



# CLINICAL GUIDELINES

## Pelvis Imaging Policy

Version 2.1

Effective October 1, 2020



eviCore healthcare Clinical Decision Support Tool Diagnostic Strategies: This tool addresses common symptoms and symptom complexes. Imaging requests for individuals with atypical symptoms or clinical presentations that are not specifically addressed will require physician review. Consultation with the referring physician, specialist and/or individual's Primary Care Physician (PCP) may provide additional insight.

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## 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

## **PV-1: General Guidelines**

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## **PV-1.0: General Guidelines**

- A current clinical evaluation (within 60 days) is required before advanced imaging can be considered. The clinical evaluation may include a relevant history and physical examination, 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).
  - ◆ The clinical evaluation may also include a gynecological and/or urological exam with appropriate laboratory studies such as blood count, tumor markers and endocrine evaluations.
  - ◆ Other meaningful contact (telephone call, electronic mail or messaging) by an established patient can substitute for a face-to-face clinical evaluation.

## **PV-1.1: General Guidelines - Overview**

- Abdominal imaging begins at the diaphragm and extends to the umbilicus or iliac crest. Pelvic imaging begins at the umbilicus and extends to the pubis.
- Pregnant women 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 ultrasound (TV) (CPT® 76830) is the optimal study to evaluate adult female pelvic pathology.
- Pelvic ultrasound (complete CPT® 76856, or limited CPT® 76857) can be performed if it is a complementary study to the TV ultrasound. It may substitute for TV in pediatric patients or non-sexually active females.
- 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, penis and perineum - CPT® 76857
- Groin - CPT® 76882

## **Scrotal Ultrasound**

- See
  - ◆ **PV-17: Impotence/Erectile Dysfunction**
  - ◆ **PV-18: Penis-Soft Tissue Mass**
- Ultrasound scrotum and contents - CPT® 76870

## **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.
- 3D Rendering (CPT® 76376 or CPT® 76377) See **Preface-4.1: 3D Rendering** in the Preface Imaging Guidelines
  - ◆ 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 **PV-2.1: Abnormal Uterine Bleeding (AUB)** and **PV-12.1: Leiomyomata**)
    - Hydrosalpinges or peritoneal cysts when initial ultrasound is equivocal (See **PV-5.3: Complex Adnexal Masses**)
    - Lost IUD (inability to feel or see IUD string) with initial ultrasound (See **PV-10.1: Intrauterine Device**)
    - Uterine anomalies with initial ultrasound (See **PV-14.1: Uterine Anomalies**)
    - Infertility (See **PV-9.1: Infertility Evaluation, Female**)

## **CT**

- CT Pelvis with contrast is a possible modality unless there is a contrast allergy or CT without contrast to look for a calculus in the distal ureter or bladder.
  - ◆ 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 patients 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.

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## **PV-2: Abnormal Uterine Bleeding**

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

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

- Initial evaluation includes any of the following:
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or Transvaginal ultrasound (CPT® 76830), D&C and/or endometrial biopsy
- If ultrasound is equivocal for intracavitary lesion, 3-D Rendering (CPT® 76377 or CPT® 76376) may be approved as an add-on.
- If ultrasound is equivocal for intracavitary lesion, Duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on to TV ultrasound (CPT® 76830).
- If ultrasound is equivocal for an intracavitary lesion, saline infusion sonohysterography (CPT® 76831) may be 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.

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**PV-3: Amenorrhea**

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<b>PV-3.2: Amenorrhea - Delayed Puberty</b>	<b>11</b>

### **PV-3.1: Amenorrhea**

- If a pregnancy test is negative:
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830).

The results of test(s) above determine the next steps, which may include:

- MRI Pelvis without contrast (CPT® 72195) or without and with contrast (CPT® 72197) can be performed if ultrasound is indeterminate or equivocal for Asherman's Syndrome, Polycystic Ovary Syndrome, or Androgen Secreting Ovarian Tumor.
- Suspicion for hormonally active adrenal tumor should be evaluated by criteria in **AB-16: Adrenal Cortical Lesions** in the Abdomen Imaging Guidelines.
- Patients with absent uterus or a foreshortened vagina should have karyotype evaluation. (See **PV-14.1: Uterine Anomalies**)
- MRI Brain (pituitary protocol) without and with contrast (CPT® 70553) can be performed if:
  - ◆ Estradiol is low with finding of inappropriately normal or low gonadotropins
  - ◆ Prolactin (PRL) level is elevated above normal
  - ◆ See **HD-19: Pituitary** in the Head Imaging Guidelines.
- Hysterosalpingogram (CPT® 74740), sonohysterosalpingography (CPT® 76831), and/or hysteroscopy can be performed if ultrasound is indeterminate for Asherman's syndrome.

### **PV-3.2: Amenorrhea - Delayed Puberty**

- Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830),
- Hysterosalpingogram (CPT® 74740), sonohysterosalpingography (CPT® 76831), and/or hysteroscopy can be performed if ultrasound is indeterminate.
- MRI Brain (pituitary protocol) without and with contrast (CPT® 70553) can be performed if:
  - ◆ Estradiol is low with finding of inappropriately normal or low gonadotropins
  - ◆ Prolactin (PRL) level is elevated
  - ◆ See **HD-19: Pituitary** in the Head Imaging Guidelines.

#### *Practice Notes*

In some cases of hypothyroidism, there may be an increase in the PRL level. Treatment of hypothyroidism can normalize prolactin levels.

Many medications are known to often result in hyperprolactinemia. More common offenders include antipsychotics (first generation and second generation e.g. Haloperidol and Risperidone, respectively), antidepressants (cyclic, SSRIs, e.g. Amitriptyline, Citalopram), anti-emetics and other gastrointestinal agents (such as Metoclopramide and Prochloroperazine), opioid analgesics (methadone, morphine), and antihypertensives (Verapamil, Methyldopa).

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## **PV-4: Adenomyosis**

### **PV-4.1: Adenomyosis**

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### **PV-4.1: Adenomyosis**

- 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. Doppler ultrasound (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:
  - ◆ Inconclusive ultrasound and the patient has failed several months (3 months) of hormone suppression

#### ***Adenomyosis – Practice Notes***

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.

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**PV-5: Adnexal Mass/Ovarian Cysts**

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## **PV-5.1: Suspected Adnexal Mass – Initial Evaluation in All Women**

- 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) 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 **AB-13: Abdominal Mass** in the Abdomen Imaging Guidelines

### *Practice Notes*

- Consultation with or referral to a gynecologic oncologist is recommended for women 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 patients 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).



## **PV-5.2: Simple Cysts**

- 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  $\leq 10$  cm
  - ◆ Cysts  $>10$ cm have not been studied and the current recommendation is to consider surgical intervention and/or MRI Pelvis without and with contrast (CPT® 72197).

**Simple Cyst Follow-Up**

Size	Pre-Menopausal	Post-Menopausal
≤3 cm	➤ None	➤ None
>3 cm to 5 cm	➤ None	<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>➤ TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856), can be considered annually and if stable for 2 years or decreasing in size, no further imaging follow-up is needed.</li> <li>➤ Further follow-up intervals may be adjusted on basis of degree of cyst change.</li> </ul>
>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> <li>➤ Further follow-up intervals may be adjusted on basis of degree of cyst change</li> </ul>

### **PV-5.3: Complex Adnexal Masses**

Condition	Pre-Menopausal	Post-Menopausal
Hemorrhagic cyst	<ul style="list-style-type: none"> <li>➤ If initial ultrasound imaging confirms hemorrhagic cyst <math>\leq 5</math> cm no further imaging is necessary</li> <li>➤ If initial ultrasound imaging confirms hemorrhagic cyst <math>&gt; 5</math> cm but <math>&lt; 10</math> 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> </ul> </li> <li>➤ MRI Pelvis without and with contrast (CPT® 72197) maybe approved for Hemorrhagic cyst <math>\geq 10</math>cm</li> </ul>	<ul style="list-style-type: none"> <li>➤ Hemorrhagic cyst should not occur in post-menopausal patient. However, if an ultrasound shows a hemorrhagic cyst in this population, MRI Pelvis without and with contrast (CPT® 72197) can be considered</li> </ul>

Condition	Pre-Menopausal	Post-Menopausal
Endometriomas	<ul style="list-style-type: none"> <li>➤ If initial imaging confirms an Endometrioma, follow-up Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) can be performed at 8 to 12 weeks in the proliferative phase, if possible; 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 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> <li>➤ MRI Pelvis without and with contrast (CPT® 72197) maybe approved for Endometriomas ≥10cm</li> </ul>	<ul style="list-style-type: none"> <li>➤ If initial ultrasound imaging confirms a endometrioma, then MRI Pelvis without and with contrast (CPT® 72197) can be considered</li> </ul>

Condition	Pre-Menopausal	Post-Menopausal
Dermoids	<ul style="list-style-type: none"> <li>➤ If initial ultrasound imaging confirms a Dermoid, follow-up Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) can be performed at 8 to 12 weeks in the proliferative phase, if possible; 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 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> <li>➤ If surgical resection of a definitive Dermoid is not performed, then follow-up Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) can be obtained every 6 to 12 months.</li> <li>➤ MRI Pelvis without and with contrast (CPT® 72197) maybe approved for Dermoids ≥10cm</li> </ul>	<ul style="list-style-type: none"> <li>➤ If initial ultrasound imaging confirms a Dermoid then MRI Pelvis without and with contrast (CPT® 72197) can be considered.</li> <li>➤ If surgical resection of a definitive Dermoid is not performed, then follow-up Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) can be obtained every 6 to 12 months.</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> <li>➤ MRI Pelvis without and with contrast (CPT® 72197) maybe approved for Dermoids ≥10cm</li> </ul>

Condition	Pre-Menopausal	Post-Menopausal
Hydrosalpinges (Hydrosalpinx) or Peritoneal cysts	<ul style="list-style-type: none"> <li>➤ If initial imaging confirms hydrosalpinx or peritoneal cysts, advanced imaging is rarely indicated in these clinical scenarios. Send for Medical Director Review.</li> <li>➤ If initial ultrasound imaging (CPT® 76857 or CPT® 76856) and/or TV ultrasound (CPT® 76830) is equivocal for Hydrosalpinges or Peritoneal cyst(s), one repeat ultrasound is indicated in 8-12 weeks or following a menstrual cycle to evaluate for resolution. Duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on to TV ultrasound (CPT® 76830). 3-D Rendering (CPT® 76377 or CPT® 76376) may be approved as an add-on.</li> </ul>	<ul style="list-style-type: none"> <li>➤ If initial imaging confirms hydrosalpinx or peritoneal cysts, advanced imaging is rarely indicated in these clinical scenarios. Send for Medical Director Review.</li> <li>➤ If initial ultrasound imaging (CPT® 76857 or CPT® 76856) and/or TV ultrasound (CPT® 76830) equivocal for Hydrosalpinges or Peritoneal cyst(s), one repeat ultrasound is indicated in 8-12 weeks to evaluate for resolution. Duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on to TV ultrasound (CPT® 76830). 3-D Rendering (CPT® 76377 or CPT® 76376) may be approved as an add-on.</li> </ul>

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

- Generally a repeat ultrasound is recommended: 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) may be performed one time
    - 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
    - Request for follow up MRI studies should be sent to Medical Director Review
  - ◆ Concern for metastatic ovarian malignancy, See **ONC-21: Ovarian Cancer** in the Oncology Imaging Guidelines

### *Practice Notes*

#### **Pre-Menopausal – see table above**

- For women 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 patients often require immediate interventions (antibiotics, surgery, and/or expectant management).
- Ultrasound characteristics usually suggest the diagnosis (ectopic pregnancy, functional cysts, tuboovarian abscess (See **PV-7: Pelvic Inflammatory Disease**), hydrosalpinx, dermoid, endometrioma, hemorrhagic cyst and pedunculated fibroids (See **PV-12: Leiomyomata/Uterine Fibroids**) 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 women, most pelvic complex cysts or solid masses should be evaluated for surgical intervention and have tumor markers (i.e. CA-125) measured.
- Some women 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.

#### **PV-5.4: Screening for Ovarian Cancer/Suspected Ovary Cancer**

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

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## **PV-6: Endometriosis**

### **PV-6.1: Endometriosis**

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## **PV-6.1: Endometriosis**

- TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76856 or CPT® 76857) is then the first line diagnostic exam for pain or abnormality on exam.
  - ◆ In most patients, ultrasound followed by medical treatment or laparoscopy should be considered prior to advanced imaging.
  - ◆ Laparoscopy remains the definitive test for diagnosis and evaluation of endometriosis in most patients.
- MRI Pelvis without contrast (CPT® 72195) or without and with contrast (CPT® 72197) is helpful for the following:
  - ◆ Rectal involvement, rectovaginal endometriosis, deeply infiltrative bladder endometriosis, and cul-de-sac obliteration. MRI has been shown to accurately detect rectovaginal endometriosis and cul-de-sac obliteration in the more than 90% of cases
  - ◆ To characterize complex adnexal masses as endometrioma if ultrasound equivocal.
  - ◆ MRI can also enable complete lesion mapping prior to surgical excision of known endometriosis that was diagnosed during a previous surgery.

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

### **PV-7.1: Pelvic Inflammatory Disease**

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## **PV-7.1: Pelvic Inflammatory Disease**

- 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).
- CT Abdomen and Pelvis with contrast (CPT® 74177) or CT Pelvis with contrast (CPT® 72193) can be performed if:
  - ◆ Ultrasound equivocal, or
  - ◆ Extensive abscess formation as determined by ultrasound

### ***Practice Notes***

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

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## **PV-8: Polycystic Ovary Syndrome**

### **PV-8.1: Polycystic Ovary Syndrome**

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### **PV-8.1: Polycystic Ovary Syndrome**

- Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) may be performed based on history, exam, and laboratory findings suspicious for this disease
- 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.
- CT Abdomen without contrast (CPT® 74150) is the initial study if elevated serum levels of androgens\* are found and an adrenal etiology is suspected. CT Abdomen with (bolus arterial phase) contrast (CPT® 74160) or chemical shift MRI Abdomen (CPT® 74181) can be considered if this initial CT is equivocal, non-diagnostic, or concerning for malignancy. See **AB-16: Adrenal Cortical Lesions** in the Abdomen Imaging Guidelines
  - ◆ \*The adrenal gland preferentially secretes weak androgens such as DHEA and DHEAS. The ovary is the primary source of testosterone

#### *Practice Notes*

- Polycystic ovary syndrome is the most common hormonal disorder among women of reproductive age, and is one of the leading causes of infertility.
- Ovaries are often enlarged and contain numerous small cysts located along the outer edge of each ovary. Signs and symptoms may include:
  - ◆ Anovulation resulting in infrequent or prolonged menstrual periods.
  - ◆ Excessive amounts or effects of androgenic (masculinizing) hormones (e.g. excess hair growth).
  - ◆ Acne
  - ◆ Obesity

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## **PV-9: Infertility Evaluation, Female**

### **PV-9.1: Infertility Evaluation, Female**

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## **PV-9.1: Infertility Evaluation, Female**

- Initial work-up of infertility in female:
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) and TV ultrasound (CPT® 76830). If indicated, color Doppler (CPT® 93975 or CPT® 93976) and/or 3D imaging (CPT® 76377 or CPT® 76376) may be approved as an add-on. See **PV-14: Uterine Anomalies**.
- If ultrasound is indeterminate:
  - ◆ Hysterosalpingography (HSG) (CPT® 74740).
    - Injection of contrast through a catheter (CPT® 58340) is not currently prior authorized by eviCore healthcare for any health plan or
  - ◆ Sonohysterosalpingography (CPT® 76831)
    - Injection of contrast through a catheter (CPT® 58340) is not currently prior authorized by eviCore healthcare for any health plan.

### *Practice Notes*

Some payers do not provide coverage for infertility evaluation and/or treatment.

These guidelines are not intended for fertility follow-up and management.

If infertility is a covered service, the specialist may, over the course of several menstrual cycles, request multiple ultrasounds to follow follicular maturation and monitor endometrial thickness.

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

<b>PV-10.1: Intrauterine Device</b>	<b>35</b>
<b>PV-10.2: Tubal Occlusion Device</b>	<b>35</b>

### **PV-10.1: Intrauterine Device**

- 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 complication at the time or immediately following IUD insertion:
    - Abnormal IUD position
    - Uterine perforation
    - Severe pain
    - Excessive bleeding
  - ◆ Failure to improve with conservative treatment (7 days) such as antibiotics for cramping, light bleeding, and/or low grade fever following IUD placement.
  - ◆ NOT as routine imaging to evaluate position prior to, immediately after and, for example, 6 weeks after insertion.
- TV ultrasound (CPT® 76830); 3-D Rendering (CPT® 76377 or CPT® 76376) may be approved as an add-on for investigation of a possible “Lost” IUD (inability to feel or see IUD string).
  - ◆ 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.
    - Thereafter, CT Pelvis without contrast (CPT® 72192) or CT Abdomen and Pelvis without contrast (CPT® 74176) or MRI Pelvis without contrast (CPT® 72195) can be considered when both ultrasound and plain x-ray are equivocal or non-diagnostic.
- If pregnancy test is positive: See **OB-3.1: Locate an Intrauterine Device** in the Obstetrical Ultrasound Imaging Guidelines
  - ◆ Ultrasound can be performed to locate an intrauterine device (IUD) (CPT® 76801 if a complete ultrasound has not yet been performed, CPT® 76815 or CPT® 76816 if a complete anatomic ultrasound was done previously, and/or CPT® 76817 for a Transvaginal ultrasound).

### **PV-10.2: Tubal Occlusion Device**

- TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76856 or CPT® 76857) if:
  - ◆ Suspected complication of tubal occlusion device:
    - Abnormal tubal occlusion device position
    - Uterine perforation
    - Severe pain
    - Excessive bleeding
- Ultrasound is not typically indicated for routine follow up after insertion of tubal occlusion device

### References

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## **PV-11: Pelvic Pain/Dyspareunia, Female**

### **PV-11.1: Pelvic Pain/Dyspareunia, Female**

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### **PV-11.1: Pelvic Pain/Dyspareunia, Female**

- Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) initial imaging for unexplained pelvic pain and/or dyspareunia:
  - ◆ Add Duplex Doppler (CPT® 93975 or CPT® 93976) if there is a suspicion of ovarian torsion on the initial ultrasound
  - ◆ For chronic pelvic pain (pelvic pain for 6 months or greater), add Duplex Doppler (CPT® 93975 or CPT® 93976)
  - ◆ If urethral diverticulum is suspected – See **PV-13.2: Urethral Diverticula**
  - ◆ If endometriosis is suspected – See **PV-6.1: Endometriosis**
- If initial ultrasound is normal, consider urological work-up, gastroenterology work-up or laparoscopic evaluation(s) in evaluation of pelvic pain.
- If the initial ultrasound is equivocal for unexplained chronic pelvic pain, then the following can be considered:
  - ◆ CT Pelvis with contrast (CPT® 72193) for unexplained chronic pelvic pain.
- If the initial ultrasound is equivocal for unexplained chronic pelvic pain and if pelvic congestion is suspected:
  - ◆ MRI Pelvis without contrast or with and without contrast (CPT® 72195 or CPT® 72197) or MRV Pelvis (CPT® 72198), or CTV Pelvis (CPT® 72191) for pelvic congestion.
    - MRV Abdomen (CPT® 74185) or CTV Abdomen (CPT® 74175) if vascular intervention is planned.
      - CTV Abdomen and Pelvis (CPT® 74174) is appropriate if CTV Pelvis has not been performed
- CTA Pelvis (CPT® 72191) can be considered if pelvic AVM is suspected, and if one of the following is present:
  - ◆ Pulsatile pelvic mass
  - ◆ Incidental finding on prior imaging including ultrasound
- Pelvic Pain/Hip Pain - Rule Out Piriformis Syndrome
  - ◆ See **PN-2: Focal Neuropathy** in the Peripheral Nerve Disorders Imaging Guidelines
  - ◆ See **MS-24: Hip** 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), and measurement of post void residual urine by bladder catheterization (CPT® 51798)
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830).
    - CT Pelvis with contrast (CPT® 72193) may be indicated if ultrasound is equivocal for complicated interstitial cystitis/bladder pain syndrome (when ordered by Specialist).
- Proctalgia Syndromes
  - ◆ The proctalgia syndromes are characterized by recurrent episodes of rectal/perineal pain, and may be due to sustained contractions of the pelvic floor

musculature. 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

### *Practice Notes*

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.

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## **PV-12: Leiomyomata/Uterine Fibroids**

### **PV-12.1: Leiomyomata**

**41**



## **PV-12.1: Leiomyomata**

Leiomyomata are also known as “fibroids.”

- Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830) can be performed for the following:
  - ◆ Suspected leiomyomata
  - ◆ Pre-operative prior to myomectomy
  - ◆ Recurrent symptoms such as abnormal bleeding, pain, or pelvic pressure
  - ◆ 3-D Rendering (CPT® 76377 or CPT® 76376) may be approved as an add-on if ultrasound is equivocal and intracavitary lesion is suspected, or if arterial embolization is being considered, or for surgical planning for myomectomy
  - ◆ If ultrasound is equivocal for intracavitary lesion, Duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on to TV ultrasound (CPT® 76830).
- MRI Pelvis without and with contrast (CPT® 72197), or without contrast (CPT® 72195) can be used in the evaluation of leiomyomas for the following:
  - ◆ Guide the treatment of myomas in an enlarged uterus with multiple myomas and/or precise myoma mapping is of clinical importance (for complex surgical planning)
  - ◆ Equivocal sonohysterography or panoramic hysteroscopy with suspected submucous leiomyoma and imaging is needed for surgical planning
  - ◆ Equivocal ultrasound prior to myomectomy
  - ◆ Leiomyoma necrosis is suspected
  - ◆ Uterine fibroid embolization is being considered
    - If MRI is equivocal, MRA Pelvis (CPT® 72198) or CTA Pelvis (CPT® 72191) can be considered if requested by the interventional radiologist planning the arterial embolization
    - There is no evidence to support interval MRI after embolization unless persistent or recurrent symptoms

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**PV-13: Periurethral Cysts and Urethral Diverticula**

<b>PV-13.1: Periurethral cysts, Skene duct cyst and Gartner's duct cyst</b>	<b>43</b>
<b>PV-13.2: Urethral Diverticula</b>	<b>43</b>

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

- Initial evaluation includes any of the following:
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830)

### **PV-13.2: Urethral Diverticula**

- Initial evaluation includes Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830)
- Urethrography, or CT Urethrography can be performed to evaluate any urethral abnormalities
- MRI Pelvis without and with contrast (CPT® 72197) can be performed if ordered by operating surgeon if ultrasound equivocal for urethral abnormalities,

#### ***Practice Notes***

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.

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## **PV-14: Uterine Anomalies**

### **PV-14.1: Uterine Anomalies**

**45**

## **PV-14.1: Uterine Anomalies**

- Initial evaluation includes Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV ultrasound (CPT® 76830). 3-D Rendering (CPT® 76377 or CPT® 76376) may be approved as an add-on if uterine anomaly is suspected on ultrasound
- Retroperitoneal ultrasound (CPT® 76770 or CPT® 76775) is indicated to evaluate for coexisting renal anomalies.
- MRI Pelvis without and with contrast (CPT® 72197):
  - ◆ Ultrasound defines a complex anomaly or is not definitive for a complex anomaly, or
  - ◆ Requested for surgical planning

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**PV-15: Fetal MRI**

<b>PV-15.1: Fetal MRI</b>	<b>47</b>
<b>PV-15.2: Placenta Accreta/Placenta Accreta Spectrum/ Placenta Percreta</b>	<b>48</b>

## **PV-15.1: Fetal MRI**

- See **OB-24.13: Fetal MRI** in the Obstetrical Ultrasound Imaging Guidelines
- Fetal MRI (CPT® 74712; CPT® 74713 for each additional gestation)
  - ◆ Do not report CPT® 74712 and CPT® 74713 in conjunction with CPT® 72195, CPT® 72196, CPT® 72197

### **Indications for Fetal MRI**

- Fetal MRI may be considered for assessment of fetal anatomic structures after 18 weeks gestation for surgical planning (re: fetal anomalies), and/or if an ultrasound is equivocal **and** additional information is needed for counseling purposes, for indications including the following:
  - ◆ Brain
    - Congenital anomalies
      - ventriculomegaly
      - corpus callosal dysgenesis
      - holoprosencephaly
      - posterior fossa anomalies
      - malformations of cerebral cortical development
    - 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 cerebral vascular accident
  - ◆ 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
      - venolymphatic 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
- Volumetric assessment of lung
  - cases at risk for pulmonary hypoplasia secondary to oligohydramnios, chest mass, or skeletal dysplasias
- ◆ Abdomen, retroperitoneal and pelvis
  - Mass
    - abdominal–pelvic cyst
    - tumors (e.g. hemangiomas, neuroblastomas, sacrococcygeal teratomas, and suprarenal or renal masses)
    - complex genitourinary anomalies (e.g. cloaca)
    - renal anomalies in cases of severe oligohydramnios
    - bowel anomalies such as megacystis microcolon
- ◆ Complications of monochorionic twins
  - Delineation of vascular anatomy prior to laser treatment of twins
  - Assessment of morbidity after death of a monochorionic co-twin
  - Improved delineation of anatomy in conjoined twins
- ◆ Fetal surgery assessment
  - Meningomyelocele
  - Sacrococcygeal teratomas
  - Processes obstructing the airway (e.g. neck mass or congenital high airway obstruction)
  - Complications of monochorionic twins needing surgery
  - Chest masses

### **PV-15.2: Placenta Accreta/Placenta Accreta Spectrum/ Placenta Percreta**

- ◆ If the ultrasound is inconclusive or equivocal, send to Medical Director Review. Medical Director can approve MRI Pelvis without contrast (CPT® 72195).
- If only placenta or maternal pelvis is imaged without fetal imaging, use MRI Pelvis (CPT® 72195).



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

### **PV-16.1: Molar Pregnancy and GTN**

**51**

## **PV-16.1: Molar Pregnancy and GTN**

- Molar pregnancy – once diagnosed on an Obstetrical Ultrasound patients should undergo chest x-ray pre- and post-evacuation.
- Patients with a molar pregnancy and rising hCG levels post evacuation and/or Gestational trophoblastic neoplasia should undergo the following for metastatic work-up.
  - ◆ CT Chest (CPT® 71260) and CT Abdomen and Pelvis (CPT® 74177) with contrast
  - ◆ MRI Brain without and with contrast (CPT® 70553) if pulmonary metastasis

### ***Practice Notes***

Gestational trophoblastic neoplasia (GTN) cells are malignant and can metastasize to other organs such as lungs, brain, bone, and vagina. Treatment is usually methotrexate with or without hysterectomy. Weekly hCG tests are performed until they fall to zero.

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## **PV-17: Impotence/Erectile Dysfunction**

### **PV-17.1: Impotence/Erectile Dysfunction**

**53**

### **PV-17.1: Impotence/Erectile Dysfunction**

- Imaging depends on the suspected disease:
  - ◆ If erectile dysfunction suspected, Penile Doppler ultrasound (CPT® 93980) can be performed<sup>2</sup>
  - ◆ If large vessel vascular insufficiency is suspected following ultrasound, then CTA Pelvis with contrast (CPT® 72191) may be indicated.
  - ◆ Peyronie disease - Duplex ultrasound (CPT® 93980) can be used to assess penile vasculature in Peyronie disease<sup>1</sup>
  - ◆ If male hypogonadism is suspected, See **HD-19: Pituitary** in the Head Imaging Guidelines
- Functional MRI or PET studies are considered investigational for this indication.

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## **PV-18: Penis–Soft Tissue Mass**

### **PV-18.1: Penis-Soft Tissue Mass**

**55**

## **PV-18.1: Penis-Soft Tissue Mass**

- Soft-tissue lesions of the penis should be evaluated initially by Penile ultrasound (CPT® 76857)
- MRI Pelvis without and with contrast (CPT® 72197) can be performed:
  - ◆ Penile ultrasound (CPT® 76857) is equivocal (not clearly benign, simple cyst), or
  - ◆ Primary penile cancer is suspected.
- Peyronie 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

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## **PV-19: Male Pelvic Disorders**

### **PV-19.1: Male Pelvic Disorders**

**57**



## **PV-19.1: Male Pelvic Disorders**

- Prostate Disorders
  - ◆ Suspected Benign Prostatic Hypertrophy with obstructive voiding symptoms who have failed medication treatment 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) may be performed if ultrasound is equivocal for abscess or mass.
- Hematospermia, transrectal ultrasound (TRUS) (CPT® 76872) can be the initial imaging study in all cases.
  - ◆ MRI Pelvis without contrast (CPT® 72195) can be considered to evaluate:
    - Suspected hemorrhage within the seminal vesicles
    - Radiation injury, neoplasia
    - Failure of conservative treatment for 2 weeks
    - Abnormal findings on Transrectal ultrasound.
- 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 initial evaluation
  - ◆ MRI Pelvis without and with contrast (CPT® 72197) or Tc-99m scrotal scintigraphy (CPT® 78761) if ultrasound is inconclusive.<sup>2</sup>
- Proctalgia Syndromes
  - ◆ The proctalgia syndromes are characterized by recurrent episodes of rectal/perineal pain, and may be due to sustained contractions of the pelvic floor musculature. 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
- Work-up of interstitial cystitis/bladder pain syndrome (IC/BPS) should include history, physical exam, laboratory exam (urinalysis and urine culture), and measurement of post void residual urine by bladder catheterization (CPT® 51798)
  - ◆ Pelvic ultrasound (CPT® 76856 or CPT® 76857).

- CT Pelvis with contrast (CPT® 72193) may be indicated if ultrasound is equivocal for complicated interstitial cystitis/bladder pain syndrome (when ordered by Specialist)

### Practice Notes

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

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## **PV-20: Scrotal Pathology**

<b>PV-20.1: Scrotal Pathology</b>	<b>60</b>
<b>PV-20.2: Para testicular and spermatic cord masses</b>	<b>60</b>
<b>PV-20.3: Testicular Microlithiasis</b>	<b>60</b>

### **PV-20.1: Scrotal Pathology**

- 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.
- 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

#### *Practice Notes*

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

### **PV-20.2: Para testicular and spermatic cord masses**

- 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.

### **PV-20.3: Testicular Microlithiasis**

- Scrotal ultrasound (CPT® 76870) for initial evaluation
- Annual Scrotal ultrasound (CPT® 76870) follow-up until age 55, only if a risk factor is present which include:
  - ◆ Family history of germ cell tumor
  - ◆ Maldescent
  - ◆ Orchidopexy
  - ◆ Testicular atrophy
- For Personal history of germ cell tumor See **ONC-20: Testicular, Ovarian and Extragonadal Germ Cell Tumors** in the Oncology Imaging Guidelines

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**PV-21: Fistula in Ano and Perirectal Abscess**

<b>PV-21.1: Fistula in Ano</b>	<b>63</b>
<b>PV-21.2: Perirectal Abscess</b>	<b>63</b>

### **PV-21.1: Fistula in Ano**

- 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 or endoscopic ultrasound cannot be performed.

### **PV-21.2: Perirectal Abscess**

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

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## **PV-22: Urinary Incontinence/Pelvic Prolapse/Fecal Incontinence**

<b>PV-22.1: Urinary Incontinence – Initial Imaging</b>	<b>65</b>
<b>PV-22.2: Urinary Incontinence – Further Imaging</b>	<b>65</b>
<b>PV-22.3: Pelvic Prolapse</b>	<b>66</b>
<b>PV-22.4: Fecal Incontinence</b>	<b>66</b>



### **PV-22.1: Urinary Incontinence – Initial Imaging**

- 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
    - Urodynamic studies for complex conditions or unclear case of incontinence after basic evaluation.
    - Preoperative multichannel urodynamic testing is not needed in women with stress incontinence (uncomplicated) prior to initial incontinence surgery
  - ◆ Neurogenic Incontinence
    - Ultrasound urinary tract (CPT® 76770 or CPT® 76775) and/or urodynamic studies.

#### ***Practice Notes***

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.

### **PV-22.2: Urinary Incontinence – Further Imaging**

- CT Abdomen and/or Pelvis, contrast as requested, can be performed for the following:
  - ◆ Abnormality on ultrasound that requires further evaluation
  - ◆ Complicated incontinence
  - ◆ Suspected fistulae
  - ◆ Detecting ectopic ureters if ultrasound is non-diagnostic
  - ◆ Pre-operative planning for complicated incontinence when ordered by the operating physician
- MRI may be indicated for evaluation of the brain, spine, or other regions of the nervous system in neurogenic urinary incontinence.

#### ***Practice Notes***

- Complicated urinary incontinence includes:
  - ◆ Failed conservative treatment
  - ◆ Pain or dysuria
  - ◆ Hematuria
  - ◆ Recurrent infection
  - ◆ Previous radical pelvic surgery
  - ◆ Suspected fistula
  - ◆ Suspected mass
  - ◆ Previous pelvic or prostate irradiation

### **PV-22.3: Pelvic Prolapse**

- Transvaginal (TV) ultrasound (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.
- 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) may be indicated 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 the operating physician; or
  - ◆ Persistent incontinence following surgery
- Mesh and Graft complications
  - ◆ Diagnostic evaluation for mesh and graft complications may include colonoscopy, cystoscopy, urodynamics, and radiologic imaging
  - ◆ All requests are sent to Medical Director review
- Sacral osteomyelitis may be a complication of sacrocolpopexy. Back pain in women after this procedure should prompt evaluation with MRI Pelvis with and without contrast (CPT® 72197) and referral to a specialist

### **PV-22.4: Fecal Incontinence**

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 patients with suspected sphincter injury (e.g. history of vaginal delivery or anorectal surgery)
    - ◆ MRI Pelvis (CPT® 72197) or MRI Defecography (CPT® 72195) can be considered if:
      - Ano-rectal manometry suggests weak sphincter pressures AND/OR there is an abnormal balloon expulsion test
- AND
- There has been a failure of a recent trial of conservative management
- AND
- Surgery is being considered

### *Practice Notes*

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 (eg, 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.”

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## PV-23: Patent Urachus

### PV-23.1: Patent Urachus

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## **PV-23.1: Patent Urachus**

- Drainage from the umbilicus, redness around umbilicus, abdominal pain, or urinary tract infection from persistent fetal connection between the bladder and the umbilicus can be evaluated by:
  - ◆ 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) may be performed 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.

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## PV-24: Bladder Mass

- Bladder masses, stones, and diverticuli can be found on ultrasound, CT or MRI incidentally. Symptoms may include hematuria, urgency, frequency, chronic urinary infection, obstruction or urinary retention. Bladder masses can be evaluated by:
  - ◆ CT Pelvis without contrast (CPT® 72192) for suspected bladder stone KUB, if translucent and surgery is planned
  - ◆ CT Pelvis with and without contrast (CPT® 72194) if suspected bladder diverticuli,
  - ◆ CT Urogram (CPT® 74178) for suspected carcinoma
  - ◆ MRI Pelvis with and without contrast (CPT® 72197) may be indicated for uncommon cell lines such as rhabdomyosarcoma, and leiomyosarcoma

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## PV-25: Nuclear Medicine

- Nuclear Medicine
  - ◆ Nuclear medicine studies are rarely used in imaging of the pelvis, but are indicated in some clinical circumstances, including the following:
    - Lymph system mapping (CPT® 78195) is indicated for lower extremity lymphedema with recent negative Doppler ultrasound, or a history of Milroy's disease or prior pelvic lymph node dissection.
- Nuclear testicular imaging (CPT® 78761) is indicated for evaluation of scrotal pain when testicular torsion is suspected and recent Doppler ultrasonography is inconclusive or unavailable.
- Radiopharmaceutical Voiding Cystogram (CPT® 78730) with Urinary Bladder Residual study is indicated for suspicion of urinary retention and a recent non-diagnostic ultrasound.

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