk	Presenting Problem(s)	Diagnostic Procedure(s) Ordered	Management Options Selected
<i>Minimal</i>	One self-limited or minor problem, eg, cold, insect bite, tinea corporis	Laboratory tests requiring venipuncture Chest x-rays EKG/EEG Urinalysis Ultrasound, eg, echocardiography KOH prep	Rest Gargles Elastic bandages Superficial dressings
<i>Low</i>	Two or more self-limited or minor problems One stable chronic illness, eg, well controlled hypertension, non-insulin dependent diabetes, cataract, BPH Acute uncomplicated illness or injury, eg, cystitis, allergic rhinitis, simple sprain	Physiologic tests not under stress, eg, pulmonary function tests Non-cardiovascular imaging studies with contrast, eg, barium enema Superficial needle biopsies Clinical laboratory tests requiring arterial puncture Skin biopsies	Over-the-counter drugs Minor surgery with no identified risk factors Physical therapy Occupational therapy IV fluids without additives
<i>Moderate</i>	One or more chronic illnesses with mild exacerbation, progression, or side effects of treatment Two or more stable chronic illnesses Undiagnosed new problem with uncertain prognosis, eg, lump in breast Acute illness with systemic symptoms, eg, pyelonephritis, pneumonitis, colitis Acute complicated injury, eg, head injury with brief loss of consciousness	Physiologic tests under stress, eg, cardiac stress test, fetal contraction stress test Diagnostic endoscopies with no identified risk factors Deep needle or incisional biopsy Cardiovascular imaging studies with contrast and no identified risk factors, eg, arteriogram, cardiac catheterization Obtain fluid from body cavity, eg lumbar puncture, thoracentesis, culdocentesis	Minor surgery with identified risk factors Elective major surgery (open, percutaneous or endoscopic) with no identified risk factors Prescription drug management Therapeutic nuclear medicine IV fluids with additives Closed treatment of fracture or dislocation without manipulation
<i>High</i>	One or more chronic illnesses with severe exacerbation, progression, or side effects of treatment Acute or chronic illnesses or injuries that pose a threat to life or bodily function, eg, multiple trauma, acute MI, pulmonary embolus, severe respiratory distress, progressive severe rheumatoid arthritis, psychiatric illness with potential threat to self or others, peritonitis, acute renal failure An abrupt change in neurologic status, eg, seizure, TIA, weakness, sensory loss	Cardiovascular imaging studies with contrast with identified risk factors Cardiac electrophysiological tests Diagnostic Endoscopies with identified risk factors Discography	Elective major surgery (open, percutaneous or endoscopic) with identified risk factors Emergency major surgery (open, percutaneous or endoscopic) Parenteral controlled substances Drug therapy requiring intensive monitoring for toxicity Decision not to resuscitate or to de-escalate care because of poor prognosis

## MDM POINT TABLE

(Two out of three must be present for a given level of MDM)

E&M LEVEL	COMPLEXITY	PROBLEM POINTS	DATA POINTS	RISK
Level 2 (L2)	Straightforward	1	1	Minimal
Level 3 (L3)	Low	2	2	Low
Level 4 (L4)	Moderate	3	3	Moderate
Level 5 (L5)	Complex	4	4	High

Table of Risk

LEVEL OF RISK	PRESENTING PROBLEM(S)	DIAGNOSTIC PROCEDURE(S) ORDERED	MANAGEMENT OPTIONS SELECTED
<p><b>Minimal</b></p>	<ul style="list-style-type: none"> <li>• One self-limited or minor problem (for example, cold, insect bite, tinea corporis)</li> </ul>	<ul style="list-style-type: none"> <li>• Laboratory tests requiring venipuncture</li> <li>• Chest x-rays</li> <li>• EKG/EEG</li> <li>• Urinalysis</li> <li>• Ultrasound (for example, echocardiography)</li> <li>• KOH prep</li> </ul>	<ul style="list-style-type: none"> <li>• Rest</li> <li>• Gargles</li> <li>• Elastic bandages</li> <li>• Superficial dressings</li> </ul>
<p><b>Low</b></p>	<ul style="list-style-type: none"> <li>• Two or more self-limited or minor problems</li> <li>• One stable chronic illness (for example, well controlled hypertension, non-insulin dependent diabetes, cataract, BPH)</li> <li>• Acute uncomplicated illness or injury (for example, cystitis, allergic rhinitis, simple sprain)</li> </ul>	<ul style="list-style-type: none"> <li>• Physiologic tests not under stress (for example, pulmonary function tests)</li> <li>• Non-cardiovascular imaging studies with contrast (for example, barium enema)</li> <li>• Superficial needle biopsies</li> <li>• Clinical laboratory tests requiring arterial puncture</li> <li>• Skin biopsies</li> </ul>	<ul style="list-style-type: none"> <li>• Over-the-counter drugs</li> <li>• Minor surgery with no identified risk factors</li> <li>• Physical therapy</li> <li>• Occupational therapy</li> <li>• IV fluids without additives</li> </ul>

Table 5: Table of Risk

LEVEL OF RISK	PRESENTING PROBLEM(S)	DIAGNOSTIC PROCEDURE(S) ORDERED	MANAGEMENT OPTIONS SELECTED
<b>Moderate</b>	<ul style="list-style-type: none"> <li>• One or more chronic illnesses with mild exacerbation, progression, or side effects of treatment</li> <li>• Two or more stable chronic illnesses</li> <li>• Undiagnosed new problem with uncertain prognosis (for example, lump in breast)</li> <li>• Acute illness with systemic symptoms (for example, pyelonephritis, pneumonitis, colitis)</li> <li>• Acute complicated injury (for example, head injury with brief loss of consciousness)</li> </ul>	<ul style="list-style-type: none"> <li>• Physiologic tests under stress (for example, cardiac stress test, fetal contraction stress test)</li> <li>• Diagnostic endoscopies with no identified risk factors</li> <li>• Deep needle or incisional biopsy</li> <li>• Cardiovascular imaging studies with contrast and no identified risk factors (for example, arteriogram, cardiac catheterization)</li> <li>• Obtain fluid from body cavity (for example, lumbar puncture, thoracentesis, culdocentesis)</li> </ul>	<ul style="list-style-type: none"> <li>• Minor surgery with identified risk factors</li> <li>• Elective major surgery (open, percutaneous or endoscopic) with no identified risk factors</li> <li>• Prescription drug management</li> <li>• Therapeutic nuclear medicine</li> <li>• IV fluids with additives</li> <li>• Closed treatment of fracture or dislocation without manipulation</li> </ul>

Table 5 (cont.): Table of Risk

LEVEL OF RISK	PRESENTING PROBLEM(S)	DIAGNOSTIC PROCEDURE(S) ORDERED	MANAGEMENT OPTIONS SELECTED
High	<ul style="list-style-type: none"> <li>• One or more chronic illnesses with severe exacerbation, progression, or side effects of treatment</li> <li>• Acute or chronic illnesses or injuries that pose a threat to life or bodily function (for example, multiple trauma, acute MI, pulmonary embolus, severe respiratory distress, progressive severe rheumatoid arthritis, psychiatric illness with potential threat to self or others, peritonitis, acute renal failure)</li> <li>• An abrupt change in neurologic status (for example, seizure, TIA, weakness, sensory loss)</li> </ul>	<ul style="list-style-type: none"> <li>• Cardiovascular imaging studies with contrast with identified risk factors</li> <li>• Cardiac electrophysiological tests</li> <li>• Diagnostic endoscopies with identified risk factors</li> <li>• Discography</li> </ul>	<ul style="list-style-type: none"> <li>• Elective major surgery (open, percutaneous or endoscopic) with identified risk factors</li> <li>• Emergency major surgery (open, percutaneous or endoscopic)</li> <li>• Parenteral controlled substances</li> <li>• Drug therapy requiring intensive monitoring for toxicity</li> <li>• Decision not to resuscitate or to de-escalate care because of poor prognosis</li> </ul>

Table 5 (cont.): Table of Risk

### Documentation of an Encounter Dominated by Counseling and/or Coordination of Care

When counseling and/or coordination of care dominates (more than 50 percent of) the physician/patient and/or family encounter (face-to-face time in the office or other outpatient setting, floor/unit time in the hospital, or NF), time is considered the key or controlling factor to qualify for a particular level of E/M services. If the level of service is reported based on counseling and/or coordination of care, you should document the total length of time of the encounter and the record should describe the counseling and/or activities to coordinate care.

The Level I and Level II CPT® books, available from the American Medical Association, list average time guidelines for a variety of E/M services. These times include work done before, during, and after the encounter. The specific times expressed in the code descriptors are averages and, therefore, represent a range of times that may be higher or lower depending on actual clinical circumstances.

## Management Options: Drug Therapy Requiring Intensive Monitoring for Toxicity

The Table of Risk lists drug therapy requiring intensive monitoring for toxicity as a high risk management option.

For drugs with a well-defined clinical response and a high therapeutic index (i.e., low toxicity), intensive therapeutic drug monitoring is not necessary. For acute or short-term drug therapy there is no advantage to monitoring drug levels. For treatment of chronic disorders, such as antihypertensive therapy, if the desired response can be readily assessed by a noninvasive technique, such as blood pressure monitoring, serial drug level monitoring is not medically necessary.

Administration of cytotoxic chemotherapy is always considered **high risk** under management options when monitoring of blood cell counts is used as a surrogate for toxicity.

Drugs that have a narrow therapeutic window and a low therapeutic index may exhibit toxicity at concentrations close to the upper limit of the therapeutic range and may require intensive clinical monitoring. The table below lists examples of drugs that may need to have drug levels monitored for toxicity. This is not an all exclusive list. On medical review, to consider therapy with one of these drugs as a high risk management option, we would expect to see documentation in the medical record of drug levels obtained at appropriate intervals.

Table of Risk		
Drug Category	Drugs in that Category	Treatment Use
Cardiac drugs	<a href="#">Digoxin</a> , digitoxin, quinidine, procainamide, amiodarone	<a href="#">Congestive heart failure</a> , <a href="#">angina</a> , arrhythmias
Antibiotics	Aminoglycosides (gentamicin, tobramycin, amikacin) <a href="#">Vancomycin</a> , Chloramphenicol	Infections with bacteria that are resistant to less toxic antibiotics
Antiepileptics	Phenobarbital, <a href="#">phenytoin</a> , <a href="#">valproic acid</a> , <a href="#">carbamazepine</a> , ethosuximide, sometimes gabapentin, lamotrigine	Epilepsy, prevention of seizures, sometimes to stabilize moods
Bronchodilators	Theophylline, caffeine	<a href="#">Asthma</a> , Chronic obstructive pulmonary disorder (COPD), neonatal apnea
Immunosuppressants	<a href="#">Cyclosporine</a> , <a href="#">tacrolimus</a> , <a href="#">sirolimus</a> , <a href="#">mycophenolate mofetil</a> , azathioprine	Prevent rejection of transplanted organs, <a href="#">autoimmune disorders</a>
<b>Anti-cancer drugs</b>	All cytotoxic agents	Multiple malignancies
Psychiatric drugs	<a href="#">Lithium</a> , valproic acid, some antidepressants (imipramine, amitriptyline, nortriptyline, doxepin, desipramine)	Bipolar disorder (manic depression), depression
Protease inhibitors	Indinavir, ritonavir, lopinavir, saquinavir, atazanavir, nelfinavir	HIV/AIDS

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## Cytotoxicity of 5-fluorouracil-loaded pH-sensitive liposomal nanoparticles in colorectal cancer cell lines

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### Abstract

5-Fluorouracil (5-FU) is widely used in cancer therapy, either alone or in combination with other anti-cancer drugs. However, poor membrane permeability and a short half-life (5-20 min) due to rapid metabolism in the body necessitate the continuous administration of high doses of 5-FU to maintain the minimum therapeutic serum concentration. This is associated with significant side effects and a possibility of severe toxic effects. This study aimed to formulate 5-FU-loaded pH-sensitive liposomal nanoparticles (pHLNps-5-FU) and evaluate 5-FU release characteristics and anti-cancer effect of pHLNps-5-FU. Particle size and zeta potential were determined using a particle size analyzer. The release patterns of pHLNps-5-FU formulations were evaluated at 37°C at pH 3, 5, 6.5, and 7.4, while drug release kinetics of 5-FU from a pHLNp<sub>3</sub>-5-FU formulation were determined at pH 3 and 7.4 at different time points (37°C). Cell viability and clonogenic studies were conducted to evaluate the effectiveness of pHLNps-5-FU against HCT-116 and HT-29 cell lines while cellular uptake of rhodamine-labeled pHLNps-5-FU was determined by flow cytometry and confocal imaging. The average sizes of the pHLNp<sub>1</sub>-5-FU, pHLNp<sub>2</sub>-5-FU and pHLNp<sub>3</sub>-5-FU liposomes were 200nm ± 9.8nm, 181.9 nm ± 9.1 nm, and 164.3 nm ± 8.4 nm respectively. In vitro drug release of 5-FU from different pHLNps-5-FU formulations was the highest at pH 3.8. Both cell lines treated with pHLNps-5-FU exhibited reduced viability, two- or three-fold lower than that of 5-FU-treated cells. Flow cytometry and confocal imaging confirmed high uptake of rhodamine-labeled pHLNps-5-FU in both cell lines. The drug release profile of the chosen pHLNp<sub>3</sub>-5-FU formulation was optimal at pH 3 and had the poorest release profile at pH 7.4. The release profile of pHLNp<sub>3</sub>-5-FU showed that 5-FU release was two-fold higher at pH 3 than that at pH 7.4. This study demonstrates that pHLNp<sub>3</sub>-5-FU may be a potential candidate for the treatment of colorectal cancer.

### Keywords

pH-Sensitive liposomes; nanoparticles; 5-Fluorouracil (5-FU); colorectal cancer; clonogenic assay

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Original article

# Additive **cytotoxic effects of radiation** and mTOR inhibitors in a cervical cancer cell line

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## Abstract

The PI3 K/AKT/mTOR signaling pathway is frequently activated in HPV-positive cervical squamous cell cancer (CC). This study investigated the biological effects of mTOR inhibitors associated with radiotherapy in a CC cell line (HeLa). A human keratinocyte cell line (HaCaT) was used as control. Temsirolimus, everolimus, resveratrol, curcumin and epigallocatechin gallate (EGCG) were the mTOR inhibitors assessed. The 50% cell cytotoxicity rate (CC<sub>50</sub>) for each treatment was determined by MTT cell viability assay. Cells were pre-treated with mTOR inhibitors at CC<sub>50</sub> followed by radiotherapy (RT) at 2 Gy. Cell death profile after treatment with temsirolimus, resveratrol and curcumin was assessed with flow cytometry. Everolimus, temsirolimus, EGCG, resveratrol and curcumin were cytotoxic to HeLa. Radiation induced a statistically significant ( $p < 0.01$ ) supra-additive cytotoxic effect in the cervical cancer cell line when combined with mTOR inhibitors. After a 24-h treatment, EGCG and resveratrol were more cytotoxic to HeLa cells than to HaCaT cells. After 48 h of treatment, resveratrol, curcumin and everolimus were more cytotoxic to HeLa cells when compared to

FEEDBACK 



# Know the two types of High Blood Pressure (HBP) crisis to watch for

There are two types of hypertensive crises—both require immediate attention as early evaluation of organ function is critical to determine an appropriate course of action.

## Hypertensive Urgency

If your blood pressure is **180/120** or greater, wait about five minutes and try again. If the second reading is just as high and you are not experiencing any other associated symptoms of target organ damage such as chest pain, shortness of breath, back pain, numbness/weakness, change in vision, or difficulty speaking, this would be considered a hypertensive urgency. Your healthcare provider may just have you adjust or add medications, but rarely requires hospitalization.

## Hypertensive Emergency

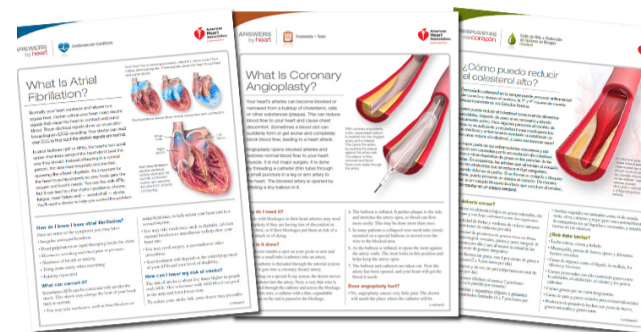
If your blood pressure reading is **180/120 or greater and you are experiencing any other associated symptoms** of target organ damage such as chest pain, shortness of breath, back pain, numbness/weakness, change in vision, or difficulty speaking then this would be considered a hypertensive emergency. Do not wait to see if your pressure comes down on its own, Call 9-1-1.

## Be prepared

If you have been diagnosed with high blood pressure, track your blood pressure and medications. If possible during an emergency, having these logs with you can provide valuable information to the medical team providing treatment.

STAGE 1			
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

### Understanding Blood Pressure Readings



### Blood Pressure Fact Sheets

### Popular Articles



### Is your workout working? Infographic



### Cardiac Resynchronization Therapy (CRT)

Last Reviewed: Nov 30, 2017

\*All health/medical information on this website has been reviewed and approved by the American Heart Association, based on scientific research and American Heart Association guidelines. [Use this link](#) for more information on our content editorial process.



Centers for Medicare &amp; Medicaid Services

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## Details for title: 2014-03-13

<b>Date</b>	2014-03-13
<b>Title</b>	Medicare Provides Coverage for Certain Colorectal Cancer Screenings
<b>Topic</b>	Colorectal Cancer Awareness Month

*This message was originally released on 3/13/14 and revised on 4/9/14 to correct coverage information.*

### Medicare Provides [Coverage for Certain Colorectal Cancer Screenings](#)

March is Colorectal Cancer Awareness Month – a time to increase awareness of colorectal cancer and the important role that regular colorectal cancer screenings can play in the prevention and early detection of disease. Colorectal cancer affects all racial and ethnic groups, is most often found in people age 50 or older, and the risk for developing the cancer increases with age. CMS reminds all health care professionals that Medicare provides coverage for certain colorectal cancer screening services. Medicare beneficiaries age 50 and older, and meet certain eligibility requirements, are covered for certain colorectal cancer screenings. Please note that [there is no minimum age required to receive a screening colonoscopy](#) (or a barium enema if rendered in place of the screening colonoscopy). CMS ask that you to talk with your patients 50 and older about the importance of getting screened.

#### *Medicare Coverage*

Medicare defines [high risk](#) of developing colorectal cancer as someone who has one or more of the following risk factors:

- [Close relative \(sibling, parent, or child\) who has had colorectal cancer or an adenomatous polyp.](#)
- Family history of familial adenomatous polyposis,
- Family history of hereditary nonpolyposis colorectal cancer,
- [Personal history of adenomatous polyps.](#)
- Personal history of [colorectal cancer](#), or
- Personal history of [inflammatory bowel disease, including Crohn's Disease and ulcerative colitis.](#)

All Medicare beneficiaries age 50 and older, who are [not at high risk](#) for colorectal cancer, and meet certain eligibility requirements are covered for the following screening services:

- Screening [Fecal Occult Blood Test \(FOBT\) every year.](#)
- Screening Flexible Sigmoidoscopy once every 4 years (unless a screening colonoscopy has been performed and then Medicare may cover a screening sigmoidoscopy only after at least 119 months have passed following when the last screening colonoscopy was performed) ,
- [Screening Colonoscopy every 10 years](#) (unless a screening flexible sigmoidoscopy has been performed and then Medicare may cover a screening colonoscopy only after at least 47 months have passed following when the last screening flexible sigmoidoscopy was performed), and
- Screening Barium Enema (as an alternative to a covered screening flexible sigmoidoscopy).

All Medicare beneficiaries age 50 and older, who are at [high risk](#) for colorectal cancer, and meet certain eligibility requirements are covered for the following screening services:

- Screening FOBT every year,
- Screening Flexible Sigmoidoscopy once every 4 years,
- Screening [Colonoscopy every 2 years](#) (or 2 years after the last screening barium enema has been performed), and
- Screening Barium Enema (as an alternative to a covered screening colonoscopy).

The copayment/coinsurance and deductible are waived for the screening FOBT, screening flexible sigmoidoscopy, and screening colonoscopy. For the screening barium enema, the copayment/coinsurance applies but the deductible is waived.

#### *For More Information*

- [MLN Preventive Services Educational Products for Health Professionals](#)
- [United States Preventive Services Task Force \(USPSTF\)](#)

# Who is at high risk for cervical & vaginal cancer, and what to do about it?

**Frequency:** Pap Smears and Pelvic Examinations for Early Detection

Table 1 describes coverage by most all medical insurances for screening Pap tests and pelvic examinations.

<b>Frequency</b>	<b>Covered For</b>	<b>Additional Information</b>
<b>Every 24 months</b> (that is, at least 23 months after the most recent screening Pap test or pelvic examination)	<b>All</b> asymptomatic female beneficiaries	N/A
<b>Annually</b> (that is, at least 11 months after the most recent screening Pap test or pelvic examination)	Female beneficiaries who meet <b>one</b> of the following criteria: <ul style="list-style-type: none"> <li>Evidence (on the basis of her medical history or other findings) that she is at <b>high risk for developing cervical or vaginal cancer</b> and her physician (or authorized practitioner) recommends that she have the test more frequently than every 2 years</li> <li>A woman of childbearing age* who has had a Pap test during any of the preceding 3 years that indicated the presence of cervical or vaginal cancer or other abnormality</li> </ul>	<b>High risk factors for cervical and vaginal cancer include:</b> <ul style="list-style-type: none"> <li><b>Early onset of sexual activity</b> (under 16 years of age)</li> <li><b>Multiple sexual partners</b> (five or more in a lifetime)</li> <li><b>History of STI</b> (including human immunodeficiency virus [<b>HIV</b>] infection)</li> <li>Fewer than three negative Pap tests or no Pap tests within the previous 7 years</li> <li>DES (diethylstilbestrol)-exposed daughters of women who took DES during pregnancy</li> </ul>

\* A “woman of childbearing age” is one who is premenopausal and determined by a physician or qualified practitioner to be of childbearing age based on medical history or other findings.

**National Coverage Determination for Screening  
Published By:  
U.S. Department of Health and Human Services**

**FIGURE 1 EXAMPLE OF MDM CODING SHEET FOR A 99214 VISIT**

This is a medical decision-making (MDM) coding sheet. Circle highest level of risk, add up problem and data points, and determine the level of service.

LEVEL OF RISK	PRESENTING PROBLEMS	DIAGNOSTIC PROCEDURES	MANAGEMENT OPTIONS
<b>Minimal</b>	<ul style="list-style-type: none"> <li>1 self-limited or minor problem (eg, cold, insect bite, <b>tinea corporis</b>)</li> </ul>	<ul style="list-style-type: none"> <li>Laboratory tests requiring venipuncture</li> <li>Chest x-rays</li> <li>EKG/EEG</li> <li>Urinalysis</li> <li>Ultrasound (eg, echocardiography)</li> <li>KOH prep</li> </ul>	<ul style="list-style-type: none"> <li>Rest</li> <li>Gargles</li> <li>Elastic bandages</li> <li>Superficial dressings</li> </ul>
<b>Low</b>	<ul style="list-style-type: none"> <li>2 or more self-limited or minor problems</li> <li>1 stable, chronic illness (eg, well-controlled hypertension, non-insulin-resistant diabetes, cataract, BPH)</li> <li>Acute uncomplicated injury or illness (eg, cystitis, allergic rhinitis, simple sprain)</li> </ul>	<ul style="list-style-type: none"> <li>Physiologic tests not under stress (eg, PFTs)</li> <li>Noncardiovascular imaging studies with contrast (eg, barium enema)</li> <li><b>Superficial needle biopsy</b></li> <li>Clinical lab tests requiring arterial puncture</li> <li><b>Skin biopsies</b></li> </ul>	<ul style="list-style-type: none"> <li>Over-the-counter drugs</li> <li><b>Minor surgery with no identified risk factors</b></li> <li>Physical therapy</li> <li>Occupational therapy</li> <li>IV fluids without additives</li> </ul>
<b>Moderate</b>	<ul style="list-style-type: none"> <li><b>One or more chronic illnesses with mild exacerbation</b>, progression, or adverse effects of treatment</li> <li>2 or more stable chronic illnesses</li> <li>Undiagnosed new problem with uncertain prognosis (eg, breast lump)</li> <li>Acute illness with systemic symptoms (eg, pyelonephritis, pleuritis, colitis)</li> <li>Acute complicated injury (eg, head injury with brief loss of consciousness)</li> </ul>	<ul style="list-style-type: none"> <li>Physiologic tests under stress (eg, cardiac stress test, fetal contraction stress test)</li> <li><b>Diagnostic endoscopies with no identified risk factors</b></li> <li><b>Deep needle or incisional biopsy</b></li> <li>Cardiovascular imaging studies with contrast and with no identified risk factors (eg, arteriogram, cardiac catheterization)</li> <li>Obtain fluid from body cavity (eg, LP, thoracentesis, culdocentesis)</li> </ul>	<ul style="list-style-type: none"> <li>Minor surgery with identified risk factors</li> <li>Elective major surgery (open, percutaneous, or endoscopic) with no identified risk factors</li> <li><b>Prescription drug management</b></li> <li>Therapeutic nuclear medicine</li> <li>IV fluids with additives</li> <li>Closed treatment of fracture or dislocation without manipulation</li> </ul>
<b>High</b>	<ul style="list-style-type: none"> <li><b>One or more chronic illnesses with severe exacerbation</b>, progression, or adverse effects of treatment</li> <li><b>Acute or chronic illness or injuries that pose a threat to life or bodily function</b> (eg, multiple trauma, acute MI, PE, severe respiratory distress, peritonitis)</li> <li>An abrupt change in neurologic status (eg, seizure, TIA, weakness, sensory loss)</li> </ul>	<ul style="list-style-type: none"> <li>Cardiovascular imaging, with contrast, with identified risk factors</li> <li>Cardiac EP tests</li> <li><b>Diagnostic endoscopies with identified risk factors</b></li> <li>Discography</li> </ul>	<ul style="list-style-type: none"> <li>Elective major surgery (open, percutaneous, or endoscopic) with identified risk factors</li> <li>Emergency major surgery (open, percutaneous, or endoscopic)</li> <li>Parenteral controlled substances</li> <li><b>Drug therapy requiring intensive monitoring for toxicity</b></li> <li>Decision not to resuscitate or to deescalate care because of poor prognosis</li> </ul>

Problem points	Points
Self-limited or minor (max 2)	1
Established problem, stable or improving	1
Established problem, worsening	2
<b>New</b> problem, <b>no workup</b> planned (max 2)	3
<b>New</b> problem, <b>additional workup</b> planned	4
Total	<input type="text" value="4"/>

Data reviewed points	Points
Review/Order clinical lab tests	1
Review/Order x-rays	1
Review/Order medical tests (echo, ECGs, etc)	1
Discuss test with performing physician	1
Independent review of image, tracing	<b>2</b>
Decision to obtain old record	1
Review and summation of old records	<b>2</b>
Total	<input type="text" value="10"/>

Circle elements below from risk table, data, and problems to compute level of **medical decision-making**

MDM	Problems	Data	Risk
Straightforward	1	1	Minimal
Low	<b>2</b>	<b>2</b>	Low
Moderate	3	3	<b>Moderate</b>
High	<b>4</b>	4	High

Final analysis: Circle level of history, physical exam, and medical decision-making to determine level of service

Element	99213	99214
HPI (history)	1-3 elements	<b>≥4 elements</b>
ROS (history)	1	<b>2</b>
PFSH (history)	None	1
Physical exam	6 elements	<b>12 elements</b>
MDM	Low complexity	Moderate complexity
Time	15 min	25 min

Abbreviations: ABG, arterial blood gas; BPH, benign prostatic hyperplasia; EEG, electroencephalogram; EKG, electrocardiogram; EP, electrophysiological; HPI, history of present illness; IV, intravenous; KOH, potassium hydroxide; LP, lumbar puncture; MI, myocardial infarction; PE, pulmonary embolism; PFSH, past, family, social history; PFT, pulmonary function test; ROS, review of systems; TIA, transient ischemic attack.

From US Department of Health and Human Services.<sup>8</sup>

## OTHER CONSIDERATIONS

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### Split/Shared Services

A split/shared service is an encounter where a physician and a NPP each personally perform a portion of an E/M visit. Here are the rules for reporting split/shared E/M services between physicians and NPPs:

- In the office or clinic setting:
  - For encounters with established patients who meet incident to requirements, use either practitioner's National Provider Identifier (NPI)
  - For encounters that do not meet incident to requirements, use the NPP's NPI
- Hospital inpatient, outpatient, and ED setting encounters shared between a physician and a NPP from the same group practice:
  - When the physician provides any face-to-face portion of the encounter, use either provider's NPI
  - When the physician does not provide a face-to-face encounter, use the NPP's NPI

### Consultation Services

Effective for services furnished on or after January 1, 2010, Medicare no longer recognizes inpatient consultation codes (CPT codes 99251–99255) and office and other outpatient consultation codes (CPT codes 99241–99245) for Part B payment purposes.

However, Medicare recognizes telehealth consultation codes (HCPCS G0406–G0408 and G0425–G0427) for payment.

Physicians and NPPs who furnish services that, prior to January 1, 2010, would have been reported as CPT consultation codes, should report the appropriate E/M visit code to bill for these services beginning January 1, 2010.

## KEY TAKEAWAYS

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- While E/M services vary in several ways, such as the nature and amount of physician work required, good general documentation principles help ensure that medical record documentation for all E/M services is appropriate.
- When billing for a patient's visit, select codes that best represent the services furnished during the visit. The provider must also ensure that medical record documentation supports the level of service reported to a payer. You should not use the volume of documentation to determine which specific level of service to bill.
- To receive payment from Medicare for E/M services, the Medicare benefit for the relevant type of provider must permit him or her to bill for E/M services.
- Billing Medicare for an E/M service requires the selection of a Current Procedural Terminology (CPT) code that best represents:
  - Patient type
  - Setting of service
  - Level of E/M service performed

## Billing "Incident To" a Physician's Service

### Billing incident to a Physician's service

BCBSAZ members often receive services provided by non-physician providers or physician-supervised practitioners, such as physician assistants, nurse practitioners, clinical nurse specialists, nurse midwives, clinical psychologists, physical and occupational therapists. BCBSAZ allows "Incident To" billing for these services—however, it's important to understand the requirements for this kind of billing.

Incident-to services are also relevant to non-physician providers (e.g., nurse practitioners, nurse midwives, clinical psychologists) and are subject to the same requirements as physician billed incident-to services, but are reimbursed at the applicable non-physician provider's rate.

### "Incident to" billing requirements

Due to the complexity in tracking and documentation required, many practices opt not to bill this way. To qualify for "incident to" billing, the following conditions must have been met, and then the services may be billed under a physician's name and NPI number:

1. The covered services must be part of the patient's normal course of treatment, during which the physician personally performed an initial service (for that condition) and remains actively involved in the management of the course of treatment.
2. The services or supplies are furnished as an integral part of the physician's personal professional services in the course of diagnosis or treatment of an injury or illness.
3. The non-physician provider must represent a direct financial expense to the supervising physician or the physician's group (such as a "W-2" or leased employee, or an independent contractor).
4. The physician does not have to be physically present in the patient's treatment room while the services are provided, but the administering personnel must be directly supervised by the physician. The supervising physician must be present in the location where the services are being rendered and immediately available to provide assistance and direction throughout the time the services are administered.
5. The patient record clearly documents satisfaction of all stipulations listed in requirements 1 and 2 above regarding the patient's care.

### "Incident to" billing examples

Examples of qualifying "incident to" services include cardiac rehabilitation, providing non self-administrable drugs (and other biologicals) and supplies usually furnished by the physician in the course of performing his/her services (e.g. gauze, ointments, bandages, and oxygen).<sup>1</sup>

### Exceptions to the direct supervision requirement for some homebound patients

In general, the physician must be present in the patient's home for the service to qualify as an "incident to" service. However, for homebound patients in medically underserved areas where there are no available home health services, for some services (see CMPS Pub 100-02, Chapter 15, section 60.4 B), the physician does not need to be physically present in the home when the service is performed (general supervision of the service is required). The physician must order the services, maintain contact with the nurse or other employee, and retain professional responsibility for the services. All other incident to requirements must be met.

Another type of exception applies when the covered service at home is an individual or intermittent service performed by personnel meeting pertinent state requirements (e.g., nurse, technician, behavioral health paraprofessional, or physician extender) and is an integral part of the physician's services to the patient.

<sup>1</sup> [CMS Medicare Learning Network: MLN Matters article: "'Incident to' Services"](http://www.cms.gov)(www.cms.gov)