



United  
Healthcare®  
Community Plan

**UnitedHealthcare® Community Plan: *Radiology Imaging Coverage  
Determination Guideline***

**Adult Pelvis Imaging Guidelines (For Ohio Only)**

**V1.0.2024**

**Guideline Number: CSRAD011OH.B**

**Effective Date: February 1, 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.*

Adult Pelvis Imaging Guidelines (For Ohio Only): CSRAD011OH.B  
UnitedHealthcare Community Plan Coverage Determination Guideline

Effective: February 1, 2024  
Page 1 of 119

# Table of Contents

## Guideline

---

Related Community Plan Policies

Application (For Ohio Only)

Guideline Development (Preface-1)

Benefits, Coverage Policies, and Eligibility Issues (Preface-2)

Clinical Information (Preface-3)

Coding Issues (Preface-4)

Whole-Body Imaging (Preface-5)

References (Preface-6)

Copyright Information (Preface-7)

Trademarks (Preface-8)

Pelvic Imaging Guidelines

Abbreviations for Pelvis Imaging Guidelines

General Guidelines (PV-1)

Abnormal Uterine Bleeding (PV-2)

Amenorrhea (PV-3)

Adenomyosis (PV-4)

Adnexal Mass/Ovarian Cysts (PV-5)

Endometriosis (PV-6)

Pelvic Inflammatory Disease (PID) (PV-7)

Polycystic Ovary Syndrome (PV-8)

Initial Infertility Evaluation, Female (PV-9)

Intrauterine Device (IUD) and Tubal Occlusion (PV-10)

Pelvic Pain/Dyspareunia, Female (PV-11)

Leiomyoma/Uterine Fibroids (PV-12)

Periurethral Cysts, Urethral Diverticula and Vaginal Masses (PV-13)

Congenital (Mullerian) Uterine and Vaginal Anomalies (PV-14)

Fetal MRI and Other Pregnancy Imaging (PV-15)  
Molar Pregnancy and Gestational Trophoblastic Neoplasia (GTN) (PV-16)  
Impotence/Erectile Dysfunction (PV-17)  
Penis–Soft Tissue Mass (PV-18)  
Male Pelvic Disorders (PV-19)  
Scrotal Pathology (PV-20)  
Fistulae Abscess, and Pilonidal Cyst (PV-21)  
Urinary Incontinence/Pelvic Prolapse/Fecal Incontinence (PV-22)  
Patent Urachus (PV-23)  
Bladder Mass (PV-24)  
Ureteral and/or Bladder Trauma or Injury (PV-25)  
Gender Affirmation Surgery; Pelvic (PV-26)

Policy History and Instructions for Use

# Related Community Plan Policies

## Related Community Plan Policies

v1.0.2024

### General Policies

- General Abdomen Imaging Guidelines
- General Oncology Imaging Guidelines

### Pediatric Policies

- Pediatric Pelvis Imaging Guidelines

# Application (For Ohio Only)

---

## Guideline

---

Application (For Ohio Only)

Application (For Ohio Only)

# Application (For Ohio Only)

---

## Application for Ohio OH UHC v1.0.2024

- 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.

Application (For Ohio Only)

# Guideline Development (Preface-1)

---

## Guideline

---

Guideline Development (Preface-1.1)

# Guideline Development (Preface-1.1)

PRF.GG.0001.1.UOH  
v1.0.2024

- 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. United HealthCare’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.



# Benefits, Coverage Policies, and Eligibility Issues (Preface-2)

---

## Guideline

---

Benefits, Coverage Policies, and Eligibility Issues (Preface-2.1)

References (Preface-2)

# Benefits, Coverage Policies, and Eligibility Issues (Preface-2.1)

PRF.BC.0002.1.UOH

v1.0.2024

## **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)

---

**v1.0.2024**

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

# Clinical Information (Preface-3)

---

## Guideline

---

Clinical Information (Preface-3.1)

References (Preface-3)

# Clinical Information (Preface3.1)

PRF.CL.0003.1.UOH  
v1.0.2024

## 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<sup>20</sup> 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<sup>19</sup> 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.<sup>1</sup>

### **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<sup>®</sup> 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.<sup>1</sup>
- 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.<sup>2</sup>
- 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).<sup>2</sup>
    - 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.<sup>3,4,5,6,7</sup> 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.<sup>8</sup>
  - 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.<sup>9,10</sup> 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)

v1.0.2024

1. Bettmann MA. Frequently Asked Questions: Iodinated Contrast Agents. *RadioGraphics*. 2004;24(suppl\_1):S3-S10. doi: 10.1148/rg.24si045519.
2. Andreucci M, Solomon R, Tasanarong A. Side Effects of Radiographic Contrast Media: Pathogenesis, Risk Factors, and Prevention. *BioMed Res Int*. 2014;2014:1-20. doi: 10.1155/2014/741018.
3. McDonald RJ, McDonald JS, Kallmes DF, et al. Intracranial Gadolinium Deposition after Contrast-enhanced MR Imaging. *Radiology*. 2015;275(3):772-782. doi: 10.1148/radiol.15150025.
4. Kanda T, Ishii K, Kawaguchi H, Kitajima K, Takenaka D. High Signal Intensity in the Dentate Nucleus and Globus Pallidus on Unenhanced T1-weighted MR Images: Relationship with Increasing Cumulative Dose of a Gadolinium-based Contrast Material. *Radiology*. 2014;270(3):834-841. doi: 10.1148/radiol.13131669.
5. Olchowy C, Cebulski K, Łasecki M, et al. The presence of the gadolinium-based contrast agent depositions in the brain and symptoms of gadolinium neurotoxicity - A systematic review. Mohapatra S, ed. *PLOS ONE*. 2017;12(2):e0171704. doi: 10.1371/journal.pone.0171704.
6. Ramalho J, Castillo M, AIObaidy M, et al. High Signal Intensity in Globus Pallidus and Dentate Nucleus on Unenhanced T1-weighted MR Images: Evaluation of Two Linear Gadolinium-based Contrast Agents. *Radiology*. 2015;276(3):836-844. doi: 10.1148/radiol.2015150872.
7. Radbruch A, Weberling LD, Kieslich PJ, et al. Intraindividual Analysis of Signal Intensity Changes in the Dentate Nucleus After Consecutive Serial Applications of Linear and Macrocyclic Gadolinium-Based Contrast Agents. *Invest Radiol*. 2016;51(11):683-690. doi: 10.1097/rri.0000000000000308.
8. FDA Warns That Gadolinium-Based Contrast Agents (GBCAs) Are Retained in the Body; Requires New Class Warnings. <https://www.fda.gov/media/109825/download>.
9. Amis ES, Butler PF, Applegate KE, et al. American College of Radiology White Paper on Radiation Dose in Medicine. *J Am Coll Radiol*. 2007;4(5):272-284. doi: 10.1016/j.jacr.2007.03.002.
10. Powell AC, Long JW, Kren EM, Gupta AK, Levin DC. Evaluation of a Program for Improving Advanced Imaging Interpretation. *J Patient Saf*. 2019;15(1):69-75. doi: 10.1097/PTS.0000000000000345.
11. FDA. White Paper: Initiative to Reduce Unnecessary Radiation Exposure from Medical Imaging. Page Last Updated: 06/14/2019. <https://www.fda.gov/Radiation-EmittingProducts/RadiationSafety/RadiationDoseReduction/ucm199994.htm>.
12. Update on FDA approach to safety issue of gadolinium retention after administration of gadolinium-based contrast agents. <https://www.fda.gov/media/116492/download>.
13. Blumfield E, Swenson DW, Iyer RS, Stanescu AL. Gadolinium-based contrast agents — review of recent literature on magnetic resonance imaging signal intensity changes and tissue deposits, with emphasis on pediatric patients. *Pediatr Radiol*. 2019;49(4):448-457. doi: 10.1007/s00247-018-4304-8.
14. American College of Radiology. ACR – SPR – SRU Practice Parameter for the Performing and Interpreting Diagnostic Ultrasound Examinations. Revised 2017. (Resolution 32). Available at: <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/US-Perf-Interpret.pdf>.
15. American College of Radiology. ACR – SPR Practice Parameter for Performing FDG-PET/CT in Oncology. Revised 2021. (Resolution 20). Available at: <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/FDG-PET-CT.pdf>.
16. American College of Radiology. ACR Practice Parameter for Performing and Interpreting Magnetic Resonance Imaging (MRI). Revised 2017. (Resolution 10). Available at: <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/MR-Perf-Interpret.pdf>.
17. American College of Radiology. ACR Practice Parameter for Performing and Interpreting Diagnostic Computed Tomography (CT). Revised 2017. (Resolution 22). Available at: <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/CT-Perf-Interpret.pdf>.
18. Lohrke J, Frenzel T, Endrikat J, et al. 25 Years of Contrast-Enhanced MRI: Developments, Current Challenges and Future Perspectives. *Adv Ther*. 2016;33(1):1-28. doi: 10.1007/s12325-015-0275-4.
19. Implementation Guide: Medicaid State Plan Eligibility Groups Mandatory Coverage Infants and Children under Age 19. Available at: <https://www.hhs.gov/guidance/document/implementation-guide-medicaid-state-plan-eligibility-eligibility-groups-aeu-mandatory-2>.
20. History and Physicals - Understanding the Requirements. Available at: <https://www.jointcommission.org/standards/standard-faqs/critical-access-hospital/medical-staff-ms/000002272/?p=1>.
21. Mammarrappallil JG, Rankine L, Wild JM, Driehuis B. New Developments in Imaging Idiopathic Pulmonary Fibrosis With Hyperpolarized Xenon Magnetic Resonance Imaging. *J Thorac Imaging*. 2019;34(2):136-150. doi: 10.1097/rti.0000000000000392.
22. Wang JM, Robertson SH, Wang Z, et al. Using hyperpolarized <sup>129</sup>Xe MRI to quantify regional gas transfer in idiopathic pulmonary fibrosis. *Thorax*. 2017;73(1):21-28. doi: 10.1136/thoraxjnl-2017-210070.

Preface to the Imaging Imaging Guidelines

# Coding Issues (Preface-4)

---

## Guideline

---

- 3D Rendering (Preface-4.1)
- CT-, MR-, or Ultrasound-Guided Procedures (Preface-4.2)
- Unlisted Procedures/Therapy Treatment Planning (Preface-4.3)
- CPT® 76380 Limited or Follow-up CT
- SPECT/CT Imaging (Preface-4.6)
- CPT® 76140 Interpretation of an Outside Study (Preface-4.7)
- Quantitative MR Analysis of Tissue Composition (Preface-4.8)
- HCPCS Codes (Preface-4.9)
- References (Preface-4)



# 3D Rendering (Preface-4.1)

PRF.CD.0004.1.UOH  
v1.0.2024

## 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.



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

PRF.CD.0004.2.A

v1.0.2024

- 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.

Preface to the Imaging Imaging Guidelines

**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.<sup>3</sup>
- 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  
v1.0.2024

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)<sup>1,2</sup>
  - 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  
v1.0.2024

- 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.

## SPECT/CT Imaging (Preface-4.6)

PRF.CD.0004.6.A

v1.0.2024

- 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  $^{123}\text{I}$ - or  $^{131}\text{I}$ - Metaiodobenzylguanidine (MIBG) and octreotide scintigraphy for neuroendocrine tumors.
- Hybrid Nuclear/CT scan can be reported as CPT<sup>®</sup> 78830 (single area and single day), CPT<sup>®</sup> 78831 (2 or more days), or CPT<sup>®</sup> 78832 (2 areas with one day and 2-day study).
- CPT<sup>®</sup> 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

v1.0.2024

- 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.<sup>4</sup>
  - CPT® 76140 is the appropriate code to use for an exam which was completed elsewhere and a secondary interpretation of the images is requested.<sup>5</sup>

# Quantitative MR Analysis of Tissue Composition (Preface-4.8)

PRF.CD.0004.8.A

v1.0.2024

- 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.



# HCPCS Codes (Preface-4.9)

PRF.CD.0004.9.UOH  
v1.0.2024

- 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.<sup>6</sup>
  - 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)

---

**v1.0.2024**

1. Society of Nuclear Medicine and Molecular Imaging Coding Corner. Available at: <http://www.snmmi.org/ClinicalPractice/CodingCornerPT.aspx?ItemNumber=1786>.
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/>.
4. ACR Radiology Coding Source™ March-April 2007 Q and A. Available at: <https://www.acr.org/Advocacy-and-Economics/Coding-Source/ACR-Radiology-Coding-Source-March-April-2007-Q-and-A>.
5. Chung CY, Alson MD, Duszak R, Degnan AJ. From imaging to reimbursement: what the pediatric radiologist needs to know about health care payers, documentation, coding and billing. *Pediatr Radiol*. 2018;48(7):904-914. doi: 10.1007/s00247-018-4104-1.
6. HCPCS - General Information from CMS.gov. Available at: <https://www.cms.gov/medicare/coding/medhcpcsgeninfo>.

# Whole-Body Imaging (Preface-5)

---

## Guideline

---

Whole-Body CT Imaging (Preface-5.1)

Whole-Body MR Imaging (Preface-5.2)

PET-MRI (Preface-5.3)

References (Preface-5)

# Whole-Body CT Imaging (Preface-5.1)

PRF.WB.0005.1.UOH  
v1.0.2024

- 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

v1.0.2024

- 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

v1.0.2024

- 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 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)

v1.0.2024

1. Villani A, Tabori U, Schiffman J, et al. Biochemical and imaging surveillance in germline TP53 mutation carriers with Li-Fraumeni syndrome: a prospective observational study. *Lancet Oncol*. 2011;12(6):559-567. doi: 10.1016/S1470-2045(11)70119-X.
2. Siegel MJ, Acharyya S, Hoffer FA, et al. Whole-Body MR Imaging for Staging of Malignant Tumors in Pediatric Patients: Results of the American College of Radiology Imaging Network 6660 Trial. *Radiology*. 2013;266(2):599-609. doi: 10.1148/radiol.12112531.
3. Antoch G. Whole-Body Dual-Modality PET/CT and Whole-Body MRI for Tumor Staging in Oncology. *JAMA*. 2003;290(24):3199. doi: 10.1001/jama.290.24.3199.
4. Lauenstein TC, Semelka RC. Emerging techniques: Whole-body screening and staging with MRI. *J Magn Reson Imaging*. 2006;24(3):489-498. doi: 10.1002/jmri.20666.
5. Khanna G, Sato TSP, Ferguson P. Imaging of Chronic Recurrent Multifocal Osteomyelitis. *RadioGraphics*. 2009;29(4):1159-1177. doi: 10.1148/rg.294085244.
6. Ferguson PJ, Sandu M. Current Understanding of the Pathogenesis and Management of Chronic Recurrent Multifocal Osteomyelitis. *Curr Rheumatol Rep*. 2012;14(2):130-141. doi: 10.1007/s11926-012-0239-5.
7. National Comprehensive Cancer Network® (NCCN®). NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Genetic/Familial High Risk Assessment: Breast, Ovarian, and Pancreatic. Version 3.2023. February 13, 2023. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Genetic/Familial High-Risk Assessment: Breast, Ovarian, and Pancreatic V.3.2023. ©National Comprehensive Cancer Network, Inc. 2023. All rights reserved. Accessed July 10, 2023. The NCCN Guidelines® and illustrations herein may not be reproduced in any form for any purpose without the express written permission of the NCCN. To view the most recent and complete version of the NCCN Guidelines®, go online to NCCN.org.



# References (Preface-6)

---

## Guideline

---

### References (Preface-6.1)

## References (Preface-6.1)

---

PRF.RF.0006.1.A

v1.0.2024

- 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)

# Copyright Information (Preface-7.1)

---

PRF.CI.0007.1.UOH

v1.0.2024

- ©2023 United HealthCare Services, Inc. All rights reserved. No part of these materials may be changed, reproduced, or transmitted in any form or by any means, electronic or mechanical, including photocopying or recording, or in any information storage or retrieval system, without the prior express written permission of United HealthCare Services, Inc.

# Trademarks (Preface-8)

---

## Guideline

---

Trademarks (Preface-8.1)

# Trademarks (Preface-8.1)

---

PRF.TM.0008.1.A

v1.0.2024

- **CPT® (Current Procedural Terminology)** is a registered trademark of the American Medical Association (AMA). **CPT®** five-digit codes, nomenclature, and other data are copyright 2023 American Medical Association. All Rights Reserved. No fee schedules, basic units, relative values, or related listings are included in the CPT® book. AMA does not directly or indirectly practice medicine or dispense medical services. AMA assumes no liability for the data contained herein or not contained herein.

# Table of Contents

<b>Pelvic Imaging Guidelines</b>
<b>Abbreviations for Pelvis Imaging Guidelines</b>
<b>General Guidelines (PV-1)</b>
<b>Abnormal Uterine Bleeding (PV-2)</b>
<b>Amenorrhea (PV-3)</b>
<b>Adenomyosis (PV-4)</b>
<b>Adnexal Mass/Ovarian Cysts (PV-5)</b>
<b>Endometriosis (PV-6)</b>
<b>Pelvic Inflammatory Disease (PID) (PV-7)</b>
<b>Polycystic Ovary Syndrome (PV-8)</b>
<b>Initial Infertility Evaluation, Female (PV-9)</b>
<b>Intrauterine Device (IUD) and Tubal Occlusion (PV-10)</b>
<b>Pelvic Pain/Dyspareunia, Female (PV-11)</b>
<b>Leiomyoma/Uterine Fibroids (PV-12)</b>
<b>Periurethral Cysts, Urethral Diverticula and Vaginal Masses (PV-13)</b>
<b>Congenital (Mullerian) Uterine and Vaginal Anomalies (PV-14)</b>
<b>Fetal MRI and Other Pregnancy Imaging (PV-15)</b>
<b>Molar Pregnancy and Gestational Trophoblastic Neoplasia (GTN) (PV-16)</b>
<b>Impotence/Erectile Dysfunction (PV-17)</b>
<b>Penis–Soft Tissue Mass (PV-18)</b>
<b>Male Pelvic Disorders (PV-19)</b>
<b>Scrotal Pathology (PV-20)</b>
<b>Fistulae Abscess, and Pilonidal Cyst (PV-21)</b>
<b>Urinary Incontinence/Pelvic Prolapse/Fecal Incontinence (PV-22)</b>
<b>Patent Urachus (PV-23)</b>
<b>Bladder Mass (PV-24)</b>
<b>Ureteral and/or Bladder Trauma or Injury (PV-25)</b>
<b>Gender Affirmation Surgery; Pelvic (PV-26)</b>

## Abbreviations for Pelvis Imaging Guidelines

<b>CA-125</b>	cancer antigen 125 test
<b>CT</b>	computed tomography
<b>FSH</b>	follicle-stimulating hormone
<b>GTN</b>	gestational trophoblastic neoplasia
<b>HCG</b>	human chorionic gonadotropin
<b>IC/BPS</b>	interstitial cystitis/bladder pain syndrome
<b>IUD</b>	intrauterine device
<b>KUB</b>	kidneys, ureters, bladder (frontal supine abdomen radiograph)
<b>LH</b>	luteinizing hormone
<b>MRA</b>	magnetic resonance angiography
<b>MRI</b>	magnetic resonance imaging
<b>MSv</b>	millisievert
<b>PA</b>	posteroanterior projection
<b>PID</b>	pelvic inflammatory disease
<b>TA</b>	transabdominal
<b>TSH</b>	thyroid-stimulating hormone
<b>TV</b>	transvaginal
<b>UCPPS</b>	Urologic Chronic Pelvic Pain Syndrome
<b>WBC</b>	white blood cell count



## General Guidelines (PV-1)

**General Guidelines (PV-1.0)**

**General Guidelines – Overview (PV-1.1)**

## **General Guidelines (PV-1.0)**

- A current clinical evaluation since the onset or change in symptoms is required before advanced imaging can be considered. The clinical evaluation should include a relevant history and physical examination including a pelvic and/or urological exam, appropriate laboratory studies, and non-advanced imaging modalities such as plain x-ray or Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or Transvaginal ultrasound (CPT® 76830) and/or Transperineal ultrasound (CPT® 76872).
  - ◆ Other meaningful contact (telehealth visit, telephone call, electronic mail or messaging) since the onset or change in symptoms for follow up visit by an established individual can substitute for a face-to-face clinical evaluation.
- The use of gynecology CPT codes for pregnant females is not supported. Therefore, transvaginal ultrasound (CPT® 76830) and pelvic ultrasound (CPT® 76856 or CPT® 76857) are not supported for those with a positive pregnancy test or known pregnancy. If a pregnancy test is positive, then obstetrical CPT codes are indicated.
- The uterus, tubes and ovaries arise out of the pelvis and are considered pelvic organs. If the uterus rises out of the pelvic cavity, the imaging field can be determined on scout films. Imaging of the abdomen is not routinely supported for problems suspected to arise from the pelvis unless specifically described in other areas of the guidelines.
- The scout images (CT) and localizer images (MRI) are used to define the imaging field that is relevant to anatomical structures of clinical interest. The imaging field is defined by this clinical question, not by the imaging procedure code. The imaging code indicates the general anatomical region but does not define the specific imaging protocol or sequences.
- MRI (MRI Pelvis without contrast CPT® 72195 for Defecography) is considered investigational/experimental by UHC.

## **General Guidelines – Overview (PV-1.1)**

- When indicated, pregnant females should be evaluated with ultrasound or MRI without contrast to avoid radiation exposure. In carefully selected clinical circumstances, evaluation with CT may be considered with careful attention to technique and radiation protection as deemed clinically appropriate.

## **Ultrasound**

- Transvaginal ultrasound is the recommended modality for imaging; no alternative modality has demonstrated sufficient superiority to justify routine use, and Transvaginal (TV) ultrasound (CPT® 76830) is the optimal study to evaluate adult female pelvic pathology.
- Pelvic ultrasound (complete CPT® 76856, or limited CPT® 76857) is supported if it is a complementary study to the TV ultrasound. It may substitute for TV in pediatric individuals or non-sexually active females.

- Transperineal ultrasound (CPT® 76872) is supported for cases of suspected urethral abnormalities, urinary incontinence, pelvic prolapse, or vaginal cysts.
- CPT® 76942 is used to report ultrasound imaging guidance for needle placement during biopsy, aspiration, and other percutaneous procedures.

### **Soft Tissue Ultrasound**

- Pelvic wall, buttocks, and penis - CPT® 76857

### **Scrotal Ultrasound**

- See:
  - ◆ **Impotence/Erectile Dysfunction (PV-17.1)**
  - ◆ **Penis-Soft Tissue Mass (PV-18.1)**
- Ultrasound scrotum and contents - CPT® 76870

### **3D Rendering with Ultrasound**

- 3D Rendering (CPT® 76376 or CPT® 76377)
  - ◆ CPT® 76377 (3D rendering requiring image post-processing on an independent work station) or CPT® 76376 (3D rendering not requiring image post-processing on an independent workstation) can be considered in the following clinical scenarios:
    - Uterine intra-cavitary lesion when initial ultrasound is equivocal (See Abnormal Uterine Bleeding (AUB) (PV-2.1) and **Leiomyoma/Uterine Fibroids (PV-12.1)**)
    - Hydrosalpinges or peritoneal cysts when initial ultrasound is equivocal (See **Complex Adnexal Masses (PV-5.3)**)
    - Lost IUD (inability to feel or see IUD string) with initial ultrasound (See **Intrauterine Device (PV-10.1)**)
    - Uterine anomaly is suspected on ultrasound (See **Uterine Anomalies (PV-14.1)**)
    - Infertility if ultrasound is indeterminate or there is clinical suspicion for intra-cavitary lesion (such as polyp or fibroid), hydrosalpinx, uterine synechia, adenomyosis or uterine anomalies (See **Initial Infertility Evaluation, Female (PV-9.1)**)
- There is currently insufficient data to generate appropriateness criteria for the use of 3D and 4D rendering in conjunction with Obstetrical ultrasound imaging. Per ACOG, proof of a clinical advantage of 3-dimensional ultrasonography in prenatal diagnosis, in general, is still lacking.
- However, 3D-4D (CPT® 76376 or CPT® 76377) rendering can be considered in certain situations of abnormal pregnancy implantation like suspected C-section scar pregnancies or suspected cornual (interstitial) ectopic pregnancy, or to locate an IUD.
- 3D-4D (CPT® 76376 or CPT® 76377) rendering can be used for surgical planning with diagnosis of complex CHD in the fetus or for surgical planning of other complex fetal malformations.

## **Other Ultrasound**

- CPT® 93975 Duplex scan (complete) of arterial inflow and venous outflow of abdominal, pelvic, scrotal contents and/or retroperitoneal organs; complete study.
- CPT® 93976 Duplex scan (limited) of arterial inflow and venous outflow of abdominal, pelvic, scrotal contents and/or retroperitoneal organs; limited study.
- CPT® 93975 and CPT® 93976 should not be reported together during the same session.

## **CT**

- CT is not generally warranted for evaluating pelvic anatomy because it is limited due to soft tissue contrast resolution.

## **MRI**

- Can be used as a more targeted study or for individuals allergic to iodinated contrast.
  - ◆ MRI Pelvis without contrast (CPT® 72195)
  - ◆ MRI Pelvis without and with contrast (CPT® 72197)
  - ◆ MRI Pelvis with contrast only (CPT® 72196) is rarely performed

## **References**

1. Practice Bulletin No. 174. The Evaluation and Management of Adnexal Masses. *Obstetrics & Gynecology*. 2016 Reaffirmed 2021;128(5):1193-1195. doi:10.1097/aog.0000000000001763.
2. Lakshmy S, Rose N, Ramachandran M. Role of three dimensional ultrasound in uterine anomalies - 3D assessment of cervix in septate uteri. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2016;3563-3567. doi:10.18203/2320-1770.ijrcog20163445.
3. Benacerraf BR, Abuhamad AZ, Bromley B, et al. Consider ultrasound first for imaging the female pelvis. *American Journal of Obstetrics and Gynecology*. 2015;212(4):450-455. doi:10.1016/j.ajog.2015.02.015.
4. Turkgeldi E, Urman B, Ata B. Role of Three-Dimensional Ultrasound in Gynecology. *Journal of Obstetrics and Gynaecology of India*. 2014;65(3):146-154. doi:10.1007/s13224-014-0635-z.
5. Graupera B, Pascual MA, Hereter L, et al. Accuracy of three-dimensional ultrasound compared with magnetic resonance imaging in diagnosis of Müllerian duct anomalies using ESHRE-ESGE consensus on the classification of congenital anomalies of the female genital tract. *Ultrasound in Obstetrics & Gynecology*. 2015;46(5):616-622. doi:10.1002/uog.14825.
6. Sakhel K, Benson CB, Platt LD, Goldstein SR, Benacerraf BR. Begin with the basics: role of 3-dimensional sonography as a first-line imaging technique in the cost-effective evaluation of gynecologic pelvic disease. *Journal of Ultrasound in Medicine*. 2013;32(3):381-388. doi:10.7863/jum.2013.32.3.381.
7. AIUM Practice Parameter for the Performance of an Ultrasound Examination of the Female Pelvis J *Ultrasound Med* 2020; 9999:1-7
8. Seidel, H. M. (2011). *Mosby's guide to physical examination*. St. Louis, Mo: Mosby/Elsevier.
9. Practice Bulletin No. 175: Ultrasound in Pregnancy, *Obstetrics & Gynecology*: December 2016 - Volume 128 - Issue 6 - p e241-e25 Reaffirmed 2022.
10. Lloyd DFA, Pushparajah K, Simpson JM, et al. Three-dimensional visualisation of the fetal heart using prenatal MRI with motion-corrected slice-volume registration: a prospective, single-centre cohort study. *Lancet* . 2019;393(10181):1619-1627. doi:10.1016/s0140-6736(18)32490-

## **Abnormal Uterine Bleeding (PV-2)**

**Abnormal Uterine Bleeding (AUB) (PV-2.1)**

**Retained Products of Conception (PV-2.2)**

### **Abnormal Uterine Bleeding (AUB) (PV-2.1)**

- Pregnancy test should be done initially if premenopausal.
- If pregnancy test is negative or post-menopausal initial evaluation includes ANY or ALL of the following:
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or Transvaginal ultrasound (CPT® 76830), D&C and/or endometrial biopsy
- Advanced imaging is not indicated for endometrial intraepithelial neoplasia .
- If biopsy confirms a malignancy, then see the appropriate oncology guideline.
- If ultrasound is equivocal for intracavitary lesion:
  - ◆ Duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) as an add-on to TV ultrasound (CPT® 76830).
  - ◆ 3-D Rendering (CPT® 76377 or CPT® 76376) as an add-on.
- If ultrasound is equivocal for an intracavitary lesion, saline infusion sonohysterography (CPT® 76831) is indicated.
- CT is not generally warranted for evaluating AUB since uterine anatomy is limited due to soft tissue contrast resolution.
  - ◆ An abnormal endometrium found incidentally on CT should be referred for TV ultrasound for further evaluation.
- MRI is not indicated for evaluation of abnormal uterine bleeding, please see specific Pelvis Imaging sections for MRI indications for ultrasound findings such as adnexal mass or uterine fibroids. See **Adnexal Mass/Ovarian Cysts (PV-5)** and **Leiomyoma/Uterine Fibroids (PV-12.1)**.

### **Retained Products of Conception (PV-2.2)**

- For abnormal uterine bleeding and/or pelvic pain with concern for retained products of conception (RPOC):
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or Transvaginal ultrasound (CPT® 76830) is supported one time, repeat US is indicated for continued symptoms
  - ◆ Color Doppler ultrasonography (CPT® 93975 or CPT® 93976) may be added to ultrasound to aid in diagnosis of RPOC
  - ◆ CT Pelvis with and without contrast (CPT® 72194) OR MRI Pelvis with and without contrast (CPT® 72197) is supported if US with Color Doppler is equivocal AND further imaging is needed for surgical planning.

## References

1. Committee Opinion No. 631. Endometrial Intraepithelial Neoplasia. *Obstetrics & Gynecology*. 2015;125(5):1272-1278. doi:10.1097/01.aog.0000465189.50026.20. (May 2015, Reaffirmed 2020.)
2. Trimble C, Method M, et al. Management of Endometrial Precancers. *Obstetrics & Gynecology* 2012;120(5): 1160-1175. doi: 10.1097/AOG.0b013e31826bb121
3. Practice Bulletin No. 128. Diagnosis of Abnormal Uterine Bleeding in Reproductive-Aged Women. *Obstetrics & Gynecology*. 2012;120(1):197-206; reaffirmed 2021 doi:10.1097/aog.0b013e318262e320.
4. Sakhel K, Benson CB, Platt LD, Goldstein SR, Benacerraf BR. Begin With the Basics. *Journal of Ultrasound in Medicine*. 2013;32(3):381-388. doi:10.7863/jum.2013.32.3.381.
5. Benacerraf BR, Abuhamad AZ, Bromley B, et al. Consider ultrasound first for imaging the female pelvis. *American Journal of Obstetrics and Gynecology*. 2015;212(4):450-455. doi:10.1016/j.ajog.2015.02.015.
6. Practice Bulletin No. 136. Management of Abnormal Uterine Bleeding Associated With Ovulatory Dysfunction. *Obstetrics & Gynecology*. 2013; Reaffirmed 2022. 122(1):176-185. doi:10.1097/01.aog.0000431815.52679.bb.
7. Bocca SM, Oehninger S, Stadtmayer L, et al. A Study of the Cost, Accuracy, and Benefits of 3-Dimensional Sonography Compared With Hysterosalpingography in Women With Uterine Abnormalities. *Journal of Ultrasound in Medicine*. 2012;31(1):81-85. doi:10.7863/jum.2012.31.1.81.
8. Maheux-Lacroix S, Li F, Laberge PY, Abbott J. Imaging for Polyps and Leiomyomas in Women With Abnormal Uterine Bleeding. *Obstetrics & Gynecology*. 2016;128(6):1425-1436. doi:10.1097/aog.0000000000001776.
9. Cil AP, Tulunay G, Kose MF, Haberal A. Power Doppler properties of endometrial polyps and submucosal fibroids: a preliminary observational study in women with known intracavitary lesions. *Ultrasound in Obstetrics and Gynecology*. 2010;35(2):233-237. doi:10.1002/uog.7470.
10. Bezircioglu I, Baloglu A, Cetinkaya B, Yigit S, Oziz E. The diagnostic value of the Doppler ultrasonography in distinguishing the endometrial malignancies in women with postmenopausal bleeding. *Archives of Gynecology and Obstetrics*. 2011;285(5):1369-1374. doi:10.1007/s00404-011-2159-4.
11. Gupta A, Desai A, Bhatt S. Imaging of the Endometrium: Physiologic Changes and Diseases: Women's Imaging. *Radiographics*. 2017;37(7):2206–2207. doi:10.1148/rg.2017170008.
12. Postpartum hemorrhage. Practice Bulletin No. 183. *Obstetrics & Gynecology*. 2017; Reaffirmed 2021;130(4):e168-e186. doi:10.1097/aog.0000000000002351.
13. Kamaya A, Krishnarao PM, Nayak N, Jeffrey RB, Maturen KE. Clinical and imaging predictors of management in retained products of conception. *Abdom Radiol (NY)*. 2016 Dec;41(12):2429-2434. doi: 10.1007/s00261-016-0954-x.
14. The role of transvaginal ultrasonography in evaluating the endometrium of women with postmenopausal bleeding. ACOG Committee Opinion No. 734. *Obstetrics & Gynecology*. 2018; Reaffirmed 2023; 131(5):e124-e129. doi:10.1097/aog.0000000000002631.
15. Sellmyer MA, Desser TS, Maturen KE, Jeffrey RB, Kamaya A. Physiologic, Histologic, and Imaging Features of Retained Products of Conception. *RadioGraphics*. 2013;33(3):781-796. doi:10.1148/rg.333125177
16. Committee Opinion No. 557. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2013; 121:891–6. Reaffirmed 2020.

## **Amenorrhea (PV-3)**

**Secondary Amenorrhea (PV-3.1)**

**Primary Amenorrhea (PV-3.2)**



## **Secondary Amenorrhea (PV-3.1)**

- Pregnancy test should be done initially.
- If a pregnancy test is positive:
  - ◆ Refer to the member's individual coverage policy regarding obstetrical imaging indications and appropriate obstetrical imaging procedural codes. Billing of gynecology codes during pregnancy is not supported.
- If a pregnancy test is negative, further evaluation includes any of the following:
  - ◆ FSH, TSH, estradiol, and/or prolactin levels are indicated depending on clinical suspicion.
  - ◆ Serum free and total testosterone and/or DHEAS levels are indicated if there is evidence of hyperandrogenism.
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) for suspected uterine or ovarian pathology.
- The results of test(s) above determine the next steps, which include:
  - ◆ For suspected adrenal tumor, See **Adrenal Cortical Lesions (AB-16)** in the Abdomen Imaging Guidelines.
  - ◆ For suspected pituitary tumor, See **Pituitary (HD-19)** in the Head Imaging Guidelines
  - ◆ For suspected Asherman's Syndrome:
    - Hysterosalpingogram (CPT® 74740), sonohysterosalpingography (CPT® 76831), and/or hysteroscopy if ultrasound is indeterminate for Asherman's syndrome.
    - MRI Pelvis without contrast (CPT® 72195) or without and with contrast (CPT® 72197) if hysterosalpingogram (CPT® 74740), sonohysterosalpingography (CPT® 76831), or hysteroscopy is indeterminate for Asherman's Syndrome

### ***Background and Supporting Information***

- Asherman's syndrome: an acquired condition which refers to having scar tissue in the uterus

## Primary Amenorrhea (PV-3.2)

- Prior to imaging a history, physical examination and Tanner stage should be evaluated.
- Initial evaluation may include pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) if ANY of the following:
  - ◆ Normal pubertal development and negative pregnancy test
  - ◆ Pelvic exam is indeterminate or unable to be performed
  - ◆ Delayed puberty with follicle-stimulating hormone (FSH) or luteinizing hormone (LH) that is elevated for the individual's age and Tanner stage
- If ultrasound defines a uterine or vaginal anomaly see **Uterine Anomalies (PV-14.1)**.
- For suspected pituitary tumor, See **Pituitary (HD-19)** in the Head Imaging Guidelines.

### Background and Supporting Information

- Evaluation of an individual without a uterus (determined by imaging or examination) may include karyotype and/or testosterone levels.
- TV ultrasound (CPT® 76830) is appropriate in pediatric individuals who are sexually active or use a tampon and consent to the study.

### References

1. Hoffman BL, Schorge JO, Schaffer JI, et al. Chapter 17. Amenorrhea. In: Hoffman BL, Schorge JO, Schaffer JI, et al, eds. Williams Gynecology. 4th ed. New York: McGraw-Hill; 2020.
2. Klein DA, Paradise SL, Reeder R. Amenorrhea: an approach to diagnosis and management. American Family Physician. 2019 Jul 1;100(1):39-48.
3. Committee Opinion No. 605. Primary Ovarian Insufficiency in Adolescents and Young Women. Obstetrics & Gynecology. 2014;124(1):193-197. doi:10.1097/01.aog.0000451757.51964.98. (July 2014, Reaffirmed 2021).
4. Polycystic ovary syndrome. ACOG Practice Bulletin No. 194. American College of Obstetricians and Gynecologists. Obstetrics and Gynecology. 2018, Reaffirmed 2022;131:e157-71. doi:10.1097/aog.0000000000002656.
5. Committee Opinion 779. Management of Acute Obstructive Uterovaginal Anomalies. Obstetrics & Gynecology. 2019;133(6). doi:10.1097/aog.0000000000003281
6. Committee on Adolescent Health Care. ACOG Committee Opinion No. 728: Müllerian Agenesis: Diagnosis, Management, And Treatment. Obstetrics and gynecology. 2018;131(1):e35-e42. Reaffirmed 2020. doi:10.1097/AOG.0000000000002458.

## Adenomyosis (PV-4)

### Adenomyosis (PV-4.1)

- TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76856 or CPT® 76857) is the diagnostic procedure of choice for the initial evaluation of suspected adenomyosis. Duplex Doppler (CPT® 93975 or CPT® 93976) can be added if requested.
- MRI Pelvis without contrast (CPT® 72195) or MRI Pelvis without and with contrast (CPT® 72197) is considered a second-line imaging option after transvaginal ultrasound if:
  - ◆ Diagnosis is inconclusive for adenomyosis and the individual has failed a 3-month trial of medical treatment and further delineation would affect management
  - ◆ MRI needed to guide the treatment of adenomyosis in an individual with an enlarged uterus, and coexisting leiomyoma/fibroid following indeterminate ultrasound

### Background and Supporting Information

Adenomyosis is when endometrial tissue, which normally lines the uterus, moves into the outer muscular walls of the uterus. Adenomyosis is a histologic diagnosis and is suspected by history and physical examination. Ultrasound findings of adenomyosis include heterogeneous myometrium, myometrial cysts, asymmetric myometrial thickness, and subendometrial echogenic linear striations.

### References

1. Practice Bulletin No. 128. Diagnosis of Abnormal Uterine Bleeding in Reproductive-Aged Women. *Obstet Gynecol.* 2012 Jul;120(1):197-206. doi:10.1097/aog.0b013e318262e320. (July 2012, Reaffirmed 2021).
2. Bazot M, Daraï E. Role of transvaginal sonography and magnetic resonance imaging in the diagnosis of uterine adenomyosis. *Fertility and Sterility.* 2018;109(3):389-397. doi:10.1016/j.fertnstert.2018.01.024.
3. Chronic pelvic pain. ACOG Practice Bulletin No. 218. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2020; Reaffirmed 2023;135:e98–109. doi:10.1097/aog.0000000000003716
4. Vannuccini S, Luisi S. et al. Role of Medical Therapy in the Management of Uterine Adenomyosis. *Fertility and Sterility.* 2018;109(3):398-405.
5. Dessouky R, Gamil SA, Nada MG, Mousa R, Libda Y. Management of uterine adenomyosis: current trends and uterine artery embolization as a potential alternative to hysterectomy. *Insights Imaging.* 2019;10(1):48. Published 2019 Apr 27. doi:10.1186/s13244-019-0732-8.
6. Vannuccini S, Petraglia F. Recent advances in understanding and managing adenomyosis. *F1000Res.* 2019;8:F1000 Faculty Rev-283. Published 2019 Mar 13. doi:10.12688/f1000research.17242.
7. Diagnosis and treatment of adenomyosis (Ebernella) Shirin Dason, Crystal Chan and Mara Sobel *CMAJ* February 16, 2021 193 (7) E242; doi: <https://doi.org/10.1503/cmaj.201607>
8. Chapron C, Vannuccini S, Santulli P, et al. Diagnosing adenomyosis: an integrated clinical and imaging approach. *Human Reproduction Update.* 2020;26(3):392-411. doi:10.1093/humupd/dmz049.

## **Adnexal Mass/Ovarian Cysts (PV-5)**

**Suspected Adnexal Mass – Initial Evaluation (PV-5.1)**

**Simple Cysts (PV-5.2)**

**Complex Adnexal Masses (PV-5.3)**

**Screening for Ovarian Cancer/Suspected Ovary Cancer (PV-5.4)**

## **Suspected Adnexal Mass – Initial Evaluation (PV-5.1)**

- A potential mass is found on exam and/or found incidentally on other imaging.
- Transvaginal (TV) ultrasound imaging (CPT® 76830) is the initial study of choice.
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) can be performed if requested as a complimentary study to the TV ultrasound.
  - ◆ Once confirmed, Color Doppler ultrasonography (CPT® 93975 or CPT® 93976) may be useful to evaluate the vascular characteristics of adnexal masses.
- MRI Pelvis without contrast (CPT® 72195), OR without and with contrast (CPT® 72197; CPT® 72195 if pregnant) if ultrasound does not identify the origin of the pelvic mass (adnexal, uterine, or other in etiology).
  - ◆ If the mass is unrelated to female pelvic anatomy, see **Abdominal Mass (AB-13)** in the Abdomen Imaging Guidelines.
  - ◆ The uterus, tubes, and ovaries arise out of the pelvis and are considered pelvic organs. If the uterus rises out of the pelvic cavity, the imaging field can be determined on scout films. Imaging of the abdomen is not supported for problems suspected to arise from the pelvis.

### ***Background and Supporting Information***

- Consultation with or referral to a gynecologic oncologist is recommended for females with an adnexal mass who meet one or more of the following criteria:<sup>7</sup>
  - ◆ Postmenopausal with elevated CA-125 level, ultrasound findings suggestive of malignancy, ascites, a nodular or fixed pelvic mass, or evidence of abdominal or distant metastasis.<sup>7</sup>
  - ◆ Premenopausal with very elevated CA-125 level, ultrasound findings suggestive of malignancy, ascites, a nodular or fixed pelvic mass, or evidence of abdominal or distant metastasis.<sup>7</sup>
  - ◆ Premenopausal or postmenopausal with an elevated score on a formal risk assessment test such as the multivariate index assay, risk of malignancy index, or the Risk of Ovarian Malignancy Algorithm or one of the ultrasound-based scoring systems from the International Ovarian Tumor Analysis group.<sup>7</sup>
- Simple and Complex Adnexal Cysts
  - ◆ Simple cysts are smooth walled and clear without debris.
  - ◆ Complex cysts can have solid areas or excrescences, and/or debris in them, greater than 3mm irregular septations, mural nodules with Doppler-detected blood flow, and/or free abdominal/pelvic fluid.

- Suspected Adnexal Mass – Tumor Markers
  - ◆ The adnexa include the ovaries, Fallopian tubes, and ligaments that hold the uterus in place.
  - ◆ CA-125 is a tumor marker that is useful for the evaluation of adnexal mass:
    - Elevation occurs with both malignant (epithelial cancer) and benign entities (leiomyoma, endometriosis, PID, inflammatory disease such as lupus, and inflammatory bowel disease).
    - Increase in the markers over time occurs with malignancy only
    - Consider tumor markers in individuals with an abnormal ultrasound that is not a simple cyst
  - ◆ Other markers include Beta hCG, LDH, and AFP (germ cell tumors) and Inhibin A and B (granulosa cell tumor).

**Simple Cysts (PV-5.2)**

- Simple cysts are smooth, thin walled, anechoic and clear without debris. Simple cysts up to 10 cm in diameter as measured by ultrasound are almost universally benign.
  - ◆ Repeat TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856)
    - Follow up according to the below schedule if ≤10 cm
  - ◆ Routine use of 3D rendering (CPT® 76376/CPT® 76377) for evaluation of simple ovarian cysts is not supported.

Simple Cyst Follow-Up		
Size	Pre-Menopausal	Post-Menopausal
≤3 cm	➤ None	➤ None
>3 cm to 5 cm	➤ None	➤ Follow-up in 12 months with TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856); <ul style="list-style-type: none"> <li>◆ If smaller (≥10-15% decrease) no further surveillance.</li> <li>◆ If stable follow-up TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) at 24 months from initial exam</li> <li>◆ If enlarging (≥10-15% increase) follow-up TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) at 12 and 24 months from initial exam</li> </ul> ➤ If there is a change in morphology on follow imaging see <b>Complex Adnexal Masses (PV-5.3)</b> .

Simple Cyst Follow-Up		
Size	Pre-Menopausal	Post-Menopausal
>5 cm to ≤10 cm	<ul style="list-style-type: none"> <li>➤ Follow up in 8-12 weeks (proliferative phase if possible) TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856); further follow-up intervals may be adjusted on basis of degree of cyst change</li> </ul>	<ul style="list-style-type: none"> <li>➤ Follow-up in 3-6 months with TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856); further follow-up intervals may be adjusted on basis of degree of cyst change</li> <li>➤ Subsequent follow up with TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856), annually and if stable for 2 years or decreasing in size, no further imaging follow-up is needed.</li> </ul>
>10 cm	<ul style="list-style-type: none"> <li>➤ If not excised consider US follow up within 6 months. TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856)</li> <li>➤ If stable follow up Ultrasound can be done at 12 and 24 months from initial exam</li> <li>➤ If solid component, MRI Pelvis without and with contrast (CPT® 72197) may be approved</li> <li>➤ If ultrasound equivocal for Simple cyst, MRI Pelvis without and with contrast (CPT® 72197)</li> <li>➤ If follow up ultrasound imaging shows changing morphology and/or a vascular component then consider MRI Pelvis without and with contrast (CPT® 72197)</li> </ul>	<ul style="list-style-type: none"> <li>➤ If not excised consider US follow up within 6 months. TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856)</li> <li>➤ If stable follow up Ultrasound can be done at 12 and 24 months from initial exam</li> <li>➤ If solid component, MRI Pelvis without and with contrast (CPT® 72197) may be approved</li> <li>➤ If ultrasound equivocal for Simple cyst, MRI Pelvis without and with contrast (CPT® 72197)</li> <li>➤ If follow up ultrasound imaging shows changing morphology and/or a vascular component then consider MRI Pelvis without and with contrast (CPT® 72197)</li> </ul>



### Complex Adnexal Masses (PV-5.3)

- Ultrasound imaging should provide characteristics of the cyst/mass prior to consideration of advanced imaging.
- Complex cysts found on ultrasound, have characteristics that include: solid areas or excrescences, and/or debris, may have greater than 3mm irregular septations, and/or mural nodules with Doppler-detected blood flow, and/or free abdominal/pelvic fluid. Complex cysts have an O-RADS™ score of 2 or higher.
- Routine use of 3D rendering (CPT® 76376/CPT® 76377) for evaluation of complex ovarian cysts is not supported unless otherwise mentioned in the table below.

Follow up Complex Adnexal Masses		
Condition	Pre-Menopausal	Post-Menopausal
Typical Hemorrhagic cyst < 10 cm (O-RADS™ 2)	<ul style="list-style-type: none"> <li>➤ If initial ultrasound imaging confirms hemorrhagic cyst ≤5 cm no further imaging is necessary</li> <li>➤ If initial ultrasound imaging confirms hemorrhagic cyst &gt;5 cm but &lt;10 cm, follow up with Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) in 8 - 12 weeks is indicated. Duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on to TV ultrasound (CPT® 76830).                             <ul style="list-style-type: none"> <li>◆ If follow-up imaging confirms a hemorrhagic cyst that has not completely resolved, or has enlarged, an MRI Pelvis without and with contrast (CPT® 72197) can be considered.</li> <li>◆ If stable follow up TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) can be done at 24 months from initial exam</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ Early postmenopausal (&lt;5 years) either:                             <ul style="list-style-type: none"> <li>◆ follow-up TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) in 2-3 months OR</li> <li>◆ MRI Pelvis without and with contrast (CPT® 72197)</li> </ul> </li> <li>➤ Late postmenopausal (≥ 5 years) Hemorrhagic cyst should not occur. MRI Pelvis without and with contrast (CPT® 72197)</li> </ul>



Follow up Complex Adnexal Masses		
<p>Hemorrhagic cyst ≥10cm (O-RADS™ 3)</p>	<ul style="list-style-type: none"> <li>➤ If initial ultrasound imaging confirms a Typical Hemorrhagic cyst ≥10cm                             <ul style="list-style-type: none"> <li>◆ If not excised consider TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) follow up within 6 months</li> <li>◆ If stable follow up Ultrasound can be done at 12 and 24 months from initial exam</li> <li>◆ If solid component, MRI Pelvis without and with contrast (CPT® 72197) may be approved</li> <li>◆ If ultrasound equivocal for Hemorrhagic cyst, MRI Pelvis without and with contrast (CPT® 72197)</li> <li>◆ If follow up ultrasound imaging shows changing morphology and/or a vascular component then consider MRI Pelvis without and with contrast (CPT® 72197)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ MRI Pelvis without and with contrast (CPT® 72197) can be considered</li> </ul>
<p>Typical Endometriomas &lt; 10cm(O-RADS 2™)</p>	<ul style="list-style-type: none"> <li>➤ If initial imaging confirms a Typical Endometrioma, follow-up Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830); duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on to TV ultrasound (CPT® 76830).                             <ul style="list-style-type: none"> <li>◆ If &lt;10cm and not surgically excised follow-up TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) in 12 months</li> <li>◆ If stable follow up Ultrasound can be done at 24 months from initial exam</li> <li>◆ If ultrasound equivocal for Endometriomas, MRI Pelvis without and with contrast (CPT® 72197)</li> <li>◆ If follow up ultrasound imaging shows changing morphology and/or a vascular component then consider MRI Pelvis without and with contrast (CPT® 72197)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ If initial ultrasound imaging confirms a typical endometrioma, &lt;10cm then either:                             <ul style="list-style-type: none"> <li>◆ follow-up TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) in 2-3 months OR</li> <li>◆ MRI Pelvis without and with contrast (CPT® 72197)</li> </ul> </li> </ul>

Follow up Complex Adnexal Masses		
<p>Typical Endometriomas <math>\geq 10\text{cm}</math> (O-RADS™ 3)</p>	<ul style="list-style-type: none"> <li>➤ If initial ultrasound imaging confirms a Typical Endometrioma <math>\geq 10\text{cm}</math> <ul style="list-style-type: none"> <li>◆ If not excised consider TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) follow up within 6 months</li> <li>◆ If stable follow up Ultrasound can be done at 12 and 24 months from initial exam If solid component, MRI Pelvis without and with contrast (CPT® 72197) may be approved</li> <li>◆ If ultrasound equivocal for Endometrioma, MRI Pelvis without and with contrast (CPT® 72197)</li> <li>◆ If follow up ultrasound imaging shows changing morphology and/or a vascular component then consider MRI Pelvis without and with contrast (CPT® 72197)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ MRI Pelvis without and with contrast (CPT® 72197)</li> </ul>

Follow up Complex Adnexal Masses		
Condition	Pre-Menopausal	Post-Menopausal
Typical Dermoid < 10cm (O-RADS™2)	<ul style="list-style-type: none"> <li>➤ If initial features are only suggestive for or if assessment is uncertain follow up Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) within 3 months is appropriate</li> <li>➤ If initial ultrasound imaging confirms a Dermoid, follow-up Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830); duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on to TV ultrasound (CPT® 76830).                             <ul style="list-style-type: none"> <li>◆ If ≤3 cm, may consider follow-up TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) in 12 months                                     <ul style="list-style-type: none"> <li>■ If stable follow up Ultrasound can be done at 24 months from initial exam</li> </ul> </li> <li>◆ If &gt;3cm but &lt;10cm, follow-up Ultrasound in 12 months if not surgically excised</li> <li>◆ If stable follow up Ultrasound can be done at 24 months from initial exam</li> <li>◆ If ultrasound equivocal for Dermoid, MRI Pelvis without and with contrast (CPT® 72197)</li> <li>◆ If follow up ultrasound imaging shows changing morphology and/or a vascular component then consider MRI Pelvis without and with contrast (CPT® 72197).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ Same as Pre-Menopausal</li> </ul>

Follow up Complex Adnexal Masses		
<p>Typical Dermoid ≥ 10cm (O- RADS™ 3)</p>	<ul style="list-style-type: none"> <li>➤ If initial ultrasound imaging confirms a Typical Dermoid ≥10cm                             <ul style="list-style-type: none"> <li>◆ If not excised consider TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) follow up within 6 months</li> <li>◆ If stable follow up Ultrasound can be done at 12 and 24 months from initial exam</li> <li>◆ If solid component, MRI Pelvis without and with contrast (CPT® 72197) may be approved</li> <li>◆ If ultrasound equivocal for Dermoid, MRI Pelvis without and with contrast (CPT® 72197)</li> <li>◆ If follow up ultrasound imaging shows changing morphology and/or a vascular component then consider MRI Pelvis without and with contrast (CPT® 72197)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ Same as Pre-Menopausal</li> </ul>

Follow up Complex Adnexal Masses		
Condition	Pre-Menopausal	Post-Menopausal
Typical benign extraovarian lesions  Hydrosalpinges (Hydrosalpinx) or Peritoneal cysts (O-RADS™ 2)	➤ If initial imaging confirms hydrosalpinx or peritoneal cysts follow up imaging is not indicated	➤ If initial imaging confirms hydrosalpinx or peritoneal cysts, follow up imaging is not indicated

**Complex and/or solid adnexal mass incompletely evaluated by ultrasound**

- Generally a repeat ultrasound is recommended (see table above for appropriate time intervals): TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856)
- MRI Pelvis without and with contrast (CPT® 72197, CPT® 72195 if pregnant) one time for any of the following:
  - ◆ To follow masses when they cannot be optimally visualized by ultrasound (e.g. suboptimal sonography due to large mass or obese individual)
  - ◆ Unexplained change of appearance during ultrasound follow-up
  - ◆ Other Individual-driven indications (e.g. the application of established risk prediction models (e.g., family history of ovarian cancer), correlation with abnormal serum biomarkers, and/or pelvic symptoms)
  - ◆ Differentiate the origin of pelvic masses that are not clearly of ovarian origin
  - ◆ O-RADS™ score of 3 with a solid component
  - ◆ O-RADS™ score of 4 or 5
- Concern for metastatic ovarian malignancy, see **Ovarian Cancer (ONC-21)** in the Oncology Imaging Guidelines

**Background and Supporting Information**

**O-RADS™ Classification**

O-RADS	
<b>O-RADS™ 0</b>	Incomplete Evaluation
<b>O-RADS™ 1</b>	Normal Ovary
	No ovarian lesion
	Physiologic cyst: follicle ≤3cm or corpus luteum typically ≤3cm
<b>O-RADS™ 2</b>	Almost Certainly Benign
	Simple cyst less than 10 cm
	Bilocular, smooth cyst
	Unilocular, smooth, non-simple cysts (internal echos and/or incomplete septations)
	Typical benign ovarian lesions <10cm (hemorrhagic cyst, dermoid cyst, endometrioma)
	Typical benign extraovarian lesions (paraovarian cyst, peritoneal inclusion cysts, hydrosalpinx)
<b>O-RADS™ 3</b>	Low Risk
	Typical benign ovarian lesions ≥10cm
	Uni- or bilocular cyst, smooth, ≥10cm
	Unilocular cyst, irregular, any size
	Multilocular cyst, smooth, <10cm, CS <4
	Solid lesion, ± shadowing, smooth, any size, CS =1
	Solid lesion, shadowing, smooth, any size, CS 2-3
<b>O-RADS™ 4</b>	Intermediate Risk
	Bilocular cysts without solid component(s), Irregular, any size, any color score
	Multilocular cysts without solid component(s) Smooth, 10cm, CS <4 Smooth, any size, CS 4 Irregular, any size, any CS
	Unilocular cyst with solid component(s) <4 papillary projections or any solid component(s) not considered a papillary projection, any size
	Bi- or multilocular cyst with solid component(s), any size, CS 1-2

O-RADS	
	Solid lesion, non-shadowing, smooth, any size, CS 2-3
<b>O-RADS™ 5</b>	High Risk
	Unilocular cyst, ≥4 papillary projections, any size, and CS
	Bi- or multilocular cyst with solid component(s), any size, CS 3-4
	Solid lesion, ± shadowing, smooth, any size, CS 4
	Solid lesion, irregular, any size, any CS
	Ascites and/or peritoneal nodules

**Pre-Menopausal – see table above**

- For females of reproductive age (Pre-Menopausal), evaluation may include a pregnancy test (a quantitative hCG may be necessary if an ectopic pregnancy is suspected), CBC, serial hematocrit measurements, and appropriate cultures.
- Symptomatic individuals often require immediate interventions (antibiotics, surgery, and/or expectant management).
- Ultrasound characteristics usually suggest the diagnosis (ectopic pregnancy, functional cysts, tubo-ovarian abscess (See **Pelvic Inflammatory Disease (PID) (PV-7.1)**), hydrosalpinx, dermoid, endometrioma, hemorrhagic cyst and pedunculated fibroids (See **Leiomyoma/Uterine Fibroids (PV-12.1)**) and direct the treatment.
- An ovarian mass suspicious for metastatic disease (e.g. from breast, uterine, colorectal or gastric cancer) should be evaluated based on the appropriate Oncology Imaging Guidelines.

**Post-Menopausal – see table above**

- For post-menopausal females, most pelvic complex cysts or solid masses should be evaluated for surgical intervention and have tumor markers (i.e. CA-125) measured.
- Some females for whom the usual management of a pelvic mass would include surgery may be at increased risk for perioperative morbidity and mortality. In such cases, repeat imaging may be a safer alternative than immediate surgery, although the frequency of follow-up imaging has not been determined.
- An ovarian mass suspicious for metastatic disease (e.g. from breast, uterine, colorectal or gastric cancer) should be evaluated based on the appropriate Oncology Imaging Guidelines.

**Screening for Ovarian Cancer/Suspected Ovary Cancer (PV-5.4)**

- See **Ovarian Cancer (ONC-21)** in the Oncology Imaging Guidelines

## References

1. Sakhel K, Benson CB, Platt LD, Goldstein SR, Benacerraf BR. Begin With the Basics. *Journal of Ultrasound in Medicine*. 2013;32(3):381-388. doi:10.7863/jum.2013.32.3.381.
2. Benacerraf BR, Abuhamad AZ, Bromley B, et al. Consider ultrasound first for imaging the female pelvis. *American Journal of Obstetrics and Gynecology*. 2015;212(4):450-455. doi:10.1016/j.ajog.2015.02.015.
3. Practice Bulletin No. 174 Evaluation and Management of Adnexal masses. *Obstetrics & Gynecology*. 2016. Reaffirmed 2021;128(5):1193-1195. doi:10.1097/aog.0000000000001763
4. Alcázar JL, Guerriero S, Laparte C, Ajossa S, Jurado M. Contribution of power Doppler blood flow mapping to gray-scale ultrasound for predicting malignancy of adnexal masses in symptomatic and asymptomatic women. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 2011;155(1):99-105. doi:10.1016/j.ejogrb.2010.11.010.
5. Guerriero S, Alcazar JL, Ajossa S, et al. Transvaginal Color Doppler Imaging in the Detection of Ovarian Cancer in a Large Study Population. *International Journal of Gynecological Cancer*. 2010;20(5):781-786. doi:10.1111/igc.0b013e3181de9481
6. Andreotti RF, Timmerman D, Benacerraf BR, et al. Ovarian-Adnexal Reporting Lexicon for Ultrasound: A White Paper of the ACR Ovarian-Adnexal Reporting and Data System Committee. *Journal of the American College of Radiology*. 2018;15(10):1415-1429. doi:10.1016/j.jacr.2018.07.004.
7. Andreotti RF, Timmerman D, Strachowski LM, et al. O-RADS US Risk Stratification and Management System: A Consensus Guideline from the ACR Ovarian-Adnexal Reporting and Data System Committee. *Radiology*. 2020;294(1):168-185. doi:10.1148/radiol.2019191150.
8. Levine D, Patel MD, Suh-Burgmann EJ, et al. Simple Adnexal Cysts: SRU Consensus Conference Update on Follow-up and Reporting. *Radiology*. 2019;293(2):359-371. doi:10.1148/radiol.2019191354.
9. Atri M, Alabousi A, Reinhold C, et al. ACR Appropriateness Criteria® Clinically Suspected Adnexal Mass, No Acute Symptoms. *Journal of the American College of Radiology*. 2019;16(5). doi:10.1016/j.jacr.2019.02.011.
10. Wu M-H, Cheng Y-C, Chang C-H, Ko H-C, Chang F-M. Three-dimensional Ultrasound in Evaluation of the Ovary. *Journal of Medical Ultrasound*. 2012;20(3):136-141. doi:10.1016/j.jmu.2012.07.001.
11. Sladkevicius P, Jokubkiene L, Timmerman D, et al. Vessel morphology depicted by three-dimensional power Doppler ultrasound as second-stage test in adnexal tumors that are difficult to classify: prospective diagnostic accuracy study. *Ultrasound in Obstetrics & Gynecology*. 2021;57(2):324-334. doi:10.1002/uog.22191.
12. Dirrichs T, Bauerschlag D, Maass N, Kuhl CK, Schrading S. Impact of Multiparametric MRI (mMRI) on the Therapeutic Management of Adnexal Masses Detected with Transvaginal Ultrasound (TVUS): An Interdisciplinary Management Approach. *Acad Radiol*. 2022;29(2):183-97. doi:10.1016/j.acra.2020.11.016.
13. American College of Radiology Committee on O-RADS™ (Ovarian and Adnexal). O-RADS MRI Risk Score Governing Concepts. Available at: <https://www.acr.org/-/media/ACR/Files/RADS/O-RADS/O-RADS-MR-Risk-Stratification-System-Table-Updated-May-2023.pdf>. Accessed on June 01, 2023.



## Endometriosis (PV-6)

### Endometriosis (PV-6.1)

- TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76856 or CPT® 76857) is the first line diagnostic exam for suspected endometriosis.
- MRI Pelvis without contrast (CPT® 72195) or without and with contrast (CPT® 72197):
  - ◆ Prior to planned surgery for suspected deep pelvic endometriosis such as rectovaginal endometriosis, deeply infiltrative bladder endometriosis, and cul-de-sac obliteration
  - ◆ To characterize complex adnexal masses as endometrioma if ultrasound equivocal see **Complex Adnexal Masses (PV-5.3)**
    - If known or suspected thoracic endometriosis, See **Pneumothorax/Hemothorax (CH-19.1)** in the Chest Imaging Guidelines.

### References

1. Practice Bulletin No. 114: Management of Endometriosis. *Obstetrics & Gynecology*. 2010;116(1):223-236. doi:10.1097/aog.0b013e3181e8b073. (July 2010. Reaffirmed 2022).
2. Hudelist G, English J, Thomas AE, Tinelli A, Singer CF, Keckstein J. Diagnostic accuracy of transvaginal ultrasound for non-invasive diagnosis of bowel endometriosis: systematic review and meta-analysis. *Ultrasound in Obstetrics & Gynecology*. 2011;37(3):257-263. doi:10.1002/uog.8858.
3. Macario S, Chassang M, Novellas S, et al. The Value of Pelvic MRI in the Diagnosis of Posterior Cul-De-Sac Obliteration in Cases of Deep Pelvic Endometriosis. *American Journal of Roentgenology*. 2012;199(6):1410-1415. doi:10.2214/ajr.11.7898.
4. ACOG Committee Opinion No. 760 Summary: Dysmenorrhea and Endometriosis in the Adolescent. *Obstetrics & Gynecology*. 2018;132(6):1517-1518. doi:10.1097/aog.0000000000002981. Reaffirmed 2021.
5. Guerriero S, Saba L, Pascual MA, et al. Transvaginal ultrasound vs magnetic resonance imaging for diagnosing deep infiltrating endometriosis: systematic review and meta-analysis. *Ultrasound in Obstetrics & Gynecology*. 2018;51(5):586-595. doi:10.1002/uog.18961.
6. Chronic pelvic pain. ACOG Practice Bulletin No. 218. *American College of Obstetricians and Gynecologists*. *Obstet Gynecol* 2020;Reaffirmed 2023;135:e98–109.
7. Goncalves MO, Siufi Neto J, Andres MP, Siufi D, de Mattos LA, Abrao MS. Systematic evaluation of endometriosis by transvaginal ultrasound can accurately replace diagnostic laparoscopy, mainly for deep and ovarian endometriosis. *Human Reproduction*. 2021;36(6):1492-1500. doi:10.1093/humrep/deab085.
8. Nisenblat V, Bossuyt PMM, Farquhar C, Johnson N, Hull ML. Imaging modalities for the non-invasive diagnosis of endometriosis. *The Cochrane Database of Systematic Reviews*. 2016;2:CD009591. doi:10.1002/14651858.CD009591.pub2.
9. Siegelman ES, Oliver ER. MR Imaging of Endometriosis: Ten Imaging Pearls. *RadioGraphics*. 2012;32(6):1675-1691. doi:10.1148/rg.326125518.

## Pelvic Inflammatory Disease (PID) (PV-7)

### Pelvic Inflammatory Disease (PV-7.1)

- Clinical examination alone is usually sufficient for confirming the diagnosis of pelvic inflammatory disease. See **Pelvic Pain/Dyspareunia, Female (PV-11.1)** if other causes of pelvic pain are suspected.
- Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) is the initial study for imaging of suspected pelvic inflammatory disease (PID) if diagnosis is uncertain following bimanual pelvic examination and laboratory testing (such as WBC, CRP and ESR, Microscopy of the vaginal secretions, and testing for Neisseria gonorrhoeae and Chlamydia trachomatis) OR for suspected Tubo-Ovarian Abscess (TOA). Color Doppler ultrasonography (CPT® 93975 or CPT® 93976) may be added.
- CT Pelvis with contrast (CPT® 72193) or MRI Pelvis with and without contrast (CPT® 72197):
  - ◆ If diagnosis is uncertain following examination, laboratory testing and ultrasound
  - ◆ Ultrasound shows extensive abscess formation and further imaging is needed for treatment planning
  - ◆ Suspected TOA with inconclusive ultrasound
- If suspected abdominal abscess see **Abdominal Sepsis (Suspected Abdominal Abscess) (AB-3.1) in the Abdomen Imaging Guidelines.**

#### ***Background and Supporting Information***

PID may be clinically suspected based on findings of abdominal and/or pelvic pain, cervical or vaginal mucopurulent discharge, dyspareunia, inter-menstrual and/or post coital bleeding, fever, low back pain, nausea/vomiting, urinary frequency, cervical motion tenderness, uterine and/or adnexal tenderness on exam.

Laboratory findings may include elevated erythrocyte sedimentation rate, elevated C-reactive protein, lab documentation of cervical infection with N. gonorrhoeae or C. trachomatis, WBC on saline microscopy of vaginal fluid, and/or endometrial biopsy with endometritis.

### References

1. Liu B, Donovan B, Hocking JS, Knox J, Silver B, Guy R. Improving Adherence to Guidelines for the Diagnosis and Management of Pelvic Inflammatory Disease: A Systematic Review. *Infectious Diseases in Obstetrics and Gynecology*. 2012;2012:1-6. doi:10.1155/2012/325108.
2. Jaiyeoba O, Soper DE. A Practical Approach to the Diagnosis of Pelvic Inflammatory Disease. *Infectious Diseases in Obstetrics and Gynecology*. 2011;2011:1-6. doi:10.1155/2011/753037.
3. Workowski KA. Centers for Disease Control and Prevention Sexually Transmitted Diseases Treatment Guidelines. *Clinical Infectious Diseases*. 2015;61(suppl 8). doi:10.1093/cid/civ771.
4. Practice Bulletin No. 174. Evaluation and Management of Adnexal Masses. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2016. Reaffirmed 2021;128:e210–26. doi:10.1097/aog.0000000000001768.
5. Prevention of Infection After Gynecologic Procedures. *Obstetrics & Gynecology*. 2018;131(6):1177-1179. doi:10.1097/aog.0000000000002672.
6. Revzin MV, Mathur M, Dave HB, Macer ML, Spektor M. Pelvic Inflammatory Disease: Multimodality Imaging Approach with Clinical-Pathologic Correlation. *RadioGraphics*. 2016;36(5):1579-1596. doi:10.1148/rg.2016150202
7. ACR Appropriateness Criteria® Acute Pelvic Pain in the Reproductive Age Group, *Ultrasound Quarterly*: June 2016 - Volume 32 - Issue 2 - p 108-115 doi: 10.1097/RUQ.0000000000000200.
8. Maturen KE, Akin EA, Dassel M, et al. ACR Appropriateness Criteria® Postmenopausal Subacute or Chronic Pelvic Pain. *Journal of the American College of Radiology*. 2018;15(11):S365-S372. doi:10.1016/j.jacr.2018.09.023
9. Henrichsen TL, Maturen KE, Robbins JB, et al. ACR Appropriateness Criteria® Postmenopausal Acute Pelvic Pain. *Journal of the American College of Radiology*. 2021;18(5):S119-S125. doi:10.1016/j.jacr.2021.02.003.
10. Polena V, Huchon C, Varas Ramos C, Rouzier R, Dumont A, Fauconnier A. Non-invasive tools for the diagnosis of potentially life-threatening gynaecological emergencies: a systematic review. *PLoS One*. 2015;10(2):e0114189. doi:10.1371/journal.pone.0114189

## Polycystic Ovary Syndrome (PV-8)

### Polycystic Ovary Syndrome (PCOS) (PV-8.1)

- Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) is indicated when history, exam, and/or laboratory findings are suspicious for PCOS
- Laboratory testing to be done prior to advanced imaging: Virilizing hormone levels (Testosterone and DHEAS). Disorders that mimic the clinical features of Polycystic ovary syndrome (PCOS) should be excluded by measuring: TSH, Prolactin, and 17-OHP (hydroxyprogesterone) levels. Others to consider based on the clinical presentation: Cortisol levels, ACTH, dexamethasone suppression testing, IGF-1, FSH, LH, estradiol.
- If elevated serum levels of androgens are found and an adrenal etiology is suspected see **Adrenal Cortical Lesions (AB-16.1)** in the Abdomen Imaging Guidelines

### Background and Supporting Information

- Polycystic ovary syndrome is the most common hormonal disorder among females of reproductive age and is one of the leading causes of infertility.
- Diagnostic criteria of polycystic ovary syndrome (Two of the following three criteria are required):
  - ◆ Oligo/anovulation
  - ◆ Hyperandrogenism
    - Clinical (hirsutism or less commonly male pattern alopecia) or
    - Biochemical (raised FAI (free androgen index) or free testosterone)
  - ◆ Polycystic ovaries on ultrasound
    - Defined as an ovary containing 12 or more follicles (or 25 or more follicles using new ultrasound technology) measuring 2 to 9 mm in diameter or an ovary that has a volume of greater than 10 mL on ultrasonography. A single ovary meeting either or both of these definitions is sufficient for diagnosis of polycystic ovaries.
- Clinical Features of PCOS
  - ◆ Hirsutism and male pattern balding consistent with hyperandrogenism
  - ◆ Irregular or absent menstrual cycles
  - ◆ Subfertility or infertility
  - ◆ Psychological symptoms – anxiety, depression, psychosexual dysfunction, eating disorders
  - ◆ Metabolic features – obesity, dyslipidaemia, diabetes

### References

1. ACOG Practice Bulletin 194. Polycystic Ovary Syndrome. Obstetrics and Gynecology. 2018. Reaffirmed 2022. 131(6):e157-e171. doi: 10.1097/AOG.0000000000002656.
2. Dumesic DA, Oberfield SE, Stener-Victorin E, Marshall JC, Laven JS, Legro RS. Scientific Statement on the Diagnostic Criteria, Epidemiology, Pathophysiology, and Molecular Genetics of Polycystic Ovary Syndrome. Endocrine Reviews. 2015;36(5):487-525. doi:10.1210/er.2015-1018.
3. Teede HJ, Misso ML, Costello MF, et al. Erratum. Recommendations from the international evidence-based guideline for the assessment and management of polycystic ovary syndrome. Human Reproduction. 2018;34(2):388-388. doi:10.1093/humrep/dey363
4. Martin KA, Anderson RR, Chang RJ, et al. Evaluation and Treatment of Hirsutism in Premenopausal Women: An Endocrine Society\* Clinical Practice Guideline. The Journal of Clinical Endocrinology & Metabolism. 2018;103(4):1233-1257. doi:10.1210/jc.2018-00241.
5. Mayo-Smith WW, Song JH, Boland GL, et al. Management of Incidental Adrenal Masses: A White Paper of the ACR Incidental Findings Committee. Journal of the American College of Radiology. 2017;14(8):1038-1044. doi:10.1016/j.jacr.2017.05.001.
6. Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group. Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome. Fertil Steril. 2004;81(1):19-25.
7. Obesity in adolescents. Committee Opinion No. 714. Obstetrics & Gynecology. 2017; Reaffirmed 2021;130(3):e127-e140. doi:10.1097/aog.0000000000002297.

## Initial Infertility Evaluation, Female (PV-9)

### Initial Infertility Evaluation, Female (PV-9.1)

This guideline is not intended for fertility treatment follow-up and management. See individual fertility coverage policy for imaging during active fertility treatment.

- A one-time Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) for initial infertility workup.<sup>1</sup>
  - ◆ Repeat ultrasounds or serial ultrasounds are not indicated for initial infertility workup
- To evaluate for tubal patency:
  - ◆ Hysterosalpingography (HSG) (CPT® 74740) **or** Sonohysterosalpingography (CPT® 76831)
- If ultrasound is indeterminate or there is clinical suspicion for intra-cavitary lesion (such as polyp or fibroid), hydrosalpinx, uterine synechia, adenomyosis or uterine anomalies:
  - ◆ 3D US imaging (add-on CPT® 76376 or CPT® 76377)
  - ◆ US Color Doppler (CPT® 93975 or CPT® 93976)

### *References*

1. Vickramarajah S, Stewart V, Ree KV, Hemingway AP, Crofton ME, Bharwani N. Subfertility: What the Radiologist Needs to Know. *RadioGraphics*. 2017;37(5):1587-1602. doi:10.1148/rg.2017170053.
2. AIUM Practice Parameter for Ultrasonography in Reproductive Medicine. 2017 American Institute of Ultrasound in Medicine.
3. B Benacerraf, T Shipp, B Bromley. Which Patients Benefit from a 3D Reconstructed Coronal View of the Uterus Added to Standard Routine 2D Pelvic Sonography? *AJR*:190, March 2008.
4. Pleş L, Alexandrescu C, Ionescu CA, Arvătescu CA, Vladareanu S, Moga MA. Three-dimensional scan of the uterine cavity of infertile women before assisted reproductive technology use. *Medicine (Baltimore)*. 2018;97(41):e12764. doi:10.1097/MD.00000000000012764.
5. Groszmann YS, Benacerraf BR. Complete evaluation of anatomy and morphology of the infertile patient in a single visit; the modern infertility pelvic ultrasound examination. *Fertility and sterility*. 2016 Jun 1;105(6):1381-93.
6. Practice Committee of the American Society for Reproductive Medicine. Diagnostic evaluation of the infertile female: a committee opinion. *Fertil Steril*. 2015 Jun;103(6):e44-50. doi: 10.1016/j.fertnstert.2015.03.019. Epub 2015 Apr 30. PMID: 25936238.
7. Cil AP, Tulunay G, Kose MF, Haberal A. Power Doppler properties of endometrial polyps and submucosal fibroids: a preliminary observational study in women with known intracavitary lesions. *Ultrasound Obstet Gynecol*. 2010 Feb;35(2):233-7.
8. Infertility workup for the women's health specialist. ACOG Committee Opinion No. 781. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2019;133:e377–84. Reaffirmed 2023.

## **Intrauterine Device (IUD) and Tubal Occlusion (PV-10)**

### **Intrauterine Device (PV-10.1)**

### **Hysteroscopically Placed Tubal Occlusion Device (PV-10.2)**

## Intrauterine Device (PV-10.1)

- Imaging to evaluate position prior to, immediately after and, for example, 6 weeks after IUD insertion is not indicated.
- Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) if:
  - ◆ Abnormal pelvic exam prior to IUD insertion, such as pelvic mass, irregularly shaped uterus, or enlarged uterus.
  - ◆ Suspected IUD complication:
    - Abnormal IUD position
    - Uterine perforation
    - Severe pain
    - Excessive bleeding
    - Suspected infection

### “Lost” IUD inability to palpate IUD string on pelvic exam, and/or see IUD on speculum exam:

- Desires continuation of IUD for contraception, unable to visualize with cytobrush sweep of the cervix:
  - ◆ TV ultrasound (CPT® 76830) with or without 3-D Rendering (CPT® 76377 or CPT® 76376)
  - ◆ If TV ultrasound is negative or non-diagnostic, Pelvic ultrasound (CPT® 76856 or CPT® 76857):
    - If Pelvic ultrasound is negative or non-diagnostic, plain x-ray should be performed if pregnancy test is negative.
    - CT Pelvis without contrast (CPT® 72192) or CT Abdomen and Pelvis without contrast (CPT® 74176) or MRI Pelvis without contrast (CPT® 72195) when both ultrasound and plain x-ray are negative or non-diagnostic.
- Desires removal of IUD
  - ◆ If unable to palpate, see, or retrieve IUD string on pelvic exam and/or speculum exam
    - If failed attempt to retrieve IUD with instrumentation of external cervical os
    - TV ultrasound (CPT® 76830); 3-D Rendering (CPT® 76377 or CPT® 76376) may be an add-on
      - If Pelvic ultrasound is negative or non-diagnostic, plain x-ray should be performed if pregnancy test is negative
      - CT Pelvis without contrast (CPT® 72192) or CT Abdomen and Pelvis without contrast (CPT® 74176) or MRI Pelvis without contrast (CPT® 72195) when both ultrasound and plain x-ray are equivocal or non-diagnostic
  - If pregnancy test is positive:
    - ◆ The use of gynecology CPT codes for pregnant females is not supported. Therefore, transvaginal ultrasound (CPT® 76830) and pelvic ultrasound (CPT® 76856 or CPT® 76857) are not supported for those with a positive pregnancy test or known pregnancy. If a pregnancy test is positive, then obstetrical CPT codes are indicated (**General Guidelines (PV-1.0)**).



## **Hysteroscopically Placed Tubal Occlusion Device (PV-10.2)**

- TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76856 or CPT® 76857) if:
  - ◆ Suspected complication of hysteroscopically placed tubal occlusion device:
    - Abnormal tubal occlusion device position
    - Uterine perforation
    - Severe pain
    - Excessive bleeding

### ***Background and Supporting Information***

- As of 2019, neither the Essure nor the Adiana tubal occlusion device is in production.

### ***References***

1. Boortz HE, Margolis DJA, Ragavendra N, Patel MK, Kadell BM. Migration of Intrauterine Devices: Radiologic Findings and Implications for Patient Care. *RadioGraphics*. 2012;32(2):335-352. doi:10.1148/rg.322115068.
2. Prabhakaran S, Chuang A. In-office retrieval of intrauterine contraceptive devices with missing strings. *Contraception*. 2011;83(2):102-106. doi:10.1016/j.contraception.2010.07.004.
3. Sakhel K, Benson CB, Platt LD, Goldstein SR, Benacerraf BR. Begin With the Basics. *Journal of Ultrasound in Medicine*. 2013;32(3):381-388. doi:10.7863/jum.2013.32.3.381.
4. Benacerraf BR, Abuhamad AZ, Bromley B, et al. Consider ultrasound first for imaging the female pelvis. *American Journal of Obstetrics and Gynecology*. 2015;212(4):450-455. doi:10.1016/j.ajog.2015.02.015.
5. Practice Bulletin No. 186: Long-Acting Reversible Contraception: Implants and Intrauterine Devices. *Obstet Gynecol*. 2017 Nov 2017 130(5):251-269. Reaffirmed 2021. doi: 10.1097/AOG.0000000000002394.
6. Nowitzki KM, Hoimes ML, Chen B, Zheng LZ, Kim YH. Ultrasonography of intrauterine devices. *Ultrasonography*. 2015;34(3):183-194. doi:10.14366/usg.15010.
7. Guelfguat M, Gruenberg TR, Dipoce J, Hochsztein JG. Imaging of Mechanical Tubal Occlusion Devices and Potential Complications. *RadioGraphics*. 2012;32(6):1659-1673. doi:10.1148/rg.326125501.
8. Simpson W, Beitia L. Multimodality imaging of the Essure tubal occlusion device. *Clinical Radiology*. 2012;67(12). doi:10.1016/j.crad.2012.08.013.
9. Wong L, White N, Ramkrishna J, Júnior EA, Meagher S, Costa FDS. Three-dimensional imaging of the uterus: The value of the coronal plane. *World Journal of Radiology*. 2015;7(12):484. doi:10.4329/wjr.v7.i12.484.
10. Rowlands S, Oloto E, Horwell DH. Intrauterine devices and risk of uterine perforation: current perspectives. *Open Access J Contracept*. 2016;7:19–32. Published 2016 Mar 16. doi:10.2147/OAJC.S85546.

## Pelvic Pain/Dyspareunia, Female (PV-11)

### Pelvic Pain/Dyspareunia, Female (PV-11.1)

- Often, the history, physical examination, and laboratory data can guide subsequent workup in individuals presenting with pelvic pain. When possible, use the more specific guideline, depending on clinical presentation and the differential diagnosis. (i.e. endometriosis **Endometriosis (PV-6.1)**, adnexal mass **Adnexal Mass/Ovarian Cysts (PV-5)**, etc.)
- If there is clinical concern that a non-gynecological condition is the cause of pelvic pain, such as a vascular, urological or gastrointestinal etiology, see the applicable guideline section(s).
- Premenopausal pelvic pain - Pregnancy test should be done prior to imaging.
  - ◆ If pregnancy test is positive, see the applicable obstetrical imaging policy.
- If pregnancy test is negative or postmenopausal:
  - ◆ Ultrasound – transvaginal (CPT® 76830) and/or pelvic (CPT® 76856 or CPT® 76857)
  - ◆ Duplex Doppler (CPT® 93975 or CPT® 93976) can be added if there is an ovarian mass and/or suspicion of ovarian torsion on the initial ultrasound
  - ◆ Duplex Doppler (CPT® 93975 or CPT® 93976) for chronic pelvic pain (pelvic pain for 6 months or greater)
- Further imaging as per appropriate section of guidelines (i.e. ovarian mass/torsion **Adnexal Mass/Ovarian Cysts (PV-5)**, PID **Pelvic Inflammatory Disease (PV-7.1)**, etc.).
- If initial ultrasound is normal, further evaluation depending on the clinical suspicion may include urological work-up, gastroenterology work-up, laparoscopic evaluation(s).
- If the initial ultrasound is equivocal for unexplained chronic pelvic pain (pelvic pain for 6 months or greater) and/or above evaluations are non-diagnostic:
  - ◆ CT Pelvis with contrast (CPT® 72193) OR
  - ◆ MRI Pelvis without contrast or with and without contrast (CPT® 72195 or CPT® 72197)
- Pelvic Pain/Hip Pain - Rule Out Piriformis Syndrome
  - ◆ See **Focal Neuropathy (PN-2.1)** in the Peripheral Nerve Disorders Imaging Guidelines
  - ◆ See **Hip (MS-24)** in the Musculoskeletal Imaging Guidelines

- Work-up of interstitial cystitis/bladder pain syndrome (IC/BPS) should include history, physical exam, laboratory exam (urinalysis and urine culture), cystoscopy, and measurement of post void residual urine by bladder catheterization.
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830)
    - CT Pelvis with contrast (CPT® 72193) if ultrasound is equivocal for complicated interstitial cystitis/bladder pain syndrome (when ordered by specialist or any provider in consultation with a specialist).
- Proctalgia Syndromes
  - ◆ Prior to advanced imaging, the evaluation of rectal/perineal pain should include:
    - Digital rectal examination (assess for mass, fissures, hemorrhoids, etc.)
    - Pelvic examination in females to exclude PID
    - Recent flexible sigmoidoscopy or colonoscopy subsequent to the start of reported symptoms to exclude inflammatory conditions or malignancy
    - Endoanal ultrasound (CPT® 76872), MRI Pelvis with and without contrast (CPT® 72197), or CT Pelvis with contrast (CPT® 72193) are appropriate after the above studies have been performed or if laboratory or clinical information suggest infection, abscess, or inflammation
  - MRI (MRI Pelvis without contrast CPT® 72195) for Defecography is considered investigational/experimental by UHC.

### ***Background and Supporting Information***

- Interstitial Cystitis/Bladder Pain Syndrome (IC/BPS) has an unpleasant sensation (pain, pressure, discomfort), perceived to be related to the urinary bladder. It is associated with lower urinary tract symptoms of more than six weeks duration, in the absence of infection or other identifiable causes.
- Proctalgia syndromes are characterized by recurrent episodes of rectal/perineal pain, and may be due to sustained contractions of the pelvic floor musculature.

### References

1. Hanno PM, Erickson D, Moldwin R, Faraday MM. Diagnosis and Treatment of Interstitial Cystitis/Bladder Pain Syndrome: AUA Guideline Amendment. *Journal of Urology*. 2015;193(5):1545-1553. doi:10.1016/j.juro.2015.01.086.
2. Hanno PM, Burks DA, Clemens JQ, et al. AUA Guideline for the Diagnosis and Treatment of Interstitial Cystitis/Bladder Pain Syndrome. *Journal of Urology*. 2011;185(6):2162-2170. doi:10.1016/j.juro.2011.03.064.
3. Steege JF, Siedhoff MT. Chronic Pelvic Pain. *Obstetrics & Gynecology*. 2014;124(3):616-629. doi:10.1097/aog.0000000000000417.
4. Wald A, Bharucha AE, Cosman BC, Whitehead WE. ACG Clinical Guideline: Management of Benign Anorectal Disorders. *The American Journal of Gastroenterology*. 2014;109(8):1141-1157. doi:10.1038/ajg.2014.190.
5. Practice Bulletin No. 114: Management of Endometriosis. *Obstetrics & Gynecology*. July 2010;116(1):223-236. Reaffirmed 2020. doi:10.1097/aog.0b013e3181e8b073.
6. Practice Bulletin No. 213: Female Sexual Dysfunction. *Obstetrics & Gynecology*. 2019 July: Reaffirmed 2022; (134):1-18.
7. Practice Bulletin No. 218. Chronic pelvic pain. *Obstetrics & Gynecology*. 2020; Reaffirmed 2023; 135(3). doi:10.1097/aog.00000000000003716.
8. Kraemer S, Watson V, Peters KM. The Evaluation and Management of Interstitial Cystitis/Bladder Pain Syndrome. *EMJ Urol* 2019;7(1):75-82.
9. Maturen KE, Akin EA, Dassel M, et al. ACR Appropriateness Criteria® Postmenopausal Subacute or Chronic Pelvic Pain. *Journal of the American College of Radiology*. 2018;15(11):S365-S372. doi:10.1016/j.jacr.2018.09.023.
10. Henrichsen TL, Maturen KE, Robbins JB, et al. ACR Appropriateness Criteria® Postmenopausal Acute Pelvic Pain. *Journal of the American College of Radiology*. 2021;18(5):S119-S125. doi:10.1016/j.jacr.2021.02.003.
11. ACR Appropriateness Criteria® Acute Pelvic Pain in the Reproductive Age Group, *Ultrasound Quarterly*: June 2016 - Volume 32 - Issue 2 - p 108-115 doi: 10.1097/RUQ.0000000000000200.

## Leiomyoma/Uterine Fibroids (PV-12)

### Leiomyoma/Uterine Fibroids (PV-12.1)

Leiomyoma are also known as “fibroids.”

The uterus, tubes and ovaries arise out of the pelvis and are considered pelvic organs. If the uterus rises out of the pelvic cavity, the imaging field can be determined on scout films. Imaging of the abdomen is not supported for problems suspected to arise from the pelvis.

- Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) for any of the following:
  - ◆ Suspected leiomyoma with symptoms of pelvic pain, suspected ureteral obstruction secondary to inability to void urine, pelvic pressure and/or abnormal uterine bleeding and/or an enlarged uterus found on physical exam with a negative pregnancy test (if pre-menopausal).
  - ◆ Pre-operative prior to myomectomy
  - ◆ Recurrent symptoms such as abnormal bleeding, pain, or pelvic pressure
  - ◆ 3-D Rendering (CPT® 76377 or CPT® 76376) and/or Duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) if ultrasound is equivocal and intracavitary lesion is suspected, or for surgical planning for myomectomy
  - ◆ There is no current evidence to support 3-D Rendering (CPT® 76377 or CPT® 76376) for planning for uterine artery embolization.
- MRI Pelvis and/or Abdomen to determine surgical approach for hysterectomy is not supported.
- MRI Pelvis without and with contrast (CPT® 72197), or without contrast (CPT® 72195) in the evaluation of leiomyomas for the following:
  - ◆ Guide the treatment of leiomyoma/fibroid in an enlarged uterus with multiple leiomyoma/fibroid following indeterminate ultrasound when myomectomy is planned.
  - ◆ Equivocal sonohysterography or panoramic hysteroscopy with suspected submucous leiomyoma and imaging is needed to plan for myomectomy.
  - ◆ Leiomyoma necrosis is suspected
  - ◆ Guide the treatment of leiomyoma/fibroid in an enlarged uterus with multiple leiomyoma/fibroid following indeterminate ultrasound when Radiofrequency Ablation of Leiomyomas is planned
  - ◆ Uterine artery embolization is being considered:
    - If MRI is equivocal, MRA Pelvis (CPT® 72198) or CTA Pelvis (CPT® 72191) if requested by or in consultation with the interventional radiologist planning the uterine artery embolization
    - There is no evidence to support interval MRI after embolization unless persistent or recurrent symptoms

- If malignancy is suspected, See **Oncology Imaging Guidelines**.
- ◆ MRI Pelvis with and without (CPT® 72197) may be considered for suspected leiomyosarcoma if one or more of the following ultrasound features AND symptoms are present;
  - Ultrasound features suggestive of leiomyosarcoma are:
    - Large sized (greater than 8 cm)
    - Irregular borders
    - Areas of cystic change or necrosis
    - Increase in central and peripheral vascularity
    - Rapid change in size
  - Symptoms suggestive of leiomyosarcoma would include postmenopausal woman with an new or rapidly enlarging myometrial mass or rapid growth of a uterine mass in a premenopausal patient (increase of 6 weeks gestation size within 1 year)
- CT is generally not warranted for evaluating pelvic anatomy because it is limited due to soft tissue contrast resolution.

### References

1. Sakhel K, Benson CB, Platt LD, Goldstein SR, Benacerraf BR. Begin With the Basics. Journal of Ultrasound in Medicine. 2013;32(3):381-388. doi:10.7863/jum.2013.32.3.381.
2. Benacerraf BR, Abuhamad AZ, Bromley B, et al. Consider ultrasound first for imaging the female pelvis. American Journal of Obstetrics and Gynecology. 2015;212(4):450-455. doi:10.1016/j.ajog.2015.02.015.
3. Turkgeldi E, Urman B, Ata B. Role of Three-Dimensional Ultrasound in Gynecology. Journal of Obstetrics and Gynaecology of India. 2014;65(3):146-154. doi:10.1007/s13224-014-0635-z.
4. Deshmukh SP, Gonsalves CF, Guglielmo FF, Mitchell DG. Role of MR Imaging of Uterine Leiomyomas before and after Embolization. RadioGraphics. 2012;32(6). doi:10.1148/rg.326125517.
5. Silberzweig JE, Powell DK, Matsumoto AH, Spies JB. Management of Uterine Fibroids: A Focus on Uterine-sparing Interventional Techniques. Radiology. 2016;280(3):675-692. doi:10.1148/radiol.2016141693.
6. Matteson KA, Butts SF. Choosing the Route of Hysterectomy for Benign Disease. Obstetrics and Gynecology. 2017 Jun 1;129(6):1149-50.Reaffirmed 2019.
7. Practice Bulletin No. 228. Management of Symptomatic Uterine Leiomyomas. Obstetrics & Gynecology. 2021;137(6):e100-e115. doi:10.1097/aog.0000000000004401.
8. Hindman N, Kang S, Fournier L, Lakhman Y, Nougaret S, Reinhold C, Sadowski E, Huang JQ, Ascher S. MRI Evaluation of Uterine Masses for Risk of Leiomyosarcoma: A Consensus Statement. Radiology. 2023 Feb;306(2):e211658. doi: 10.1148/radiol.211658.
9. Stewart KA, Greenberg JA, Kho KA, Cohen Rassier SL. Radiofrequency Ablation of Leiomyomas. Obstet Gynecol. 2023 Apr 13. doi: 10.1097/AOG.0000000000005196

## **Periurethral Cysts, Urethral Diverticula and Vaginal Masses (PV-13)**

**Periurethral cysts, Skene duct cyst and Gartner’s duct cyst (PV-13.1)**

**Urethral Diverticula (PV-13.2)**

**Vaginal Masses (PV-13.3)**

### **Periurethral cysts, Skene duct cyst and Gartner's duct cyst (PV-13.1)**

- Initial evaluation includes any of the following:
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or Transvaginal ultrasound (CPT® 76830) and/or Transperineal ultrasound (CPT® 76872)
    - MRI Pelvis without and with contrast (CPT® 72197) for surgical planning when ultrasound equivocal.

### **Urethral Diverticula (PV-13.2)**

- Initial evaluation may include Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or Transvaginal ultrasound (CPT® 76830) and/or Transperineal ultrasound (CPT® 76872)
- Urethrography, or CT Urethrography (CT Pelvis without and with contrast CPT® 72194 or CT Pelvis with contrast CPT® 72193) to evaluate any urethral abnormalities
- MRI Pelvis without and with contrast (CPT® 72197) for surgical planning

### **Vaginal Masses (PV-13.3)**

- Initial evaluation includes Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or Transvaginal ultrasound (CPT® 76830) and/or Transperineal ultrasound (CPT® 76872)
- MRI Pelvis without and with contrast (CPT® 72197) for surgical planning

#### ***Background and Supporting Information***

Symptomatic infection of congenital periurethral glands can result in urethral diverticula. Symptoms include pain, urinary urgency, frequency of urination, recurrent urinary tract infection, dribbling after urination, or incontinence.



### References

1. Lazarus E, Allen BC, Blaufox MD, et al. ACR Appropriateness Criteria® Recurrent Lower Urinary Tract Infection in Women. Last review date: 2014. <https://acsearch.acr.org/docs/69491/Narrative/>.
2. Crescenze IM, Goldman HB. Female Urethral Diverticulum: Current Diagnosis and Management. *Current Urology Reports*. 2015;16(10). doi:10.1007/s11934-015-0540-8.
3. El-Nashar SA, Singh R, Bacon MM, et al. Female Urethral Diverticulum. *Female Pelvic Medicine & Reconstructive Surgery*. 2016;22(6):447-452. doi:10.1097/spv.0000000000000312.
4. Greiman AK, Rolef J, Rovner ES. Urethral diverticulum: A systematic review. *Arab Journal of Urology*. 2019;17(1):49-57. doi:10.1080/2090598x.2019.1589748.
5. Desmarais CM. Skene's Gland Abscess. *Journal of Diagnostic Medical Sonography*. 2015;31(6):390-393. doi:10.1177/8756479315599545.
6. Yang et al. Ultrasonographic Imaging Features of Female Urethral and Peri-urethral Masses. *Ultrasound in Medicine and Biology*. 2020;46 (8):1896-1907.
7. Okeahialam NA, Taitongchai A, Sultan AH, Thakar R. Transperineal and endovaginal ultrasound for evaluating suburethral masses: comparison with magnetic resonance imaging. *Ultrasound in Obstetrics & Gynecology*. 2021;57(6):999-1005. doi:10.1002/uog.23123.
8. Vaidya RV, Olson K, Wolter C, Khan A. Characterization of Urethral Diverticula in Women. *Female Pelvic Med Reconstr Surg*. 2022 Jan 1;28(1):54-56. doi: 10.1097/SPV.0000000000001060
9. Pirpiris A, Chan G, Chaulk RC, Tran H, Liu M. An update on urethral diverticula: Results from a large case series. *Can Urol Assoc J*. 2022 Aug;16(8):E443-E447. doi: 10.5489/cuaj.7650.Hamed ST, Mansour SM. Surface transperineal ultrasound and vaginal abnormalities: applications and strengths. *Br J Radiol*. 2017 Dec;90(1080):20170326. doi: 10.1259/bjr.20170326.
10. Zulfiqar M, Shetty A, Yano M, McGettigan M, Itani M, Naeem M, Ratts VS, Siegel CL. Imaging of the Vagina: Spectrum of Disease with Emphasis on MRI Appearance. *Radiographics*. 2021 Sep-Oct;41(5):1549-1568. doi: 10.1148/rg.2021210018. Epub 2021 Jul 23.

## Congenital (Mullerian) Uterine and Vaginal Anomalies (PV-14)

### Uterine Anomalies (PV-14.1)

- Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) indicated for initial evaluation. 3-D Rendering (CPT® 76377 or CPT® 76376) may be an add-on if uterine anomaly is suspected on ultrasound.
- If ultrasound is indeterminate:
  - ◆ Sonohysterosalpingography (CPT® 76831)
- Retroperitoneal ultrasound (CPT® 76770 or CPT® 76775) is indicated to evaluate for possible coexisting renal anomalies.
  - ◆ MRI Abdomen without contrast or without and with contrast (CPT® 74181 or CPT® 74183) or CT urography (CT Abdomen and Pelvis without and with contrast CPT® 74178) for indeterminate renal anomaly<sup>8</sup> on ultrasound.
- An arcuate uterus is considered a normal variant. Therefore, advanced imaging of a known arcuate uterus is not supported.
- MRI Pelvis without and with contrast (CPT® 72197):
  - ◆ Ultrasound is indeterminate for a complex uterine anomaly, or
  - ◆ Requested for surgical planning of previously diagnosed uterine anomaly

### Vaginal Anomalies (PV-14.2)

- Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) and/or Transperineal ultrasound (CPT® 76872) and/or Translabial ultrasound (CPT® 76857) are indicated for initial evaluation. 3-D Rendering (CPT® 76377 or CPT® 76376) may be an add-on if vaginal anomaly is suspected on ultrasound.
- MRI Pelvis without and with contrast (CPT® 72197):
  - ◆ Ultrasound is indeterminate for a complex vaginal anomaly, or
  - ◆ Requested for surgical planning of previously diagnosed vaginal anomaly

### *Background and Supporting Information*

- Mullerian anomalies are complex structural anomalies deriving from errors in the embryonic development of the mullerian duct. These may include uterine remnant or agenesis, cervical agenesis, unicornate uterus, bicornuate uterus, uterine didelphys, septate uterus, vaginal septum and/or other complex anomalies.

### References

1. Benacerraf BR, Abuhamad AZ, Bromley B, et al. Consider ultrasound first for imaging the female pelvis. *American Journal of Obstetrics and Gynecology*. 2015;212(4):450-455. doi:10.1016/j.ajog.2015.02.015.
2. Graupera B, Pascual MA, Hereter L, et al. Accuracy of three-dimensional ultrasound compared with magnetic resonance imaging in diagnosis of Müllerian duct anomalies using ESHRE-ESGE consensus on the classification of congenital anomalies of the female genital tract. *Ultrasound in Obstetrics & Gynecology*. 2015;46(5):616-622. doi:10.1002/uog.14825.
3. ACR–SAR–SPR Practice Parameter for the Performance of Magnetic Resonance Imaging of the Soft Tissue Components of the Pelvis. Resolution 4. Revised 2015. <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/mr-softtissue-pel.pdf?la=en>.
4. Committee Opinion No. 779 Management of Acute Obstructive Uterovaginal Anomalies. *Obstetrics & Gynecology*. 2019; Reaffirmed 2021; 133(6). doi:10.1097/aog.0000000000003281.
5. Committee Opinion No. 728 Mullerian Agenesis: Diagnosis, Management and Treatment. *Obstetrics & Gynecology*. 2018;131(1). Reaffirmed 2020. doi:10.1097/aog.0000000000002458.
6. Practice Uterine septum: a guideline Practice Committee of the American Society for Reproductive Medicine. *Fertility and Sterility*. 2016;106(3):530-540. doi:10.1016/j.fertnstert.2016.05.014 Committee of the American Society for Reproductive Medicine. Uterine septum: a guideline. *Fertility and sterility*. 2016 Sep 1;106(3):530-40.
7. Ramanathan, Subramaniyan et al. "Multi-modality imaging review of congenital abnormalities of kidney and upper urinary tract." *World journal of radiology* vol. 8,2 (2016): 132-41. doi:10.4329/wjr.v8.i2.132.
8. Houat AP, Guimarães CTS, Takahashi MS, et al. Congenital Anomalies of the Upper Urinary Tract: A Comprehensive Review. *RadioGraphics*. 2021;41(2):462-486. doi:10.1148/rg.2021200078.
9. Pfeifer SM, Attaran M, Goldstein J, et. al. ASRM müllerian anomalies classification 2021. *Fertil Steril*. 2021;116(5):1238-1252. doi:10.1016/j.fertnstert.2021.09.025.

## **Fetal MRI and Other Pregnancy Imaging (PV-15)**

**Fetal MRI (PV-15.1)**

**Placenta Accreta/Placenta Accreta Spectrum/ Placenta Percreta (PV-15.2)**

**C-section or Cornual (interstitial) Ectopic Pregnancy (PV-15.3)**

**Pelvimetry (PV-15.4)**

## **Fetal MRI (PV-15.1)**

<b>CPT® Code Guidance</b>
➤ Fetal MRI (CPT® 74712) [plus CPT® 74713 for each additional fetus]
➤ Do not report CPT® 74712 and CPT® 74713 in conjunction with CPT® 72195, CPT® 72196, CPT® 72197
➤ If only placenta or maternal pelvis is imaged without fetal imaging, use MRI Pelvis (CPT® 72195)

### **Indications for Fetal MRI**

- Fetal MRI (CPT® 74712) [plus CPT® 74713 for each additional fetus] optimally performed after 18 to 22 weeks gestation, for assessment of known or suspected fetal abnormalities for counseling, surgical, or delivery planning.
  - ◆ There are cases when surgical planning may necessitate imaging earlier than 18 weeks. For those cases where surgery is to be performed prior to 18 weeks and they otherwise meet indications for imaging per this criteria, Fetal MRI may be approved.
- 3D-4D (CPT® 76376 or CPT® 76377) rendering can be added for surgical planning with diagnosis of complex CHD in the fetus or for surgical planning of other complex fetal malformations.
- Repeat fetal MRI (CPT® 74712) [plus CPT® 74713 for each additional fetus] later in pregnancy for:
  - ◆ Delivery or perinatal surgical planning
- Fetal MRI indications include but may not be limited to the following:
  - ◆ Brain
    - Congenital anomalies
      - Ventriculomegaly
      - Agenesis of the corpus callosum
      - Abnormalities of the cavum septum pellucidum
      - Holoprosencephaly
      - Posterior fossa anomalies
      - Malformations of cerebral cortical development
      - Microcephaly
      - Solid or cystic masses
      - Cephalocele
    - Screening fetuses with a family risk for brain anomalies
      - Tuberous sclerosis
      - Corpus callosal dysgenesis
      - Malformations of cerebral cortical development
    - Vascular abnormalities
      - Vascular malformations
      - Hydranencephaly
      - Intra-uterine cerebrovascular accident (CVA)

- ◆ Spine
  - Congenital anomalies
    - Neural tube defects
    - Sacrococcygeal teratomas
    - Caudal regression/sacral agenesis
    - Syringomyelia
    - Vertebral anomalies
- ◆ Skull, face, and neck
  - Masses of the face and neck
    - Vascular or lymphatic malformations
    - Hemangiomas
    - Goiter
    - Teratomas
    - Facial clefts
  - Airway obstruction
    - Conditions that may impact parental counseling, prenatal management, delivery planning, and postnatal therapy
- ◆ Thorax
  - Masses
    - Congenital pulmonary airway malformations (congenital cystic adenomatoid malformation; sequestration, and congenital lobar emphysema);
    - Congenital diaphragmatic hernia
    - Effusion
    - Mediastinal masses
    - Assessment for esophageal atresia
  - Volumetric assessment of lung
    - Cases at risk for pulmonary hypoplasia secondary to oligohydramnios, chest mass, or skeletal dysplasias
- ◆ Abdomen, retroperitoneal and pelvis
  - Bowel anomalies such as anorectal malformations, or complex bowel obstructions such as with megacystis microcolon hypoperistalsis syndrome
  - Abdominal wall defect
  - Mass
    - Abdominal–pelvic cyst
    - Tumors (e.g. hemangiomas, neuroblastomas, sacrococcygeal teratomas, and suprarenal or renal masses)
  - Complex genitourinary anomalies (e.g. cloaca, prune belly syndrome)
- ◆ Congenital Heart Disease (CHD)
- ◆ Skeletal dysplasia
- ◆ Multiple malformations
- ◆ Complications of monozygotic twins/TTTS (e.g. Laser treatment of twins, demise of one twin, conjoined twins)
- ◆ Any suspected fetal anomaly associated with severe oligohydramnios or anhydramnios

## **Placenta Accreta/Placenta Accreta Spectrum/ Placenta Percreta (PV-15.2)**

- Obstetrical Ultrasound is the initial imaging modality, Color Doppler CPT® 93975 Duplex scan (complete) or CPT® 93976 Duplex scan (limited) may be added to evaluate vascularity for suspected or confirmed placenta accreta spectrum.
- MRI Pelvis without contrast (CPT® 72195) if the ultrasound is indeterminate or advanced imaging is needed for surgical planning.
- MRI Pelvis without contrast (CPT® 72195) is the appropriate code if only placenta or maternal pelvis is imaged without fetal imaging.
  - ◆ Abdominal imaging is not indicated to evaluate a pelvic organ such as uterus, tubes, or ovaries.

## **C-section or Cornual (interstitial) Ectopic Pregnancy (PV-15.3)**

- If a cornual (interstitial) ectopic or C-section scar ectopic pregnancy is suspected on ultrasound:<sup>9,10</sup>
  - ◆ 3D rendering (CPT® 76376 or CPT® 76377), and/or Color Doppler (CPT® 93976) can be performed with ultrasound
  - ◆ MRI Pelvis without contrast (CPT® 72195) if ultrasound is inconclusive.

## **Pelvimetry (PV-15.4)**

- Pelvimetry (CT or MRI Pelvimetry) lacks sufficient evidence to be clinically useful. Current recommendations are that further randomized control studies be performed before it is adapted into routine clinical practice.<sup>11,12</sup>

### References

1. Saleem SN. Fetal MRI: An approach to practice: A review. *Journal of Advanced Research*. 2014;5(5):507-523. doi:10.1016/j.jare.2013.06.001.
2. American College of Radiology (ACR), Society for Pediatric Radiology (SPR). ACR-SPR practice guideline for the safe and optimal performance of fetal magnetic resonance imaging (MRI). American College of Radiology (ACR). Revised 2015 (Resolution 11) <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/MR-Fetal.pdf>.
3. Kilcoyne A, Shenoy-Bhangle AS, Roberts DJ, Sisodia RC, Gervais DA, Lee SI. MRI of Placenta Accreta, Placenta Increta, and Placenta Percreta: Pearls and Pitfalls. *American Journal of Roentgenology*. 2017;208(1):214-221. doi:10.2214/ajr.16.16281.
4. Reddy UM, Abuhamad AZ, Levine D, Saade GR. Fetal Imaging. Executive Summary of a Joint Eunice Kennedy Shriver National Institute of Child Health and Human Development, Society for Maternal-Fetal Medicine, American Institute of Ultrasound in Medicine, American College of Obstetricians and Gynecologists, American College of Radiology, Society for Pediatric Radiology, and Society of Radiologists in Ultrasound Fetal Imaging Workshop. *Obstetrics & Gynecology*. 2014;123(5):1070-1082. doi:10.1097/aog.0000000000000245.
5. Cahill AG, Beigi R, Heine RP, Silver RM, Wax JR. Placenta Accreta Spectrum. *American Journal of Obstetrics and Gynecology*. 2018;219(6). doi:10.1016/j.ajog.2018.09.042.
6. Prayer D, Malinge G, Brugger PC, et al. ISUOG Practice Guidelines: performance of fetal magnetic resonance imaging. *Ultrasound in Obstetrics & Gynecology*. 2017;49(5):671-680. doi:10.1002/uog.17412.
7. Shainker SA, Coleman B, Timor IE, Bhide A, Bromley B, Cahill AG, Gandhi M, Hecht JL, Johnson KM, Levine D, Mastrobattista J. Special Report of the Society for Maternal-Fetal Medicine Placenta Accreta Spectrum Ultrasound Marker Task Force: Consensus on definition of markers and approach to the ultrasound examination in pregnancies at risk for placenta accreta spectrum. *American Journal of Obstetrics and Gynecology*. 2021 Jan;224(1):B2-14.
8. American College of Obstetricians and Gynecologists Committee Opinion No. 723. Guidelines for diagnostic imaging during pregnancy and lactation. *Obstetrics & Gynecology*. 2017; Reaffirmed 2021;130(4). doi:10.1097/aog.0000000000002355.
9. Ramanathan S, Raghu V, Ladumor SB, Nagadi AN, Palaniappan Y, Dogra V, Schieda N. Magnetic resonance imaging of common, uncommon, and rare implantation sites in ectopic pregnancy. *Abdom Radiol (NY)*. 2018 Dec;43(12):3425-3435. doi: 10.1007/s00261-018-1604-2.
10. Dibble EH, Lourenco AP. Imaging Unusual Pregnancy Implantations: Rare Ectopic Pregnancies and More. *AJR Am J Roentgenol*. 2016 Dec;207(6):1380-1392. doi: 10.2214/AJR.15.15290
11. Pattinson RC, Cuthbert A, Vannevel V. Pelvimetry for fetal cephalic presentations at or near term for deciding on mode of delivery. *Cochrane Database of Systematic Reviews*. Published online March 30, 2017. doi:10.1002/14651858.cd000161.pub2
12. Salk I, Cetin A, Salk S, Cetin M. Pelvimetry by Three-Dimensional Computed Tomography in Non-Pregnant Multiparous Women Who Delivered Vaginally. *Polish Journal of Radiology*. 2016;81:219-227. doi:10.12659/pjr.896380
13. Lloyd DFA, Pushparajah K, et. al. Three-dimensional visualisation of the fetal heart using prenatal MRI with motion-corrected slice-volume registration: a prospective, single-centre cohort study. *Lancet*. 2019 Apr 20;393(10181):1619-1627. doi: 10.1016/S0140-6736(18)32490-5\_



## Molar Pregnancy and Gestational Trophoblastic Neoplasia (GTN) (PV-16)

### Molar Pregnancy and GTN (PV-16.1)

- Molar pregnancy – once diagnosed on an Obstetrical Ultrasound treatment is usually evacuation. Individuals should undergo chest x-ray pre- and post-evacuation.
  - ◆ If chest x-ray is positive for metastases, management as per GTN guidelines, See **Gestational Trophoblastic Neoplasia (GTN)/Choriocarcinoma (ONC-22.5)** in the Oncology Imaging Guidelines.
- Serum hCG levels are obtained every 1-2 weeks after treatment of molar pregnancy until they normalize
- Individuals with a molar pregnancy and rising or plateauing hCG levels post evacuation and/or Gestational trophoblastic neoplasia Please see **Gestational Trophoblastic Neoplasia GTN)/Choriocarcinoma (ONC 22.5)** in the Oncology Imaging Guidelines.

### **References**

1. Soper JT. Gestational Trophoblastic Disease. *Obstetrics & Gynecology*. 2021;137(2):355-370. doi:10.1097/aog.0000000000004240.
2. Abu-Rustum NR, Yashar CM, Arend, R, et al. National Comprehensive Cancer Network (NCCN) Guidelines Version 1.2023 – December 20, 2022. Gestational Trophoblastic Neoplasia, , available at: [https://www.nccn.org/professionals/physician\\_gls/pdf/gtn.pdf](https://www.nccn.org/professionals/physician_gls/pdf/gtn.pdf). Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines™) for Gestational Trophoblastic Neoplasia, V1.2023-12/20/2023. ©2022 National Comprehensive Cancer Network, Inc. All rights reserved. The NCCN Guidelines™ and illustrations herein may not be reproduced in any form for any purpose without the express written permission of the NCCN. To view the most recent and complete version of the NCCN Guidelines™, go online to NCCN.org.
3. Horowitz NS, Eskander RN, Adelman MR, Burke W. Epidemiology, diagnosis, and treatment of gestational trophoblastic disease: A Society of Gynecologic Oncology evidenced-based review and recommendation. *Gynecol Oncol*. 2021;163(3):605-613. doi:10.1016/j.ygyno.2021.10.003.

## Impotence/Erectile Dysfunction (PV-17)

### Impotence/Erectile Dysfunction (PV-17.1)

- Imaging depends on the suspected disease:
  - ◆ Penile Doppler ultrasound (CPT® 93980) if erectile dysfunction suspected<sup>2</sup>
  - ◆ CTA Pelvis with contrast (CPT® 72191) if large vessel vascular insufficiency is suspected following ultrasound.
  - ◆ Duplex ultrasound (CPT® 93980) to assess penile vasculature in Peyronie's disease.<sup>1</sup>
  - ◆ If male hypogonadism is suspected, See **Pituitary (HD-19)** in the Head Imaging Guidelines.
- Functional MRI or PET studies are considered investigational for this indication.
- Priapism
  - ◆ Penile Doppler Ultrasound (CPT® 93980) if non-ischemic priapism is suspected
  - ◆ MRI Likely does not have a role in the initial diagnosis of priapism given the time sensitive nature of diagnosis and management
  - ◆ In patients with persistent non-ischemic priapism where an embolization may be necessary CTA (CPT® 72191) or MRA pelvis (CPT® 72198) may be considered
  - ◆ Penial Doppler Ultrasound (CPT® 93980) may be considered post procedure for ischemic priapism

### **References**

1. Nehra A, Alterowitz R, Culkin DJ, et al. Peyronie's Disease: AUA Guideline. *Journal of Urology*. 2015;194(3):745- 753. doi:10.1016/j.juro.2015.05.098.
2. Sikka SC, Hellstrom WJ, Brock G, Morales AM. Standardization of Vascular Assessment of Erectile Dysfunction. *The Journal of Sexual Medicine*. 2013;10(1):120-129. doi:10.1111/j.1743-6109.2012.02825.x.
3. White C, Gulati M, Gomes A, Rajfer J, Raman S. Pre-embolization evaluation of high-flow priapism: magnetic resonance angiography of the penis. *Abdom Imaging*. 2013;38(3):588-97. doi: 10.1007/s00261-012-9936-9.
4. Arrichiello A, Angileri SA, Buccimazza G, et. al. Interventional radiology management of high flow priapism: review of the literature. *Acta Biomed*. 2020;91(10-S):e2020010. doi:10.23750/abm.v91i10-S.10233.
5. Bivalacqua TJ, Allen BK, Brock GB, et al. The diagnosis and management of recurrent ischemic priapism, priapism in sickle cell patients, and non-ischemic priapism: an AUA/SMSNA guideline. *J Urol*. 2022;208(1):43-52.

## Penis–Soft Tissue Mass (PV-18)

### Penis-Soft Tissue Mass (PV-18.1)

- Penile ultrasound (CPT® 76857) for initial evaluation soft-tissue lesions of the penis, Duplex (Doppler) scan CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on.
- If primary penile cancer is suspected, biopsy is indicated
  - ◆ For further workup of biopsy confirmed penile cancer see **Cancers of External Genitalia – Initial Work-up/Staging (ONC-24.6)** in the Oncology Imaging Guidelines.
- Peyronie’s Disease
  - ◆ Ultrasound (CPT® 76857) recommended
  - ◆ MRI Pelvis without and with contrast (CPT® 72197) if ultrasound is equivocal and surgery or injection therapy is being contemplated

### References

1. Chipollini J, De la Rosa AH, Azizi M, Shayegan B, Zorn KC, Spiess PE. Patient presentation, differential diagnosis, and management of penile lesions. *Can Urol Assoc J.* 2019;13(2 Suppl 1):S2–S8. doi:10.5489/cuaj.5712.
2. Rocher L, Glas L, Cluzel G, Ifergan J, Bellin M. Imaging tumours of the penis. *Diagnostic and Interventional Imaging.* 2012;93(4):319-328. doi:10.1016/j.diii.2012.01.020.
3. Kirkham A. MRI of the penis. *The British Journal of Radiology.* 2012;85(special\_issue\_1). doi:10.1259/bjr/63301362.
4. Bertolotto M, Pavlica P, Serafini G, Quaia E, Zappetti R. Painful Penile Induration: Imaging Findings and Management. *RadioGraphics.* 2009;29(2):477-493. doi:10.1148/rg.292085117.
5. Prando D. New Sonographic Aspects of Peyronie Disease. *Journal of Ultrasound in Medicine.* 2009;28(2):217-232. doi:10.7863/jum.2009.28.2.217.
6. Bilgutay AN, Pastuszak AW. Peyronie’s Disease: A Review of Etiology, Diagnosis, and Management. *Current Sexual Health Reports.* 2015;7(2):117-131. doi:10.1007/s11930-015-0045-y.

## Male Pelvic Disorders (PV-19)

### Male Pelvic Disorders (PV-19.1)

- Prostate
  - ◆ Prostate Disorders
    - Suspected Benign Prostatic Hypertrophy with obstructive voiding symptoms can undergo:
      - Transrectal ultrasound (CPT® 76872) or Pelvis transabdominal ultrasound (bladder and prostate [CPT® 76856 or CPT® 76857])
    - Prostatitis with urinary retention or suspected abscess can undergo any of the following imaging studies:
      - Transrectal ultrasound (CPT® 76872) or Pelvis transabdominal ultrasound (bladder and prostate [CPT® 76856 or CPT® 76857])
      - CT Pelvis with contrast (CPT® 72193) or MRI Pelvis without contrast (CPT® 72195) or with and without contrast (CPT® 72197) if ultrasound is equivocal for abscess or mass.
  - ◆ Prostate Artery Embolization (PAE)
    - Pre-procedure imaging for prostate artery embolization is not supported, because PAE for the treatment of (Lower Urinary Tract Symptoms) LUTS secondary to BPH is not supported by current data and trial designs, and benefit over risk remains unclear. Therefore, PAE is not recommended outside the context of clinical trials.
- Testicular
  - ◆ Hematospermia, transrectal ultrasound (TRUS) (CPT® 76872) can be the initial imaging study in all cases.
    - MRI Pelvis without contrast (CPT® 72195) to evaluate:
      - Suspected hemorrhage within the seminal vesicles
      - Radiation injury, neoplasia
      - Failure of conservative treatment for 2 weeks
      - Abnormal findings on Transrectal ultrasound.
- Rectal
  - ◆ Proctalgia Syndromes
    - Prior to advanced imaging, the evaluation of rectal/perineal pain should include:
      - Digital rectal examination (assess for mass, prostate, fissures, hemorrhoids, etc.)
      - Recent flexible sigmoidoscopy or colonoscopy subsequent to the start of reported symptoms to exclude inflammatory conditions or malignancy
    - Endoanal ultrasound (CPT® 76872), MRI Pelvis without and with contrast (CPT® 72197), or CT Pelvis with contrast (CPT® 72193) are appropriate after the above studies have been performed or if laboratory or clinical information suggest infection, abscess, or inflammation.
    - MRI (MRI Pelvis without contrast CPT® 72195) for Defecography is considered investigational/experimental by UHC.

➤ Bladder

- ◆ Work-up of interstitial cystitis/bladder pain syndrome (IC/BPS) may include history, physical exam, laboratory exam (urinalysis and urine culture), cystoscopy, and measurement of post void residual urine by bladder catheterization.
  - Pelvic ultrasound (CPT® 76856 or CPT® 76857)
    - CT Pelvis with contrast (CPT® 72193) if ultrasound is equivocal for complicated interstitial cystitis/bladder pain syndrome (when ordered by specialist or any provider in consultation with the specialist)

**Background and Supporting Information**

- The proctalgia syndromes are characterized by recurrent episodes of rectal/perineal pain, and may be due to sustained contractions of the pelvic floor musculature.

**References**

1. Nickel JC. Prostatitis. Canadian Urological Association Journal. 2011;306-315. doi:10.5489/cuaj.11211.
2. Hosseinzadeh K, Oto A, Allen BC, et al. ACR Appropriateness Criteria® Hematospermia. Journal of the American College of Radiology. 2017;14(5). doi:10.1016/j.jacr.2017.02.023.
3. Zhao H, Luo J, Wang D, et al. The Value of Transrectal Ultrasound in the Diagnosis of Hematospermia in a Large Cohort of Patients. Journal of Andrology. 2011;33(5):897-903. doi:10.2164/jandrol.111.013318.
4. Macdonald A, Burrell S. Infrequently Performed Studies in Nuclear Medicine: Part 2. Journal of Nuclear Medicine Technology. 2009;37(1):1-13. doi:10.2967/jnmt.108.057851.
5. Hartman MS, Leyendecker JR, Friedman B, et al. ACR Appropriateness Criteria® Acute Onset of Scrotal Pain—Without Trauma, Without Antecedent Mass. Last review date: 2019. <https://acsearch.acr.org/docs/69363/Narrative/>.
6. Friedman B, Leyendecker JR, Blaufox MD, et al. ACR Appropriateness Criteria® Lower Urinary Tract Symptoms: Suspicion of Benign Prostatic Hyperplasia Last review date: 2019. <https://acsearch.acr.org/docs/69368/Narrative/>.
7. Wald A, Bharucha AE, Cosman BC, Whitehead WE. ACG Clinical Guideline: Management of Benign Anorectal Disorders. American Journal of Gastroenterology. 2014;109(8):1141-1157. doi:10.1038/ajg.2014.190.
8. Kraemer S, Watson V, Peters KM. The Evaluation and Management of Interstitial Cystitis/Bladder Pain Syndrome. EMJ Urol 2019;7(1):75-82.
9. Foster HE, Barry MJ, Dahm P et al: Surgical management of lower urinary tract symptoms attributed to benign prostatic hyperplasia: AUA Guideline. J Urol 2018, 200:612
10. Parsons JK, Dahm P, Kohler TS et al: Surgical management of lower urinary tract symptoms attributed to benign prostatic hyperplasia: AUA Guideline amendment 2020. J Urol 2020; 204: 799.

## Scrotal Pathology (PV-20)

**Scrotal Pathology (PV-20.1)**

**Paratesticular and spermatic cord masses (PV-20.2)**

**Testicular Microlithiasis (PV-20.3)**

### **Scrotal Pathology (PV-20.1)**

- Scrotal ultrasound (CPT® 76870) and/or Duplex (Doppler) ultrasound (CPT® 93975 or CPT® 93976) of the scrotum for initial evaluation of scrotal pain or mass
  - ◆ MRI Pelvis without and with contrast (CPT® 72197) or Tc-99m scrotal scintigraphy (CPT® 78761) if ultrasound is inconclusive.<sup>1,2</sup>
- Scrotal ultrasound (CPT® 76870), MRI Pelvis without and with contrast (CPT® 72197), or CT Pelvis with contrast (CPT® 72193) for cryptorchidism/undescended testis in the adult.
- Scrotal ultrasound and/or Duplex (Doppler) ultrasound (CPT® 76870 and/or CPT® 93975 or CPT® 93976) of the scrotum with color flow mapping in supine and upright positions to assess venous reflux into plexus pampiniformis if varicocele suspected (for example, in inguinal hernia evaluation)
  - ◆ CT Abdomen and Pelvis with contrast (CPT® 74177) for right-sided varicocele, when there is suspicion for intra-abdominal pathology

#### ***Background and Supporting Information***

- The causes of scrotal pain may include torsion, epididymitis, strangulated hernia, segmental testicular infarction, trauma, testicular tumor, and idiopathic scrotal edema.<sup>1</sup>

### **Paratesticular and spermatic cord masses (PV-20.2)**

- Scrotal ultrasound (CPT® 76870) is the appropriate initial imaging procedure.
  - ◆ MRI Pelvis without and with contrast (CPT® 72197), exploration and biopsy are additional considerations if ultrasound is inconclusive.

### **Testicular Microlithiasis (PV-20.3)**

- Scrotal ultrasound (CPT® 76870) for initial evaluation.
- Annual Scrotal ultrasound (CPT® 76870) follow-up, only if a risk factor is present which include:
  - ◆ Family history of germ cell tumor
  - ◆ Malescent
  - ◆ Orchidopexy
  - ◆ Testicular atrophy
- For Personal history of germ cell tumor See **Testicular, Ovarian and Extragonadal Germ Cell Tumors (ONC-20)** in the Oncology Imaging Guidelines

### References

1. Hartman MS, Leyendecker JR, Friedman B, et al. ACR Appropriateness Criteria® Acute Onset of Scrotal Pain—Without Trauma, Without Antecedent Mass. Last review date: 2019. <https://acsearch.acr.org/docs/69363/Narrative/>.
2. Kim W, Rosen MA, Langer JE, Banner MP, Siegelman ES, Ramchandani P. US–MR Imaging Correlation in Pathologic Conditions of the Scrotum. *RadioGraphics*. 2007;27(5):1239-1253. doi:10.1148/rg.275065172.
3. Wolfman DJ, Marko J, Gould CF, Sesterhenn IA, Lattin GE. Mesenchymal Extratesticular Tumors and Tumorlike Conditions: From the Radiologic Pathology Archives. *RadioGraphics*. 2015;35(7):1943-1954. doi:10.1148/rg.2015150179.
4. Tan IB, Ang KK, Ching BC, Mohan C, Toh CK, Tan MH. Testicular microlithiasis predicts concurrent testicular germ cell tumors and intratubular germ cell neoplasia of unclassified type in adults. *Cancer*. 2010;116(19):4520-4532. doi:10.1002/cncr.25231.
5. Decastro BJ, Peterson AC, Costabile RA. A 5-Year Followup Study of Asymptomatic Men With Testicular Microlithiasis. *The Journal of Urology*. 2008;179(4):1420-1423. doi:10.1016/j.juro.2007.11.080.
6. Winter TC, Kim B, Lowrance WT, Middleton WD. Testicular Microlithiasis: What Should You Recommend? *American Journal of Roentgenology*. 2016;206(6):1164-1169. doi:10.2214/ajr.15.15226.
7. Richenberg J, Belfield J, Ramchandani P, et al. Testicular microlithiasis imaging and follow-up: guidelines of the ESUR scrotal imaging subcommittee. *European Radiology*. 2014;25(2):323-330. doi:10.1007/s00330-014-3437-x.
8. Richenberg J, Brejt N. Testicular microlithiasis: is there a need for surveillance in the absence of other risk factors? *European Radiology*. 2012;22(11):2540-2546. doi:10.1007/s00330-012-2520-4.
9. AIUM Practice Guideline for the Performance of Scrotal Ultrasound Examinations. *Journal of Ultrasound in Medicine*. 2015;34(8):1-5. doi:10.7863/ultra.34.8.15.13.0006.
10. Parenti GC, Feletti F, Carnevale A, Uccelli L, Giganti M. Imaging of the scrotum: beyond sonography. *Insights Imaging*. 2018;9(2):137-148. doi:10.1007/s13244-017-0592-z.
11. Stephenson A, Eggener SE, Bass EB, et al. Diagnosis and Treatment of Early Stage Testicular Cancer: AUA Guideline. *Journal of Urology*. 2019;202(2):272-281. doi:10.1097/ju.0000000000000318.
12. Hodler J, et al. (eds.), *Diseases of the Abdomen and Pelvis 2018–2021*, IDKD Springer Series, [https://doi.org/10.1007/978-3-319-75019-4\\_24](https://doi.org/10.1007/978-3-319-75019-4_24).



## **Fistulae Abscess, and Pilonidal Cyst (PV-21)**

**Fistula in Ano (PV-21.1)**

**Perirectal Abscess (PV-21.2)**

**Pelvic Fistula (PV-21.3)**

**Pilonidal Cyst (PV-21.4)**

### **Fistula in Ano (PV-21.1)**

- MRI Pelvis without and with contrast (CPT® 72197) is the preferred study.
  - ◆ If MRI cannot be performed, endoscopic ultrasound is superior, and thus preferential, to CT imaging.
  - ◆ CT Pelvis with contrast (CPT® 72193) is an inferior study to either of the above (accuracy of endoscopic ultrasound vs. CT for perianal fistula is 82% vs. 24%) and its use should be limited only to those circumstances in which MRI and endoscopic ultrasound cannot be performed.

### **Perirectal Abscess (PV-21.2)**

- MRI Pelvis without and with contrast (CPT® 72197) is the preferred study.
  - ◆ CT Pelvis with contrast (CPT® 72193) is supported as an alternative study if desired.
- For the evaluation of Perianal and Perirectal Disease related to Crohn's Disease, See **Perirectal/Perianal Disease (AB-23.3)** in the Abdomen Imaging Guidelines.

### **Pelvic Fistula (PV-21.3)**

- History and physical exam (to include pelvic and/or anorectal examination):
  - ◆ Rectovesicular Fistula:
    - MRI Pelvis with and without contrast (CPT® 72197) OR
    - CT Pelvis with contrast (CPT® 72193)
  - ◆ Vaginal Fistula:
    - Enterovaginal, Colovaginal, Rectovaginal or Anovaginal:
      - Anoscopy and/or proctoscopy
      - Endoanal ultrasound (rarely used)
      - MRI Pelvis with and without contrast (CPT® 72197) is the preferred initial modality for suspected enterovaginal fistula
      - CT Pelvis with contrast (CPT® 72193) can be considered if:
        - MRI contraindicated OR urgent evaluation of acute diverticulitis OR early postoperative period
    - Urinary Vaginal Fistula (Ureterovaginal, Vesicovaginal, or Urethrovaginal):
      - Cystoscopy
      - CT urography (CT Abdomen and Pelvis without and with contrast CPT® 74178) and/or CT cystography (CT Pelvis without contrast CPT® 72192) or
      - MRI Pelvis with and without contrast (CPT® 72197)

### Background and Supporting Information

- A vaginal fistula is an abnormal communication between the vagina and either a portion of the digestive system or the urinary tract.
  - ◆ Causes of vaginal fistula may include IBD, endometriosis, infection, tumor, radiation, obstetrical trauma and surgical injuries.
  - ◆ Symptoms of vaginal fistula-Persistent vaginitis, dyspareunia, perineal dermatitis, foul-smelling vaginal discharge, and/or urinary or fecal incontinence.
- A rectovesicular fistula is an abnormal communication between the rectum and the bladder.
  - ◆ Causes of rectovesicular fistula may include chronic infection, cancer, diverticulitis, IBD, radiation and surgical injuries.
  - ◆ Symptoms of rectovesicular fistula-Bubbles in the urine, brown or cloudy urine, blood in the urine, painful urination, recurrent urinary tract infection, and/or abdominal pain

### Pilonidal Cyst (PV-21.4)

- Advanced imaging is not indicated for pilonidal cyst disease<sup>9</sup>.
  - For suspected osteomyelitis, see: **Infection/Osteomyelitis (MS-9)** in the Musculoskeletal Imaging Guidelines
  - For abdominal fistulae, see: **Fistulae (AB-48)** in the Abdomen Imaging Guidelines
- For suspected spinal dysraphism, see: **Cutaneous Indications to Suspect Occult Spinal Dysraphism (PEDSP-4.2)** in the Pediatric Spine Imaging Guidelines

### References

1. Ziech M, Felt-Bersma R, Stoker J. Imaging of Perianal Fistulas. *Clinical Gastroenterology and Hepatology*. 2009;7(10):1037-1045. doi:10.1016/j.cgh.2009.06.030.
2. Vogel JD, Johnson EK, Morris AM, et al. Clinical Practice Guideline for the Management of Anorectal Abscess, Fistula-in-Ano, and Rectovaginal Fistula. *Diseases of the Colon & Rectum*. 2016;59(12):1117-1133. doi:10.1097/dcr.0000000000000733
3. Tonolini M. Elucidating vaginal fistulas on CT and MRI. *Insights into Imaging*. 2019;10(1). doi:10.1186/s13244-019-0812-9.
4. VanBuren WM, Lightner AL, Kim ST, et al. Imaging and Surgical Management of Anorectal Vaginal Fistulas. *RadioGraphics*. 2018;38(5):1385-1401. doi:10.1148/rg.2018170167.
5. Hancock KJ, Gajjar AH. Anorectal Disorders. *Obstetrics & Gynecology*. 2020;136(3):642-642. doi:10.1097/aog.0000000000004047
6. Levy AD, Liu PS, Kim DH, et al. ACR Appropriateness Criteria® Anorectal Disease. *Journal of the American College of Radiology*. 2021;18(11):S268-S282. doi:10.1016/j.jacr.2021.08.009.
7. Fecal incontinence. ACOG Practice Bulletin No. 210. *Obstetrics & Gynecology*. 2019;133(4):e260-e273. (reaffirmed 2021) doi:10.1097/aog.0000000000003187.
8. Berman L. Utility of magnetic resonance imaging in anorectal disease. *World Journal of Gastroenterology*. 2007;13(23):3153. doi:10.3748/wjg.v13.i23.3153.
9. Johnson EK, Vogel JD, Cowan ML, Feingold DL, Steele SR. The American Society of Colon and Rectal Surgeons' clinical practice guidelines for the management of pilonidal disease. *Dis Colon Rectum*. 2019;62:146-157. doi:10.1097/DCR.0000000000001237.

## **Urinary Incontinence/Pelvic Prolapse/Fecal Incontinence (PV-22)**

**Urinary Incontinence – Initial Imaging (PV-22.1)**

**Urinary Incontinence – Further Imaging (PV-22.2)**

**Pelvic Prolapse (PV-22.3)**

**Fecal Incontinence (PV-22.4)**

## Urinary Incontinence – Initial Imaging (PV-22.1)

- Initial Imaging, associated with other evaluations, are:
  - ◆ Non-Neurogenic Incontinence
    - Measurements of post void residual urine by Bladder ultrasound (CPT® 51798) OR Bladder catheterization.
    - In addition to post void residual volume determination, screening for UTI should be considered.
  - ◆ Neurogenic Incontinence
    - Ultrasound urinary tract (CPT® 76770 or CPT® 76775)

### *Background and Supporting Information*

Urinary incontinence can be “stress,” “urgency,” or mixed; neurogenic or non-neurogenic; and complicated or uncomplicated. Neurogenic incontinence can occur from cerebral, spinal or peripheral neurological diseases.

## Urinary Incontinence – Further Imaging (PV-22.2)

- CT Abdomen and Pelvis, contrast as requested, or CT Pelvis, contrast as requested, for any of the following:
  - ◆ Abnormality on ultrasound that requires further evaluation
  - ◆ Complicated incontinence
    - Failed conservative treatment
    - Pain or dysuria
    - Hematuria
    - Recurrent infection
    - Previous radical pelvic surgery
    - Suspected fistula
    - Suspected mass
    - Previous pelvic or prostate irradiation
  - ◆ Suspected fistulae
  - ◆ Detecting ectopic ureters if ultrasound is non-diagnostic
  - ◆ Pre-operative planning for complicated incontinence when ordered by or in consultation with the operating physician
- For neurogenic urinary incontinence See **Red Flag Indications (SP- 1.2)** and **Myelopathy (SP-7.1)** in the Spine Imaging Guidelines and **Dementia (HD- 8.1)** and **Normal Pressure Hydrocephalus (NPH) (HD-8.4)** in the Head Imaging Guidelines
-

### **Pelvic Prolapse (PV-22.3)**

- Transvaginal (TV) ultrasound (CPT® 76830) and/or Transperineal ultrasound (CPT® 76872) is the initial study of choice.
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) can be performed if requested as a complimentary study.
- Urodynamic testing may be helpful if there is incontinence with a stage II or greater prolapse or voiding dysfunction.
- MRI Pelvis (CPT® 72195 or CPT® 72197) for the following:
  - ◆ Pelvic floor anatomy and pelvic organ prolapse evaluations if exam and TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76856 or CPT® 76857) are equivocal; or
  - ◆ Pre-operative planning for complex organ prolapse when ordered by or in consultation with the operating physician; or
  - ◆ Persistent incontinence following surgery
- Mesh and Graft complications
  - ◆ Diagnostic evaluation for mesh and graft complications may include colonoscopy, cystoscopy, and/or urodynamics.
  - ◆ Transvaginal (TV) ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76856 or CPT® 76857), CT Abdomen and/or Pelvis, contrast as requested, MRI Pelvis without contrast or without and with contrast (CPT® 72195 or CPT® 72197) depending on the mesh and graft complication.
- Sacral osteomyelitis may be a complication of sacrocolpopexy. MRI Pelvis with and without contrast (CPT® 72197) is indicated for lower back pain and/or suspected sacral osteomyelitis after this procedure.
- MRI (MRI Pelvis without contrast CPT® 72195) for Defecography is considered investigational/experimental by UHC.

## **Fecal Incontinence (PV-22.4)**

The evaluation of fecal incontinence generally proceeds as follows:

- Determine the severity of the incontinence (Bristol Stool Scale, Fecal Incontinence Severity Index, etc.)
- History and Physical to include digital rectal examination and perianal pinprick (to assess for neurogenic causes)
- Trial of conservative management
- Diagnostic Testing if symptoms persist to include:
  - ◆ Ano-rectal Manometry
  - ◆ Balloon Expulsion Test
  - ◆ Endoanal ultrasound (CPT® 76872) to confirm sphincter defects in individuals with suspected sphincter injury (e.g. history of vaginal delivery or anorectal surgery)
  - ◆ MRI Pelvis (CPT® 72197) can be considered if:
    - Ano-rectal manometry suggests weak sphincter pressures AND/OR there is an abnormal balloon expulsion testAND
    - There has been a failure of a recent trial of conservative managementAND
    - Surgery is being considered
  - ◆ MRI (MRI Pelvis without contrast CPT® 72195) for Defecography is considered investigational/experimental by UHC.

### ***Background and Supporting Information***

With regards to fecal incontinence ACG Guidelines note that “the internal sphincter is visualized more clearly by endoanal ultrasound, whereas MRI is superior for discriminating between an external anal sphincter tear and a scar and for identifying external sphincter atrophy.”

However, guidelines adopted by the American Society of Colon and Rectal Surgeons note that, “Endoanal ultrasound is a useful and sensitive tool in the evaluation of patients with FI (fecal incontinence), especially when there is a history of vaginal delivery or anorectal surgery. Ultrasound can reliably identify internal and external sphincter defects that may be associated with sphincter dysfunction.” In addition, the guidelines note, “Other modalities (e.g., MRI) have shown substantial interobserver variability and, at this point, are likely inferior to ultrasound imaging, but they may provide additional information where endoanal ultrasound is unavailable.”

### References

1. Wald A, Bharucha AE, Limketkai, B et al. ACG Clinical Guideline: Management of Benign Anorectal Disorders. *American Journal of Gastroenterology*. 2021;116(10). P 1987-2008. .
2. Practice Bulletin No. 155. Urinary Incontinence in Women. *Obstetrics & Gynecology*. 2015;126(5). doi:10.1097/aog.0000000000001148. (Reaffirmed in 2022).
3. Practice Bulletin No. 214. Pelvic Organ Prolapse. *Obstetrics & Gynecology*. 2019 (Reaffirmed 2021); 134:126-42. doi:10.1097/aog.0000000000003519.
4. Committee Opinion No. 694. Management of Mesh and Graft Complications in Gynecologic Surgery. *Obstetrics & Gynecology*. 2017 (Reaffirmed 2021);129(4). doi:10.1097/aog.0000000000002022.
5. Paquette IM, Varma MG, Kaiser AM, Steele SR, Rafferty JF. The American Society of Colon and Rectal Surgeons' Clinical Practice Guideline for the Treatment of Fecal Incontinence. *Diseases of the Colon & Rectum*. 2015;58(7):623-636. doi:10.1097/dcr.0000000000000397.
6. Chung DE, Yurteri-Kaplan LA, Asatiani T, Brennand EA, Wang A, Grimes CL. Female Pelvic Medicine & Reconstructive Surgery (FPMRS) challenges on behalf of the collaborative research in pelvic surgery consortium (CoRPS): managing complicated cases series 2: management of urinary incontinence in a neurogenic patient. *International Urogynecology Journal*. 2018;30(2):193-196. doi:10.1007/s00192-018-3806-0.
7. Tan C, Geng J, Tang J, Yang X. The relationship between obstructed defecation and true rectocele in patients with pelvic organ prolapse. *Scientific Reports*. 2020;10(1). doi:10.1038/s41598-020-62376-2.
8. Volløyhaug I, Rojas RG, Mørkved S, Salvesen KÅ. Comparison of transperineal ultrasound with POP-Q for assessing symptoms of prolapse. *International Urogynecology Journal*. 2018;30(4):595-602. doi:10.1007/s00192-018-3722-3.
9. The American College of Obstetricians and Gynecologists, Evaluation of uncomplicated stress urinary incontinence in women before surgical treatment. Committee Opinion No. 603. *Obstet Gynecol* 2014 (Reaffirmed 2020);123:1403–7.
10. American College of Obstetricians and Gynecologists. ACOG practice bulletin no. 210: fecal incontinence. *Obstetrics and gynecology*. 2019 (Reaffirmed 2023) Apr;133(4):e260-73 doi: 10.1097/AOG.
11. Larouche M, Belzile E, Geoffrion R. Surgical Management of Symptomatic Apical Pelvic Organ Prolapse. *Obstetrics & Gynecology*. 2021;137(6):1061-1073. doi:10.1097/aog.0000000000004393
12. Gavlin A, Kierans AS, Chen J, Song C, Guniganti P, Mazzariol FS. Imaging and Treatment of Complications of Abdominal and Pelvic Mesh Repair. *RadioGraphics*. 2020;40(2):432-453. doi:10.1148/rg.2020190106.



## Patent Urachus (PV-23)

### Patent Urachus (PV-23.1)

- Drainage from the umbilicus, redness around umbilicus, abdominal pain, or urinary tract infection from persistent fetal connection between the bladder and the umbilicus:
  - ◆ Ultrasound (CPT® 76856 or CPT® 76857 and/or CPT® 76700 or CPT® 76705) or voiding cystourethrography (VCUG) (CPT® 74455) for suspected patent urachus
  - ◆ CT Pelvis with contrast (CPT® 72193) or MRI Pelvis without contrast (CPT® 72195) or with and without contrast (CPT® 72197) if the ultrasound is equivocal or if additional imaging is needed for surgical planning if there is a suspected urachal carcinoma or other urachal abnormality.

### References

1. Villavicencio CP, Adam SZ, Nikolaidis P, Yaghmai V, Miller FH. Imaging of the Urachus: Anomalies, Complications, and Mimics. *RadioGraphics*. 2016;36(7):2049-2063. doi:10.1148/rg.2016160062.
2. Buddha S, Menias CO, Katabathina VS. Imaging of urachal anomalies. *Abdominal Radiology*. 2019;44(12):3978-3989. doi:10.1007/s00261-019-02205-x
3. Das JP, Vargas, HB, Lee A, Hutchingson B, et al. The urachus revisited: multimodal imaging of benign and malignant urachal pathology. *BR J Radiol*. 2020 Jun; 93 (1110): 20190118.
4. Yacoub JH, Clark JA, PAal EE, Manning MA. Approach to Cystic Lesions in the Abdomen and Pelvis, with Radiologic-Pathologic Correlation. *Radiographics*. Sep-Oct 2021; 41 (5): 1368-1386.

## Bladder Mass (PV-24)

### Bladder Mass (PV-24.1)

- Bladder masses incidentally found on other imaging (ultrasound, cystoscopy or KUB):
  - ◆ CT Pelvis without contrast (CPT® 72192) for suspected bladder stone if initial imaging is equivocal or if surgery is planned
  - ◆ CT Pelvis with and without contrast (CPT® 72194) for suspected bladder diverticuli
- See **Oncology Imaging Guidelines** for biopsy confirmed or suspected malignancy

### ***Background and Supporting Information***

Symptoms of bladder mass may include hematuria, urgency, frequency, chronic urinary infection, obstruction, or urinary retention.

### ***References***

1. Dighe MK, Bhargava P, Wright J. Urinary Bladder Masses. *Journal of Computer Assisted Tomography*. 2011;35(4):411-424. doi:10.1097/rct.0b013e31821c2e9d
2. Verma S, Rajesh A, Prasad SR, et al. Urinary Bladder Cancer: Role of MR Imaging. *RadioGraphics*. 2012;32(2):371-387. doi:10.1148/rg.322115125.
3. Raman SP, Fishman EK. Bladder Malignancies on CT: The Underrated Role of CT in Diagnosis. *American Journal of Roentgenology*. 2014;203(2):347-354. doi:10.2214/ajr.13.12021.
4. Shelmerdine SC, Lorenzo AJ, Gupta AA, Chavhan GB. Pearls and Pitfalls in Diagnosing Pediatric Urinary Bladder Masses. *RadioGraphics*. 2017;37(6):1872-1891. doi:10.1148/rg.2017170031.

## Ureteral and/or Bladder Trauma or Injury (PV-25)

### Ureteral and/or Bladder Trauma or Injury (PV-25.1)

- Abdominal and/or Pelvic ultrasound (CPT® 76700 and/or CPT® 76856) is supported if requested.
- CT cystography (CT Pelvis without contrast CPT® 72192) is supported for suspected bladder injury.
- CT Abdomen and Pelvis with OR with and without contrast (CPT® 74177 or CPT® 74178) if:
  - ◆ Suspected iatrogenic/operative injury OR
  - ◆ Blunt trauma and suspected bladder or ureteral injury with one or more of the following (See **Blunt Abdominal Trauma (AB-10.1)** in the Abdomen Imaging Guidelines):
    - Abdominal pain or tenderness
    - Pelvic or femur fracture
    - Hematocrit <30%
    - Hematuria
    - Non-examinable individual (intoxicated, less than fully conscious, Glasgow Coma Scale Score >13, etc.)
    - Evidence of abdominal wall trauma or seat-belt sign
    - Rapid deceleration injury

#### Background and Supporting Information

Bladder trauma: CT cystography- CT Pelvis without contrast allowing the radiologist or Urologist to instill contrast to r/o bladder injury and/or perforation.

Ureteral injury: *“Iatrogenic ureteral injuries can occur during gynecologic, obstetric, urologic, colorectal, general, or vascular surgery; gynecologic surgery accounts for more than half of all iatrogenic injuries.”<sup>2</sup>*

#### References

1. Ramchandani P, Buckler PM. Imaging of Genitourinary Trauma. *American Journal of Roentgenology*. 2009;192(6):1514-1523. doi:10.2214/ajr.09.2470.
2. Morey AF, Broghammer JA, Hollowell CMP, McKibben MJ, Souter L. Urotrauma Guideline 2020: AUA Guideline. *Journal of Urology*. Published online October 14, 2020. doi:10.1097/ju.0000000000001408.
3. Shyu JY, Khurana B, Soto JA, et al. ACR Appropriateness Criteria® Major Blunt Trauma. *Journal of the American College of Radiology*. 2020;17(5):S160-S174. doi:10.1016/j.jacr.2020.01.024.
4. Chan DPN, Abujudeh HH, Cushing GL, Novelline RA. CT Cystography with Multiplanar Reformation for Suspected Bladder Rupture: Experience in 234 Cases. *American Journal of Roentgenology*. 2006;187(5):1296-1302. doi:10.2214/ajr.05.0971.
5. Jansen JO, Yule SR, Loudon MA. Investigation of blunt abdominal trauma. *BMJ (Clinical research ed)*. 2008;336(7650):938-942. doi:10.1136/bmj.39534.686192.80

## Gender Affirmation Surgery; Pelvic (PV-26)

### Gender Affirmation Surgery; Pelvic (PV-26.1)

- Preoperative imaging is supported as outlined below if the individual has a health plan benefit covering pelvic gender affirmation surgery. Preoperative imaging is not supported if pelvic gender affirmation surgery is not a health plan covered benefit.
- Preoperative imaging:
  - ◆ Metoidioplasty
    - Preoperative imaging is not supported
  - ◆ Phalloplasty
    - Muscular flaps used for neophallus creation are generally obtained from anterior lateral thigh (pedicled flap) or forearm (radial free flap)
      - For planned radial free flap, upper extremity CT angiography (CPT® 73206) of anticipated donor site (unilateral) for evaluation of perforator anatomy.
      - For planned anterior lateral thigh flap, bilateral lower extremity CT angiogram (CPT® 73706)
      - If iodinated contrast allergy, MRA (contrast as requested)
  - ◆ Vaginoplasty
    - Preoperative imaging is not supported
- Postoperative complications:
  - ◆ Limited Pelvic ultrasound (CPT® 76857) and Doppler ultrasound (CPT® 93975 complete or CPT® 93976 limited)
    - Monitoring of flap perfusion after phalloplasty for suspected vascular insufficiency
  - ◆ CT Abdomen and Pelvis OR CT Pelvis (contrast as requested - CPT® 74176, CPT® 74177, CPT® 74178, CPT® 72192, CPT® 72193, or CPT® 72194) for suspected postoperative complications
    - Complications after surgery may include hematoma, seroma, abscesses, fistula, urinary tract injury, etc. (See **Ureteral and/or Bladder Trauma or Injury (PV-25.1)** for ureteral and/or bladder injury)
  - ◆ MRI Pelvis with and without contrast (CPT® 72197)
    - Surgical planning for repair of suspected fistula
    - Non diagnostic CT scan AND further imaging is needed for treatment planning

#### Background and Supporting Information

- Metoidioplasty-Metoidioplasty is a procedure using clitoral hypertrophy and clitoral release to form masculine-appearing external genitalia.
- Phalloplasty-Phalloplasty includes the creation of a neophallus using muscular flaps.
- Vaginoplasty-Vaginoplasty refers to the surgical creation of a vulva and vaginal canal.

### References

1. Coleman E, Bockting W, Botzer M, et al. Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Version 7. *International Journal of Transgenderism*. 2012;13(4):165-232. doi:10.1080/15532739.2011.700873.
2. Hassan O, Sun D, Jha P. Imaging in Gender Affirmation Surgery. *Current Urology Reports*. 2021;22(2). doi:10.1007/s11934-020-01029-3.
3. Doo FX, Khorsandi A, Avanesian B, Bowers M, Somwaru AS. Gender Affirmation Surgery: A Primer on Imaging Correlates for the Radiologist. *American Journal of Roentgenology*. 2019;213(6):1194-1203. doi:10.2214/ajr.19.21686.
4. Stowell JT, Horowitz JM, Thomas S. Gender-affirming surgical techniques, complications, and imaging considerations for the abdominal radiologist. *Abdom Radiol (NY)*. 2020 Jul;45(7):2036-2048. doi: 10.1007/s00261-019-02398-1.
5. Justin T. Stowell, Frances W. Grimstad, Daniel L. Kirkpatrick, Elizabeth R. Brown, Richard A. Santucci, Curtis Crane, Amy K. Patel, Jordana Phillips, Marina A. Ferreira, Felipe R. Ferreira, Aroldo H. Ban, Ronaldo H. Baroni, Carol C. Wu, Kimberly A. Swan, Stephanie A. Scott, and Kelli J. Andresen. Imaging Findings in Transgender Patients after Gender-affirming Surgery. *RadioGraphics* 2019 39:5, 1368-1392.
6. Health care for transgender and gender diverse individuals. ACOG Committee Opinion No. 823. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2021;137:e75–88

# Policy History and Instructions for Use

---

## Guideline

---

Policy History and Instructions for Use

Policy History and Instruction for Use

# Policy History and Instructions for Use

## Policy History and Instructions for Use

V1.0.2024

### 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.'s 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.'s 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

Policy History and Instruction for Use