UNITEDHEALTHCARE® COMMUNITY PLAN:
RADIOLOGY IMAGING COVERAGE DETERMINATION GUIDELINE

Adult Spine Imaging Guidelines (For Ohio Only)

V2.0.2024

Guideline Number: CSRAD014OH.C

Effective Date: November 15, 2024

Application (for Ohio Only)

This Medical Policy only applies to the state of Ohio. Any requests for services that are stated as unproven or services for which there is a coverage or quantity limit will be evaluated for medical necessity using Ohio Administrative Code 5160-1-01.

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- The UnitedHealthcare's evidence-based, proprietary clinical guidelines evaluate a range of advanced imaging and procedures, including NM, US, CT, MRI, PET, Radiation Oncology, Sleep Studies, as well as Cardiac, musculoskeletal and Spine interventions.
- UnitedHealthcare reserves the right to change and update the guidelines. The guidelines undergo a formal review annually. UnitedHealthcare's guidelines are based on current evidence supported by major national and international association and society guidelines and criteria, peer-reviewed literature, major treatises as well as, input from health plans, and practicing academic and community-based physicians.
- These guidelines are not intended to supersede or replace sound medical judgment, but instead, should facilitate the identification of the most appropriate imaging or other designated procedure given the individual's clinical condition. These guidelines are written to cover medical conditions as experienced by the majority of individuals. However, these guidelines may not be applicable in certain clinical circumstances, and physician judgment can override the guidelines.
- These guidelines provide evidence-based, clinical benefits with a focus on health care quality and patient safety.
- Clinical decisions, including treatment decisions, are the responsibility of the individual and his/her provider. Clinicians are expected to use independent medical judgment, which takes into account the clinical circumstances to determine individual management decisions.
- UnitedHealthcare supports the Choosing Wisely initiative (**https://www.choosingwisely.org/**) by the American Board of Internal Medicine (ABIM) Foundation and many national physician organizations, to reduce the overuse of diagnostic tests that are low value, no value, or whose risks are greater than the benefits.

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Investigational and Experimental Studies

- Certain studies, treatments, procedures, or devices may be considered experimental, investigational, or unproven for any condition, illness, disease, injury being treated if one of the following is present:
  - if there is a paucity of supporting evidence;
  - if the evidence has not matured to exhibit improved health parameters;
  - if clinical utility has not been demonstrated in any condition; OR
  - if the study, treatment, procedure, or device lacks a collective opinion of support
- Supporting evidence includes standards that are based on credible scientific evidence published in peer-reviewed medical literature (such as well conducted randomized clinical trials or cohort studies with a sample size of sufficient statistical power) generally recognized by the relevant medical community. Collective opinion of support includes physician specialty society recommendations and the views of physicians practicing in relevant clinical areas when physician specialty society recommendations are not available.

Clinical and Research Trials

- Similar to investigational and experimental studies, clinical trial imaging requests will be considered to determine whether they meet UnitedHealthcare's evidence-based guidelines.
- Imaging studies which are inconsistent with established clinical standards, or are requested for data collection and not used in direct clinical management are not supported.

Legislative Mandate

- State and federal legislations may need to be considered in the review of advanced imaging requests.

References (Preface-2)

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1. Coverage of Clinical Trials under the Patient Protection and Affordable Care Act; 42 U.S.C.A. § 300gg-8.

Clinical Information (Preface-3)

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Clinical Documentation and Age Considerations

- UnitedHealthcare's guidelines use an evidence-based approach to determine the most appropriate procedure for each individual, at the most appropriate time in the diagnostic and treatment cycle. UnitedHealthcare's guidelines are framed by:
  - Clinical presentation of the individual, rather than the studies requested
  - Adequate clinical information that must be submitted to UnitedHealthcare in order to establish medical necessity for advanced imaging or other designated procedures includes, but is not limited to, the following:
    - Pertinent clinical evaluation should include a recent detailed history, physical examination[20] since the onset or change in symptoms, and/or laboratory and prior imaging studies.
      - Condition-specific guideline sections may describe additional clinical information which is required for a pertinent clinical evaluation.
      - The Spine and Musculoskeletal guidelines require x-ray studies from when the current episode of symptoms has started or changed; x-ray imaging does not have to be within the past 60 days.
      - Advanced imaging or other designated procedures should not be ordered prior to clinical evaluation of an individual by the physician treating the individual. This may include referral to a consultant specialist who will make further treatment decisions.
      - Other meaningful technological contact (telehealth visit, telephone or video call, electronic mail or messaging) since the onset or change in symptoms by an established individual can serve as a pertinent clinical evaluation.
        - Some conditions may require a face-to-face evaluation as discussed in the applicable condition-specific guideline sections.
    - A recent clinical evaluation may be unnecessary if the individual is undergoing a guideline-supported, scheduled follow-up imaging or other designated procedural evaluation. Exceptions due to routine surveillance indications are addressed in the applicable condition-specific guideline sections.
  - UnitedHealthcare’s evidence-based approach to determine the most appropriate procedure for each individual requires submission of medical records pertinent to the requested imaging or other designated procedures.
- Many conditions affecting the pediatric population are different diagnoses than those occurring in the adult population. For those diseases which occur in both pediatric and adult populations, minor differences may exist in management due to individual

age, comorbidities, and differences in disease natural history between children and adults.
  - Individuals who are 18 years old or younger[19] should be imaged according to the Pediatric Imaging Guidelines if discussed in the condition-specific guideline sections. Any conditions not specifically discussed in the Pediatric Imaging Guidelines should be imaged according to the General Imaging Guidelines. Individuals who are >18 years old should be imaged according to the General Imaging Guidelines, except where directed otherwise by a specific guideline section.
- The terms “male” and “female” used in these guidelines refer to anatomic-specific diseases and disease predispositions associated with the individual's sex assigned at birth rather than their gender identity. It should be noted that gender identity and anatomic-specific diseases as well as disease predispositions are not always linked. As such, these guidelines should be applied to the individual’s corresponding known or suspected anatomic-specific disease or disease predisposition. At UnitedHealthcare, we believe that it is important to understand how all individuals, including those who are gender-diverse, choose to identify themselves. To ensure that gender-diverse individuals are treated with respect and that decisions impacting their healthcare are made correctly and with sensitivity, UnitedHealthcare recognizes all individuals with the following gender marker options: Male, Female, Transgender Male, Transgender Female, “X”, and “Not Specified.”

General Imaging Information

- “Standard” or “conventional” imaging is most often performed in the initial and subsequent evaluations of malignancy. Standard or conventional imaging includes plain film, CT, MRI, or US.
  - Often, further advanced imaging is needed when initial imaging, such as ultrasound, CT, or MRI does not answer the clinical question. Uncertain, indeterminate, inconclusive, or equivocal may describe these situations.
- Appropriate use of contrast is a very important component of evidence-based advanced imaging use.
  - The appropriate levels of contrast for an examination (i.e., without contrast, with contrast, without and with contrast) is determined by the evidence-based guidance reflected in the condition-specific guideline sections.
  - If, during the performance of a non-contrast imaging study, there is the unexpected need to use contrast in order to evaluate a possible abnormality, then that is appropriate.[1]

Ultrasound

- Diagnostic ultrasound uses high-frequency sound waves to evaluate soft tissue structures and vascular structures utilizing grey scale and Doppler techniques.
- Ultrasound allows for dynamic real-time imaging at the bedside.

  - Ultrasound is limited in areas where there is dense bone or other calcification.
  - Ultrasound also has a relatively limited imaging window so may be of limited value in evaluating very large abnormalities.
  - In general, ultrasound is highly operator-dependent, and proper training and experience are required to perform consistent, high-quality evaluations.
- Indications for ultrasound may include, but are not limited to, the following:
  - Obstetric and gynecologic imaging
  - Soft tissue and visceral imaging of the chest, abdomen, pelvis, and extremities
  - Brain and spine imaging when not obscured by dense bony structures
  - Vascular imaging when not obscured by dense bony structures
  - Procedural guidance when not obscured by dense bony structures
  - Initial evaluation of ill-defined soft tissue masses or fullness and differentiating adenopathy from mass or cyst. Prior to advanced imaging, ultrasound can be very beneficial in selecting the proper modality, body area, image sequences, and contrast level that will provide the most definitive information for the individual.
- More specific guidance for ultrasound usage, including exceptions to this general guidance, can be found throughout the condition-specific guidelines.

Computed Tomography (CT)

- The AMA CPT® manual does not describe nor assign any minimum or maximum number of sequences for any CT study. CT imaging protocols are often influenced by the individual's clinical situation and additional sequences are not uncommon. There are numerous CT protocols that may be performed to evaluate specific clinical questions, and this technology is constantly undergoing development.
- CT utilizes ionizing radiation to create cross-sectional and volumetric images of the body.
  - Advantages over ultrasound include a much larger field of view and faster completion time in general. Disadvantages compared to ultrasound include lack of portability and exposure to ionizing radiation.
  - Advantages over MRI include faster imaging and a more spacious scanner area limiting claustrophobia. Disadvantages compared to MRI include decreased soft tissue definition, especially with non-contrast imaging, and exposure to ionizing radiation.
- CT can be performed without, with, or without and with intravenous (IV) contrast depending on the clinical indication and body area.
  - In general, non-contrast imaging is appropriate for evaluating structures with significant tissue density differences such as lung parenchyma and bony structures, or when there is a contraindication to contrast.
  - In general, CT with contrast is the most common level of contrast and can be used when there is need for improved vascular or soft tissue resolution, including better

characterization of known or suspected malignancy, as well as infectious and inflammatory conditions.
    - CT without and with contrast has a limited role as the risks of doubling the ionizing radiation exposure rarely outweigh the benefits of multiphasic imaging, though there are some exceptions which include, but are not limited to, the following:
        - Characterization of a mass
        - Characterization of arterial and venous anatomy
        - CT with contrast may be used to better characterize findings on a very recent (within two weeks) inconclusive non-contrast CT where the guidelines would support CT without and with contrast.
    - More specific guidance for CT contrast usage, including exceptions to this general guidance, can be found throughout the condition-specific guidelines.
- Shellfish allergy:
    - It is commonly assumed that an allergy to shellfish indicates iodine allergy, and that this implies an allergy to iodinated contrast media used with CT. However, this is NOT true. Shellfish allergy is due to tropomyosins. Iodine plays no role in these allergic reactions. Allergies to shellfish do not increase the risk of reaction to iodinated contrast media any more than that of other allergens.[1]
- Enteric contrast (oral or rectal) is sometimes used in abdominal imaging. There is no specific CPT® code which refers to enteric contrast.
- The appropriate contrast level and anatomic region in CT imaging is specific to the clinical indication, as listed in the condition-specific guideline sections.
- CT should not be used to replace MRI in an attempt to avoid sedation unless it is listed as a recommended study the appropriate condition-specific guideline.
- There are significant potential adverse effects associated with the use of iodinated contrast media. These include hypersensitivity reactions, thyroid dysfunction, and contrast-induced nephropathy (CIN). Individuals with impaired renal function are at increased risk for CIN.[2]
- Both contrast CT and MRI may be considered to have the same risk profile with renal failure (GFR <30 mL/min).
- The use of CT contrast should proceed with caution in pregnant and breastfeeding individuals. There is a theoretical risk of contrast toxicity to the fetal and infant thyroid. The procedure can be performed if the specific need for that contrast-enhanced procedure outweighs risk to the fetus. Breastfeeding individuals may reduce this risk by choosing to pump and discard breast milk for 12-24 hours after the contrast injection.
- CT without contrast may be appropriate if clinical criteria for CT with contrast are met AND the individual has:
    - Elevated blood urea nitrogen (BUN) and/or creatinine
    - Renal insufficiency
    - Allergies to iodinated contrast

  - Thyroid disease which could be treated with I-131
  - Diabetes
  - Very elderly
  - Urgent or emergent settings due to availability
  - Trauma
- CT is superior to other imaging modalities in certain conditions including, but not limited to, the following:
  - Screening following trauma
  - Imaging pulmonary disease
  - Imaging abdominal and pelvic viscera
  - Imaging of complex fractures
  - Evaluation of inconclusive findings on Ultrasound or MRI, or if there is a contraindication to MRI
- More specific guidance for CT usage, including exceptions to this general guidance, can be found throughout the condition-specific guidelines.

Magnetic Resonance Imaging (MRI)

- The AMA CPT® manual does not describe nor assign any minimum or maximum number of sequences for any MRI study. MRI protocols are often influenced by the individual's clinical situation and additional sequences are not uncommon. There are numerous MRI sequences that may be performed to evaluate specific clinical questions, and this technology is constantly undergoing development.
- Magnetic Resonance Imaging (MRI) utilizes the interaction between the intrinsic radiofrequency of certain molecules in the body (hydrogen in most cases) and a strong external magnetic field.
  - MRI is often superior for advanced imaging of soft tissues and can also define physiological processes in some instances (e.g., edema, loss of circulation [AVN], and increased vascularity [tumors]).
  - MRI does not use ionizing radiation and even non-contrast images have much higher soft tissue definition than CT or Ultrasound.
  - MRI typically takes much longer than either CT or Ultrasound, and for some individuals may require sedation. It is also much more sensitive to individual motion that can degrade image quality than either CT or Ultrasound.
- MRI Breast and MRI Chest are not interchangeable, as they focus detailed sequences on different adjacent body parts.
- MRI may be utilized either as the primary advanced imaging modality, or when further definition is needed based on CT or ultrasound imaging.
- Most orthopedic and dental implants are not magnetic. These include hip and knee replacements; plates, screws, and rods used to treat fractures; and cavity fillings. Yet,

all of these metal implants can distort the MRI image if near the part of the body being scanned.
  - Other implants, however, may have contraindications to MRI. These include the following:
    - Pacemakers
    - ICD or heart valves
    - Metal implants in the brain
    - Metal implants in the eyes or ears
    - Infusion catheters and bullets or shrapnel
  - CT can therefore be an alternative study to MRI in these scenarios.
- The contrast level and anatomic region in MRI imaging is specific to the clinical indication, as listed in the specific guideline sections.
- MRI utilizing Xenon Xe 129 for contrast is considered investigational and experimental at this time. MRI with or with and without contrast in these guidelines refers to MRI utilizing gadolinium for contrast.
- MRI is commonly performed without, without and with contrast.
  - Non-contrast imaging offers excellent tissue definition.
  - Imaging without and with contrast is commonly used when needed to better characterize tissue perfusion and vascularization.
    - Most contrast is gadolinium based and causes T2 brightening of the vascular and extracellular spaces.
    - Some specialized gadolinium and non-gadolinium contrast agents are available, and most commonly used for characterizing liver lesions.
  - MRI with contrast only is rarely appropriate and is usually used to better characterize findings on a recent inconclusive non-contrast MRI, commonly called a completion study.
  - MRI contrast is contraindicated in pregnant individuals.
  - More specific guidance for MRI contrast usage, including exceptions to this general guidance, can be found throughout the condition-specific guidelines.
- MRI may be preferred in individuals with renal failure and in individuals allergic to intravenous CT contrast.
  - Both contrast CT and MRI may be considered to have the same risk profile with renal failure (GFR <30 mL/min).[2]
  - Gadolinium can cause Nephrogenic Systemic Fibrosis (NSF). The greater the exposure to gadolinium in individuals with a low GFR (especially if on dialysis), the greater the chance of individuals developing NSF.
  - Multiple studies have demonstrated potential for gadolinium deposition following the use of gadolinium-based contrast agents (GBCAs) for MRI studies.[3,4,5,6,7] The U.S. Food and Drug Administration (FDA) has noted that there is currently no evidence to suggest that gadolinium retention in the brain is harmful and restricting

gadolinium-based contrast agents (GBCAs) use is not warranted at this time. It has been recommended that GBCA use should be limited to circumstances in which additional information provided by the contrast agent is necessary and the necessity of repetitive MRIs with GBCAs should be assessed.[8]

- A CT may be approved in place of an MRI when clinical criteria are met for MRI AND there is a contraindication to having an MRI (pacemaker, ICD, insulin pump, neurostimulator, etc.).
  - When replacing MRI with CT, contrast level matching should occur as follows:
    - MRI without contrast → CT without contrast
    - MRI without and with contrast → CT with contrast or CT without and with contrast
- The following situations may impact the appropriateness for MRI and or MR contrast:
  - Caution should be taken in the use of gadolinium in individuals with renal failure.
  - The use of gadolinium contrast agents is contraindicated during pregnancy unless the specific need for that procedure outweighs risk to the fetus.
  - MRI can be performed for non-ferromagnetic body metals (i.e., titanium), although some imaging facilities will consider it contraindicated if recent surgery, regardless of the metal type.
- MRI should not be used as a replacement for CT for the sole reason of avoidance of ionizing radiation when MRI is not supported in the condition-based guidelines, since it does not solve the problem of overutilization.
- MRI is superior to other imaging modalities in certain conditions including, but not limited to, the following:
  - Imaging the brain and spinal cord
  - Characterizing visceral and musculoskeletal soft tissue masses
  - Evaluating musculoskeletal soft tissues including ligaments and tendons
  - Evaluating inconclusive findings on ultrasound or CT
  - Individuals who are pregnant or have high radiation sensitivity
  - Suspicion, diagnosis, or surveillance of infections
- More specific guidance for MRI usage, including exceptions to this general guidance, can be found throughout the condition-specific guidelines.

Positron Emission Tomography (PET)

- PET is a nuclear medicine study that uses a positron emitting radiotracer to create cross-sectional and volumetric images based on tissue metabolism.
- Conventional imaging (frequently CT, sometimes MRI or bone scan) of the affected area(s) drives much of initial and restaging and surveillance imaging for malignancy and other chronic conditions. PET is not indicated for surveillance imaging unless specifically stated in the condition-specific guideline sections.
- PET/MRI is generally not supported, see **PET-MRI (Preface-5.3)**.

- PET is rarely performed as a single modality, but is typically performed as a combined PET/CT.
  - The unbundling of PET/CT into separate PET and diagnostic CT CPT® codes is not supported, because PET/CT is done as a single study.
- PET/CT lacks the tissue definition of CT or MRI, but is fairly specific for metabolic activity based on the radiotracer used.
- Indications for PET/CT may include the following:
  - Oncologic Imaging for evaluation of tumor metabolic activity
  - Cardiac Imaging for evaluation of myocardial metabolic activity
  - Brain Imaging for evaluation of metabolic activity for procedural planning
- More specific guidance for PET usage, including exceptions to this general guidance, can be found throughout the condition-specific guidelines.

Overutilization of Advanced Imaging

- A number of recent reports describe overutilization in many areas of advanced imaging and other procedures, which may include the following:
  - High-level testing without consideration of less invasive, lower cost options which may adequately address the clinical question at hand
  - Excessive radiation and costs with unnecessary testing
  - Defensive medical practice
  - CT without and with contrast (so called "double contrast studies") requests, which have few current indications
  - MRI requested in place of CT to avoid radiation without considering the primary indication for imaging
  - Adult CT settings and protocols used for smaller people and children
  - Unnecessary imaging procedures when the same or similar studies have already been conducted
- A review of the imaging or other relevant procedural histories of all individuals presenting for studies has been recognized as one of the more important processes that can be significantly improved. By recognizing that a duplicate or questionably indicated examination has been ordered for individuals, it may be possible to avoid exposing them to unnecessary risks.[9,10] To avoid these unnecessary risks, the precautions below should be considered:
  - The results of initial diagnostic tests or radiologic studies to narrow the differential diagnosis should be obtained prior to performing further tests or radiologic studies.
  - The clinical history should include a potential indication such as a known or suspected abnormality involving the body part for which the imaging study is being requested. These potential indications are addressed in greater detail within the applicable guidelines.

  - The results of the requested imaging procedures should be expected to have an impact on individual management or treatment decisions.
  - Repeat imaging studies are not generally necessary unless there is evidence of disease progression, recurrence of disease, and/or the repeat imaging will affect an individual's clinical management.
- Pre-operative imaging/pre-surgical planning imaging/pre-procedure imaging is not indicated if the surgery/procedure is not indicated. Once the procedure has been approved or if the procedure does not require prior authorization, the appropriate pre-procedural imaging may be approved.

References (Preface-3)

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Coding Issues (Preface-4)

Guideline

3D Rendering (Preface-4.1)

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CPT® 76376 and CPT® 76377

- Both codes require concurrent supervision of the image post-processing 3D manipulation of the volumetric data set and image rendering.
  - Concurrent supervision is defined as active physician participation in and monitoring of the reconstruction process including design of the anatomic region that is to be reconstructed; determination of the tissue types and actual structures to be displayed (e.g., bone, organs, and vessels); determination of the images or cine loops that are to be archived; and, monitoring and adjustment of the 3D work product. The American College of Radiology (ACR) recommends that it is best to document the physician's supervision or participation in the 3D reconstruction of images.
- These two codes differ in the need for and use of an independent workstation for post-processing.
  - CPT® 76376 reports procedures not requiring image post-processing on an independent workstation.
  - CPT® 76377 reports procedures that require image post-processing on an independent workstation.
- These 3D rendering codes should not be used for 2D reformatting.
- Two-dimensional reconstruction (e.g., reformatting an axial scan into the coronal plane) is now included in all cross-sectional imaging base codes and is not separately reimbursable.
- The codes used to report 3D rendering for ultrasound and echocardiography are also used to report the 3D post processing work on CT, MRI, and other tomographic modalities.
- Providers may be required to obtain prior authorization on these 3D codes even if prior authorization is not required for the echocardiography and/or ultrasound procedure codes. It may appear that UnitedHealthcare pre-authorizes echocardiography and/or ultrasound when, in fact, it may only be the 3D code that needs the prior authorization.
- CPT® codes for 3D rendering should not be billed in conjunction with computer-aided detection (CAD), MRA, CTA, nuclear medicine SPECT studies, PET, PET/CT, Mammogram, MRI Breast, US Breast, CT Colonography (virtual colonoscopy), Cardiac MRI, Cardiac CT, or Coronary CTA studies.

- CPT® 76377 (3D rendering requiring image post-processing on an independent workstation) or CPT® 76376 (3D rendering not requiring image post-processing on an independent workstation) can be considered in the following clinical scenarios:
  - Bony conditions:
    - Evaluation of congenital skull abnormalities in newborns, infants, and toddlers (usually for pre-operative planning)
    - Complex fractures (comminuted or displaced)/dislocations of any joint (for pre-operative planning when conventional imaging is insufficient)
    - Spine fractures, pelvic/acetabulum fractures, intra-articular fractures (for pre-operative planning when conventional imaging is insufficient)
    - Pre-operative planning for other complex surgical cases
    - Complex facial fractures
  - Pre-operative planning for other complex surgical cases
  - Cerebral angiography
  - Pelvis conditions:
    - Uterine intra-cavitary lesion when initial US is equivocal: See **Abnormal Uterine Bleeding (AUB) (PV-2.1)** and **Leiomyoma/Uterine Fibroids (PV-12.1)** in the Pelvis Imaging Guidelines.
    - Hydrosalpinxes or peritoneal cysts when initial US is indeterminate: See **Complex Adnexal Masses (PV-5.3)** in the Pelvis Imaging Guidelines.
    - Lost IUD (inability to feel or see IUD string) with initial US: See **Intrauterine Device (PV-10.1)** in the Pelvis Imaging Guidelines.
    - Uterine anomalies with initial US: See **Uterine Anomalies (PV-14.1)** in the Pelvis Imaging Guidelines.
    - Infertility: See **Initial Infertility Evaluation, Female (PV-9.1)** in the Pelvis Imaging Guidelines.
  - Abdomen conditions:
    - CT Urogram: See **Hematuria and Hydronephrosis (AB-39)** in the Abdomen Imaging Guidelines.
    - MRCP: See **MR Cholangiopancreatography (MRCP) (AB-27)** in the Abdomen Imaging Guidelines.

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CT-, MR-, or Ultrasound-Guided Procedures (Preface-4.2)

PRF.CD.0004.2.A

v2.0.2024

- CT-, MR-, and Ultrasound-guidance procedure codes contain all of the imaging necessary to guide a needle or catheter. It is inappropriate to routinely bill a diagnostic procedure code in conjunction with a guidance procedure code.
- Imaging studies performed as part of a CT-, MR-, or Ultrasound-guided procedure should be reported using the CPT® codes in the following table:

TABLE: Imaging Guidance Procedure Codes

CPT®	Description
19085	Biopsy, breast, with placement of breast localization device(s), when performed, and imaging of the biopsy specimen, when performed, percutaneous; first lesion, including MR guidance
19086	Biopsy, breast, with placement of breast localization device(s), when performed, and imaging of the biopsy specimen, when performed, percutaneous; each additional lesion, including MR guidance
75989	Imaging guidance for percutaneous drainage with placement of catheter (all modalities)
76942	Ultrasonic guidance for needle placement
77011	CT guidance for stereotactic localization
77012	CT guidance for needle placement
77013	CT guidance for, and monitoring of parenchymal tissue ablation
77021	MR guidance for needle placement
77022	MR guidance for, and monitoring of parenchymal tissue ablation

CPT® 19085 and CPT® 19086

- The proper way to bill an MRI-guided breast biopsy is CPT® 19085 (Biopsy, breast, with placement of breast localization device(s), when performed, and imaging of the biopsy specimen, when performed, percutaneous; first lesion, including MR guidance). Additional lesions should be billed using CPT® 19086.
  - **CPT® 77021** (MR guidance for needle placement) is not an appropriate code for a breast biopsy.

CPT® 75989

- This code is used to report imaging guidance for a percutaneous drainage procedure in which a catheter is left in place.
- This code can be used to report whether the drainage catheter is placed under fluoroscopy, Ultrasound-, CT-, or MR-guidance modality.

CPT® 77011

- A stereotactic CT localization scan is frequently obtained prior to sinus surgery. The dataset is then loaded into the navigational workstation in the operating room for use during the surgical procedure. The information provides exact positioning of surgical instruments with regard to the individual's 3D CT images.[3]
- In most cases, the pre-operative CT is a technical-only service that does not require interpretation by a radiologist.
  - The imaging facility should report CPT® 77011 when performing a scan not requiring interpretation by a radiologist.
  - If a diagnostic scan is performed and interpreted by a radiologist, the appropriate diagnostic CT code (e.g., CPT® 70486) should be used.
  - It is not appropriate to report both CPT® 70486 and CPT® 77011 for the same CT stereotactic localization imaging session.
  - 3D Rendering (CPT® 76376 or CPT® 76377) should not be reported in conjunction with CPT® 77011 (or CPT® 70486 if used). The procedure inherently generates a 3D dataset.

CPT® 77012 (CT) and CPT® 77021 (MR)

- These codes are used to report imaging guidance for needle placement during biopsy, aspiration, and other percutaneous procedures.
- They represent the radiological supervision and interpretation of the procedure and are often billed in conjunction with surgical procedure codes.
  - For example, CPT® 77012 is reported when CT guidance is used to place the needle for a conventional arthrogram.
  - Only codes representing percutaneous surgical procedures should be billed with CPT® 77012 and CPT® 77021. It is inappropriate to use with surgical codes for open, excisional, or incisional procedures.

- **CPT® 77021** (MR guidance for needle placement) is not an appropriate code for breast biopsy.
  - CPT® 19085 would be appropriate for the first breast biopsy site and CPT® 19086 would be appropriate for additional concurrent biopsies.

CPT® 77013 (CT) and CPT® 77022 (MR)

- These codes include the initial guidance to direct a needle electrode to the tumor(s), monitoring for needle electrode repositioning within the lesion, and as necessary for multiple ablations to coagulate the lesion and confirmation of satisfactory coagulative necrosis of the lesion(s) and comparison to pre-ablation images.
  - **NOTE:** CPT® 77013 should only be used for non-bone ablation procedures.
    - CPT® 20982 includes CT guidance for bone tumor ablations.
  - Only codes representing percutaneous surgical procedures should be billed with CPT® 77013 and CPT® 77022. It is inappropriate to use with surgical codes for open, excisional, or incisional procedures.
- CPT® 77012 and CPT® 77021 (as well as guidance codes CPT® 76942 [US], and CPT® 77002 - CPT® 77003 [fluoroscopy]) describe radiologic guidance by different modalities.
  - Only one unit of any of these codes should be reported per individual encounter (date of service). The unit of service is considered to be the individual encounter, not the number of lesions, aspirations, biopsies, injections, or localizations.

Unlisted Procedures/Therapy Treatment Planning (Preface-4.3)

PRF.CD.0004.3.UOH
v2.0.2024

CPT ®	Description
76497	Unlisted CT procedure (e.g., diagnostic or interventional)
76498	Unlisted MR procedure (e.g., diagnostic or interventional)
78999	Unlisted procedure, diagnostic nuclear medicine

- These unlisted codes should be reported whenever a diagnostic or interventional CT or MR study is performed in which an appropriate anatomic site-specific code is not available.
  - A Category III code that describes the procedure performed must be reported rather than an unlisted code if one is available.
- CPT® 76497 or CPT® 76498 (Unlisted CT or MRI procedure) can be considered in the following clinical scenarios:
  - Studies done for navigation and planning for neurosurgical procedures (i.e., Stealth or Brain Lab Imaging)[1,2]
  - Custom joint arthroplasty planning (not as an alternative recommendation): See **Osteoarthritis (MS-12.1)** in the Musculoskeletal Imaging Guidelines.
  - Any procedure/surgical planning if thinner cuts or different positional acquisition (than those on the completed diagnostic study) are needed. These could include navigational bronchoscopy: See **Navigational Bronchoscopy (CH-1.7)** in the Chest Imaging Guidelines.

Therapy Treatment Planning

- Radiation Therapy Treatment Planning: See **Unlisted Procedure Codes in Oncology (ONC-1.5)** in the Oncology Imaging Guidelines.

CPT® 76380 Limited or Follow-up CT (Preface-4.5)

PRF.CD.0004.5.UOH

v2.0.2024

- CPT® 76380 describes a limited or follow-up CT scan. The code is used to report any CT scan, for any given area of the body, in which the work of a full diagnostic code is not performed.
- Common examples include, but are not limited to, the following:
  - Limited sinus CT imaging protocol
  - Limited or follow-up slices through a known pulmonary nodule
  - Limited slices to assess a non-healing fracture (such as the clavicle)
- Limited CT (CPT® 76380) is not indicated for treatment planning purposes. See **Unlisted Procedure Codes in Oncology (ONC-1.5)** in the Oncology Imaging Guidelines.
- It is inappropriate to report CPT® 76380, in conjunction with other diagnostic CT codes, to cover 'extra slices' in certain imaging protocols.
  - There is no specific number of sequences or slices defined in any CT CPT® code definition.
  - The AMA, in *CPT ® 2019* , does not describe nor assign any minimum or maximum number of sequences or slices for any CT study.
    - A few additional slices or sequences are not uncommon.
    - CT imaging protocols are often influenced by the individual's clinical situation. Sometimes the protocols require more time and sometimes less.

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SPECT/CT Imaging (Preface-4.6)

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- SPECT/CT involves SPECT (Single Photon Emission Computed Tomography) nuclear medicine imaging and CT for optimizing location, accuracy, and attenuation correction and combines functional and anatomic information.
  - Common studies using this modality include ^{123}I- or ^{131}I-Metaiodobenzylguanidine (MIBG) and octreotide scintigraphy for neuroendocrine tumors.
- Hybrid Nuclear/CT scan can be reported as CPT® 78830 (single area and single day), CPT® 78831 (2 or more days), or CPT® 78832 (2 areas with one day and 2-day study).
- CPT® 78072 became effective January 1, 2013 for SPECT/CT parathyroid nuclear imaging.

CPT® 76140 Interpretation of an Outside Study (Preface-4.7)

PRF.CD.0004.7.UOH

v2.0.2024

- It is inappropriate to use diagnostic imaging codes for interpretation of a previously performed exam that was completed at another facility.
  - If the outside exam is being used for comparison with a current exam, the diagnostic code for the current examination includes comparison to the prior study.[4]
  - CPT® 76140 is the appropriate code to use for an exam which was completed elsewhere and a secondary interpretation of the images is requested.[5]

Quantitative MR Analysis of Tissue Composition (Preface-4.8)

PRF.CD.0004.8.A

v2.0.2024

- Category III CPT® codes for quantitative analysis of multiparametric-MR (mp-MRI) data with and without an associated diagnostic MRI have been established. Quantitative mp-MRI uses software to analyze tissue physiology of visceral organs and other anatomic structures non-invasively. At present, these procedures are primarily being used in clinical trials and there is no widely recommended indications in clinical practice. As such, these procedures are considered to be investigational and experimental for coverage purposes.
  - CPT® 0648T (without diagnostic MRI) and CPT® 0649T (with diagnostic MRI) refer to data analysis with and without associate imaging of a single organ, with its most common use being LiverMultiScan (LMS).
    - See **Fatty Liver (AB-29.2)** in the Abdomen Imaging Guidelines.
  - CPT® 0697T (without diagnostic MRI) and CPT® 0698T (with diagnostic MRI) refer to data analysis with and without associate imaging of a multiple organs, with its most common use being CoverScan.

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HCPCS Codes (Preface-4.9)

PRF.CD.0004.9.UOH

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- Healthcare Common Procedure Coding System (HCPCS) codes are utilized by some hospitals in favor of the typical Level-III CPT® codes. These codes are typically 4 digits preceded by a C or S.[6]
  - Many of these codes have similar code descriptions to Level-III CPT® codes (i.e., C8931 – MRA with dye, Spinal Canal; and, CPT® 72159 – MRA Spinal Canal).
  - If cases are submitted with HCPCS codes with similar code descriptions to the typical Level-III CPT® codes, those procedures should be managed in the same manner as the typical CPT® codes.
  - HCPCS code management is discussed further in the applicable guideline sections.
- Requests for many Healthcare Common Procedure Coding System (HCPCS) codes, including non-specific codes such as S8042 (Magnetic resonance imaging [MRI], low-field), should be redirected to a more appropriate and specific CPT® code. Exceptions are noted in the applicable guideline sections.

References (Preface-4)

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2. Intraoperative MR. Brainlab. Available at: https://www.brainlab.com/surgery-products/overview-neurosurgery-products/intraoperative-mr/
3. Experience the Advanced 3D Sinus Surgery Planning with Scopis Building Blocks planning software. Scopis Planning. Available at: http://planning.scopis.com/.
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Whole-Body Imaging (Preface-5)

Guideline

Whole-Body CT Imaging (Preface-5.1)

PRF.WB.0005.1.UOH

v2.0.2024

- Whole-body CT or LifeScan (CT Brain, Chest, Abdomen, and Pelvis) for screening of asymptomatic individuals is not indicated. The performance of whole-body screening CT examinations in healthy individuals does not meet any of the current validity criteria for screening studies and there is no clear documentation of benefit versus radiation risk.
- Whole-body low-dose CT is supported for oncologic staging in Multiple Myeloma. See **Multiple Myeloma and Plasmacytomas (ONC-25)** in the Oncology Imaging Guidelines.

Whole-Body MR Imaging (Preface-5.2)

PRF.WB.0005.2.A

v2.0.2024

- Whole-body MRI (WBMRI) is, with the exception of select cancer predisposition syndromes and autoimmune conditions discussed below, generally not supported at this time due to lack of standardization in imaging technique and lack of evidence that WBMRI improves outcome for any individual disease state.
  - While WBMRI has the benefit of whole-body imaging and lack of radiation exposure, substantial variation still exists in the number of images, type of sequences (STIR vs. diffusion weighting, for example), and contrast agent(s) used.
- Coding considerations:
  - There are no established CPT® or HCPCS codes for reporting WBMRI.
  - WBMRI is at present only reportable using CPT® 76498. All other methods of reporting whole-body MRI are inappropriate including the following:
    - Separate diagnostic MRI codes for multiple individual body parts
    - MRI Bone Marrow Supply (CPT® 77084)
- Disease-specific considerations:
  - Cancer screening:
    - Interval WBMRI is recommended for cancer screening in individuals with select cancer predisposition syndromes. Otherwise, WBMRI has not been shown to improve outcomes for cancer screening.
      - For additional information, see **Li-Fraumeni Syndrome (LFS) (PEDONC-2.2)**, **Hereditary Paraganglioma-Pheochromocytoma (HPP) Syndromes (PEDONC-2.13)**, or **Constitutional Mismatch Repair Deficiency (CMMRD or Turcot Syndrome) (PEDONC-2.15)** in the Pediatric Oncology Imaging Guidelines.
  - Cancer staging and restaging:
    - While the feasibility of WBMRI has been established, data remain conflicting on whether WBMRI is of equivalent diagnostic accuracy compared with standard imaging modalities such as CT, scintigraphy, and PET imaging.
    - Evidence has not been published establishing WBMRI as a standard evaluation for any type of cancer.
  - Autoimmune disease:
    - WBMRI can be approved in some situations for individuals with chronic recurrent multifocal osteomyelitis.
      - For additional information, see **Chronic Recurrent Multifocal Osteomyelitis (PEDMS-10.2)** in the Pediatric Musculoskeletal Imaging Guidelines.

PET-MRI (Preface-5.3)

PRF.WB.0005.3.A

v2.0.2024

- PET-MRI is generally not supported for a vast majority of oncologic and neurologic conditions due to lack of standardization in imaging technique and interpretation. However, it may be appropriate in select circumstances when the following criteria are met:
  - The individual meets condition-specific guidelines for PET-MRI OR
  - The individual meets ALL of the following:
    - The individual is a pediatric patient or being treated under a pediatric guideline and treatment plan AND
    - The individual meets guideline criteria for PET-CT, AND
    - PET-CT is not available at the treating institution, AND
    - The provider requests PET-MRI in lieu of PET-CT
- When the above criteria are met, PET-MRI may be reported using the code combination of PET Whole-Body (CPT® 78813) and MRI Unlisted (CPT® 76498). All other methods of reporting PET-MRI are inappropriate.
  - When clinically appropriate, diagnostic MRI codes may be indicated at the same time as the PET-MRI code combination.
- For more information, see **PET Imaging in Pediatric Oncology (PEDONC-1.4)** in the Pediatric Oncology Imaging Guidelines, and **PET Brain Imaging (PEDHD-2.3)** and **Special Imaging Studies in Evaluation for Epilepsy Surgery (PEDHD-6.3)** in the Pediatric Head Imaging Guidelines.

References (Preface-5)

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References (Preface-6)

Guideline

References (Preface-6.1)

References (Preface-6.1)

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- Complete reference citations for the journal articles are embedded within the body of the guidelines and/or may be found on the Reference pages at the end of some guideline sections.
- The website addresses for certain references are included in the body of the guidelines but are not hyperlinked to the actual website.
- The website address for the American College of Radiology (ACR) Appropriateness Criteria® is http://www.acr.org.

Copyright Information (Preface-7)

Guideline

Copyright Information (Preface-7.1)

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Copyright Information (Preface-7.1)

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Trademarks (Preface-8)

Guideline

Trademarks (Preface-8.1)

Trademarks (Preface-8.1)

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General Guidelines (SP-1)

Guideline

Procedure Codes Associated with Spine Imaging

SP.GG.ProcedureCodes.A
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MRI/MRA	CPT®
MRI Cervical without contrast	72141
MRI Cervical with contrast	72142
MRI Cervical without and with contrast	72156
MRI Thoracic without contrast	72146
MRI Thoracic with contrast	72147
MRI Thoracic without and with contrast	72157
MRI Lumbar without contrast	72148
MRI Lumbar with contrast	72149
MRI Lumbar without and with contrast	72158
MRA Spinal Canal	72159
MRI Pelvis without contrast	72195
MRI Pelvis with contrast	72196
MRI Pelvis without and with contrast	72197
MR Spectroscopy	76390

MRI/MRA	CPT®
Magnetic resonance spectroscopy, determination and localization of discogenic pain (cervical, thoracic, or lumbar); acquisition of single voxel data, per disc, on biomarkers (ie, lactic acid, carbohydrate, alanine, laal, propionic acid, proteoglycan, and collagen) in at least 3 discs	0609T
Magnetic resonance spectroscopy, determination and localization of discogenic pain (cervical, thoracic, or lumbar); transmission of biomarker data for software analysis	0610T
Magnetic resonance spectroscopy, determination and localization of discogenic pain (cervical, thoracic, or lumbar); postprocessing for algorithmic analysis of biomarker data for determination of relative chemical differences between discs	0611T
Magnetic resonance spectroscopy, determination and localization of discogenic pain (cervical, thoracic, or lumbar); interpretation and report	0612T

CT	CPT®
CT Cervical without contrast	72125
CT Cervical with contrast (Post-Myelography CT)	72126
CT Cervical without and with contrast	72127
CT Thoracic without contrast	72128
CT Thoracic with contrast (Post-Myelography CT)	72129
CT Thoracic without and with contrast	72130
CT Lumbar without contrast (Post-Discography CT)	72131
CT Lumbar with contrast (Post-Myelography CT)	72132
CT Lumbar without and with contrast	72133

CT	CPT®
CT Pelvis without contrast	72192
CT Pelvis with contrast	72193
CT Pelvis without and with contrast	72194

Ultrasound	CPT®
Spinal canal ultrasound	76800

Nuclear Medicine	CPT®
Bone Marrow Imaging, Limited	78102
Bone Marrow Imaging, Multiple	78103
Bone Marrow Imaging, Whole Body	78104
Bone or Joint Imaging, Limited	78300
Bone or Joint Imaging, Multiple	78305
Bone Scan, Whole Body	78306
Bone Scan, 3 Phase Study	78315
Radiopharmaceutical localization of tumor, inflammatory process or distribution of radiopharmaceutical agent(s) (includes vascular flow and blood pool imaging, when performed); planar, single area (e.g., head, neck, chest, pelvis), single day imaging	78800
Radiopharmaceutical localization of tumor, inflammatory process or distribution of radiopharmaceutical agent(s) (includes vascular flow and blood pool imaging, when performed); planar, 2 or more areas (e.g., abdomen and pelvis, head and chest), 1 or more days imaging or single area imaging over 2 or more days	78801

Nuclear Medicine	CPT®
Radiopharmaceutical localization of tumor, inflammatory process or distribution of radiopharmaceutical agent(s) (includes vascular flow and blood pool imaging, when performed); planar, whole body, single day imaging	78802
Radiopharmaceutical localization of tumor, inflammatory process or distribution of radiopharmaceutical agent(s) (includes vascular flow and blood pool imaging, when performed); tomographic (SPECT), single area (e.g., head, neck, chest, pelvis), single day imaging	78803
Radiopharmaceutical localization of tumor, inflammatory process or distribution of radiopharmaceutical agent(s) (includes vascular flow and blood pool imaging, when performed); tomographic (SPECT) with concurrently acquired computed tomography (CT) transmission scan for anatomical review, localization and determination/detection of pathology, single area (e.g., head, neck, chest, pelvis), single day imaging	78830
Radiopharmaceutical localization of tumor, inflammatory process or distribution of radiopharmaceutical agent(s) (includes vascular flow and blood pool imaging, when performed); tomographic (SPECT), minimum 2 areas (e.g., pelvis and knees, abdomen and pelvis), single day imaging, or single area imaging over 2 or more days	78831

General Guidelines (SP-1.0)

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- Before advanced diagnostic imaging can be considered, there must be an in-person clinical evaluation as well as a clinical re-evaluation after a trial of failed conservative therapy; the clinical re-evaluation may consist of an in-person evaluation or other meaningful contact with the provider's office such as email, web or telephone communications.
- An in-person clinical evaluation for the current episode of the condition is required to have been performed before advanced imaging is considered. This may have been either the initial clinical evaluation or a clinical re-evaluation.
- The in-person clinical evaluation should include a relevant history and physical examination (including a detailed neurological examination), appropriate laboratory studies, non-advanced imaging modalities, results of manual motor testing, the specific dermatomal distribution of altered sensation, reflex examination, and nerve root tension signs (e.g., straight leg raise test, slump test, femoral nerve tension test). *The clinical evaluation must be in-person; other forms of meaningful contact (telephone call, electronic mail, telemedicine, or messaging) are not acceptable as an in-person evaluation.*
  - For those spinal conditions/disorders for which the Spine Imaging Guidelines require a plain x-ray of the spine prior to consideration of an advanced imaging study, the plain x-ray must be performed after the current episode of symptoms started or changed and results need to be available to the requesting provider of the advanced imaging study (see: **Anatomic Guidelines [SP-2.1]**).
- Clinical re-evaluation is required prior to consideration of advanced diagnostic imaging to document failure of significant clinical improvement following a recent (within 3 months) six week trial of provider-directed treatment. Clinical re-evaluation can include documentation of an in-person encounter or documentation of other meaningful contact with the requesting provider's office by the individual (e.g., telephone call, electronic mail, telemedicine, or messaging).
  - Provider-directed treatment may include education, activity modification, NSAIDs (non-steroidal anti-inflammatory drugs), narcotic and non-narcotic analgesic medications, oral or injectable corticosteroids, a provider-directed home exercise/ stretching program, cross-training, avoidance of aggravating activities, physical/ occupational therapy, spinal manipulation, interventional pain procedures and other pain management techniques.
- Any bowel/bladder abnormalities or emergent or urgent indications should be documented at the time of the initial clinical evaluation and clinical re-evaluation.
- Altered sensation to pressure, pain, and temperature should be documented by the specific anatomic distribution (e.g., dermatomal, stocking/glove or mixed distribution).

- Motor deficits (weakness) should be defined by the specific myotomal distribution (e.g., weakness of toe flexion/extension, knee flexion/extension, ankle dorsi/plantar flexion, wrist dorsi/palmar flexion) and gradation of muscle testing should be documented as follows:

Grading of Manual Muscle Testing	
0	No muscle activation
1	Trace muscle activation, such as a twitch, without achieving full range of motion
2	Muscle activation with gravity eliminated, achieving full range of motion
3	Muscle activation against gravity, full range of motion
4	Muscle activity against gravity some resistance, full range of motion
5	Muscle activation against examiner's full resistance, full range of motion

- Pathological reflexes (e.g. Hoffmann's, Babinski, and Chaddock sign) should be reported as positive or negative.
- Asymmetric reflexes and reflex examination should be documented as follows:

Grading of Reflex Testing	
0	No response
1+	A slight but definitely present response
2+	A brisk response
3+	A very brisk response without clonus
4+	A tap elicits a repeating reflex (clonus)

- Advanced diagnostic imaging is often urgently indicated and may be necessary if serious underlying spinal and/or non-spinal disease is suggested by the presence of certain patient factors referred to as "red flags." See: **Red Flag Indications (SP-1.2)**.
- Spinal specialist evaluation can be helpful in determining the need for advanced diagnostic imaging, especially for individuals following spinal surgery.

- The need for repeat advanced diagnostic imaging should be carefully considered and may not be indicated if prior advanced diagnostic imaging has been performed. Requests for simultaneous, similar studies such as spinal MRI and CT need to be documented as required for preoperative surgical planning. These studies may be helpful in the evaluation of complex failed spinal fusion cases or needed for preoperative surgical planning when the determination of both soft tissue and bony anatomy is required.
- Serial advanced imaging, whether CT or MRI, for surveillance of healing or recovery from spinal disease is not supported by the currently available scientific evidence-based medicine for the majority of spinal disorders.
  - Requests for repeat imaging may be considered on a case-by-case basis (e.g. concern for delayed union or non-union of spinal fracture, pseudoarthrosis of fusion, etc.)
- Advanced imaging is generally unnecessary for resolved or improving spinal pain and/or radiculopathy.
- Advanced diagnostic imaging has not been shown to be of value in individuals with stable, longstanding spinal pain without neurological features or without clinically significant or relevant changes in symptoms or physical examination findings.
- Anatomic regions of the spine/pelvis that are included in the following MRI and CT advanced diagnostic imaging studies:
  - Cervical spine: from the skull base/foramen magnum through T1
  - Thoracic spine: from C7 through L1
  - Lumbar spine: from T12 through mid-sacrum
  - Pelvis: includes hips, sacroiliac joints, sacrum, coccyx
- CT or MRI of the cervical and thoracic spine will image the entire spinal cord since the end of the spinal cord or conus medullaris usually ends at L1 in adults. Therefore, lumbar spine imaging is not needed when the goal is to image only the spinal cord unless there is known or suspected low lying conus medullaris (e.g. tethered cord).

General Considerations (SP-1.1)

SP.GG.0001.1.A
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- See: **General Guidelines (SP-1.0)**

Background and Supporting Information

Straight leg raise test (also known as the Lasegue's test) – With the individual in the supine position, the hip medially rotated and adducted, and the knee extended, the examiner flexes the hip until the individual complains of pain or tightness in the back or back of the leg. If the pain is primarily back pain, it is less specific whereas if the pain is primarily in the leg, it is more likely nerve root irritation/radiculopathy. Disc herniation or pathology causing pressure between the two extremes are more likely to cause pain in both areas. The examiner then slowly and carefully drops the leg back (extends it) slightly until the individual feels no pain or tightness. The individual is then asked to flex the neck so the chin is on the chest, or the examiner may dorsiflex the individual's foot, or both actions may be done simultaneously. Both of these maneuvers are considered to be provocative tests for neurological tissue.

Slump test – The individual is seated on the edge of the examination table with the legs supported, the hips in neutral position, and the hands behind the back. The examination is performed in sequential steps. First, the individual is asked to "slump" the back into thoracic and lumbar flexion. The examiner maintains the individual's chin in neutral position to prevent neck and head flexion. The examiner then uses one arm to apply overpressure across the shoulders to maintain flexion of the thoracic and lumbar spines. While this position is held, the individual is asked to actively flex the cervical spine and head as far as possible (i.e., chin to chest). The examiner then applies overpressure to maintain flexion of all three parts of the spine (cervical, thoracic, and lumbar) using the hand of the same arm to maintain overpressure in the cervical spine. With the other hand, the examiner then holds the individual's foot in maximum dorsiflexion. While the examiner holds these positions, the individual is asked to actively straighten the knee as much as possible. The test is repeated with the other leg and then with both legs at the same time. If the individual is unable to fully extend the knee because of pain, the examiner releases the overpressure to the cervical spine and the individual actively extends the neck. If the knee extends further, the symptoms decrease with neck extension, or the positioning of the individual increases the individual's symptoms, then the test is considered positive.

Femoral nerve tension test (also known as the prone knee bending test) – The individual lies prone while the examiner passively flexes the knee as far as possible so that the individual's heel rests against the buttock. At the same time, the examiner should ensure that the individual's hip is not rotated. If the examiner is unable to flex the

individual's knee past 90 degrees because of a pathological condition in the hip, the test may be performed by passive extension of the hip while the knee is flexed as much as possible. The flexed knee position should be maintained for 45 to 60 seconds. Unilateral neurological pain in the lumbar area, buttock, and/or posterior thigh may indicate an L2 or L3 nerve root lesion. Pain in the anterior thigh indicates tight quadriceps muscles or stretching of the femoral nerve.

Hoffmann's sign – The examiner holds the individual's middle finger and briskly flicks the distal phalanx. A positive test is noted if the interphalangeal joint of the thumb of the same hand flexes.

Babinski's sign – The examiner runs a sharp instrument along the plantar surface of the foot from the calcaneus along the lateral border to the forefoot. A positive test occurs with extension of the great toe with flexion and splaying of the other toes. A negative test occurs with no movement of the toes at all or uniform bunching up of the toes.

Chaddock sign – The examiner strokes the lateral malleolus. A positive test occurs with extension of the great toe.

Red Flag Indications (SP-1.2)

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Red Flag Indications are intended to represent the potential for life or limb threatening conditions. Red Flag Indications are clinical situations in which localized spine pain and associated neurological features are likely to reflect serious underlying spinal and/or non-spinal disease and warrant exception to the requirement for documented failure of six weeks of provider-directed treatment. Advanced diagnostic imaging of the symptomatic level is appropriate and/or work-up for a non-spinal source of spine pain for Red Flag Indications.

- Red Flag Indications include:
  - Motor Weakness
  - Aortic Aneurysm or Dissection
  - Cancer
  - Cauda Equina Syndrome
  - Fracture
  - Infection
  - Severe Radicular Pain

Motor Weakness

(See: Grading of Manual Muscle Testing and Reflex Testing in **General Guidelines [SP-1.0]**)

History, Symptoms or Physical Exam Findings (Initial clinical evaluation required within the last 60 days)	Advanced Diagnostic Imaging
Clinical presentation including one or more of the following: • Motor weakness of grade 3/5 or less of specified muscle(s); • New onset foot drop; • Acute bilateral lower extremity weakness; • Progressive objective motor /sensory/deep tendon reflex deficits on clinical re-evaluation.	MRI of the relevant spinal level without contrast **or** MRI of the relevant spinal level without and with contrast

Aortic Aneurysm or Dissection

History, Symptoms or Physical Exam Findings (Initial clinical evaluation required within the last 60 days)	Advanced Diagnostic Imaging
• New onset of back and/or abdominal pain in an individual with a known AAA; ***or*** • Acute dissection is suspected.	No spine imaging indicated, see: **Aortic Disorders, Renal Vascular Disorders and Visceral Artery Aneurysms (PVD-6)** in the Peripheral Vascular Disease Imaging Guidelines

Cancer

History, Symptoms or Physical Exam Findings (Initial clinical evaluation required within the last 60 days)	Advanced Diagnostic Imaging
There is clinical suspicion of spinal malignancy AND ONE or more of the following: • Night pain • Uncontrolled or unintended weight loss • Pain unrelieved by change in position • Age >70 years • Severe and worsening spinal pain despite a reasonable (generally after 1 week) trial of provider-directed treatment with re-evaluation	ONE of the following: • MRI of the relevant spinal level without contrast • MRI of the relevant spinal level without and with contrast • CT of the relevant spinal level without contrast • CT Myelogram of the relevant spinal level

History, Symptoms or Physical Exam Findings (Initial clinical evaluation required within the last 60 days)	Advanced Diagnostic Imaging
ANY of the following: Known malignancy(ies) and acute spinal cord compression from primary or metastatic spinal neoplastic disease is suspected by history and physical examination **OR** Individual with a known history of cancer AND metastatic or Stage IV cancer with new onset back pain **OR** Individual with known history of cancer AND back pain AND suspicion of spinal malignancy	See: **Spinal/Vertebral Metastases (ONC-31.6)** in the Oncology Imaging Guidelines

Cauda Equina Syndrome

History, Symptoms or Physical Exam Findings (Initial clinical evaluation required within the last 60 days)	Advanced Diagnostic Imaging
Clinical presentation including one or more of the following: • Acute onset of bilateral sciatica; • Perineal sensory loss (“saddle anesthesia”); • Decreased anal sphincter tone; • New onset bowel/bladder incontinence; • Otherwise unexplained acute urinary retention.	MRI Lumbar Spine without contrast (CPT® 72148) **or** MRI Lumbar Spine without and with contrast (CPT® 72158)

Fracture

History, Symptoms or Physical Exam Findings (Initial clinical evaluation required within the last 60 days)	Advanced Diagnostic Imaging
• Clinical suspicion of a pathological spinal fracture. ◦ Advanced imaging is indicated after x-ray; no conservative treatment is needed.	See: **Spinal Compression Fractures (SP-11.1)** for appropriate imaging studies

History, Symptoms or Physical Exam Findings (Initial clinical evaluation required within the last 60 days)	Advanced Diagnostic Imaging
• Clinical suspicion of a spinal fracture after trauma ◦ Advanced imaging is indicated after x-ray; no conservative treatment is needed.	See: **Neck (Cervical Spine) Trauma (SP-3.2)**, **Upper Back (Thoracic Spine) Trauma (SP-4.2)**, or **Low Back (Lumbar Spine) Trauma (SP-6.2)** for appropriate imaging studies
• Clinical suspicion of a spinal fracture related to ankylosing spondylitis or DISH ◦ Advanced imaging is indicated *without* x-ray or conservative treatment.	See: **Neck (Cervical Spine) Trauma (SP-3.2)**, **Upper Back (Thoracic Spine) Trauma (SP-4.2)**, **Low Back (Lumbar Spine) Trauma (SP-6.2)**, or **Inflammatory Spondylitis (SP-10.2)** for appropriate imaging studies

Infection

History, Symptoms or Physical Exam Findings (Initial clinical evaluation required within the last 60 days)	Advanced Diagnostic Imaging
There is a clinical suspicion of spinal infection (e.g., disc space infection, epidural abscess or spinal osteomyelitis) and one or more of the following: • Fever; • History of IV drug use; • Recent bacterial infection (UTIs, pyelonephritis, pneumonia); • Recent spinal intervention (e.g., surgery, pain injection, or stimulator implantation); • Immunocompromised states; • Long term use of systemic glucocorticoids; • Organ transplant recipient taking anti-rejection medication; • Diabetes mellitus; • HIV/AIDS; • Chronic dialysis; • Immunosuppressant therapy; • Neoplastic involvement of the spine; • Laboratory values indicative of infection (e.g., elevated WBC, ESR, CRP, positive cultures); • Decubitus ulcer or wound overlying spine; • Abnormal x-ray or CT suspicious for infection	ONE of the following: • MRI of the relevant spinal level without and with contrast • MRI without contrast • 3-phase bone scan complete spine • Gallium scan whole body • CT Spine area of interest with IV contrast • CT Spine area of interest without IV contrast
There is a clinical suspicion of spinal infection (e.g., disc space infection, epidural abscess or spinal osteomyelitis) and one or more of the following: • New neurologic deficit on physical examination • Cauda equina syndrome	ONE of the following: • MRI of the relevant spinal level without and with contrast • MRI without contrast • CT Spine area of interest with IV contrast • CT Spine area of interest without IV contrast

Severe Radicular Pain

All of the following must be present (Initial clinical evaluation required within the last 60 days)	Advanced Diagnostic Imaging
• Severe radicular pain in a specified spinal nerve root distribution (minimum 9/10 on the VAS); and • Documented significant functional loss at work or at home; and • Severity of pain unresponsive to a minimum of seven (7) days of provider-directed treatment; and • Treatment plan includes one of the following: ◦ Transforaminal epidural steroid injection (TFESI) at any level(s); or ◦ Interlaminar epidural steroid injection (ILESI) at the cervical or thoracic levels; or ◦ A plan for urgent/emergent spinal surgery; or ◦ A plan for an urgent/emergent referral to/consultation from a spine specialist (Interventional Pain physician or Spine Surgeon)	MRI of the relevant spinal level without contrast **or** MRI without and with contrast

Definitions (SP-1.3)

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- **Radiculopathy**, for the purpose of this policy, is defined as the presence of pain resulting in significant functional limitations (i.e., diminished quality of life and impaired, age-appropriate activities of daily living), dysaesthesia(s) or paraesthesia(s) reported by the individual in a specified dermatomal distribution of an involved named spinal root(s) and **ONE or MORE** of the following:
  - Loss of strength of specific named muscle(s) or myotomal distribution(s) or demonstrated on detailed neurologic examination (within the prior 3 months), concordant with nerve root compression of the involved named spinal nerve root(s).
  - Altered sensation to light touch, pressure, pin prick or temperature demonstrated on a detailed neurologic examination (within the prior 3 months) in the sensory distribution concordant with nerve root compression of the involved named spinal nerve root(s).
  - Diminished, absent or asymmetric reflex(es) on a detailed neurologic examination (within the prior 3 months) concordant with nerve root compression of the involved named spinal nerve root(s).
  - Either of the following:
    - A concordant radiologist's interpretation of an advanced diagnostic imaging study (MRI or CT) of the spine demonstrating compression of the involved named spinal nerve root(s) or foraminal stenosis at the concordant level(s) (Performed within the prior 12 months).
    - Electrodiagnostic studies (EMG/NCV's) diagnostic of nerve root compression of the involved named spinal nerve root(s). (Performed within the prior 12 months).
- **Radicular pain** is pain which radiates to the upper or lower extremity along the course of a spinal nerve root, typically resulting from compression, inflammation and/or injury to the nerve root.
- **Radiculitis** is defined, for the purpose of this policy, as radicular pain without objective neurological findings.

References (SP-1)

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Imaging Techniques (SP-2)

Guideline

Anatomic Guidelines (SP-2.1)

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- Anatomic regions of the spine/pelvis that are included in the following MRI and CT advanced diagnostic imaging studies:
  - Cervical spine: from the skull base/foramen magnum through T1
  - Thoracic spine: from C7 through L1
  - Lumbar spine: from T12 through mid-sacrum
  - Pelvis: includes hips, sacroiliac joints, sacrum, coccyx
- CT or MRI cervical and thoracic spine will image the entire spinal cord since the end of the spinal cord or conus medullaris usually ends at L1 in adults. Therefore, lumbar spine imaging is not needed when the goal is to image only the spinal cord unless there is known or suspected low lying conus medullaris (e.g. tethered cord).
- The results of plain x-rays performed after the current episode of symptoms started or changed need to be available to the requesting provider of the advanced imaging study for the following conditions:
  - See: **Spinal Compression Fractures (SP-11)**
  - See: **Lumbar Spine Spondylolysis/Spondylolisthesis (SP-8)**
  - See: **Inflammatory Spondylitis (SP-10.2)**
  - See: **Neck (Cervical Spine) Trauma (SP-3.2)**, **Upper Back (Thoracic Spine) Trauma (SP-4.2)**, and **Low Back (Lumbar Spine) Trauma (SP-6.2)**
  - See: **Coccydynia without Neurological Features (SP-5.2)**
  - See: **Spinal Deformities (e.g. Scoliosis/Kyphosis) (SP-14)** and **Spinal Dysraphism (PEDSP-4)** in the Pediatric Spine Imaging Guidelines
  - See: **Sacro-Iliac (SI) Joint Pain, Inflammatory Spondylitis/Sacroiliitis and Fibromyalgia (SP-10)**
  - See: **Post-Operative Spinal Disorders (SP-15)**

MRI of the Spine (SP-2.2)

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- See: **Procedure Codes Associated with Spine Imaging**
- For MR Spectroscopy, all spine uses are considered experimental and investigational
  - See: **Imaging of Intervertebral Discs (SP-2.5)**
- MRI Spine is performed either without contrast, with contrast *or* without and with contrast. A “with contrast” study alone is appropriate only to complete a study begun without contrast. Contrast is generally not indicated for most disc and nerve root disorders, fractures and degenerative disease.
- MRI Spine indications include:
  - Evaluation of disc disease, spinal cord and nerve root disorders and most other spinal conditions including evaluation of congenital anomalies of the spine and spinal cord
  - Suspicion for or surveillance of known spine/spinal canal/spinal cord neoplastic disease
  - Suspicion, diagnosis of or surveillance of spinal infections, multiple sclerosis or other causes of myelitis, syringomyelia, cauda equina syndrome or other “red flag” indications. See: **Red Flag Indications (SP-1.2)**.
  - Preoperative evaluation to define abnormal or variant spinal anatomy that could influence the outcome of a potential surgical procedure. See: **Prior to Spine Surgery (SP-16.1)**.
  - Spinal imaging for individuals having undergone recent spinal surgery e.g., laminectomy, discectomy, spinal decompression, when history and physical examination is suspicious for hematoma, post-surgical infection, or cerebrospinal fluid (CSF) leak.

Positional MRI:

- Positional MRI is also referred to as dynamic, weight-bearing or kinetic MRI. Currently, there is inadequate scientific evidence to support the medical necessity of this study. As such, it should be considered experimental or investigational.

CT of the Spine (SP-2.3)

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- See: **Procedure Codes Associated with Spine Imaging**
- CT Spine indications include:
  - Contraindication to MRI
    - CT (contrast as requested) can be approved when ANY of the following MRI contraindications are documented:
      - Implanted ferromagnetic materials
      - Electronically, magnetically or mechanically activated implanted devices that are not determined by the manufacturer as MRI compatible/conditional
  - CT without contrast, or CT without and with contrast (even if MRI has already been performed), for any spinal trauma/fractures, especially spinal trauma/fractures that could result in spinal instability and spinal cord/spinal nerve compression
  - CT without contrast, or CT without and with contrast (even if MRI has already been performed), for spinal neoplastic disease – primary or metastatic
  - CT without contrast, or CT without and with contrast (even if MRI has already been performed), in conjunction with myelography or discography (see: **CT/ Myelography [SP-2.4]** and **Imaging of Intervertebral Discs [SP-2.5]**)
  - CT without contrast, or CT without and with contrast (even if MRI has already been performed), for preoperative evaluation to define abnormal or variant bony spinal anatomy that could influence the outcome of a potential surgical procedure (see: **Prior to Spine Surgery [SP-16.1]**)
  - CT without contrast, or CT without and with contrast, (even if MRI has already been performed), to assess spinal fusions when pseudoarthrosis is suspected (not to be used for routine post-operative assessment where x-rays are sufficient and/or there are no concordant clinical signs or symptoms)
  - CT without contrast, or CT without and with contrast (even if MRI has already been performed), for congenital, developmental or acquired spinal deformity (see: **Spinal Deformities [e.g. Scoliosis/Kyphosis] [SP-14]**)
  - CT without contrast, or CT without and with contrast, for spondylolysis when routine x-rays are negative and/or MRI is equivocal, indeterminate or non-diagnostic (see: **Lumbar Spine Spondylolysis/Spondylolisthesis [SP-8]**)
  - CT without contrast, or CT without and with contrast, to evaluate calcified lesions, (e.g., osteophytes, ossification of the posterior longitudinal ligament [OPLL])

CT/Myelography (SP-2.4)

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- See: **Procedure Codes Associated with Spine Imaging**
- CT/Myelography is generally unnecessary as an initial study when a diagnostic quality MRI has been obtained.
- CT/Myelography indications include:
  - To clarify equivocal, indeterminate or non-diagnostic MRI findings or to further evaluate the significance of multiple spinal abnormalities.
  - When an MRI is contraindicated (see: **CT of the Spine [SP-2.3]**).
  - Preoperative planning for spine surgery, (e.g., multilevel spinal stenosis or when a previous MRI is insufficient, equivocal, indeterminate or non-diagnostic). (see: **Prior to Spine Surgery (SP-16.1)**)
  - Evaluation after previous spinal surgery when an MRI without and with contrast is contraindicated or MRI results are equivocal, indeterminate or non-diagnostic.
  - United Healthcare authorizes only the post-myelogram CT (i.e., CPT® 72126, CPT® 72129, and CPT® 72132) and not any other myelogram-related procedure codes (i.e., CPT® 72265 or CPT® 62284).

Imaging of Intervertebral Discs (SP-2.5)

SP.IM.0002.5.U
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Post-lumbar Discography CT:

- UnitedHealthcare authorizes only the post-lumbar discography CT procedure codes and not any other discography-related procedure codes. A post-lumbar discography CT is considered medically necessary following an approved discography and ALL of the following apply:
  - A post-discography CT is coded as without contrast.
  - A CT Lumbar Spine without contrast (CPT® 72131) is appropriate if verified to be performed as a post-discography CT.
  - When a post-discography CT is requested and the discography has already been approved United Healthcare will issue authorization for the post-discography CT procedure codes.

Magnetic Resonance Spectroscopy:

- Magnetic Resonance Spectroscopy (MRS) involves the analysis of the levels of certain chemicals in pre-selected voxels (small regions) on an MRI scan done at the same time.
  - MRS (CPT® 76390, 0609T, 0610T, 0611T, and 0612T) is considered experimental and investigational for all spine imaging uses at this time.

Background and Supporting Information

- Provocative Discography/CT and MR Spectroscopy lumbar spine are procedures purported to diagnose (or rule-out) a discogenic “pain generator” i.e., the source of non-specific axial spinal pain. These diagnostic studies, when reported as positive, are often used as an indication for spinal fusion in individuals with non-specific axial back pain.
- The following uses of discography are considered controversial:
  - To identify a symptomatic pseudoarthrosis in a failed spinal fusion
  - To identify which of two herniated discs seen on MRI is symptomatic when not determined clinically or otherwise
  - To confirm the discogenic nature of pain in an individual with an abnormal disc seen on MRI and to rule out pain from an adjacent disc level
  - To confirm the presumptive diagnosis of “internal disc disruption”
  - Discography of the cervical and/or thoracic spine
- The following uses of MR Spectroscopy lumbar spine are considered controversial:

- To identify which of two herniated discs seen on MRI is symptomatic when not determined clinically or otherwise
- To confirm the discogenic nature of pain in an individual with an abnormal disc seen on MRI and to rule out pain from an adjacent disc levelTo confirm the presumptive diagnosis of “internal disc disruption”

Ultrasound of the Spinal Canal (SP-2.6)

SP.IM.0002.6.A

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- Spinal canal ultrasound (CPT® 76800) describes the evaluation of the spinal cord (canal and contents) most often performed in newborns, infants, young children and intraoperatively.
- CPT® 76800 describes evaluation of the entire spine and should not be reported multiple times for imaging of different areas of the spinal canal.
- CPT® 76998, rather than CPT® 76800, should be used to report intraoperative spinal canal ultrasound (ultrasonic guidance). Intraoperative use of spinal ultrasound (CPT® 76998) would not require prior authorization by eviCore.

Indications for spinal canal ultrasound (CPT® 76800):

- This study is generally limited to infants, newborns and young children because of incomplete ossification of the vertebral segments surrounding the spinal cord, including the assessment of CSF in the spinal canal and for image-guided lumbar puncture.
- When ossification of the vertebral segments is incomplete for evaluation of suspected or known tethered cord (see: **Tethered Cord [PEDSP-5]** in the Pediatric Spine Imaging Guidelines).
- Evaluation of suspected occult and non-occult spinal dysraphism (see: **Spinal Dysraphism [PEDSP-4]** in the Pediatric Spine Imaging Guidelines).
- Evaluation of spinal cord tumors, vascular malformations and cases of birth-related trauma.
- Contraindicated for use in the adult spine for the assessment of spinal pain, radiculopathy, facet inflammation, nerve root inflammation, disc herniation, and soft tissue conditions surrounding the adult spine other than for superficial masses.

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Limitations of Spinal Imaging in Degenerative Disorders (SP-2.7)

SP.IM.0002.7.A

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- Non-specific axial spinal pain is ubiquitous. Advanced diagnostic imaging infrequently identifies the source of the spinal pain (pain generator).
- Incidental findings on MRI and CT, including bulging, protruding, extruding or herniated discs, are often non-concordant, asymptomatic and increase in incidence as the spine ages.
- In individuals with poorly defined clinical presentations, “abnormal” spinal advanced diagnostic imaging results are infrequently clinically concordant, significant, material or substantive and may even lead to inappropriate treatment.
- Performing advanced spinal imaging based only on the presence of spinal degenerative findings identified on x-rays is not generally indicated in individuals who are either asymptomatic or present with non-specific axial spinal pain.

Miscellaneous Spinal Lesions (SP-2.8)

SP.IM.0002.8.A
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Vertebral body hemangiomas:

- Vertebral body hemangiomas are common and are generally benign and incidental findings on plain x-rays and advanced diagnostic imaging studies.
- If the appearance of a vertebral body hemangioma is typical on plain x-ray, further spinal advanced diagnostic imaging is not usually required, unless there are associated neurologic symptoms or signs on physical examination.
- If the appearance of a vertebral body hemangioma is atypical on plain x-ray, with or without neurological signs or symptoms on physical exam, MRI without contrast or MRI without and with contrast is indicated.
- Occasionally, MRI may be equivocal, indeterminate or non-diagnostic and CT without contrast of the spinal area is indicated to help clarify the diagnosis.
- No follow-up imaging is necessary once the diagnosis of a vertebral body hemangioma is established without neurological features.

Tarlov cysts:

- Tarlov cysts are most often cystic dilatations of nerve root sleeves in the lumbar spine and sacrum.
- Controversy exists as to whether Tarlov cysts can result in neurologic signs and symptoms but they can result in erosion of the adjacent bone.
- Usually Tarlov cysts are benign, incidental findings on advanced diagnostic imaging studies. Further evaluation of a known or suspected Tarlov cyst can be performed with an MRI Lumbar Spine without and with contrast study (CPT® 72158) or CT/ Myelography Lumbar Spine (CPT® 72132).

Other spinal lesions:

- MRI without and with contrast or a CT without contrast is appropriate if:
  - Other spinal lesions are seen on routine x-rays or a non-contrast MRI; ***and***
  - These additional advanced imaging studies are recommended by a spine specialist or radiologist to further characterize or diagnose the lesion; ***or***
  - Required for surgical planning.

MRA Spinal Canal (SP-2.9)

SP.IM.0002.9.A
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- MRA Spine imaging is utilized infrequently.
- Cerebrospinal Fluid (CSF) flow studies using MRI are included in CPT® codes 70551, 70552, and 70553 and should not be coded or reported separately.

Indications may include:

- Suspected spinal cord arteriovenous malformation (AVM) or arteriovenous fistula (AVF):
  - MRI Spine of the relevant spine region without and with contrast should be the initial imaging study.
  - If suspicion for a spinal AVM or AVF is high based upon the results of the MRI Spine, catheter angiography is recommended (CPT® 72159 or CPT® 70496).
- Subarachnoid hemorrhage where no brain aneurysm has been previously identified
  - Catheter angiography (CPT® 70496) should be performed and is the most definitive study to define possible spinal pathology resulting in a spinal canal subarachnoid hemorrhage.
  - See: **General Guidelines – CT and MR Angiography (CTA and MRA) (HD-1.5)** in the Head Imaging Guidelines
  - See: **Intracranial Aneurysms (HD-12.1)** in the Head Imaging Guidelines
- Preoperative planning
  - MRA Spinal canal may be useful in identifying major intercostal feeder vessels to the spinal cord prior to surgical procedures that might interfere with this blood supply. However, catheter angiography (CPT® 72159) is generally a more definitive study for this purpose.

Spine PET/CT (SP-2.10)

SP.IM.0002.10.A

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- At the present time there is controversy regarding spine PET/CT due to inadequate scientific evidence to support the medical necessity of PET/CT for the routine assessment of spinal disorders, other than for neoplastic disease.
- See: **Spinal/Vertebral Metastases (ONC-31.6)** in the Oncology Imaging Guidelines
- Spine PET/CT should be considered experimental or investigational.

Cone-beam CT (SP-2.11)

SP.IM.0002.11.A

v2.0.2024

- Cone-beam CT for imaging of the cervical spine should be considered experimental or investigational.

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3D Rendering (SP-2.12)

SP.IM.0002.12.A
v2.0.2024

- See: **3D Rendering (MS-3)** in the Musculoskeletal Imaging Guidelines

References (SP-2)

v2.0.2024

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Neck (Cervical Spine) Pain Without/With Neurological Features (Including Stenosis) and Trauma (SP-3)

Guideline

Neck (Cervical Spine) Pain without and with Neurological Features (Including Stenosis) (SP-3.1)

SP.NP.0003.1.A
v2.0.2024

***All* of the following are required prior to advanced imaging:**
• Initial clinical evaluation performed. • A face-to-face evaluation within the last 60 days. • The initial evaluation is not required within the last 60 days if another face-to-face evaluation was performed in that time frame. This may be satisfied by the initial evaluation, re-evaluation or another visit. • Failure of recent (within 3 months) 6-week trial of provider-directed treatment (unless presence of a red flag as defined in **Red Flag Indications [SP-1.2]**) • Clinical re-evaluation after treatment period (may consist of a face-to-face evaluation or other meaningful contact (see also: **General Guidelines [SP-1.0]**)

Advanced Diagnostic Imaging:	MRI Cervical Spine, without contrast (CPT® 72141)
Comments:	CT Cervical Spine without contrast (CPT® 72125) **OR** CT Myelography (CPT® 72126) is appropriate when MRI is contraindicated.

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Neck (Cervical Spine) Trauma (SP-3.2)

SP.NP.0003.2.A
v2.0.2024

***All* of the following are required prior to advanced imaging:**
• Initial clinical evaluation performed. • A face-to-face evaluation within the last 60 days. • The initial evaluation is not required within the last 60 days if another face-to-face evaluation was performed in that time frame. This may be satisfied by the initial evaluation, re-evaluation or another visit. • Failure of recent (within 3 months) 6-week trial of provider-directed treatment (unless presence of a red flag as defined in **Red Flag Indications [SP-1.2]**) • Clinical re-evaluation after treatment period (may consist of a face-to-face evaluation or other meaningful contact (see also: **General Guidelines [SP-1.0]**) • Results of plain x-rays of the cervical spine performed after the current episode of symptoms started or changed need to be available to the requesting provider (not required for high risk mechanisms as below**)

Advanced Diagnostic Imaging:	**MRI Cervical Spine without contrast (CPT® 72141) OR CT Cervical Spine without contrast (CPT® 72125): For individuals with ankylosing spondylitis or DISH (diffuse idiopathic skeletal hyperostosis), both MRI of the whole spine (CPT® 72141, 72146, and/or 72148) and CT of the whole spine (CPT® 72125, 72128, and/or 72131) can be approved. Plain x-rays and a 6 week trial of provider-directed treatment and clinical evaluation are NOT required.**
Comments:	Plain x-rays are required for suspected fracture in non-high risk injuries. Plain x-rays and a 6-week trial of provider-directed treatment and clinical re-evaluation are **NOT** required for individuals with a high risk factor(s) for suspected cervical spine injury within the last 3 months (See below**).

**High risk factors of suspected cervical spine injury may include:

- Long term use of systemic glucocorticoids
- History of prior low energy fractures

- History of low bone mineral density
- Age ≥65 years
- Head trauma and/or maxillofacial trauma
- Pedestrian in a motor vehicle accident
- Fall from elevation ≥3 feet/5 stairs
- Diving accident
- Head-on motor vehicle collision without/with airbag deployment
- Rollover motor vehicle collision
- Ejection from the vehicle in a motor vehicle collision
- High speed of the vehicle at the time of collision
- Not wearing a seatbelt/shoulder harness in a motor vehicle collision
- Minor direct/indirect trauma to the cervical spine/maxillofacial areas in individuals with ankylosing spondylitis or DISH

Background and Supporting Information

- Pain radiation patterns from the cervical spine area into the thoracic spine area do not necessarily justify the addition of thoracic spine advanced diagnostic imaging.
- Cervical radiculopathy is often confused with shoulder disorders, brachial plexopathy, peripheral nerve entrapment and/or motor/sensory neuropathies. Electrodiagnostic testing (EMGs/NCVs) is generally used to confirm, not establish, a diagnosis of peripheral nerve entrapment and/or a motor/sensory neuropathy based upon history and physical examination findings. Electrodiagnostic testing is often considered when advanced imaging of the spine does not reveal neurocompressive pathology and/or after 6 weeks of unimproved symptoms of extremity pain, weakness, numbness and/or tingling.
- Individuals with ankylosing spondylitis or DISH are at high risk of cervical spine fractures even with minor direct/indirect trauma to the cervical spine which can result in quadriparesis/quadriplegia

References (SP-3)

v2.0.2024

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Upper Back (Thoracic Spine) Pain Without/With Neurological Features (Including Stenosis) and Trauma (SP-4)

Guideline

Upper Back (Thoracic Spine) Pain without and with Neurological Features (Including Stenosis) (SP-4.1)

SP.TS.0004.1.A
v2.0.2024

***All* of the following are required prior to advanced imaging:**
• Initial clinical evaluation performed. • A face-to-face evaluation within the last 60 days. • The initial evaluation is not required within the last 60 days if another face-to-face evaluation was performed in that time frame. This may be satisfied by the initial evaluation, re-evaluation or another visit. • Failure of recent (within 3 months) 6-week trial of provider-directed treatment (unless presence of a red flag as defined in **Red Flag Indications [SP-1.2]**). • Clinical re-evaluation after treatment period (may consist of a face-to-face evaluation or other meaningful contact (see also: **General Guidelines [SP-1.0]**).

Advanced Diagnostic Imaging:	**MRI Thoracic Spine without contrast (CPT® 72146)**
Comments:	A CT Thoracic spine without contrast (CPT® 72128) **OR** CT Myelography (CPT® 72129) is appropriate when MRI is contraindicated.

Upper Back (Thoracic Spine) Trauma (SP-4.2)

SP.TS.0004.2.A
v2.0.2024

***All* of the following are required prior to advanced imaging:**
• Initial clinical evaluation performed. • A face-to-face evaluation within the last 60 days. • The initial evaluation is not required within the last 60 days if another face-to-face evaluation was performed in that time frame. This may be satisfied by the initial evaluation, re-evaluation or another visit. • Failure of recent (within 3 months) 6-week trial of provider-directed treatment (unless presence of a red flag as defined in **Red Flag Indications (SP-1.2)**, e.g. fracture). • Clinical re-evaluation after treatment period (may consist of a face-to-face evaluation or other meaningful contact (see also: **General Guidelines (SP-1.0)**). • Results of plain x-rays of thoracic spine performed after the current episode of symptoms started or changed need to be available to the requesting provider

Advanced Diagnostic Imaging:	**MRI Thoracic Spine without contrast (CPT® 72146) OR CT Thoracic Spine without contrast (CPT® 72128)**
Comments:	For individuals with ankylosing spondylitis or DISH (diffuse idiopathic skeletal hyperostosis), both MRI of the whole spine (CPT® 72141, 72146, and/or 72148) and CT of the whole spine (CPT® 72125, 72128, and/or 72131) can be approved. Plain x-rays and a 6-week trial of provider-directed treatment and clinical evaluation are NOT required

Background and Supporting Information

- Thoracic radiculopathy presents with pain radiation from the thoracic spine around the trunk. At upper thoracic spine levels, the pain radiation is from the thoracic spine around the rib cage following the sensory distribution of an intercostal nerve.
- Advanced diagnostic imaging is generally not appropriate in evaluation of axial low back pain with radiation toward the thoracic region unless there are documented clinical features indicating a thoracic spine disorder.

References (SP-4)

v2.0.2024

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Low Back (Lumbar Spine) Pain/Coccydynia without Neurological Features (SP-5)

Guideline

Low Back (Lumbar Spine) Pain without Neurological Features (SP-5.1)

SP.LB.0005.1.A
v2.0.2024

***All* of the following are required prior to advanced imaging:**
• Initial clinical evaluation performed. • A face-to-face evaluation within the last 60 days. • The initial evaluation is not required within the last 60 days if another face-to-face evaluation was performed in that time frame. This may be satisfied by the initial evaluation, re-evaluation or another visit. • Failure of recent (within 3 months) 6-week trial of provider-directed treatment (unless presence of a red flag as defined in **Red Flag Indications (SP-1.2)**). • Clinical re-evaluation after treatment period (may consist of a face-to-face evaluation or other meaningful contact (see also: **General Guidelines (SP-1.0)**)

Advanced Diagnostic Imaging:	**MRI Lumbar Spine without contrast (CPT® 72148)**
Comments:	A CT Lumbar spine without contrast (CPT® 72131) **or** CT Myelography (CPT® 72132) is appropriate when MRI is contraindicated

Coccydynia without Neurological Features (SP-5.2)

SP.LB.0005.2.A
v2.0.2024

***All* of the following are required prior to advanced imaging:**
• Initial clinical evaluation performed. • A face-to-face evaluation within the last 60 days. • The initial evaluation is not required within the last 60 days if another face-to-face evaluation was performed in that time frame. This may be satisfied by the initial evaluation, re-evaluation or another visit. • Failure of recent (within 3 months) 6-week trial of provider-directed treatment (unless presence of a red flag as defined in **Red Flag Indications (SP-1.2)**, e.g. fracture). • Clinical re-evaluation after treatment period (may consist of a face-to-face evaluation or other meaningful contact (see also: **General Guidelines (SP-1.0)**) • Plain x-rays of the sacrum/coccyx are negative for fracture.

Advanced Diagnostic Imaging:	**MRI Pelvis without contrast (CPT® 72195)**
Comments:	A CT Pelvis without contrast (CPT® 72192) when MRI is contraindicated.

Background and Supporting Information

Coccydynia is often reported by individuals as “tailbone” pain that is usually idiopathic or post-traumatic and generally follows a benign course.

References (SP-5)

v2.0.2024

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Lower Extremity Pain with Neurological Features (Radiculopathy, Radiculitis, or Plexopathy and Neuropathy) With or Without Low Back (Lumbar Spine) Pain (SP-6)

Guideline

Lower Extremity Pain with Neurological Features (Radiculopathy, Radiculitis, or Plexopathy and Neuropathy) with or without Low Back (Lumbar Spine) Pain (SP-6.1)

SP.LE.0006.1.A
v2.0.2024

***All* of the following are required prior to advanced imaging:**
• Initial clinical evaluation performed. • A face-to-face evaluation within the last 60 days. • The initial evaluation is not required within the last 60 days if another face-to-face evaluation was performed in that time frame. This may be satisfied by the initial evaluation, re-evaluation or another visit. • Failure of recent (within 3 months) 6-week trial of provider-directed treatment (unless presence of a red flag as defined in **Red Flag Indications (SP-1.2)**). • Clinical re-evaluation after treatment period (may consist of a face-to-face evaluation or other meaningful contact (see also: **General Guidelines (SP-1.0)**).

Advanced Diagnostic Imaging:	**MRI Lumbar Spine without contrast (CPT® 72148)**
Comments:	A CT Lumbar spine without contrast (CPT® 72131) **OR** CT Myelography (CPT® 72132) is appropriate when MRI is contraindicated. See also: **Lumbar Spinal Stenosis (SP-9.1)**

Low Back (Lumbar Spine) Trauma (SP-6.2)

SP.LE.0006.2.A
v2.0.2024

***All* of the following are required prior to advanced imaging:**
• Initial clinical evaluation performed. • A face-to-face evaluation within the last 60 days. • The initial evaluation is not required within the last 60 days if another face-to-face evaluation was performed in that time frame. This may be satisfied by the initial evaluation, re-evaluation or another visit. • Failure of recent (within 3 months) 6-week trial of provider-directed treatment (unless presence of a red flag as defined in **Red Flag Indications (SP-1.2)**). • Clinical re-evaluation after treatment period (may consist of a face-to-face evaluation or other meaningful contact (see also: **General Guidelines (SP-1.0)**). • Results of plain x-rays of the lumbar spine performed after the current episode of symptoms started or changed need to be available to the requesting provider

Advanced Diagnostic Imaging:	**MRI Lumbar Spine without contrast (CPT® 72148) OR MRI Lumbar Spine without and with contrast (CPT® 72158) OR CT Lumbar Spine without contrast (CPT® 72131) OR CT myelogram (CPT® 72132)**
Comments:	For individuals with ankylosing spondylitis or DISH (diffuse idiopathic skeletal hyperostosis), both MRI of the whole spine (CPT® 72141, 72146, and/or 72148) and CT of the whole spine (CPT® 72125, 72128, and/or 72131) can be approved. Plain x-rays and a 6-week trial of provider-directed treatment and clinical evaluation are **NOT** required.

- Definitions of radiculopathy, radiculitis and radicular pain: See **Definitions (SP-1.3)**
- Sciatic Neuropathy, Femoral Neuropathy, Peroneal Neuropathy and Meralgia Paresthetica: See **Focal Neuropathy (PN-2)**in the Peripheral Nerve Disorders Imaging Guidelines
- Lumbar and/or Lumbosacral Plexopathy: See **Lumbar and Lumbosacral Plexus (PN-5)** in the Peripheral Nerve Disorders Imaging Guidelines

- Advanced imaging of the hip or pelvis is not generally required in the evaluation of apparent lumbar radiculopathy unless a separate recognized indication for such studies is documented. See: **Hip (MS-24)** in the Musculoskeletal Imaging Guidelines.

References (SP-6)

v2.0.2024

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Myelopathy (SP-7)

Guideline

Myelopathy (SP-7.1)

SP.MI.0007.1.A
v2.0.2024

- Myelopathy is the development of abnormal spinal cord function with long tract signs usually secondary to spinal cord compression, but also inflammation (transverse myelitis, MS, etc.), neoplastic disease or spinal cord infarction.
  - For imaging of transverse myelitis, see: **Transverse Myelitis (HD-16.4)** in the Head Imaging Guidelines
- Examination findings may include loss of manual dexterity, spastic legs, ataxia with hyperreflexia, upgoing toes (positive Babinski), Hoffmann's sign, sustained clonus, Lhermitte's sign, crossed radial reflex, inverted radial reflex, and/or finger escape sign. Sensory level and urinary incontinence/retention may be seen.
  - Advanced imaging is generally appropriate in the initial evaluation of documented or reasonably suspected myelopathy.
- X-rays are not required for advanced imaging in individuals with potential myelopathy regardless of any history of spine surgery, trauma, or other reasons which may otherwise require x-rays (e.g., **Neck (Cervical Spine) Trauma (SP-3.2)**, **Upper Back (Thoracic Spine) Trauma (SP-4.2)**, **Post-Operative Spinal Disorders (SP-15)**).
- Conservative treatment is not a requirement for advanced imaging in individuals with potential myelopathy.
- MRI Cervical and Thoracic Spine without contrast, or without and with contrast, are appropriate for:
  - Evaluation of reasonably suspected myelopathy
  - Post-traumatic syrinx with increased spinal pain or a worsening neurological symptoms
  - Sustained, prominent, and unexplained Lhermitte's sign
  - Unexplained Babinski's or Hoffmann's signs
  - Unexplained hyperreflexia
  - Unexplained bilateral motor weakness
- MRI Cervical, Thoracic, and Lumbar Spine without contrast, or without and with contrast, are appropriate for:
  - Suspected tethered cord and/or low lying conus medullaris.
- CT without contrast, or CT with contrast (myelography), can also be considered for either of the following:
  - An alternative to MRI, when MRI is contraindicated
  - In addition to MRI, for surgical planning

Background and Supporting Information

Lhermitte's sign – With the individual in the long leg sitting position on the examination table, the examiner passively flexes the individual's head and one hip simultaneously with the leg kept straight. A positive test occurs if there is sharp pain down the spine and into the upper or lower extremities.

Babinski's sign – The examiner runs a sharp instrument along the plantar surface of the foot from the calcaneus along the lateral border to the forefoot. A positive test occurs with extension of the great toe with flexion and splaying of the other toes. A negative test occurs with no movement of the toes at all or uniform bunching up of the toes.

Hoffman's sign – The examiner holds the individual's middle finger and briskly flicks the distal phalanx. A positive test is noted if the interphalangeal joint of the thumb of the same hand flexes.

References (SP-7)

v2.0.2024

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Lumbar Spine Spondylolysis/ Spondylolisthesis (SP-8)

Guideline

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Spondylolysis (SP-8.1)

SP.SP.0008.1.A
v2.0.2024

Results of plain x-rays performed after the current episode of symptoms started or changed need to be available to the requesting provider, unless otherwise specified below.

Indication	Imaging Study
• Plain x-rays are negative, equivocal, or indeterminate AND • Clinical suspicion of spondylolysis is high	99mTc-MDP SPECT bone scan (CPT® 78803)
• Negative SPECT bone scan, OR evaluation of a lesion seen on SPECT bone scan	MRI Lumbar Spine without contrast (CPT® 72148) OR CT Lumbar Spine without contrast (CPT®72131)
• Documented need for preoperative planning	MRI Lumbar Spine without contrast (CPT® 72148) AND/OR CT Lumbar Spine without contrast (CPT®72131)
• Failure of 6 weeks of provider-directed conservative treatment (which may include immobilization with a spinal orthosis) with clinical re-evaluation	MRI Lumbar Spine without contrast (CPT® 72148) OR CT Lumbar Spine without contrast (CPT®72131)
• Evaluation for stress reaction in bone, to visualize nerve roots	MRI Lumbar Spine without contrast (CPT® 72148)
• Any of the above indications, and MRI is contraindicated	CT Lumbar Spine without contrast (CPT®72131)
• Evaluation of bony anatomy	CT Lumbar Spine without contrast (CPT®72131)
• Monitor healing of a pars interarticularis fracture that was determined to have healing potential on a prior CT (i.e., non-sclerotic lesion)	CT Lumbar Spine without contrast (CPT® 72131) of the symptomatic spinal level

- For pediatric spondylolysis, see: **Spondylolysis (PEDSP-2.4)** in the Pediatric Spine Imaging Guidelines
- Bony healing cannot be achieved non-surgically in an established well defined isthmic pars interarticularis defect whether it is developmental or the result of a pars interarticularis fracture non-union. Repeat advanced diagnostic imaging is not medically necessary in this setting.

Background and Supporting Information

- Spondylolysis is most often an incidental finding on plain x-rays, and advanced imaging is generally not indicated.
- MRI is not appropriate in the early diagnosis of spondylolysis due to the potential for false negative results.

Spondylolisthesis (SP-8.2)

SP.SP.0008.2.A

v2.0.2024

- CT Lumbar Spine without contrast (CPT® 72131) or MRI Lumbar Spine without contrast (CPT® 72148) can be considered after plain x-ray (results of plain x-rays performed after the current episode of symptoms started or changed need to be available to the requesting provider) for the following:
  - Failure of 6-week trial of provider-directed treatment and clinical re-evaluation (see also: **General Guidelines [SP-1.0]**); ***or***
  - Preoperative evaluation; ***or***
  - See: **Red Flag Indications (SP-1.2)**

Background and Supporting Information

- Stress reactions and stress fractures of the pars interarticularis are most common in athletes and others whose activities involve repetitive flexion/extension loading of the lumbar spine and may be acute or chronic and unilateral or bilateral. Pars interarticularis defects can be an incidental finding on plain x-rays and is frequently asymptomatic.
- Spondylolisthesis is the forward (anterolisthesis) or backward (retrolisthesis, usually not clinically significant) displacement of one vertebra in relation to an adjacent vertebra, most commonly at L4-5 and L5-S1, although other levels of the spine may be involved. Spondylolisthesis is often an incidental finding on plain x-ray and is frequently asymptomatic.

References (SP-8)

v2.0.2024

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Lumbar Spinal Stenosis (SP-9)

Guideline

Lumbar Spinal Stenosis (SP-9.1)

SP.ST.0009.1.A

v2.0.2024

- MRI Lumbar Spine without contrast (CPT® 72148) or CT Lumbar Spine without contrast (CPT® 72131) is appropriate for those individuals with clinical suspicion of lumbar spinal stenosis if:
  - Failure of 6-week trial of provider-directed treatment and clinical re-evaluation (see also: **General Guidelines (SP-1.0)**); ***or***
  - Red Flag Indications (see: **Red Flag Indications (SP-1.2)**); ***or***
  - Severe symptoms of neurogenic claudication restricting normal activity or requiring the frequent use of narcotic analgesics
- A CT/Myelogram Lumbar Spine (CPT® 72132) may also be considered for individuals who have failed 6-weeks of provider-directed treatment if requested by the operating surgeon for surgical planning, especially for multi-level lumbar spinal stenosis.

Background and Supporting Information

Lumbar spinal stenosis refers to a decrease in the space available for the neural elements within the spinal canal that include spinal nerve roots and the cauda equina. It is usually a degenerative condition of the aging spine which can be asymptomatic or a common cause of buttock/low back and/or leg pain (neurogenic claudication) in this population. Neurogenic claudication is a common symptom of lumbar spinal stenosis that is aggravated by walking, especially down hills or stairs, with prolonged standing and is often relieved by sitting and bending forward. Neurogenic claudication should be differentiated from vascular claudication (leg/calf pain) that is often aggravated by walking and relieved fairly rapidly by stopping and rest. The differential diagnosis for lumbar spinal stenosis should include peripheral vascular disease, hip disorders and peripheral neuropathy.

References (SP-9)

v2.0.2024

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Sacro-Iliac (SI) Joint Pain, Inflammatory Spondylitis/Sacroiliitis and Fibromyalgia (SP-10)

Guideline

Sacro-Iliac (SI) Joint Pain/Sacroiliitis (SP-10.1)

SP.SI.0010.1.A

v2.0.2024

- CT Pelvis without contrast (CPT® 72192) or MRI Pelvis without contrast (CPT® 72195) is appropriate if:
  - Initial plain x-rays are equivocal or not diagnostic; ***and***
  - Failure of 6 weeks of provider-directed treatment and clinical re-evaluation (see also: **General Guidelines (SP-1.0)**); ***or***
  - Any ONE of the following:
    - Fractures of the sacrum or sacroiliac joint(s); ***or***
    - See: **Red Flag Indications (SP-1.2)**; ***or***
    - Preoperative planning
- MRI Pelvis without and with contrast as indicated for pediatric individuals with juvenile idiopathic arthritis.
- Suspicion of neoplastic, inflammatory, or infectious disease:
  - MRI Pelvis without and with contrast (CPT® 72197) or MRI Pelvis without contrast (CPT® 72195)
  - CT Pelvis without contrast (CPT® 72192) if MRI is contraindicated
- See: **Rheumatoid Arthritis (RA) and Inflammatory Arthritis (MS-15.1)** in the Musculoskeletal Imaging Guidelines

Inflammatory Spondylitis (SP-10.2)

SP.SI.0010.2.A
v2.0.2024

- Initial plain x-rays are equivocal or not diagnostic:
  - MRI without and with contrast or MRI without contrast of the affected spinal region
    - CT without contrast of the affected spinal region if MRI is contraindicated
- Follow up imaging for treatment response or disease progression:
  - Repeat plain x-rays of the SI joints, or SI joints and spine area of interest
    - MRI without and with contrast of spine area of interest, or MRI SI joints without contrast, or MRI SI joints and MRI without and with contrast spine area of interest if x-rays show no progression of disease
- For those with documented ankylosing spondylitis or DISH (diffuse idiopathic skeletal hyperostosis) and spine pain following trauma, plain x-rays are not required prior to advanced imaging.
  - See: **Neck Trauma (SP-3.2)**, **Upper Back Trauma (SP-4.2)**, **Low Back Trauma (SP-6.2)**

Fibromyalgia (SP-10.3)

SP.DI.0010.3.A

v2.0.2024

- Advanced diagnostic imaging is not supported by the scientific evidence for the evaluation and treatment of fibromyalgia.

Background and Supporting Information

- Sacroiliitis can present with pain localized to the SI joint or referred pain to the buttock and/or posterior thigh without neurologic signs or symptoms. Affected individuals can often point to the SI joint as the pain source. Provocative and/or therapeutic SI joint anesthetic/corticosteroid injections can have diagnostic value.
- There is no evidence demonstrating that advanced diagnostic imaging substantiates changes to individual management decisions in individuals with proven SI joint disorders when visible on routine plain x-rays.
- MRI has shown inflammatory changes in the SI joints prior to visible x-ray changes in several studies. However, the ability of MRI to characterize inflammation in early ankylosing spondylitis, the ability of MRI to predict erosive changes, and the value of monitoring treatment effects using serial MRI studies remains controversial and investigational in adults.

References (SP-10)

v2.0.2024

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Spinal Compression Fractures (SP-11)

Guideline

Spinal Compression Fractures (SP-11.1)

SP.FX.0011.1.A
v2.0.2024

Individuals with no history of malignancy

- MRI without contrast, CT without contrast, or whole body bone scan (CPT® 78306), SPECT (CPT® 78803), or SPECT/CT (CPT® 78830) of the affected spinal region is indicated after plain x-ray evaluation ***and*** the location of the individual's spinal pain is concordant with the spinal x-rays for any ONE of the following:
  - X-rays reveal a new spinal compression fracture; ***or***
  - X-rays are non-diagnostic and severe spinal pain persists for more than one week in an individual already predisposed to low energy/insufficiency fractures; ***or***
  - The acuity of the spinal compression fracture deformity on plain x-ray is indeterminate, ***or***
  - Surgical planning following known insufficiency spinal compression fractures in individuals who are candidates for kyphoplasty, vertebroplasty or other spine surgical procedures

Individuals with a history of malignancy

- For individuals with new symptomatic or asymptomatic vertebral compression fractures on radiographs, please refer to the cancer-specific guidelines within the General Oncology Imaging Guidelines for appropriate imaging studies.
- See also: **Red Flag Indications (SP-1.2)**

Background and Supporting Information

Insufficiency/low energy spinal compression fractures of the spine occur due to the lack of structural integrity to withstand physiologic loads and minor spinal trauma. Low bone mineral density is the primary etiology for most of these fractures but could also occur in the setting of other bone disease and medical conditions, in addition to neoplastic disease and infection. Sudden localized back pain, with or without trauma, is a typical presentation of insufficiency/low energy spinal compression fractures and can often be an incidental finding on plain x-rays and can be asymptomatic.

References (SP-11)

v2.0.2024

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Spinal Pain in Cancer Patients (SP-12)

Guideline

Spinal Pain in Cancer Patients (SP-12)

Spinal Pain in Cancer Patients (SP-12)

SP.CA.0012.A

v2.0.2024

- For guidelines regarding advanced diagnostic imaging in this clinical setting, See **Spinal/Vertebral Metastases (ONC-31.6)**

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Spinal Canal/Cord Disorders (e.g. Syringomyelia) (SP-13)

Guideline

Initial Imaging Pathway (SP-13.1)

SP.CD.0013.1.A

v2.0.2024

- MRI Cervical Spine without contrast or without and with contrast (CPT® 72141 or CPT® 72156) and MRI Thoracic Spine without contrast or without and with contrast (CPT® 72146 or CPT® 72157) is appropriate when syringomyelia is suspected.
- Once a syrinx is identified by prior imaging, the following are appropriate:
  - MRI Brain without contrast (CPT® 70551) to evaluate for syringobulbia **AND**
  - MRI Cervical Spine without contrast or without and with contrast (CPT® 72141 or CPT® 72156) if not already performed **AND**
  - MRI Thoracic Spine without contrast or without and with contrast (CPT® 72146 or CPT® 72157) and MRI Lumbar Spine without contrast or without and with contrast (CPT® 72148 or CPT® 72158) to define the lower most extent of the syrinx or to identify a skip lesion.

Follow-up Imaging (SP-13.2)

SP.CD.0013.2.A

v2.0.2024

- MRI Cervical Spine without contrast (CPT® 72141) and MRI Brain without contrast (CPT® 70551) and/or MRI Thoracic Spine without contrast (CPT® 72146) when involved
  - If there is a concern for malignancy, imaging can be performed without and with contrast
  - Annual imaging until non-progression of the syringomyelia is established
  - Following surgical treatment (including posterior fossa decompression)
  - Advanced diagnostic imaging every three years for life can be performed once non-progression of the syringomyelia is established
  - Repeat advanced diagnostic imaging is appropriate when there is evidence of neurologic deterioration

Background and Supporting Information

Syringomyelia may begin to form in childhood but rarely becomes symptomatic before the adult years.

References (SP-13)

v2.0.2024

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Spinal Deformities (e.g. Scoliosis/ Kyphosis) (SP-14)

Guideline

Spinal Deformities (e.g. Scoliosis/ Kyphosis) (SP-14.1)

SP.SC.0014.1.A

v2.0.2024

- MRI without contrast, MRI without and with contrast, or CT/Myelography if MRI is contraindicated of the affected spinal regions is appropriate after plain x-rays (e.g., Cobb radiographs) of the affected spinal regions have been performed and results are available to the requesting provider:
  - For preoperative evaluation; ***or***
  - For cases of congenital scoliosis and other atypical curves that may be associated with spinal canal/cord pathology such as tethered cord, syringomyelia, diastematomyelia, or tumors; ***or***
  - For cases of scoliosis and/or kyphosis when there are associated neurologic signs and symptoms on physical examination; ***or***
  - Scoliosis with a convex left thoracic curve due to a high association of a convex left thoracic curve with underlying spinal canal/cord pathology
- CT of the affected spinal regions (contrast as requested) is appropriate in cases with a complex osseous deformity for preoperative evaluation
- CTA or MRA is not medically necessary for preoperative planning for initial anterior spinal surgery for surgical correction of spinal deformities

Revision Anterior Spinal Deformity Surgery (SP-14.2)

SP.SC.0014.2.A

v2.0.2024

- If requested by the operating surgeon, the following studies can be performed for preoperative planning for revision of anterior thoracic or lumbar spinal surgery:
  - CTA Pelvis (CPT® 72191) and/or CTA Abdomen (CPT® 74175); **or**
  - MRA Pelvis (CPT® 72198) and/or MRA Abdomen (CPT® 74185)

Background and Supporting Information

- Scoliosis is defined as a curvature of the spine in the coronal plane. Scoliosis can involve any or all levels of the spine but generally involves the thoracic and/or lumbar spine. Scoliosis initially occurs in the pediatric and adolescent population and persists throughout life. If scoliosis begins in adulthood, it is usually secondary to neurologic disorders (e.g., posttraumatic paralysis) or degenerative spondylosis. Sagittal plane spinal deformity (e.g., kyphosis, hyperlordosis) may be associated with scoliosis.

References (SP-14)

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Post-Operative Spinal Disorders (SP-15)

Guideline

Greater than Six Months Post-Operative (SP-15.1)

SP.OP.0015.1.A

v2.0.2024

- Following plain x-rays of the affected spinal regions post-surgical with results available to the requesting provider, MRI without and with contrast, MRI without contrast, or CT without contrast of the affected spinal region(s) is appropriate when:
  - Individual is more than six months post-operative; ***and***
  - No significant improvement after a recent (within 3 months) six week trial of provider-directed treatment with clinical re-evaluation; ***or***
  - See: **Red Flag Indications (SP-1.2)**
- See: **Nuclear Medicine (SP-17)** for nuclear medicine imaging when MRI/CT are nondiagnostic in back pain with suspected failed fusion surgery

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Routine Post-Fusion Imaging (SP-15.2)

SP.OP.0015.2.A
v2.0.2024

- Following a clinically successful spinal fusion, advanced diagnostic imaging is generally not indicated.
- **PET** is not currently indicated for the routine assessment of spinal fusions or unsuccessful spine surgery (see also: **Spine PET (SP-2.10)**).

Prolonged Intractable Pain Following Spinal Surgery Within Six Months (SP-15.3)

SP.OP.0015.3.A

v2.0.2024

- Following plain x-rays of the affected spinal regions post-surgical with results available to the requesting provider, MRI without and with contrast of the affected spinal region(s) is appropriate if there are residual, new, recurrent, or worsening symptoms related to the surgical site.
  - CT without contrast, or CT with contrast (Myelography) of the affected spinal region(s) if MRI is contraindicated.

Revision Anterior Fusion Surgery (SP-15.4)

SP.OP.0015.4.A

v2.0.2024

- If requested by the operating surgeon, the following studies for preoperative planning prior to surgical revision of a thoracic or lumbar anterior spinal arthrodesis:
  - CTA Pelvis (CPT® 72191) and/or CTA Abdomen (CPT® 74175); *or*
  - MRA Pelvis (CPT® 72198) and/or MRA Abdomen (CPT® 74185)

References (SP-15)

v2.0.2024

1. Hayashi D, Roemer FW, Mian A, Gharaibeh M, et al. Imaging features of post-operative complications after spinal surgery and instrumentation. *AJR*. 2012;199:W123-W129.
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Other Imaging Studies and Procedures Related to the Spine Imaging Guidelines (SP-16)

Guideline

Prior to Spine Surgery (SP-16.1)

SP.OI.0016.1.A

v2.0.2024

- Advanced imaging needed for surgical planning (e.g., MRI and/or CT) should be performed within the past six (6) months for preoperative planning prior to spine surgery when the criteria for advanced imaging studies of the spine are met as otherwise stated in the Spine Imaging Guidelines. (See: **MRI of the Spine [SP-2.2]**, **CT of the Spine [SP-2.3]**, **CT/Myelography [SP-2.4]**)
- MRA and CTA are generally not indicated for preoperative planning of initial anterior spinal surgery unless abnormal vasculature is known or reasonably anticipated.

Prior to Interventional Spinal Injections (SP-16.2)

SP.OI.0016.2.A

v2.0.2024

- Advanced diagnostic imaging studies of the spine are not required prior to facet joint injections, medial branch blocks or radiofrequency ablations unless the criteria for advanced imaging studies of the spine are met as otherwise stated in the Spine Imaging Guidelines.
- Advanced diagnostic imaging studies of the cervical spine and/or thoracic spine are indicated within twenty-four (24) months prior to interlaminar or transforaminal epidural steroid injections of the cervical and/or thoracic spine when the criteria for advanced imaging studies of the spine are met as otherwise stated in the Spine Imaging Guidelines.
- Advanced diagnostic imaging studies of the lumbar spine are indicated prior to transforaminal epidural steroid injections of the lumbar spine when the criteria for advanced imaging studies of the spine are met as otherwise stated in the Spine Imaging Guidelines.
- Advanced diagnostic imaging studies of the lumbar spine are not required prior to lumbar spine interlaminar or caudal epidural steroid injections unless the criteria for advanced imaging studies of the spine are met as otherwise stated in the Spine Imaging Guidelines.
- For an individual with evidence of symptomatic spinal stenosis, MRI or CT with or without myelography demonstrating severe spinal stenosis at the level to be treated within the past twenty-four (24) months is required for an initial trial of a transforaminal, interlaminar or caudal epidural steroid injection when ALL of the following criteria are met:
  - Diagnostic evaluation has ruled out other potential causes of pain
  - Significant functional limitations resulting in diminished quality of life and impaired age-appropriate activities of daily living (ADLs)
  - Failure of at least four (4) weeks of conservative treatment (e.g., exercise, physical methods including physical therapy and/or chiropractic care, NSAIDs, and/or muscle relaxants)
- See: **Red Flag Indications (SP-1.2)** for severe radicular pain

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Prior to Spinal Cord Stimulator (SCS) Placement/Removal (SP-16.3)

SP.OI.0016.3.A

v2.0.2024

- MRI Thoracic Spine without contrast (CPT® 72146) is generally the study of choice prior to SCS placement. CT Thoracic Spine without contrast (CPT® 72128) **OR** CT/ Myelography Thoracic Spine (CPT® 72129) are acceptable alternatives.
- Imaging of the lumbar spine is not indicated for placement nor removal of spinal cord stimulators.

Following Vertebral Augmentation Procedures (SP-16.4)

SP.OI.0016.4.A

v2.0.2024

- CT without contrast of the affected spinal region(s) within 24 hours post-procedure to evaluate neurologic sequelae resulting from cement extravasation

Background and Supporting Information

- MRI has not been shown to change the outcome of interventional pain procedures in recent scientific evidence-based studies and without substantial change in the clinical picture or intervening surgery. Repeat advanced diagnostic imaging studies are not necessary with each spinal injection or series of spinal injections.

References (SP-16)

v2.0.2024

1. Cohen SP, Gupta A, Strassels SA, et al. Effect of MRI on treatment results or decision making in patients with lumbosacral radiculopathy referred for epidural steroid injections. Arch Intern Med. 2012;172:134-142. doi:10.1001/archinternmed.2011.593.
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Nuclear Medicine (SP-17)

Guideline

Nuclear Medicine (SP-17)
Reference (SP-17)

Nuclear Medicine (SP-17)

SP.FX.0017.A
v2.0.2024

- For evaluation of suspected loosening of orthopedic implants, when recent plain x-ray is nondiagnostic:
  - Bone scan (CPT® 78315) **OR**
  - Distribution of Radiopharmaceutical Agent SPECT (CPT® 78803, or 78831) **OR**
  - SPECT/CT (CPT® 78830)
- Back pain with suspected failed fusion surgery, with suspected painful pseudoarthrosis and MRI/CT are nondiagnostic:
  - Radiopharmaceutical Localization SPECT (CPT® 78803, or 78831) **OR**
  - SPECT/CT (CPT® 78830)
- Any of the following studies are indicated for initial evaluation of suspected osteomyelitis:
  - Bone scan (one of CPT® codes: 78300, 78305, 78306, or 78315) **OR**
  - Distribution of Radiopharmaceutical Agent SPECT (CPT® 78803) **OR**
  - Nuclear Bone Marrow imaging (one of CPT® codes: 78102, 78103, or 78104) **OR**
  - Radiopharmaceutical inflammatory imaging (one of CPT® codes: 78800, 78801, 78802) **OR**
  - Distribution Of Radiopharmaceutical Agent SPECT (CPT® 78803 or 78831) **OR**
  - SPECT/CT (CPT® 78830 or 78832)
- For follow-up imaging, any of the following studies are indicated for evaluation of response to treatment in established osteomyelitis. The appropriate follow-up advanced imaging time frame will depend on the nature of the underlying disease and prior imaging:
  - Bone scan (one of CPT® codes: 78300, 78305, 78306, or 78315) **OR**
  - Nuclear Bone Marrow imaging (one of CPT® codes: 78102, 78103, or 78104)
- For evaluation of facet arthropathy in individuals with ankylosing spondylitis, osteoarthritis, or rheumatoid arthritis:
  - Radiopharmaceutical Localization Inflammatory Imaging (one of CPT® codes: 78800, 78801, 78802, or 78803) **OR**
  - Distribution Of Radiopharmaceutical Agent SPECT (CPT® 78803) **OR**
  - SPECT/CT (CPT® 78830)
- For the evaluation of back pain and suspected spondylolysis:
  - Radiopharmaceutical Agent SPECT (CPT® 78803 or 78831) **OR**
  - SPECT/CT (CPT® 78830)

- SPECT has been described to identify spinal pain generators, pseudoarthrosis of spinal fusion or hardware failure when conventional advanced diagnostic imaging studies are inconclusive, non-diagnostic or equivocal.
  - Requests for SPECT for these indications will be reviewed on a case-by-case basis.
- For the evaluation of a new symptomatic compression fracture identified on radiographs or CT, and no known malignancy:
  - Whole body bone scan with add on SPECT (CPT® 78803) or SPECT/CT (CPT® 78830)
  - See also: **Spinal Compression Fractures (SP-11.1)**

Reference (SP-17)

v2.0.2024

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Policy History and Instructions for Use

Guideline

Policy History and Instructions for Use

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Instructions for Use

This Medical Policy provides assistance in interpreting United HealthCare Services, Inc. standard benefit plans. When deciding coverage, the federal, state (Ohio Administrative Code [OAC]) or contractual requirements for benefit plan coverage must be referenced as the terms of the federal, state (OAC) or contractual requirements for benefit plan coverage may differ from the standard benefit plan. In the event of a conflict, the federal, state (OAC) or contractual requirements for benefit plan coverage govern.

Before using this policy, please check the federal, state (OAC) or contractual requirements for benefit plan coverage. United HealthCare Services, Inc reserves the right to modify its Policies and Guidelines as necessary. This Medical Policy is provided for informational purposes. It does not constitute medical advice.

United HealthCare Services, Inc. uses InterQual® for the primary medical/surgical criteria, and the American Society of Addiction Medicine (ASAM) for substance use, in administering health benefits. If InterQual® does not have applicable criteria, United HealthCare Services, Inc. may also use United HealthCare Services, Inc. Medical Policies, Coverage Determination Guidelines, and/or Utilization Review Guidelines that have been approved by the Ohio Department for Medicaid Services. The United HealthCare Services, Inc. Medical Policies, Coverage Determination Guidelines, and Utilization Review Guidelines are intended to be used in connection with the independent professional medical judgment of a qualified health care provider and do not constitute the practice of medicine or medical advice.

Policy History/Revision Information

Date	Summary of Changes
02/01/2024	Annual evidence-based updates
07/01/2024	Interim evidence-based updates