CLINICAL GUIDELINES

Pelvis Imaging Policy

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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.

Pelvis Imaging Guidelines

Abbreviations for Pelvis Imaging Guidelines

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

PV-1: General Guidelines

400 Buckwalter Place Boulevard, Bluffton, SC 29910 (800) 918-8924 www.eviCore.com

PV-1.1: General Guidelines - Overview

- 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 (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.
- 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 also:
  - **PV-17: Impotence/Erectile Dysfunction**
  - **PV-18: Penis-Soft Tissue Mass**
- CPT® 76870 Ultrasound of scrotum and contents

Other Ultrasound

- CPT® 93975 Duplex scan (complete) scan 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/CPT® 76377) link to **Preface-4.1**
  - In general, eviCore maintains that CPT® 76376 (3D rendering not requiring image post-processing on an independent workstation) should not be separately reimbursed since this function is built into the imaging software and generally takes less than 15 minutes to perform. CPT® 76377 (3D rendering requiring image post-processing on an independent work station) can be considered in the following clinical scenarios:
    - Uterine intra-cavitary lesion when initial US is indeterminate (see **PV-2.1** and **PV-12.1**)
    - Hydrosalpinxes or peritoneal cysts when initial US is indeterminate (see **PV-5.2**)
    - Lost IUD (inability to feel or see IUD string) with initial US (see **PV-10.1**)
    - Uterine anomalies with initial US (see **PV-14.1**)
  - Only CPT® 76377 (done on an independent work station) may be approved when specific guideline criteria is met
  - Requests for CPT® 76376 must go to MD review

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)

- Initial evaluation includes any of the following:
  - Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or Transvaginal ultrasound (CPT® 76830), saline infusion sonohysterography (CPT® 76831), hysteroscopy, D&C and/or endometrial biopsy.
- If US is indeterminate for intracavitary lesion, 3-D Rendering (CPT® 76376/CPT® 76377) may be approved as an add-on.
- For leiomyomas, MRI Pelviswithout contrast (CPT® 72195) or MRI Pelvis without and with contrast (CPT® 72197) is appropriate 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 surgical planning), *or*
  - When ultrasound is indeterminate and when myomectomy is planned
  - Before uterine artery embolization.
  - When it is difficult to determine on ultrasound whether a large pelvic mass is of uterine or ovarian origin
- 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 TVUS for further evaluation.

References

1. Practice Bulletin No. 128. Diagnosis of abnormal uterine bleeding in reproductive-aged women. *Obstet Gynecol*. 2012 Jul;120(1):197-206. (July 2012, Reaffirmed 2016) Accessed October 5, 2017.http://journals.lww.com/greenjournal/Citation/2012/07000/Practice_Bulletin_No__128___Diagnosis_of_Abnormal.41.aspx.
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PV-3: Amenorrhea

PV-3.1: Amenorrhea

To identify etiology of genital and urinary tract abnormalities, the first step is the following:

- Ultrasound, Pelvis (CPT® 76856 or CPT® 76857) and/or TV (CPT® 76830), hysterosalpingogram (CPT® 74740), sonohysterosalpingography (CPT® 76831), and/or hysteroscopy.

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

- If ultrasound is indeterminate or equivocal for Asherman's Syndrome, Polycystic Ovary Syndrome, or Androgen Secreting Ovarian Tumor, then MRI Pelvis without contrast (CPT® 72195) or without and with contrast (CPT® 72197).
- Hormonally active adrenal tumor suspicion 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. Advanced imaging is generally not indicated.
- MRI head (pituitary protocol) without and with contrast (CPT® 70553) if:
  - Normal or low FSH and LH levels and evidence of increased intracranial pressure (e.g. headache, vomiting, vision changes).
  - Prolactin (PRL) level is elevated above normal range in the absence of untreated hypothyroidism and/or drug-induced causes of elevated prolactin.
- See also: **HD-19: Pituitary** in the Head Imaging Guidelines.

PV-3.2: Amenorrhea - Delayed Puberty

Delayed puberty can be further evaluated with thyroid function tests, LH, FSH and prolactin.

- Ultrasound, Pelvis (CPT® 76856 or CPT® 76857) and/or TV (CPT® 76830), hysterosalpingogram (CPT® 74740), sonohysterosalpingography (CPT® 76831), and/or hysteroscopy.
- MRI head (pituitary protocol) without and with contrast (CPT® 70553) if:
  - Normal or low FSH and LH levels and evidence of increased intracranial pressure (e.g. headache, vomiting, vision changes).
  - Prolactin (PRL) level is elevated above normal range in the absence of untreated hypothyroidism and/or drug-induced causes of elevated prolactin.
- See also: **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 restores PRL to normal, therefore, pituitary MRI should not be performed unless elevated PRL level persists after euthyroid status has been achieved.

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).

Normal uterus and normal puberty can be further be evaluated with an endocrine work-up (TSH, LH, FSH, and prolactin) and pregnancy test.

References

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PV-4: Adenomyosis

PV-4.1: Adenomyosis

- Pelvic (CPT® 76856 or CPT® 76857) and/or TV Ultrasound (CPT® 76830) along with color Doppler ultrasound (CPT® 93975 or CPT® 93976) is the diagnostic procedure of choice for the initial evaluation of suspected adenomyosis.
- MRI Pelvis without contrast (CPT® 72195) or MRI Pelvis without and with (CPT® 72197) is considered a second-line when:
  - Inconclusive US and the patient has failed several months (3 months) of hormone suppression; or
  - Enlarged uterus or with coexisting fibroids and further delineation would affect patient management.

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.

Reference

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PV-5: Adnexal Mass/Ovarian Cysts

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

- Transvaginal (TV) ultrasound imaging (CPT® 76830) is the initial study of choice.[1,2]
  - Pelvic ultrasound (CPT® 76856 or CPT® 76857) can be performed if requested as a complimentary study to the TV ultrasound.
  - Duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on to TV US (CPT® 76830).
- If ultrasound does not identify the origin of the pelvic mass (adnexal, uterine, or other in etiology),[1] MRI Pelvis without contrast (CPT® 72195), OR without and with contrast (CPT® 72197; CPT® 72195 if pregnant).
  - If the mass is unrelated to female pelvic anatomy, CT with contrast is indicated **AB-13: Abdominal Mass**
- Transvaginal ultrasound is the recommended modality for imaging; no alternative modality has demonstrated sufficient superiority to justify routine use

If a Complex Adnexal Mass is identified in a pre-menopausal woman, see:
PV-5.2: Complex Adnexal Mass – Pre-Menopause

If a Complex Adnexal Mass is identified in a post-menopausal woman, see:
PV-5.3: **Complex Adnexal Mass – Post-Menopause**
PV-5.5: **Simple Cysts**

PV-5.2: Complex Adnexal Masses – Pre-Menopausal

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, hydrosalpinx, dermoid, endometrioma, hemorrhagic cyst and pedunculated fibroids) and direct the treatment.

- Hemorrhagic cyst:
  - If initial imaging confirms hemorrhagic cyst, follow up with pelvic ultrasound (CPT® 76856 or CPT® 76857 and/or [transvaginal] CPT® 76830) in six 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 US (CPT® 76830).
    - If follow-up imaging confirms a hemorrhagic cyst that has not completely resolved, a repeat ultrasound (CPT® 76856 or CPT® 76857 and/or CPT® 76830 [transvaginal]) can be performed in 6 months (sooner if signs or symptoms persist or if new symptoms occur).

- Endometriomas
  - If initial imaging confirms an Endometrioma, follow-up ultrasound (CPT® 76856 or CPT® 76857 and/or CPT® 76830[transvaginal]) can be performed at 6 to 12 weeks then every 6 months if not surgically resected; duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on to TV US (CPT® 76830).
  - If ultrasound is indeterminate, Pelvic MRI without and with contrast (CPT® 72197)
- Dermoids (Pre- and post-menopausal)
  - If initial imaging confirms a Dermoid, follow-up ultrasound (CPT® 76856 or CPT® 76857 and/or CPT® 76830[transvaginal]) can be performed at 6 to 12 months; duplex (Doppler) scan (CPT® 93975 complete; CPT® 93976 limited) may be approved as an add-on to TV US (CPT® 76830).
    - If surgical resection is not performed, then follow-up pelvic ultrasound (CPT® 76856 or CPT® 76857 and/or CPT® 76830 [transvaginal]) for both pre- and postmenopausal women can be obtained every 6 to 12 months.
  - If initial ultrasound imaging (CPT® 76857 or CPT® 76856 and/or transvaginal CPT® 76830) is indeterminate for Dermoids, the diagnosis can be confirmed by CT Pelvis (contrast as requested) or MRI Pelvis without contrast (CPT® 72195) or MRI Pelvis without and with contrast (CPT® 72197).
    - If surgical resection is not performed, then follow-up pelvic ultrasound (CPT® 76856 or CPT® 76857 and/or CPT® 76830 [transvaginal]) for both pre- and postmenopausal women can be obtained every 6 to 12 months.
- Hydrosalpinxes or Peritoneal cysts (Pre- and post-menopausal)
  - If initial imaging confirms hydrosalpinxes or peritoneal cysts, advanced imaging is rarely indicated in these clinical scenarios. Send for physician review.
  - If initial ultrasound imaging (CPT® 76857 or CPT® 76856 and/or transvaginal CPT® 76830) is indeterminate, one repeat US is indicated in 6 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 US (CPT® 76830). 3-D Rendering (CPT® 76376/ CPT® 76377) may be approved as an add-on.
- Advanced imaging may be considered for elevated tumor makers if an ultrasound is indeterminate and/or ovarian malignancy is suspected. See **ONC- 21.2**
  - CT Abdomen and Pelvis with contrast (CPT® 74177) as a pre-operative study to evaluate for metastatic disease when cancer is known or suspected.
  - CT Abdomen and Pelvis with contrast (CPT® 74177) can detect omental metastases, peritoneal implants, pelvic and periaortic lymph node enlargement.
  - CT Abdomen and Pelvis without and with contrast (CPT® 74178) can be considered for suspected hepatic metastases and obstructive uropathy.
- Advanced imaging may be indicated for an ovarian mass suspicious for metastatic disease (e.g. from breast, uterine, colorectal or gastric cancer) and should be evaluated based on the appropriate Oncology Imaging guideline.

Practice Notes

- Germ cell tumors are more common in young women which can be confirmed by beta hCG, AFP, and LDH
- CA-125 tumor marker can confirm for other malignancy suspicion.

PV-5.3: Complex Adnexal Masses – Post-Menopausal

For post-menopausal women, most pelvic complex cysts or solid masses should be evaluated for surgical intervention and have tumor markers (CA-125) measured.

- 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 guideline.
- If ultrasound is indeterminate, advanced imaging may be appropriate for high risk treatment planning. Send for Medical Director Review.
  - 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.
- Advanced imaging may be considered for elevated tumor makers if an ultrasound is indeterminate and/or ovarian malignancy is suspected. See **ONC-21.2**
  - CT Abdomen and Pelvis with contrast (CPT® 74177) as a pre-operative study to evaluate for metastatic disease when cancer is known or suspected.
  - CT Abdomen and Pelvis (CPT® 74177) can detect omental metastases, peritoneal implants, pelvic and periaortic lymph node enlargement.
  - CT Abdomen and Pelvis without and with contrast (CPT® 74178) can be considered for suspected hepatic metastases and obstructive uropathy.
- Advanced imaging may be indicated for an ovarian mass suspicious for metastatic disease (e.g. from breast, uterine, colorectal or gastric cancer) and should be evaluated based on the appropriate Oncology Imaging guideline.

PV-5.4: Screening for Ovarian Cancer

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

PV-5.5: Simple Cysts

- For simple or thin walled cystic mass, follicular cyst (ovarian), tubular cystic mass (fallopian tube) on initial TV ultrasound (CPT® 76830):
  - Repeat TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856)
    - According to the below schedule if </=10 cm
    - CA-125 in all postmenopausal patients
    - Cysts >10cm have not been studied and the current recommendation is to consider surgical intervention.
    - Advanced imaging may be appropriate for preoperative planning if requested by the operating surgeon or for elevated tumor marker(s). Requests will be sent to Medical Director Review.

Simple Cyst Follow-Up

Size	Pre-Menopausal	Post-Menopausal
> 1 cm to 5 cm	N/A	TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) at 6 months
> 5 cm to 7 cm	TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) annually	TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) or MRI Pelvis without and with contrast (CPT® 72197) for follow-up as clinically indicated; follow-up intervals may be adjusted on basis of degree of cyst change
> 7 cm to 10 cm	TV ultrasound (CPT® 76830) and/or Pelvic ultrasound (CPT® 76857 or CPT® 76856) every 6 months or MRI Pelvis without and with contrast (CPT® 72197) one time.	MRI Pelvis without and with contrast (CPT® 72197) one time.

Practice Notes

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
  - Obtain CA-125 in all post-menopausal patients with simple cyst.
  - Consider tumor markers patients with an abnormal US 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 and Complex Adnexal Cysts

Simple cysts are smooth walled and clear without debris. Simple cysts up to 10 cm in diameter as measured by ultrasound are almost universally benign and may safely be followed with ultrasound, without intervention, even in postmenopausal women and pediatric patients with normal tumor markers.

Complex cysts can have solid areas or excrescences, and/or debris in them, greater than 3 mm irregular septations, mural nodules with Doppler-detected blood flow, and/or free abdominal/pelvic fluid.

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PV-6: Endometriosis

PV-6.1: Endometriosis

- Pelvic (CPT® 76856 or CPT® 76857) and/or TV (CPT® 76830) US is then the first line diagnostic exam for pain or abnormality on exam.
  - In most patients, US 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 (CPT® 72197) is helpful when:
  - 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 is indeterminate.
  - MRI can also enable complete lesion mapping prior to surgical excision of known endometriosis that was diagnosed during a previous surgery.

References

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PV-7: Pelvic Inflammatory Disease (PID)

PV-7.1: Pelvic Inflammatory Disease

- Pelvic (CPT® 76856 or CPT® 76857) and/or TV (CPT® 76830) US is the initial study for imaging of pelvic inflammatory disease (PID).
- CT Abdomen and Pelvis with contrast (CPT® 74177) or CT Pelvis with contrast (CPT® 72193) when:
  - US is indeterminate, or
  - Extensive abscess formation as determined by ultrasound

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PV-8: Polycystic Ovary Syndrome

PV-8.1: Polycystic Ovary Syndrome

- Pelvic (CPT® 76856 or CPT® 76857) and/or TV US (CPT® 76830) may be performed based on history, exam, and laboratory findings suspicious for this disease.
- If elevated serum levels of androgens is found and an adrenal etiology is suspected, the initial study is CT Abdomen without contrast (CPT® 74150). If this initial CT is indeterminate, non-diagnostic, or concerning for malignancy, CT Abdomen with (bolus arterial phase), contrast (CPT® 74160) can be considered. See **AB-16: Adrenal Cortical Lesions**
  - Serum levels of androgens. Free testosterone level is thought to be the best measure.

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

References

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PV-9: Infertility Evaluation, Female

PV-9.1: Infertility Evaluation, Female

- Initial work-up of infertility in female:
  - Pelvic (CPT® 76856 or CPT® 76857) and transvaginal ultrasound (CPT® 76830). If indicated, color Doppler (CPT® 93975/CPT® 93976) and/or 3D imaging (CPT® 76377).
  - Hysterosalpingography (HSG) (CPT® 74740).
    - Injection of contrast through a catheter (CPT® 58340) is not currently prior authorized by eviCore healthcare for any health plan.
  - Sonohysterosalpingography (CPT® 76831)
    - Injection of contrast through a catheter (CPT® 58340) is not currently prior authorized by eviCore healthcare for any health plan.
  - MRI (CPT® 72195 or CPT® 72197) if ultrasound indeterminate to differentiate between adenomyosis and fibroids or to accurately characterize mullerian duct anomalies.

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)

PV-10.1: Intrauterine Device

- Pelvic (CPT® 76856 or CPT® 76857) and/or TV (CPT® 76830) US 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 US (CPT® 76830); 3-D Rendering (CPT® 76376/CPT® 76377) may be added for "Lost" IUD (inability to feel or see IUD string).
  - If TV US is negative or non-diagnostic, pelvic US (CPT® 76856 or CPT® 76857):
    - If pelvic US 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-14.1**
  - 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).

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PV-11: Pelvic Pain/Dyspareunia, Female

PV-11.1: Pelvic Pain/Dyspareunia, Female

- For unexplained pelvic pain and/or dyspareunia, the initial imaging test should be Pelvic ultrasound (CPT® 76856 or CPT® 76857) and/or TV Ultrasound (CPT® 76830):
  - If ovarian torsion is suspected, add Duplex (Doppler) scan (CPT® 93975 or CPT® 93976) or TV US (CPT® 76830)
  - For chronic pain, add Duplex Doppler (CPT® 93975 or CPT® 93976)
- 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 (CPT® 72195) and/or Pelvis MRV (CPT® 72198), and/or CTV Pelvis (CPT® 72191) for pelvic congestion.
- If pelvic AVM is suspected, and if one of the following is present, then CTA Pelvis (CPT® 72191) can be considered.
  - 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 PND Imaging Guidelines and
  - **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 or by ultrasound (CPT® 76856 or CPT® 76857 or CPT® 76830 [female]).
  - CT Pelvis with contrast (CPT® 72193) and/or CT Abdomen and Pelvis with contrast (CPT® 74177) may be indicated if ultrasound is equivocal for complicated interstitial cystitis/bladder pain syndrome (when ordered by Specialist) or uncomplicated when ultrasound is equivocal or abnormal.
- 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.)
    - 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 US, MRI Pelvis, or CT Pelvis are appropriate after the above studies have been performed or if laboratory or clinical data 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.

References

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PV-12: Leiomyomata/Uterine Fibroids

PV-12.1: Leiomyomata

Leiomyomata are also known as “fibroids.”

- Pelvic (CPT® 76856 or CPT® 76857) and/or TV US (CPT® 76830) can be performed for the following:
  - Suspected leiomyomata
  - Pre-operative prior to myomectomy
  - Persistent or recurrent symptoms such as abnormal bleeding, pain, or pelvic pressure
  - If ultrasound is indeterminate and intra-cavitary lesion is suspected 3-D Rendering (CPT® 76376/ CPT® 76377) may be added
- 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
  - Indeterminate US prior to myomectomy
  - Leiomyoma necrosis is suspected
  - Arterial embolization is being considered
    - If MRI is indeterminate, 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

References

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PV-13: Periurethral Cysts and Urethral Diverticula

PV-13.1: Periurethral cysts and urethral diverticula

Can be evaluated with any of the following, at providers' request:

- Ultrasound (CPT® 76856 or CPT® 76857) and/or transvaginal (CPT® 76830)
- Urethrography, or CT Urethrography can be performed to evaluate any urethral abnormalities
- If ultrasound is indeterminate, MRI Pelvis without and with contrast (CPT® 72197)
- Also see **AB-40: Urinary Tract Infection**

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

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

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PV-15: Fetal MRI

PV-15.1: Fetal MRI

- See **OB-24.13**
- Fetal MRI may be considered for surgical planning (re: fetal anomalies) and/or if ultrasound is equivocal and additional information is needed for counseling purposes.
- 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

Fetal organs	Indication main category	Indication sub category
Brain	Congenital anomalies	Ventriculomegaly; corpus callosaldysgenesis; holoprosencephaly; posterior fossa anomalies; malformations of cerebral cortical development
	Screening fetuses with a family risk for brain anomalies	E.g. tuberous sclerosis; corpus callosaldysgenesis; malformations of cerebral cortical development
	Vascular abnormalities	Vascular malformations; hydranencephaly; infarctions; monochorionic twin pregnancy complications
Spine	Congenital anomalies	Neural tube defects; sacrococcygealteratomas; caudal regression/sacral agenesis; sirenomelia; 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; and bowel anomalies such as megacystis microcolon

Fetal organs	Indication main category	Indication sub category
Complications of monochorionic twins		Delineation of vascular anatomy prior to laser treatment of twins; assessment of morbidity after death of a monochorionic co-twin, and 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; and chest masses.

PV-15.2: Placenta Accreta/Placenta Percreta

- If the ultrasound is inconclusive or equivocal, send to MD review. MD 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

- Individuals should undergo brain imaging, preferably MRI Brain without and with contrast (CPT® 70553), CT Abdomen and Pelvis with contrast (CPT® 74177), and chest X-ray as a metastatic work up.
  - Treatment is usually methotrexate
  - Weekly hCG tests are performed until they fall to zero.

Practice Notes

A recurrent molar pregnancy is called gestational trophoblastic neoplasia (GTN). These cells are malignant and can metastasize to other organs such as lungs, brain, bone, and vagina.

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PV-17: Impotence/Erectile Dysfunction

PV-17.1: Impotence/Erectile Dysfunction

- Imaging depends on the suspected disease:
  - If erectile dysfunction suspected, penile Doppler ultrasound (CPT® 93980) can be performed[2]
  - If large vessel vascular insufficiency is suspected following ultrasound, then CTA Pelvis (CPT® 72191) with contrast may be indicated.
  - Peyronie disease - Duplex ultrasound (CPT® 93980) can be used to assess penile vasculature in Peyronie's disease[1]
  - If male hypogonadism is suspected, see **HD-19: Pituitary**
- 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

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

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PV-19: Pelvic Pain Syndrome, Male

PV-19.1: Pelvic Pain Syndrome, Male

- Prostate Disorders
  - Suspected Benign Prostatic Hypertrophy with obstructive voiding symptoms who have failed medication treatment can undergo:
    - Transrectal ultrasound (CPT® 76872) or US Pelvis transabdominal (bladder and prostate).[11]
  - Prostatitis with urinary retention or suspected abscess can undergo any of the following imaging studies:[12]
    - Transrectal ultrasound (CPT® 76872) or US Pelvis transabdominal (bladder and prostate).
    - Pelvis CT with contrast (CPT® 72193)
    - Pelvis MRI without contrast (CPT® 72195)
  - Pelvis CT with contrast (CPT® 72193) may be used to differentiate between abscess and tumor if ultrasound is equivocal.
- Hematospermia, transrectal ultrasound (TRUS) (CPT® 76872) can be the initial imaging study in all cases.[13]
  - Pelvis MRI without contrast (CPT® 72195) can be considered to evaluate:
    - Suspected hemorrhage within the seminal vesicles
    - Radiation injury, neoplasia
    - Failure of conservative treatment, or (2 weeks)
    - Abnormal findings on transrectal ultrasound.
- Scrotal pain or mass initial evaluation by scrotal ultrasound (CPT® 76870) and/or Duplex (Doppler) scan ultrasound (CPT® 93975 or CPT® 93976) of the scrotum. The causes of pain include torsion, epididymitis, strangulated hernia, segmental testicular infarction, trauma, testicular tumor, and idiopathic scrotal edema.[1]
  - MRI of the Pelvis without and with contrast (CPT® 72197) or Tc-99m scrotal scintigraphy (CPT® 78761) if ultrasound is inconclusive.[2]
- 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.)
    - 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 US, MRI Pelvis, or CT Pelvis are appropriate after the above studies have been performed or if laboratory or clinical data suggest infection, abscess, or inflammation

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PV-20: Scrotal Pathology

PV-20.1: Scrotal Pathology

- Scrotal pain or mass initial evaluation by scrotal ultrasound (CPT® 76870) and/or Duplex (Doppler) scan ultrasound (CPT® 93975 or CPT® 93976) of the scrotum.
  - The causes of pain include torsion, epididymitis, strangulated hernia, segmental testicular infarction, trauma, testicular tumor, and idiopathic scrotal edema.[1]
  - MRI of the Pelvis without and with contrast (CPT® 72197) or Tc-99m scrotal scintigraphy (CPT® 78761) if ultrasound is inconclusive.[1,2]
- Cryptorchidism/undescended testis in the adult can undergo scrotal ultrasound (CPT® 76870), MRI of the Pelvis without and with contrast (CPT® 72197), or Pelvis CT with contrast (CPT® 72193).
- Varicocele suspected (for example, in inguinal hernia evaluation) can undergo Duplex (Doppler) scan 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.
  - Imaging for right-sided varicocele, when there is suspicion for intra-abdominal pathology, may require advanced imaging with CT Abdomen and Pelvis with contrast (CPT® 74177)

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PV-21: Fistula in Ano

PV-21.1: Fistula in Ano

- MRI Pelvis without and with contrast (CPT® 72197) is indicated for the assessment of complex or recurrent fistulas.
  - Preoperative MRI frequently alters the surgical approach and MRI guided surgery can significantly decrease postoperative recurrence in complex cases by 75%.

Practice Notes

Ideally, MRI Pelvis without and with contrast should also be performed with rectal contrast consisting of ultrasound gel for optimum characterization and pre-operative planning.

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PV-22: Incontinence/Pelvic Organ Prolapse

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® 76856 or CPT® 76857 or CPT® 76830 [female]) 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 of the urinary tract (CPT® 76770 or CPT® 76775) and/or urodynamic studies.

PV-22.2: Urinary Incontinence – Further Imaging

- CT Abdomen and/or Pelvis, contrast as requested, can be performed for the following:
  - Non-diagnostic ultrasound or abnormality on ultrasound that requires further evaluation
  - Complicated incontinence
  - Suspected fistulae
  - Detecting ectopic ureters if ultrasound is nondiagnostic
  - Pre-operative planning 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.

PV-22.3: Pelvic Prolapse

- Urodynamic testing may be helpful if there is incontinence with a stage II or greater prolapse or voiding dysfunction
- MRI Abdomen (CPT® 74181 or CPT® 74183) and/or MRI Pelvis (CPT® 72195 or CPT® 72197) may be indicated for the following:
  - Pelvic floor anatomy and pelvic organ prolapse evaluations if exam and ultrasound are indeterminate; or
  - Equivocal results on CT; or
  - Pre-operative planning when ordered by the operating physician.
- Dynamic MRI of Abdomen (CPT® 74181 or CPT® 74183) and/or Pelvis (CPT® 72195 or CPT® 72197) may be indicated for the following:
  - Pre-operative planning for complex organ prolapse when ordered by the operating physician; or
  - Persistent incontinence following surgery
- Post-prolapse Repair

- 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 and referral to a specialist

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.

- 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-22.4: Fecal Incontinence

The evaluation of fecal incontinence generally proceeds as follows:

- Determine the severity of the incontinence by using the Bristol Stool Scale, which includes frequency, leakage, and pressure of urgency.
- Step 1- History and Physical, which should include digital rectal examination and perianal pinprick to help screen for neurogenic causes.
- Step 2- Diagnostic testing; Ano-rectal manometry and BET (balloon expulsion test, where a balloon is insufflated to 50 ml, and time to expel is measured, as well as an inability to hold it in).
- Step 3- Trial of conservative therapy (anti-diarrheal, etc.).
- Step 4- Pelvic floor and anal canal imaging as well as EMG should be considered for patients with decreased anal pressures who have failed conservative treatment, if surgery is being considered. Imaging can be with endoanal ultrasound or MRI (MRI superior for seeing the external anal area for scarring and to identify anal sphincter atrophy).
- MRI Pelvis (CPT® 72197) or MRI Defecography (CPT® 72195) can be approved if:
  - The results of a recent ano-rectal manometry demonstrate weak 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

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PV-23: Patent Urachus

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:
  - For suspected patent urachus, ultrasound (CPT® 76856 or CPT® 76857 and/or CPT® 76700 or CPT® 76705)
  - If suspected urachal carcinoma or other urachal abnormality, CT Pelvis with contrast (CPT® 72193) if ultrasound is equivocal or if needed for surgical planning.

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PV-24: 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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