AmeriHealth Caritas Louisiana

National Imaging Associates, Inc.*	
Clinical guideline **PELVIS CT**	**Original Date: September 1997**
CPT Codes: 72192, 72193, 72194	**Last Revised Date: May 2020**
Guideline Number: NIA_CG_036	**Implementation Date: ~~January 2021~~TBD**

GENERAL INFORMATION:

It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. All prior relevant imaging results, and the reason that alternative imaging (gold standard, protocol, contrast, etc.) cannot be performed must be included in the documentation submitted.

INDICATIONS FOR PELVIS CT:

Initial staging of prostate cancer
~~(NCCN, 2019)~~

- Prostate cancer for intermediate risk or greater(+- abdomen CT) when PSA levels ≥10 ng/mL or biopsy GS ≥~~>~~=7, or clinically advanced disease (T2b, T2c, T3, or T4) **AND** nomogram (e.g., Partin, Cancer of Prostate Risk Assessment CAPRA) indicating probability of lymph node involvement >10%) (NCCN, 2019).

Known prostate cancer for workup of recurrence and response to treatment when there is a contraindication for MRI
(NCCN, 2019)

- Initial treatment by radical prostatectomy:
  - Failure of PSA to fall to undetectable levels or PSA detectable and rising on at least 2 subsequent determinations.
- Initial treatment radiation therapy:
  - Post-RT rising PSA or positive digital exam and is candidate for local therapy.

Evaluation of suspicious or known mass/tumors:

* National Imaging Associates, Inc. (NIA) is a subsidiary of Magellan Healthcare, Inc.

- Initial evaluation of suspicious pelvic masses/tumors found only in the pelvis by physical exam and ultrasound has been performed or for further evaluation of abnormality seen on ultrasound (US) or when US would be inconclusive (ACR, 2013, 2014).
- Surveillance: One follow-up exam to ensure no suspicious change has occurred in a tumor in the pelvis. No further surveillance CT unless tumor(s) are specified as highly suspicious or change was found on exam or last follow-up imaging.
- ~~Initial staging of known cancer~~
    - ~~All cancers, excluding the following:~~
        - ~~Basal Cell Carcinoma of the skin (NCCN, 2018).~~
- ~~Melanoma without symptoms or signs of metastasis (NCCN, 2018; Trotter, 2013).~~
- Follow-up of Known Cancer (Bourgioti, 2016; **NCCN, 2019**~~8~~):
    - Follow-up of known cancer of patient undergoing active treatment within the past year.
    - Known cancer with suspected pelvis metastasis based on a sign, symptom or an abnormal lab value.
    - ~~Add https://www.nccn.org/professionals/imaging/content~~
    - ~~Active monitoring for recurrence as clinically indicated.~~

Indication for combination studies for the initial pre-therapy staging of cancer, OR active monitoring for recurrence as clinically indicated OR evaluation of suspected metastases:

- < 5 concurrent studies to include CT or MRI of any of the following areas as appropriate depending on the cancer: Neck, Abdomen, Pelvis, Chest, Brain, Cervical Spine, Thoracic Spine or Lumbar Spine.

For evaluation of suspected infection or inflammatory disease

(ACR, 2018~~3~~; Cartwright, 2015)

~~Suspected acute appendicitis (or severe acute diverticulitis) in and adult if pelvic pain and tenderness to palpation is present, with at LEAST one of the following:~~

~~WBC elevated;~~

~~Fever;~~

~~Anorexia; OR~~

~~Nausea and vomiting.~~

~~Suspected appendicitis in a child after ultrasound has been obtained (Choosing Wisely; ACR, 2018; AAP/ACS; Sanchez, 2016)~~

~~Suspected complications of diverticulitis (known to be limited to the pelvis by prior imaging) with pelvic pain or severe tenderness, not responding to antibiotic treatment.~~

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- Suspected perianal fistula **or occult anorectal abscess (MRI preferred)**~~.~~ (**Liang, 2014;** O'Malley, 2012; ~~Liang, 2014,~~ **Vogel, 2016**)
-
- Suspected infection (based on elevated WBC, fever, anorexia or nausea and vomiting) in the pelvis.

~~For recurrent cystitis (male with >=2 episodes;female with failed antibiotic treatment) (Tonolini, 2016)~~

- **CT cystourethrography (CTCUG) in the preoperative setting (Maciejewski, 2015)**
- **For suspected urethral stricture or periurethral pathology only if MRI cannot be done (Aldamanhori, 2018; Lv, 2016).**

~~Suspected inflammatory bowel disease (Crohn's or ulcerative colitis) with abdominal pain, and persistent diarrhea, or bloody diarrhea.~~

For evaluation of known infection or inflammatory disease follow up
(ACR, 2013, 2014)

- ~~Complications of diverticulitis confined to the pelvis with severe pelvic pain or severe tenderness or mass, not responding to antibiotic treatment, (prior imaging study is not required for diverticulitis diagnosis).~~
- ~~Known inflammatory bowel disease, (Crohn's or ulcerative colitis) with recurrence or worsening signs/symptoms requiring re-evaluation.~~
- Any known infection ~~that is clinically suspected~~ to have created an abscess in the pelvis **that requires re-evaluation**.
- Any history of fistula limited to the pelvis that requires re-evaluation~~,~~ or is suspected to have recurred.
- **For patient~~'~~s with recurrent fistula-in-ano or perianal Crohn's disease (MRI preferred) (Vogel, 2016)**
- Abnormal fluid collection seen on prior imaging that needs follow-up evaluation **and limited to the pelvis**.

~~Known infection in the pelvis.~~

For evaluation of suspected inflammatory bowel disease or follow-up (includes CT enterography and can also approve Abdomen CT/CTE):

- **For suspected Crohn's disease with abdominal pain, chronic diarrhea, or bloody diarrhea, fatigue, or when there is a high clinical suspicion after complete work up including physical exam, labs, endoscopy with biopsy (ACR, 2019; Arif-Tiwari, 2019; Lichtenstein, 2018).**
- **For ulcerative colitis that is suspected clinically, however abdominal symptoms are not explained by endoscopy (Rubin, 2019)**
- **For CT enterography (CTE) if CT or MRI of the abdomen and pelvis are inconclusive.**
- **Known inflammatory bowel disease (Crohn's or ulcerative colitis) with recurrence or worsening signs/symptoms requiring re-evaluation, or for monitoring therapy (ACR, 2019)**

For evaluation of known or suspected vascular disease (e.g., aneurysms, hematomas)
(Khosa, 2011; Uberoi, 2011) **

- Evidence of vascular abnormality identified on imaging studies **and limited to the pelvis**.

- Evaluation of suspected or known -aneurysms limited to the pelvis or in evaluating pelvic extent of aortic aneurysm
    - ~~Suspected or known~~**Known or suspected** iliac artery aneurysm~~-~~ > 2.5 cm AND equivocal or indeterminate ultrasound results ~~OR~~
    - Prior imaging (e.g.~~,~~ ultrasound) demonstrating iliac artery aneurysm > 2.5 cm in diameter ~~OR~~
    - Suspected complications of known aneurysm as evidenced by clinical findings such as new onset of pelvic pain.
    - Follow up of iliac artery aneurysm **(CTA preferred)**: **Every three years for** ~~diamiter~~**diameter 2.0-2.9 cm and annually for 3.0**~~e~~**-3.4 cm.** ~~Six month if between 3.0-3.5 cm and if stable follow yearly.~~ If > 3.5 cm , < six month follow up (and consider intervention) **(Wainhainen, 2019)**
- Scheduled follow-up evaluation of aorto/iliac endograft or stent.
    - Routine, baseline study (post-op/intervention) is warranted within 1-3 months (Chaikof, 2018~~; Uberoi, 2011~~).
    - Asymptomatic at six (6) month intervals, for one (1) year, then annually.
    - Symptomatic/complications related to stent graft – more frequent imaging may be needed.
- **Suspected retroperitoneal hematoma or hemorrhage.**

For suspected or known hernia:

~~Suspected retroperitoneal hematoma or hemorrhage.~~

~~For pelvic pain due to a suspected occult, spigelian or incisional hernia when physical exam or prior imaging are non-diagnostic or equivocal or if requested as a preoperative study~~

- **For pelvic pain due to a suspected occult, spigelian or incisional hernia when physical exam or prior imaging are non-diagnostic or equivocal or if requested as a preoperative study**
- ~~**For confirming the diagnosis of a recurrent hernia when ultrasound is negative or non-diagnostic.**~~
- ~~**Hernia with suspected complications (e.g., bowel obstruction or strangulation, or non-reducible)** or prior to surgical repair~~

Musculoskeletal Indications:

- **Known or suspected aseptic/avascular necrosis of hip(s) and MRI is contraindicated after completion of initial x-ray (ACR, 2015).**
- **Sacroiliitis (infectious or inflammatory) after completion of initial x-ray and MRI is contraindicated (ACR, 2016;** ~~Jans, 2014;~~ **Kang, 2015**~~; Jans, 2014~~**).**
- **Sacroiliac joint dysfunction and MRI contraindicated when there is:**
    - **Persistent back and/or sacral pain unresponsive to four (4) weeks of conservative treatment, received within the past six (6) months, including physical therapy or physician supervised home exercise plan (HEP).**

For evaluation of trauma
(ACR, 2012)

- For evaluation of trauma with lab or physical findings of pelvic bleeding.
- For evaluation of physical or radiological evidence of complex or occult pelvic fracture or for pre-operative planning of complex pelvic fractures.

~~**Pre-operative evaluation:**~~

- ~~For diagnostic purposes prior to pelvic surgery or procedure.~~

~~**For post-operative/procedural evaluation:**~~

- ~~Follow-up of known or suspected post-operative complication involving the hips or the pelvis (Davis, 2016; Yanny, 2012) within six months.~~
- ~~A follow-up study to help evaluate a patient's progress after treatment, procedure, intervention or surgery. Documentation requires a medical reason that clearly indicates why additional imaging is needed.~~

Other Indications for Pelvic CT:

- Subacute or chronic pelvic pain not explained by previous imaging/procedure (ACR, 2018).
- **For assessment of pelvic congestion syndrome when findings on ultrasound are** ~~indterminate~~**indeterminate (CTA/MRA preferred) (Bookwalter, 2019)**
- **For diffuse, unexplained lower extremity edema with negative or inconclusive ultrasound (Hoshino, 2016)**
- **For evaluation of suspected May-Thurner syndrome (CTV/MRV preferred) (Ibrahim, 2012; Wan-ling, 2012)**
- **For further evaluation of an isolated right varicocele with additional signs and symptoms that suggest malignancy or suspicious prior imaging (Gleason, 2019)**
- To provide an alternative to initial or follow-up of an indeterminate or inconclusive finding on ultrasound and MRI cannot be done.
- **To locate an intrauterine device after ultrasound and plain x-ray are equivocal or non-diagnostic (imaging of the abdomen may also be indicated) (Boortz, 2012; Nowitski, 2015)**
- **For diagnosis or to guide treatment of urachal anomalies when ultrasound is non-diagnostic (Buddha, 2019; Villavicencio, 2016)**

- ~~Hernia with suspected complications (e.g. bowel obstruction or strangulation, or non-reducible) or prior to surgical repair or when physical exam or prior imaging (e.g. ultrasound) is non-diagnostic or equivocal (Lassandro, 2011; Miller, 2014; Robinson, 2013).~~

- ~~Ischemic bowel (Dhatt, 2015).~~
- ~~Known or suspected aseptic/avascular necrosis of hip(s) and MRI is contraindicated after completion of initial x-ray (ACR, 2015).~~

- ~~Sacroiliitis (infectious or inflammatory) after completion of initial x-ray and MRI is contraindicated (ACR, 2016; Kang, 2015; Jans, 2014).~~
- ~~Sacroiliac joint dysfunction and MRI contraindicated when there is:~~
    - ~~Persistent back and/or sacral pain unresponsive to four (4) weeks of conservative treatment, received within the past six (6) months, including physical therapy or physician supervised home exercise plan (HEP).~~

Pre-operative evaluation:

- For diagnostic purposes prior to pelvic surgery or procedure.

For post-operative/procedural evaluation:

- Follow-up of known or suspected post-operative complication involving the hips or the pelvis (Davis, 2016; Yanny, 2012) within six months.
- A follow-up study to help evaluate a patient's progress after treatment, procedure, intervention or surgery. Documentation requires a medical reason that clearly indicates why additional imaging is needed.

If an Abdomen/Pelvis CT combo is indicated and the Abdomen CT has already been approved, then the Pelvis CT may be approved.

BACKGROUND:

CT provides direct visualization of anatomic structures in the abdomen and pelvis and is a fast imaging tool used to detect and characterize disease involving the abdomen and pelvis. Pelvic imaging begins at the iliac crests through pubic symphysis. It has an ability to demonstrate abnormal calcifications or fluid/gas patterns in the viscera or peritoneal space.

In general, ionizing radiation from CT should be avoided during pregnancy. Ultrasound is clearly a safer imaging option and is the first imaging test of choice, although CT after equivocal ultrasound has been validated for diagnosis. Clinicians should exercise increased caution with CT imaging in children, pregnant women, and young adults due to the risks of exposure to ionizing radiation. Screening for pregnancy as part of a work-up is suggested to minimize the number of unexpected radiation exposures for women of childbearing age.

OVERVIEW:

***Conservative Therapy**: (spine) should include a multimodality approach consisting of a **combination of active and inactive components**. Inactive components, such as rest, ice, heat, modified activities, medical devices, acupuncture and/or stimulators, medications, injections (epidural, facet, bursal, and/or joint, not including trigger point), and diathermy can be utilized. Active modalities may consist of physical therapy, a physician supervised home exercise program**, and/or chiropractic care.

****Home Exercise Program** - **(HEP)/Therapy** – the following elements are required to meet guidelines for completion of conservative therapy (ACR, 2015~~; Last, 2009~~):

- Information provided on exercise prescription/plan AND
- Follow up with member with documentation provided regarding lack of improvement (failed) after completion of HEP (after suitable 4 week period), or inability to complete HEP due to physical reason- i.e., increased pain, inability to physically perform exercises. (Patient inconvenience or noncompliance without explanation does not constitute "inability to complete" HEP).
- Dates and duration of failed PT, physician supervised HEP, or chiropractic treatment should be documented in the original office notes or an addendum to the notes.

Ultrasound should be considered prior to a request for Pelvis CT for the following evaluations:

- Initial evaluation or follow up of ovarian mass or abnormal physical finding
  - ~~Repeat CT for aneurysm ordered by non-surgeon.~~

~~CT for suspected renal stones - An initial CT study is done to identify the size of the stone and rule out obstruction. *(7 mm is the key size- less than that size the expectation is that it will pass)* After the initial CT study for kidney stone is done, the stone can be followed by x-ray or US (not CT). If a second exacerbation occurs/a new stone is suspected another CT would be indicated to access the size of stone and rule out obstruction.~~

~~CT Imaging for Renal Colic and Hematuria – Multidetector computed tomography (CT) is the modality of choice for the evaluation of the urinary tract. It is fast and it has good spatial resolution. It is superior to plain-film for imaging the renal parenchyma. CT protocols include: "stone protocol" for detecting urinary tract calculi, "renal mass protocol" for characterizing known renal masses and CT urography for evaluating hematuria. Non-contrast CT can be used for detecting most ureteral and renal stones but sometimes an intravenous contrast agent is needed to determine the relationship of the calculus to the opacified ureter. CT is an effective imaging examination for diagnosing hematuria caused by urinary tract calculi, renal tumors, and urothelial tumors.~~

~~CT Imaging for Abdominal and Pelvic Aneurysms – Abdominal and pelvic aneurysms are usually asymptomatic and most are discovered during imaging studies ordered for other indications or, particularly in the abdomen, on physical examination as a pulsatile mass. If a pulsatile abdominal mass is found, abdominal ultrasonography is an inexpensive and noninvasive technique for examination. For further examination, CT may be performed to better define the shape and extent of the aneurysm and the local anatomic relationships of the visceral and renal vessels. CT has high level of accuracy in sizing aneurysms.~~

~~**Follow-up of asymptomatic incidentally-detected iliac artery aneurysms (Uberoi, 2011)~~

- ~~< 3.0 cm: rarely rupture, grow slowly, follow-up not generally needed~~
- ~~3.0-3.5 cm: followed up initially at 6 months~~

- if stable, then annual imaging
- > 3.5 cm: greater likelihood of rupture
  - <6 month follow up
  - consider intervention

Combination request of Abdomen CT/Chest CT - A Chest CT will produce images to the level of L3. Documentation for combo is required.

Hematuria and CT Imaging of Urinary Tract – Multidetector CT urography is a first line of investigation in patients with hematuria due to its ability to display the entire urinary tract, including renal parenchyma, pelvicaliceal systems, ureters and bladder with a single imaging test. To evaluate hematuria, the urinary tract is assessed for both calculi and neoplasms of the kidney and or urothelium.

Helical CT of Prostate Cancer – Conventional CT is not useful in detecting prostate cancer as it does not allow direct visualization. Contrast-enhanced MRI is more useful in detecting prostate cancer. MRI is recommended in patients with suspected cancer but prior negative biopsy because MRI alone can miss up to 26% of clinically significant cancers that would be detected on systemic biopsy (Borofsky, 2018). Helical CT of the prostate may be a useful alternative to MRI in patients with an increasing PSA level and negative findings on biopsy but is not the imaging study of choice.

Pelvic Trauma and CT Imaging – Helical CT is useful in the evaluation of low or high flow vascular injuries in patient with blunt or penetrating pelvic trauma. It provides detailing of fractures and position of fracture fragments along with the extent of diastasis of the sacroiliac joints and pubic symphysis. CT helps determine whether pelvic bleeding is present and can identify the source of bleeding. With CT, high flow hemorrhage can be distinguished from low flow hemorrhage aiding the proper treatment.

Bladder Cancer and CT Imaging – The diagnosis of upper tract transitional cell carcinoma is dependent on imaging. CT urography is increasingly being used in the imaging of the upper urinary tract in patients with bladder cancer.
Multidetector CT scans are more accurate than the older ones and are used in the diagnosis, staging and surveillance of transitional cell carcinoma of the upper urinary tract.

Urinary Calculi and Reduced Radiation Dose – Studies have been performed to retrospectively determine the effect of 50% and 75% radiation dose reductions on sensitivity and specificity of CT for the detection of urinary calculi. Ciaschini, et al found no significant differences between the examinations at 100% radiation dose and those at the reduced dosage for the detection of calculi greater than 3 mm.

Imaging of hernias: Most hernias are diagnosed clinically with imaging recommended for the diagnosis of occult hernias or in the evaluation of hernia complications such as bowel obstruction or strangulation. **Groin hernias are at increased risk for inceration/strangulation in**

women, right femoral hernias, and when there is a hernia related hospitalization in the year preceding hernia repair. Morbidity and mortality are increased for strangulated hernias in patients over 65, prolonged symptoms, incarceration of over 24 hours, symptoms of > 3 days, bowel obstruction, anticoagulant use (Simons, 2018) To detect occult hernias, ultrasound is a first line study with a sensitivity of 86% and specificity of 77% compared to 80% sensitivity and 65% specificity for CT (Robinson, 2013). According to Miller et al "Magnetic resonance imaging is generally not considered a first- or even second-line evaluation modality for hernias…" (Miller, 2014). Based on this analysis MRI is recommended only when ultrasound and CT have been performed and fail to make a diagnosis.

POLICY HISTORY:
Review Date: June 2019
Review Summary:

- Changed PSA levels from ≥ 20 ng/mL to ≥ 10 ng/mL or clinically advanced disease (T2b, T2c, T3, or T4) AND nomogram per NCCN; deleted Gleason score
- Modified guideline to align with abdomen pelvis CT guideline
- Added 'routine, baseline study (post-op/intervention) is warranted within 1-3 months for scheduled f/u evaluation of aorto/iliac endograft or stent
- Specified pelvic pain by adding subacute or chronic
- Added:
    - to provide an alternative to initial or f/u of an indeterminate or inconclusive finding on US and MRI cannot be performed
    - suspected perianal fistula;
    - hernia with suspected complications
- Added 'within 6 months' time specification for f/u of known or suspected post-operative complication involving hips or pelvis
- Updated background information and references

Review Date: May 2020
Review Summary:

- Perianal fistula or abscess (MR preferred)
- CT cystourethrography for pre op
- Urethral stricture (MR preferred)
- IBD for CTE
- Hernia section
- Pelvic congestion syndrome
- To find an IUD after other studies completed
- Urachal anomalies
- Added for diffuse LE edema with neg or inconclusive US
- May-Thurner
- LE edema and isolated right varicocele
- Updated background section

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