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2024 Magnetic Resonance Imaging (MRI) Pelvis

Diagnostic Imaging

MRI-Pelvis-HH

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Magnetic Resonance Imaging (MRI) Pelvis

MRI General Contraindications

MRI may be contraindicated for **ANY** of the following:

- Safety, related to clinical status (body mass index exceeds MRI capability, intravascular stents within recent 6 weeks)
- Safety, related to implanted devices (aneurysm clips, cochlear implant, insulin pump, spinal cord stimulator)[1]

References: [41] [14] [26]

NCD 220.2
See also, **NCD 220.2**: Magnetic Resonance Imaging at https://www.cms.gov/medicare-coverage-database/search.aspx *if applicable to individual's healthplan membership*.

Preamble: Pediatric Diagnostic Imaging

HealthHelp's clinical guidelines for the Diagnostic Imaging program, are intended to apply to both adults and pediatrics (21 years of age or younger), unless otherwise specified within the criteria.

MRI Pelvis Guideline

Magnetic resonance imaging (MRI) of the pelvis is considered medically appropriate when the documentation demonstrates **ANY** of the following:

1. Aneurysm is suspected or known, CTA/MRA are **contraindicated or unavailable** and **ANY** of the following: (*__NOTE__: *when ordered with MRI Abdomen*)
   a. Aneurysm is known, asymptomatic, for surveillance **AND NO** repair history.
   b. Pulsatile abdominal mass is known **AND** aneurysm is suspected.

   References: [59]
2. Avascular necrosis (osteonecrosis) of the hip and/or pelvis is suspected or known, **AFTER** X-ray is completed.
   Reference: [27]

[1]Some implanted devices that were once absolute contraindications to a MRI may now be accepted, including if the specific MRI is able to accommodate the device or the device itself is deemed safe for MRI.

3. Cancer is suspected or known for **ANY** of the following:
    a. Active treatment is received in last 12 months.
    b. B symptoms (drenching night sweats, fever more than 100.4° F, unexplained weight loss of more than 10% of body weight over 6 months) are present **AND** computed tomography (CT) is **contraindicated or unavailable OR** non-diagnostic or indeterminate.
    c. Paraneoplastic syndrome (including dermatomyositis) is suspected, **AND** abdominal cancer is suspected, based on laboratory values or imaging.
    d. Pelvic mass or tumor demonstrated by physical exam and **ANY** of the following:
        i. Mass size grew or changed in known pelvic mass.
        ii. Incidental pelvic lymph node is abnormal, demonstrated on prior imaging **AND** follow-up is recommended. (*__NOTE__: *Initial 3 month follow-up*)
    e. Pelvic mass is suspected **AND** ultrasound is non-diagnostic or indeterminate or requires further follow-up.
    f. Prostate cancer is suspected or known and **ANY** of the following;
        i. Prostate cancer is suspected and **ANY** of the following:
            A. Biopsy is previously negative **AND** prostate cancer is suspected (eg, prostate specific antigen [PSA] is rising or persistent, suspicious digital rectal exam [DRE]).
            B. MRI follow-up for **ANY** of the following:
                I. Prostate imaging reporting & data system (PI-RADS) category 1 to 2: follow-up every 24-months (*__NOTE__: *Earlier for PI-RADS 1 to 2, if biopsy is clearly planned, PSA is progressively rising or theree are other risk factors*.)
                II. PI-RADS category 3 to 5: follow-up every 12 months.
            C. Prostate biopsy preintervention planning
            D. Prostate nodule is very suspicious on exam **AND** biopsy is being considered.
            E. PSA is elevated on at least 2 subsequent tests, PI-RADS classification is used to risk stratify before decision to biopsy and **ALL** of the following:
                I. DRE is complete.
                II. Biopsy was discussed.

III. PSA elevation is **NOT** due to benign disease.

ii. Prostate cancer is <u>known</u> for **ANY** of the following[2]:

A. Cancer risk is intermediate, high or very high, for **ANY** of the following: (*__NOTE__: *if **NOT** recently performed for biopsy planning*) (*__NOTE__: *Pelvis MRI can be approved in combination with positron emission tomography (PET) prostate-specific membrane antigen (PSMA) for initial staging if criteria in footnote is met*.)

I. Initial imaging **OR** staging

II. Initial staging with pelvic MRI combined with positron emission tomography (PET) prostate-specific membrane antigen (PSMA) for **ANY** of the following:

1. Cores positive for cancer in a random (non-targeted) biopsy are more than 50%
2. Gleason score 8, 9 or 10 disease
3. Gleason 4+3=7 disease (primary pattern 4)
4. Gleason 3+4=7 disease **AND** PSA is more than 10 or clinical stage is T2b or more.
5. Gleason 3+3=6 disease **AND** PSA is more than 20 or clinical stage is T3 or more.

B. Recurrence is suspected **OR** for treatment response monitoring and **ANY** of the following:

I. Initial treatment is active surveillance of asymptomatic, very low, low or intermediate risk cancer with expected survival of 10 years or more and **EITHER** of the following:

1. Active surveillance: for initial imaging
2. Repeat **NO** more than every 12 months, unless clinically indicated.

II. Initial treatment is radiation therapy **AND** post-radiation therapy PSA is rising on at least 2 consecutive tests.

III. Initial treatment is radical prostatectomy **AND** PSA fails to fall to undetectable level **OR** PSA is detectable and rising on at least 2 consecutive tests.

[2]If 5-alpha reductase inhibitor (eg, Proscar) was used in past 12 months, an "adjusted PSA" should be used. To adjust, multiply PSA by a factor of 2 (eg, PSA 6 on finasteride adjusts to a PSA of 12).

g. Staging evaluation

h. Recurrence or metastasis is suspected.

i. Surveillance following the **National Comprehensive Cancer Network (NCCN) Guidelines** recommended schedule (see **Surveillance** section) **OR** surveillance as follows:

i. Hereditary paraganglioma syndromes, follow-up every 2 to 3 years **AND** whole body MRI is **unavailable**.

ii. Multiple endocrine neoplasia 1 (MEN1), follow-up every 1 to 3 years (*__NOTE__: *Chest CT or MRI is also approvable for this syndrome at same interval*)

iii. Von Hippel Landau, follow-up at least every other year starting at age 16 years (*__NOTE__: *Abdomen and pelvis ultrasound starting at age 8 years old*)

References: [4] [9] [1] [20] [18] [34] [36] [47] [37] [53]

4. Congenital malformation of pelvis (or sacrum) **AFTER** prior imaging, for further evaluation.
Reference: [40]

5. Defecatory outlet obstruction with structural cause is suspected and prior imaging is non-diagnostic or indeterminate.
Reference: [33]

6. Diverticula of the urethra is suspected and prior imaging is non-diagnostic or indeterminate.

7. Edema of the lower extremities is diffuse, unexplained **AND** ultrasound is non-diagnostic or indeterminate.
Reference: [25]

8. Fever of unknown origin (temperature of 101° F or more for at least 3 weeks) **AND** prior CT is non-diagnostic or indeterminate **OR contraindicated or unavailable**.

9. Fracture or injury is suspected **AND** X-ray is complete **OR** for evaluation of a confirmed stress fracture.
References: [8] [49]

10. Hernia is suspected or known, with **ANY** of the following:

a. Athletic pubalgia (sports hernia) is suspected and **ALL** of the following:

i. Conservative management (eg, chiropractic treatments, physical therapy, physician-supervised exercise program) and **EITHER** of the following;

A. Attempted within the last 6 months, for at least 4 weeks **AND** symptoms persist or worsen.

B. Symptoms progress or worsen during course of conservative management

ii. Groin pain (occurring with exertion) is persistent.

iii. Prior imaging is non-diagnostic or inconclusive.

b. Deep, pelvic hernia (obturator, perineal, sciatic) is suspected **AND** ultrasound is non-diagnostic or indeterminate.

c. Hernia (incisional, occult or spigelian) is suspected, with pelvic pain **AND** prior imaging is non-diagnostic or indeterminate.

d. Hernia is known **AND** complications are suspected from new onset of symptoms (eg, blood in stool, diarrhea, guarding, nausea, severe pain, vomiting) **OR** from prior imaging. (*__NOTE:__ *CT is preferred*.)

References: [22] [2]

11. Hip evaluation, bilateral, and **ALL** of the following:

a. Conservative management **FAILED**

b. Persistent pain

c. X-rays are completed

Reference: [49]

12. Infection or inflammatory disease is suspected, prior imaging (eg, CT, MRI, ultrasound) is non-diagnostic or indeterminate **OR is contraindicated or unavailable** and **ANY** of the following:

a. Diverticulitis is known and **ALL** of the following:

i. Complications are suspected.

ii. Abdominal pain is severe or there is severe tenderness.

iii. CT is **contraindicated or unavailable**.

iv. **NO** response to antibiotic treatment

b. Inflammatory bowel disease (eg, Crohn's disease, ulcerative colitis) is suspected **AFTER** work-up (physical exam, labs and recent colonoscopy) is complete.

c. Pelvic infection is suspected with infection symptoms (eg, elevated white blood cells, fever, loss of appetite, nausea, pain, vomiting).

d. Perianal fistula is suspected.

e. Peritonitis is suspected, abdominal pain and tenderness with palpation is present **AND** there is abdomen rebound, guarding or rigidity **OR** severe tenderness to palpation over the **ENTIRE** abdomen. (*__NOTE__: *include MRI Abdomen*.)

f. Urethral stricture or periurethral pathology is suspected.

References: [44] [21] [35] [51] [38] [12] [24]

13. Infection or inflammatory disease is known, for **ANY** of the following:
    a. Fistula localized to pelvis is known, for evaluation of recurrence.
    b. Fistula or perianal Crohn's disease is known and recurrent.
    c. Fluid collection, limited to the pelvis, is abnormal **AND** prior imaging is non-diagnostic or indeterminate.
    d. Infection with an abscess localized to pelvis is demonstrated on prior imaging.
    e. Inflammatory bowel disease (eg, Crohn's disease, ulcerative colitis) with persisting symptoms, for monitoring treatment response.

    References: [30] [38] [12] [35]
14. Lumbosacral plexus pathology is suspected or known for **ANY** of the following:
    a. MRI of the lumbar spine is non-diagnostic or indeterminate.
    b. Masses are suspected, symptoms are persistent **AND** unilateral changes are present **OR** electromyography (EMG) is non-diagnostic or indeterminate.
    c. Tumor is known and symptomatic (eg, pain, swelling).
    d. Trauma is known, to evaluate the extent of injury.

    References: [10]
15. May-Thurner syndrome (iliac vein compression syndrome) is suspected. (***NOTE**: *MRV is preferred*.)
    Reference: [46]
16. Organ abnormality or enlargement (eg, bladder, colon, uterus) is known **AND** prior ultrasound is non-diagnostic or indeterminate.
17. Pain with nerve pathology is suspected or known and **ANY** of the following:
    a. Meralgia paresthetica is suspected **AND** prior testing (diagnostic nerve block, electrodiagnostic testing **AND** somatosensory evoked potentials) are non-diagnostic or indeterminate.
    b. Pudendal neuralgia is suspected with genital numbness **AND** painful erectile dysfunction lasting longer than 3 months.

    References: [28] [51] [42] [52] [45]
18. Pain in the pelvic area is musculoskeletal related, and **ANY** of the following:

a. Pain is persistent or piriformis syndrome is suspected and **ANY** of the following:

i. Conservative management (eg, chiropractic treatments, physical therapy) and **EITHER** of the following;

A. Attempted within the last 6 months, for at least 4 weeks **AND** symptoms persist or worsen.

B. Symptoms progress or worsen during course of conservative management

ii. Prior imaging is non-diagnostic or indeterminate **OR contraindicated or unavailable**.

b. Sacroiliac joint dysfunction (including axial spondyloarthropathy) with **ALL** of the following:

i. Conservative management (eg, chiropractic treatments, physical therapy, physician-supervised exercise program) and **EITHER** of the following;

A. Attempted within the last 6 months, for at least 4 weeks **AND** symptoms persist or worsen.

B. Symptoms progress or worsen during course of conservative management

ii. Symptoms (eg, instability, lower extremity pain, muscle weakness) are persistent.

References: [42] [28] [51] [11] [17] [58]

19. Pelvic congestion syndrome, when prior ultrasound is non-diagnostic or indeterminate. (***NOTE:** *Computed tomography angiography/magnetic resonance angiography [CTA/MRA] is preferred*.)
Reference: [5]

20. Peri-procedural pelvic intervention care to guide invasive procedure planning or post-operative follow-up
Reference: [3]

21. Prior MRI pelvis imaging is non-diagnostic or indeterminate. (***NOTE**: *One follow-up is appropriate to evaluate for changes since preceding imaging finding[s]. Further surveillance is appropriate when lesion is specified as "highly suspicious" or there is a change since last exam.*)

22. Reproductive pathology is suspected or known with **ANY** of the following:

a. Adenomyosis or endometriosis is suspected or known **AFTER** ultrasound is completed.

b. Hematospermia is known, ultrasound is non-diagnostic or indeterminate and **ANY** of the following:

   i. Age is 40 years or older **AND** hematospermia is episodic or transient.e.

   ii. Hematospermia lasts 1 month or more (persistent).

c. Penile prosthesis is malfunctioning.

d. Pregnancy related or obstetrical complications (eg, fetal anomalies, placenta accreta or percreta) are suspected or known **AND** ultrasound is non-diagnostic or indeterminate.

e. Testes are undescended, to determine locationand ultrasound is non-diagnostic or indeterminate.

f. Uterine bleeding is abnormal **AND** ultrasound is non-diagnostic or indeterminate.

g. Uterine or adnexal masses (eg, fibroids, ovaries, tubes, uterine ligaments) **OR** congenital uterine or renal abnormality are suspected or known, for evaluation **AFTER** ultrasound is completed.

h. Varicocele is new, **NOT** reducible **AND** prior imaging is non-diagnostic or indeterminate.

References: [48] [57] [39] [29] [56] [55] [31] [15] [54] [3] [4]

23. Retroperitoneal fibrosis is suspected or known, **AFTER** complete work-up (eg, blood urea nitrogen [BUN], CBC, creatinine) is completed, to determine extent of disease. (*__NOTE__: *CT is preferred*.)

24. Sacroilitis (infectious or inflammatory) is suspected or known, **AFTER** X-ray **AND** rheumatological work-up (eg, c-reactive protein [CRP], erythrocyte sedimentation rate [ESR]) are completed.
References: [7] [32]

25. Urethral stricture abnormality or peri-urethral pathology is suspected.
References: [13] [19]

26. Vascular disease (eg, aneurysm, hematomas), **NOT** aortic, is suspected or known **AND** CTA/MRA is **contraindicated or unavailable**.

27. Weight loss (10% or more of body weight in 2 months or 5% or more of body weight in 6 months) that is unintentional **AND** unexplained, with **ANY** of the following:

    a. Abdominal symptoms (nausea, pain, vomiting)

    b. Initial work-up is complete (abdominal imaging, labs), **NO** cause was identified **AND** subsequent visit demonstrates further weight loss.

Combination CT and MRI for Metastases Evaluation Guideline

Combination CT/MRI studies (5 or less concurrent studies, with a CT or MRI appropriate for cancer location: abdomen, brain, cervical spine, chest, lumbar spine, neck, pelvis and/or thoracic spine) for **ANY** of the following situations:

1. Cancer recurrence or metastasis is suspected.
2. Staging evaluation, for baseline pre-therapy
3. Surveillance following the National Comprehensive Cancer Network (NCCN) Guidelines recommended schedule (*See **Surveillance** section*)

LCD 35391
See also, **LCD 35391**: Multiple Imaging in Oncology at https://www.cms.gov/medicare-coverage-database/search.aspx *if applicable to individual's healthplan membership*.

Blood/Bone Marrow Cancers Surveillance section

Acute Lymphoblastic Leukemia Surveillance

NCCN Acute Lymphoblastic Leukemia Version 3.2024

Acute lymphoblastic leukemia: No imaging surveillance suggested.

Acute Myeloid Leukemia Surveillance reuse

NCCN Acute Myeloid Leukemia Version 2.2025

Blastic plasmacytoid dendritic cell neoplasm surveillance includes a repeat PET/CT for individuals with prior evidence of extramedullary disease.

Chronic Lymphocytic Leukemia/Small Cell Lymphocytic Lymphoma Surveillance

NCCN Chronic Lymphocytic Leukemia/Small Cell Lymphocytic Lymphoma Version 2.2025

Chronic lymphocytic leukemia/small cell lymphocytic lymphoma: No imaging surveillance suggested.

Chronic Myeloid Leukemia Surveillance

NCCN Chronic Myeloid Leukemia Version 3.2025

Chronic Myeloid Leukemia: No imaging surveillance suggested.

Hairy Cell Leukemia Surveillance

NCCN Hairy Cell Leukemia Version 1.2025

Hairy cell leukemia: No imaging surveillance suggested.

Multiple Myeloma Surveillance

NCCN Multiple Myeloma Version 1.2025

Multiple myeloma surveillance includes **ANY** of the following:

1. Multiple myeloma, surveillance imaging as clinically indicated with **ANY** of the following:
    a. CT scan, low dose
    b. FDG PET/CT
    c. MRI without contrast, whole-body
2. Smoldering myeloma, surveillance imaging annually (or more often as indicated) with **ANY** of the following:
    a. CT scan, low dose
    b. FDG PET/CT
    c. MRI (without contrast, whole body

Pelvis Surveillance Section

Anal Cancer Surveillance

NCCN Anal Carcinoma Version 2.2025

Anal cancer surveillance includes **ANY** of the following:

1. Complete remission, when local or inguinal node recurrence is suspected and **ANY** of the following:
    a. Chest/abdomen/pelvis CT (+ contrast) and abdomen/pelvis MRI (+ contrast) annually for 3 years
    b. Chest CT (- contrast) and abdomen/pelvis MRI (+ contrast) annually for 3 years
2. Peri-anal cancer, with biopsy proven squamous cell carcinoma surveillance with **BOTH** of the following: (**NOTE**: *FDG-PET/CT scan is **NOT** indicated*)
    a. Chest/abdomen/pelvis CT (+ contrast) and abdomen/pelvis MRI (+ contrast) annually for 3 years
    b. Chest CT (- contrast) and abdomen/pelvis MRI (+ contrast) annually for 3 years

3. Persistent disease surveillance as follows:
    a. Chest/abdomen/pelvis CT (+ contrast) and abdomen/chest MRI (+ contrast) annually for 3 years
    b. Chest CT (- contrast) and abdomen/pelvis MRI (+ contrast) annually for 3 years
4. Progressive disease is biopsy proven, locally recurrent for restaging and **ANY** of the following:
    a. Chest/abdomen/pelvis CT (+ contrast) and abdomen/chest MRI (+ contrast) annually for 3 years
    b. Chest CT (- contrast) and abdomen/chest MRI (+ contrast) annually for 3 years

Bladder Cancer Surveillance

NCCN Bladder Cancer Version 1.2025

Bladder cancer imaging surveillance includes **ANY** of the following:

1. Metastatic disease surveillance includes **ANY** of the following:
    a. Computed tomography urography (CTU) or magnetic resonance urography (MRU); follow-up every 3 to 6 months if clinically indicated **AND** when symptoms are new or changing.
    b. CT chest, abdomen **AND** pelvis; follow-up every 3 to 6 months **AND** when symptoms are new or changing.
    c. Cystoscopy clinically as indicated
    d. FDG positron emission tomography/computed tomography (PET/CT) for category 2B
2. Muscle invasive bladder cancer (MIBC) and upper tract (greater then or equal to T2 disease) surveillance includes **ANY** of the following:
    a. Abdominal and pelvic imaging and **ANY** of the following:
        i. Upper tract and abdominal/pelvic imaging every 3 to 6 months for 2 years, then annually for up to 5 years and then clinically as indicated
        ii. FDG PET/CT for category 2B, if **NOT** previously completed
        iii. FDG PET/CT when high risk and metastatic disease is suspected. (*__NOTE__: *may also help guide biopsy and should **NOT** be used to delineate the anatomy of the upper urinary tract.*)
    b. Chest imaging for follow-up, with or without cystectomy **OR** cT4b disease and **ANY** of the following:

i. Chest CT (± contrast); consider as a single exam when abdomen and pelvis imaging is needed.

ii. Chest X-ray

iii. FDG PET/CT for category 2B, if **NOT** previously completed

iv. FDG PET/CT when high risk and metastatic disease is suspected. (*__NOTE__: *may also help guide biopsy*)

c. Post-bladder sparing (eg, chemoradiation or partial cystectomy) or post-cystectomy follow-up and **ANY** of the following:

i. Years 1 and 2 and **ALL** of the following:

A. **ANY** of the following:

I. Chest CT; every 3 to 6 months

II. Chest X-ray; every 3 to 6 months

B. CTU or MRU; every 3 to 6 months

C. FDG PET/CT for category 2B **ONLY** when metastatic disease is suspected; every 3 to 6 months.

ii. Years 3 to 5 and **ALL** of the following:

A. Abdominal/Pelvis CT or MRI, annually

B. **ANY** of the following:

I. Chest CT; annually

II. Chest X-ray; annually

C. FDG PET/CT for category 2B **ONLY** when metastatic disease is suspected; annually.

3. Non-muscle invasive bladder cancer (NMIBC) and upper tract (less than or equal to T1 disease) surveillance includes **ANY** of the following:

a. Low-risk and intermediate risk NMIBC: Imaging of upper tract baseline and abdomen/pelvis imaging and then as clinically indicated

b. High-risk NMIBC and **ANY** of the following:

i. Abdominal/pelvic imaging for baseline for 1 year then as clinically indicated

ii. Imaging of upper tract baseline and at 1 year, then every 1 to 2 years through year 10 then as clinically indicated thereafter

c. Post-cystectomy NIMBC; follow-up with CTU or MRU at 3 months and 12 months, then annually through year 5, followed by renal ultrasound through year 10 then as clinically indicated thereafter

4. Urothelial carcinoma of the prostate **OR** primary carcinoma of the urethra, neurologic/ brain imaging for follow-up and **ANY** of the following:

   a. Low risk T1 or less than T1 disease: MRI or CT of pelvis (± contrast)

   b. High risk T1 or T2 or higher disease chest X-ray and/or CT **AND** MRI or CT of the abdomen and pelvis: every 3 to 6 months for 2 years and then annually

Bone Cancer Surveillance

NCCN Bone Cancer Version 2.2025

Bone cancer surveillance includes **ANY** of the following:

1. Chondrosarcoma surveillance for **ANY** of the following:

   a. Atypical cartilaginous tumor surveillance with primary site X-rays and/or cross-sectional imaging (CT +contrast, MRI ± contrast) every 6 to 12 months for 2 years, then annually as clinically indicated

   b. Low-grade, extracompartmental appendicular tumor, grade I axial tumors or high-grade (grade II or III, clear cell or extracompartmental) tumors surveillance with **ALL** of the following:

      i. Chest imaging every 3 to 6 months, may include CT at least every 6 months for 5 years, then annually for at least 10 years, as clinically indicated

      ii. Primary site X-rays and/or cross-sectional imaging MRI (± contrast) or CT (+ contrast) as clinically indicated.

2. Chordoma surveillance with **ALL** of the following:

   a. Chest imaging every 6 months, with CT included, annually for 5 years, then annually thereafter as clinically indicated

   b. Imaging of primary site, timing and modality (eg, MRI ± CT [both + contrast], X-ray) as clinically indicated up to 10 years

3. Ewing Sarcoma after primary treatment completed and stable/improved disease, surveillance with **ALL** of the following:

   a. Chest imaging with X-ray or CT: every 3 months

   b. Primary site imaging with MRI ± CT (both + contrast) and X-ray, increase intervals after 24 months and after 5 years, annually as clinically indicated (indefinitely) (*__NOTE__: *Consider PET/CT [head-to-toe] and/or bone scan.*)

4. Giant cell tumor of the bone surveillance with **ALL** of the following:
    a. Chest imaging every 6 to 12 months for 4 years, then annually thereafter as clinically indicated
    b. Surgical site imaging as clinically indicated (eg, CT and/or MRI, both with contrast, X-ray)
5. Osteosarcoma surveillance with primary site and chest imaging (using same imaging that was done for initial work-up) for **ANY** of the following: (*__NOTE__: *Consider PET/CT [head-to-toe] and/or bone scan*.)
    a. Image every 3 months for years 1 and 2
    b. Image every 4 months for year 3
    c. Image every 6 months for years 4 and 5
    d. Image annually for year 6 and thereafter, as clinically indicated

Cervical Cancer Surveillance

NCCN Cervical Cancer Version 4.2025

Cervical cancer surveillance includes **ANY** of the following: (*__NOTE__: *if first post-treatment imaging is non-diagnostic or indeterminate, consider repeating in 3 months*)

1. Stage I cervical cancer and **ANY** of the following:
    a. Fertility sparing, pelvic magnetic resonance imaging (MRI) (+ contrast); follow-up 6 months after surgery and then annually for 2 to 3 years
    b. Non-fertility sparing, stage IB3 or high risk factors requiring post-operative adjuvant radiation or chemotherapy follow-up with positron emission tomography/ computed tomography (PET/CT) (abdomen, chest, groin, neck, pelvis) 3 to 6 months after completion of treatment. Imaging should be based on symptomatology and clinical concern for recurrent/metastatic disease.
2. Stage II to IV cervical cancer and **ANY** of the following:
    a. PET/CT (preferred) of the abdomen, chest, groin, neck and pelvis **OR** CT of the abdomen, chest and pelvis; follow-up 3 to 6 months after completion of therapy.
    b. MRI (+ contrast) of the pelvis; follow-up 3 to 6 months after completion of therapy
    c. Other imaging should be based on symptomatology and clinical concern for recurrent/metastatic disease.
3. Stage IVB or recurrence; follow-up imaging as appropriate (CT, MRI, or FDG-PET/CT) to assess response or to determine further therapy. (**NOTE**: *If first post-treatment FDG-PET/CT is indeterminate, then consider repeating in 3 months.)*

4. Suspected recurrence or metastasis
    a. Neck/chest/abdomen/pelvis/groin FDG-PET/CT
    b. MRI (+ contrast) of the pelvis

Colon Cancer Surveillance

NCCN Colon Cancer Version 1.2025

Colon cancer surveillance includes **ANY** of the following: (*__Note__: *Routine CEA monitoring and CT scanning are **NOT** recommended beyond 5 years.*)

1. Stage I disease surveillance: colonoscopy 1 year after surgery; if advanced adenoma, repeat in 1 year; if **NO** advanced adenoma, repeat in 3 years, then every 5 years.
2. Stage II or III disease surveillance includes **BOTH** of the following: (**NOTE**: *PET/CT is **NOT** indicated*.)
    a. CT chest, abdomen and pelvis every 6 to 12 months from date of surgery, for a total of 5 years.
    b. Colonoscopy in 1 year after surgery except if **NO** preoperative colonoscopy due to obstructing lesion, colonoscopy in 3 to 6 months; if advanced adenoma, repeat in 1 year; if **NO** advanced adenoma, repeat in 3 years, then every 5 years.
3. Stage IV disease surveillance includes **BOTH** of the following: (**NOTE**: *PET/CT is **NOT** indicated*.)
    a. CT chest, abdomen and pelvis every 3 to 6 months for 2 years, then every 6 to 12 months for a total of 5 years.
    b. Colonoscopy in 1 year after surgery except if **NO** preoperative colonoscopy due to obstructing lesion, colonoscopy in 3 to 6 months; if advanced adenoma, repeat in 1 year; if **NO** advanced adenoma, repeat in 3 years, then every 5 years.

Gestational Trophoblastic Neoplasia Surveillance reuse

NCCN Gestational Trophoblastic Neoplasia Version 2.2025

Gestational trophoblastic neoplasia surveillance for intermediate trophoblastic tumor (placental site trophoblastic tumor [PSTT] or epithelioid trophoblastic tumor [ETT]), after treatement includes FDG-PET/CT (whole body) at the completion of chemotherapy and then FDG-PET/CT or CT chest/abdomen/pelvis every 6 to 12 months for 2 to 3 years.

Mesothelioma: Peritoneal Surveillance

NCCN Mesothelioma: Peritoneal Version 2.2025

Mesothelioma: peritoneal surveillance includes CT chest **AND** CT or MRI abdomen/pelvis every 3 to 6 months for 5 years then annually.

Neuroendocrine and Adrenal Tumors Surveillance

NCCN Neuroendocrine and Adrenal Tumors Version 1.2025

Neuroendocrine and adrenal cancer surveillance includes **ANY** of the following[3]:

1. Adrenal gland tumors surveillance imaging includes **ANY** of the following:
    a. Localized disease: chest computed tomography (CT) (± contrast) and abdominal CT or magnetic resonance imaging (MRI) (+ contrast) every 12 weeks to 12 months up to 5 years, then clinically as indicated
    b. Locoregional unresectable or metastatic disease; chest CT (± contrast) and abdominal/pelvic CT or MRI (+ contrast) or FDG positron emission tomography (PET)/CT every 12 weeks to 12 months up to 5 years, then clinically as indicated
2. Carcinoid syndrome surveillance imaging includes **BOTH** of the following:
    a. Abdominal/pelvic multiphasic CT or MRI every 12 weeks to 12 months and chest CT (± contrast) as clinically indicated
    b. Echocardiogram every 1 to 3 years or as clinically indicated **without** known carcinoid heart disease (CHD) and at least annually for patients with established CHD.
3. Gastrointestinal tract (well-differenetiated grade 1/2), lung thymus imaging and **ANY** of the following:
    a. Duodenal, endoscopy every 3 to 12 months for 1 year, then annually thereafter.
    b. Gastric, EGD at 1 year and then every 1 to 3 years thereafter
    c. Lung nodules, multiple or tumorlest, image with chest CT (- contrast) every 12 to 24 months or clinically as indicated.
    d. Rectal tumor is 1 cm to less than 2 cm: endoscopy with rectal MRI or endorectal ultrasound at 6 and 12 months, then clinically as indicated.
4. Gastrointestinal (GI) tract (jejunum/ileum/colon, duodenum, rectum), lung and/or thymus neuroendocrine tumor (NET) surveillance includes <u>imaging post-resection</u> with **ANY** of the following:
    a. Jejunum/ilium/colon, duodenum, rectum and thymus, surveillance imaging with abdominal ± pelvic multiphasic CT or MRI according to **ONE** of the following levels of frequency[4]:

[3]**NO** surveillance is indicated for appendiceal tumors 2 cm or smaller without aggressive features.
[4]High-grade tumors may be appropriate for more frequent monitoring.

i. Within 12 weeks to 12 months post-operatively

ii. After 12 months, image every 12 to 24 months for 10 years

iii. After 10 years as clinically indicated

b. Lung/thymus tumors surveillance chest CT (± contrast) for primary tumors, (as clinically indicated for primary GI tumors) according to **ONE** of the following levels of frequency:

i. Within 12 weeks to 12 months post-operatively

ii. After 12 months, image every 12 to 24 months for 10 years

iii. After 10 years as clinically indicated

5. Grade 3, well-differentiated neuroendocrine surveillance includes chest CT (± contrast) as clinically indicated for **ANY** of the following:

a. Locally advanced/metastatic disease with favorable biology (low Ki-67 [eg, less than 55%], positive somastatin receptor [SSTR] based PET imaging) includes abdominal/pelvic MRI (+ contrast) or abdominal/pelvic multiphasic CT for surveillance with **ANY** of the following:

i. Resectable disease surveillance every 12 weeks to 24 weeks for 2 years, then every 6 to 12 months for up to 10 years and chest CT as clinically indicated

ii. Unresectable disease surveillance every 12 weeks to 24 weeks (depending on tumor biology) **AND** chest CT (± contrast); as clinically indicated.

b. Locally advanced/metastatic disease with unfavorable biology (high Ki-67 [eg 55% or higher], rapid growth rate, FDG avid tumors, negative SSTR-based PET imaging), includes surveillance imaging, every 8 weeks to 12 weeks (depending on tumor biology) with **ALL** of the following:

i. Abdominal/pelvic MRI (+ contrast) or abdominal/pelvic multiphasic CT and FDG PET/CT as clinically indicated

ii. Chest CT (± contrast) as clinically indicated

iii. FDG-PET/CT as clinically indicated

c. Locoregional disease (resectable) abdominal/pelvic MRI (+ contrast) or abdominal/pelvic multiphasic CT with frequency of **ONE** of the following:

i. Every 12 weeks to 24 weeks for 2 years (depending on tumor biology, Ki-67) and chest CT as clinically indicated

ii. Every 6 months to 12 months for up to 10 years (depending on tumor biology, Ki-67) and chest CT as clinically indicated

d. Multiple endocrine neoplasia, type 1 (MEN1) screening surveillance for **ANY** of the following tumor types: (*__NOTE__: *For prolonged surveillance, imaging studies without radiation are preferred.*)

i. Lung/thymic NETs: chest CT or MRI (+ contrast) every 1 to 3 years

ii. PanNET: abdominal/pelvic CT or MRI (+ contrast) every 1 to 3 years and consider serial endoscopic ultrasound (EUS)

iii. Parathyroid: if calcium rises, re-image with neck ultrasound and/or parathyroid sestamibi with single-photon emission computed tomography (SPECT) scan (SPECT-CT preferred) or 4D-CT

iv. Pituitary: pituitary or sella MRI (+ contrast) of the pituitary every 3 to 5 years

e. Poorly differentiated large or small cell carcinoma and/or mixed neuroendocrine/ non-neuroendocrine neoplasm or unknown primary, imaging surveillance includes **ALL** of the following:

i. Locoregional unresectable or metastatic disease surveillance imaging includes **EITHER** chest CT (± contrast) with abdominal/pelvic MRI (+ contrast) **OR** chest/abdominal/pelvic multiphasic CT; every 6 weeks to 16 weeks

ii. Resectable surveillance imaging includes **EITHER** chest CT (± contrast) with abdominal/pelvic MRI (+ contrast) **OR** chest/abdominal/pelvic multiphasic CT; every 12 weeks for the 1st year, and every 6 months thereafter

f. Post-operative from potentially curative surgery surveillance for at least 10 years (longer if high-risk)

6. Pancreatic neuroendocrine tumor surveillance imaging, post-resection, includes chest CT (± contrast) as clinically indicated and abdominal multiphasic CT or MRI with imaging frequency of **ONE** of the following[5]:

a. Within 3 to 12 months post-operatively

b. After 12 months, image every 6 to 12 months for 10 years

c. After 10 years as clinically indicated

7. Pheochromocytoma/paranganglioma surveillance imaging and **ANY** of the following:

a. Locally unresectable disease or distant metastases, imaging every 12 weeks for 12 months, includes **ANY** of the following:

[5]High-grade tumors may be appropriate for more frequent monitoring.

i. Chest/abdominal/pelvic CT with contrast

ii. Chest CT (± contrast) and abdominal/pelvic MRI without contrast (if risk for hypertensive episode)

iii. FDG-PET/CT for bone dominant disease

iv. Meta-iodobenzylguanidine (MIBG) with single-photon emission computerized tomography/CT (SPECT) (if previous MIBG-positive or concern for disease progression) prior to considering radionuclide therapy

v. SSTR-PET/CT or SSTR-PET/MRI (if previous SSTR-positive or concern for disease progression) prior to considering radionuclide therapy

b. Resectable disease, post-resection includes chest CT (± contrast) and abdominal/ pelvic CT or MRI (+ contrast), if clinically indicated with imaging frequency of **ONE** of the following:

i. 12 weeks to 12 months after resection

ii. Every 6 to 12 months for the 1st 3 years

iii. Annually from year 4 to 10.

iv. More than 10 years, then as clinically indicated

TIP

NCCN recommends following the surveillance protocols from designated guidelines for the following hereditary endocrine neoplasia syndromes :

- Thyroid cancer guideline, use for: Multiple endocrine neoplasia, type 2 (MEN2) with genetic evaluation of inherited syndromes
- Kidney cancer, use for:
  - Hereditary paraganglioma/pheochromocytoma syndrome
  - Tuberous sclerosis complex (TSC1 and TSC2)
  - von Hippel Lindau syndrome (VHL)
- Genetic/Familial High-Risk Assessment: Breast, Ovarian, and Pancreatic, use for:
  - Neurofibromatosis type 1 (NF1)
  - Li-Fraumeni syndrome (TP53)
  - Lynch syndrome (MLH1, EPCAM/MSH2, MSH6, PMS2)
- Genetic/Familial High-Risk Assessment: Colorectal, use for:
  - Lynch syndrome (MLH1, EPCAM/MSH2, MSH6, PMS2)
  - Familial adenomatous polyposis (APC)

Occult Primary Cancer Surveillance

NCCN Occult Primary Cancer Version 2.2025

Occult primary cancer surveillance imaging for long-term surveillance includes diagnostic tests based on symptomatology.

Ovarian, Fallopian Tube or Primary Peritoneal Cancers Surveillance

NCCN Ovarian Cancer Including Fallopian Tube Cancer and Primary Peritoneal Cancer Version 1.2025

Ovarian, fallopian tube or primary peritoneal cancer surveillance includes **ALL** of the following:

1. Malignant germ cell/sex cord-stromal tumor surveillance for **ANY** of the following:
   a. Malignant germ cell tumors surveillance with **ALL** of the following:

i. Pelvic ultrasound every 3 months for years 1 and 2, then every 6 months for year 3

ii. Chest/abdomen/pelvis CT every 3 months for years 1 and 2, every 6-12 months for year 3, then clinically as indicated.

iii. Chest X-ray every 6 months for years 4 to 5, then clinically as indicated

b. Malignant sex cord-stromal tumors surveillance when symptomatic, biomarkers are elevated or physical exam demonstrates suspicious findings.

2. Stage I through IV, primary treatment was received; follow-up imaging is clinically as indicated

Penile Cancer Surveillance

NCCN Penile Cancer Version 2.2025

Penile cancer surveillance when there is lymph node involvement, includes **ANY** of the following:

1. Classification pN0, N1 imaging with abdomen/pelvis CT **and** chest X-ray every 6 months for the first 2 years, then every 12 months in years 3 and 4.
2. Classification pN2, N3 imaging with abdomen/pelvis CT **and** chest CT every 3 months in year 1, then every 6 months in years 2 to 4.
3. Inguinal region surveillance with CT (+ contrast), MRI (+ contrast) or ultrasound

Prostate Cancer Surveillance

NCCN Prostate Cancer Version 1.2025

Prostate cancer active surveillance candidates repeat multiparametric MRI (mpMRI) every 12 months (or longer) when life expectancy is longer than 10 years

Rectal Cancer Surveillance

NCCN Rectal Cancer Version 1.2025

Rectal cancer surveillance includes **ANY** of the following: [6]

1. Non-operative management surveillance imaging includes **ALL** of the following:
   a. Colonoscopy at 1 year following completion of therapy; if advanced adenoma, repeat in 1 year; if **NO** advanced adenoma, repeat in 3 years and then every 5 years.
   b. CT chest/abdomen every 6 to 12 months for a total of 5 years (*__NOTE__: *CT pelvis to be included once MRI rectum has been exhausted*.)

[6]Routine CT scanning is not recommended beyond 5 years.

c. MRI rectum every 6 months for at least 3 years

2. Operative management surveillance imaging includes **ANY** of the following:

   a. Endoscopic submucosal dissection (ESD) surveillance with flexible sigmoidoscopy 3 to 6 months after ESD (assuming prior colonoscopy), then 3 to 6 months later and every 6 months fof a total of 5 years.

   b. Polyps are low risk and removed by polypectomy; physical exam and proctoscopy every 3 to 6 months for the first 2 years then follow-up with colonoscopy 1 year after polypectomy.

   c. Stage I with full surgical staging, surveillance imaging includes a colonoscopy 1 year after surgery; If advanced adenoma, repeat in 1 year, If **NO** advanced adenoma, repeat in 3 years, then every 5 years.

   d. Stage II and III surveillance imaging includes **ALL** of the following:

      i. Chest/abdominal/pelvic CT every 6 to 12 months for a total of 5 years.

      ii. Colonoscopy in 1 year after surgery **EXCEPT** if **NO** pre-operative colonoscopy due to obstructing lesion, colonoscopy in 3 to 6 months; If advanced adenoma, repeat in 1 year, If **NO** advanced adenoma, repeat in 3 years, then every 5 years.

      iii. PET/CT is **NOT** recommended.

   e. Stage IV surveillance imaging includes **ALL** of the following:

      i. Chest/abdominal/pelvic CT every 3 to 6 months for 2 years, then every 6 to 12 months for a total of 5 years.

      ii. Colonoscopy in 1 year after surgery **EXCEPT** if **NO** pre-operative colonoscopy due to obstructing lesion, colonoscopy in 3 to 6 months; If advanced adenoma, repeat in 1 year, If **NO** advanced adenoma, repeat in 3 years, then every 5 years.

      iii. PET/CT scan is **NOT** recommended.

   f. Transanal local excision only, surveillance imaging includes **ALL** of the following:

      i. Proctoscopy, with endoscopic ultrasound (EUS) or MRI (+ contrast), every 3 to 6 months for the first 2 years, then every 6 months for a total of 5 years.

      ii. Colonoscopy 1 year after surgery; If advanced adenoma, repeat in 1 year, If **NO** advanced adenoma, repeat in 3 years, then every 5 years.

Small Bowel Adenocarcinoma Surveillance

NCCN Small Bowel Adenocarcinoma Version 2.2025

Small bowel adenocarcinoma surveillance (duodenum and jejunum/ilium) includes chest/ abdominal/pelvic CT every 6 to 12 months for 2 years, then every 12 months for years 3 to 5. (*__NOTE__: *PET/CT and routine capsule endoscopy are not indicated.*)

Soft Tissue Sarcoma Surveillance

NCCN Soft Tissue Sarcoma Version 5.2024

Soft tissue sarcoma surveillance includes **ANY** of the following: (*__NOTE__: *Contrasted imaging is preferred; for long term surveillance to minimize radiation exposure, X-rays or MRI may be substituted.*)

1. Atypical lipomatous tumor and well-differentiated liposarcoma imaging surveillance includes the primary site, based on loation and estimated risk of locoregional recurrence.
2. Desmoid tumor (aggressive fibromatosis) imaging surveillance includes **ANY** of the following:
    a. CT or MRI every 3 to 6 months for 2 to 3 years, then every 6 to 12 months thereafter
    b. Ultrasound may be considered for select locations (eg, abdominal wall) for long-term follow-up
3. Retroperitoneal/intra-abdominal, after resection imaging surveillance includes CT or MRI (consider PET/CT) every 3 to 6 months for 2 to 3 years, then every 6 months for the next 2 years, then annually.
4. Stage IA/IB tumor surveillance includes **ALL** of the following:
    a. Chest imaging with CT (+contrast) or MRI (± contrast) as clinically indicated
    b. Magnetic resonance imaging (MRI) at baseline and periodically (frequency based on estimated recurrence)
5. Stage II/III/IV resectable with acceptable functional outcomes surveillance includes **ANY** of the following:
    a. Chest imaging and imaging of primary site with CT (+contrast) or MRI (± contrast) as clinically indicated
    b. Imaging of primary site at end of treatment and periodic imaging of primary site (based on estimated risk of locoregional recurrence)
6. Stage II, III or select stage IV (any T, N1, M0), resectable with adverse functional outcomes **OR** unresectable primary disease surveillance imaging includes **ANY** of the following:

a. Baseline and periodic imaging of primary site as clinically indicated

b. Chest imaging with CT (+contrast) or MRI (± contrast) as clinically indicated

7. Stage IV synchronous disease imaging surveillance includes **ANY** of the following:

a. Chest and other known metastatic sites imaging with CT (+contrast) or MRI (± contrast) as clinically indicated

b. MRI (± contrast) (preferred) and/or CT (+ contrast) at baseline and periodically (frequency based on estimated recurrence)

Testicular Cancer Surveillance

NCCN Testicular Cancer Version 2.2025

Testicular cancer surveillance includes **ANY** of the following:[7]

1. Nonseminoma stage I **WITHOUT** recurrence risk factors (eg, lymphovascular invasion, or an invasion spermatic cord or scrotum) for active surveillance with abdominal ± pelvic CT (+ contrast) or MRI, for **ANY** of the following intervals:

a. 1st year every 4 to 6 months with chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present) at 4 months and 12 months

b. 2nd year every 6 months with chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present) annually

c. 3rd year annually with chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present) clinically as indicated

d. 4th and 5th year as clinically indicated with chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present) as clinically indicated

2. Nonseminoma stage I with recurrence risk factors (eg, lymphovascular invasion, or an invasion spermatic cord or scrotum) for active surveillance abdominal ± pelvic CT (+ contrast) or MRI for **ANY** of the following:

a. 1st year every 4 months with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) every 4 months

b. 2nd year every 4 to 6 months with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) every 4 to 6 months

c. 3rd year every 6 months with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) every 6 months

[7]If a MRI is being considered instead of the abdomen/pelvis CT (eg, CT contraindicated), MRI protocol should include all nodes needing assessment. The same imaging modality (CT or MRI) should be used throughout surveillance.

d. 4th year annually with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) annually

e. 5th year clinically as indicated with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) clinically as indicated

3. Nonseminoma stage IA/B after 1 cycle of adjuvant BEP chemotherapy or primary retroperitoneal lymph node dissection (RPLND) surveillance with abdominal ± pelvic CT (+ contrast) or MRI, annually for the first 2 years, then clinically as indicated **AND** chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) every 6 to 12 months for the 1st year and then annually for year 2, then clinically as indicated.

4. Nonseminoma stage II to III after complete response to chemotherapy ± post-chemotherapy RPLND surveillance with abdominal ± pelvic CT (+ contrast) or MRI, for **ANY** of the following intervals:

   a. 1st year every 4 to 6 months with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) every 4 to 6 months

   b. 2nd year every 6 to 12 months with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) every 6 to 12 months

   c. 3rd year annually with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) clinically as indicated

   d. 4th and 5th year, clinically as indicated with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present, clinically as indicated

5. Nonseminoma pathologic stage IIA/B post primary RPLND and treated with adjuvant chemotherapy, surveillance with abdominal ± pelvic CT (+ contrast) or MRI 4 months after RPLND, then as clinically indicated, **AND** chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) every 6 months for the 1st year then annually through year 5

6. Nonseminoma pathologic stage II A/B post-primary RPLND and **NOT** treated with adjuvant chemotherapy surveillance with abdominal ± pelvic CT (+ contrast) or MRI for **ANY** of the following intervals:

   a. 1st year, at 4 months with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) every 2 to 4 months

   b. 2nd year annually with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) every 3 to 6 months.

   c. 3rd through 5th year clinically as indicated with chest X-ray or chest CT (+contrast) (if thoracic symptoms are present) annually

7. Seminoma stage I surveillance after orchiectomy with chest X-ray or chest CT (+ contrast) (for symptomatic patients), as clinically indicated **AND** abdominal ± pelvic CT (± contrast) or MRI (± contrast) for **ANY** of the following intervals:
    a. 1st year, at 4 to 6 months and 12 months
    b. 2nd year every 6 months
    c. 3rd year, every 6 to 12 months
    d. 4th and 5th year, every 12 to 24 months
8. Seminoma stage I seminoma surveillance after adjuvant treatment (chemotherapy or radiation) with chest X-ray or chest CT (+ contrast) (in symptomatic patients) as clinically indicated **AND** abdominal ± pelvic CT (± contrast), annually for the first 3 years, then clinically as indicated.
9. Seminoma stage IIA and non-bulky IIB seminoma surveillance after radiotherapy and/or post-chemotherapy with chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present) every 6 months for first 2 years, then clinically as indicated **AND** abdominal ± pelvic CT (+ contrast) or MRI and **ANY** of the following intervals:
    a. 1st year, at 3 months and then 9 **OR** 12 months
    b. 2nd and 3rdyear, annually
    c. 4th and 5th year, clinically as indicated
10. Seminoma II, **NOT** treated with adjuvant chemotherapy and post-primary retroperitoneal lymph node dissection surveillance imaging with CT or MRI abdomen/pelvis and chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present) and **ANY** of the following:
    a. 1st year, every 4 months
    b. 2nd year, every 6 months
    c. 3rd year, annually
    d. 4th and 5th year, clinically as indicated
11. Seminoma II, after adjuvant chemotherapy and post-primary retroperitoneal lymph node dissection surveillance imaging includes abdomen/pelvis CT or MRI and chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present) follow-up every 6 months for the 1st year, annually year 2, then clinically as indicated
12. Seminoma bulky stage IIB, IIC and III surveillance after chemotherapy, with CT or MRI of the abdomen and pelvis for **ANY** of the following intervals: (***NOTE**: *FDG PET skull base to mid thigh as clinically indicated*)
    a. 1st year, every 4 months with chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present)

b. 2nd year, every 6 months with chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present)

c. 3rd and 4th year, annually with chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present)

d. 5th year, clinically as indicated with chest X-ray or chest CT (+ contrast) (if thoracic symptoms are present) annually

13. Seminoma with residual mass larger than 3 cm, surveillance with a PET/CT scan from skull base to mid-thigh to delineate viable residual tumor (CT is not specific enough); if PET-negative following chemotherapy, surveillance with abdominal/pelvic CT (+ contrast) every 6 months for the 1st year, then annually thereafter.

Uterine Neoplasm Surveillance

NCCN Uterine Neoplasms Version 3.2024

Uterine neoplasm surveillance includes **ANY** of the following:

1. Endometrial carcinoma surveillance includes **ANY** of the following:
   a. Fertility-sparing treatment for **ANY** pf the following:
      i. Pelvic ultrasound for patients with ovarian preservation
      ii. Other imaging should be based on symptomatology and clinical concern for metastatic disease.
      iii. Repeat pelvic magnetic resonance imaging (MRI) (preferred) for individuals with persistent endometrial carcinoma after 6 to 9 months of **FAILED** medical therapy, especially if considering further fertility-sparing approaches.
   b. Non–fertility-sparing treatment- Imaging should be guided by individual symptoms, risk assessment and clinical concern for recurrent or metastatic disease.
2. Uterine sarcoma surveillance imaging includes **ALL** of the following:
   a. Abdominal/pelvic MRI and chest CT (- contrast), every 3 to 6 months for the first 3 years, then every 6 to 12 months for the next 2 years. (*__NOTE__: *Depending on histology grade and initial stage, consider annual to biannual imaging thereafter, for up to an additional 5 years*.)
   b. Chest/abdomen/pelvis computed tomography (CT) every 3 to 6 months for the first 3 years, then every 6 to 12 months for the next 2 years. (*__NOTE__: *Depending on histology grade and initial stage, consider annual to biannual imaging thereafter, for up to an additional 5 years*.)

c. Neck/chest/abdomen/pelvis/groin FDG-positron emission tomography/CT (PET) if metastasis is suspected.

d. Additional imaging should be based on symptomatology and clinical concern for metastatic disease.

Vulvar Cancer Surveillance

NCCN Vulvar Cancer (Squamous Cell Carcinoma) Version 1.2025

Vulvar cancer surveillance includes **ANY** of the following:

1. Vulvar cancer surveillance with suspicious examination findings or symptoms of recurrence includes **ANY** of the following:
   a. CT chest/abdomen/pelvis or FDG-PET/CT neck/chest/abdomen/pelvis/groin if recurrence or metastasis is suspected.
   b. FDG-PET/CT or pelvis MRI at 3 to 6 months to assess treatment response after definitive primary treatment
2. Vulvovaginal melanoma surveillance may include **ANY** of the following:
   a. CT every 3 to 12 months
   b. FDG-PET/CT in cases of high-risk disease, every 3 to 12 months
   c. Groin nodal ultrasound for stage greater than IB; every 3 to 6 months for the first 2 years, then every 6 to 12 months for years 3 through 5

MRI Pelvis Procedure Codes

Table 1. MRI Pelvis Associated Procedure Codes

CODE	DESCRIPTION
72195	Magnetic resonance (eg, proton) imaging, pelvis; without contrast material(s)
72196	Magnetic resonance (eg, proton) imaging, pelvis; with contrast material(s)
72197	Magnetic resonance (eg, proton) imaging, pelvis; without contrast material(s), followed by contrast material(s) and further sequences
0649T	Quantitative magnetic resonance for analysis of tissue composition (eg, fat, iron, water content), including multiparametric data acquisition, data preparation and transmission, interpretation and report, obtained with diagnostic MRI examination of the same anatomy (eg, organ, gland, tissue, target structure); single organ

MRI Pelvis Summary of Changes

MRI Pelvis guideline had the following version changes from 2023 to 2024:

- Added the following to keep in line with current evidence:

- "Active treatment" under "Cancer"
- "Deep, pelvic hernia" under "Hernia"
- "Fever of unknown origin"
- Indications under "Hematospermia"
- "Paraneoplastic syndrome" under "Cancer"
- "Prostate cancer is known"
- "Prior imaging is non-diagnostic" under "Pain is persistent"
- "Surveillance and ANY of the following"
- Under "Prostate cancer is suspected"
  - "MRI follow-up"
  - "Prostate nodule"
  - "PSA is elevated"
- "Weight loss"

- Removed "MRI is requested" as evidence does not support the indication:
- Mid-cycle update: added Pediatric Preamble and pediatric indications

MRI Pelvis Definitions

5-alpha reductase inhibitors (5-ARIs) are a class of medications that treat male pattern hair loss and enlarged prostates. They work by blocking dihydrotestosterone (DHT), which can cause the prostate to shrink and stop growing. This can help with urinary symptoms and manage the symptoms of an enlarged prostate.
Abscess is a swollen area within body tissue, containing an accumulation of pus.
Adenomyosis is a gynecologic condition that causes endometrial tissue in the lining of the uterus to grow into the muscular wall of the uterus. It enlarges the uterus, and may lead to very heavy menstrual bleeding.
Adnexa is the area of the body that contains the ovaries, fallopian tubes, and ligaments that hold the reproductive organs in place. The adnexa is located in the lower abdomen, near the pelvic bone.
Anorectal manometry is a noninvasive procedure that evaluates the function of the anal and rectal muscles.
Athletic pubaligia is a painful, soft tissue injury that occurs in the groin area that most often occurs during sports which require sudden changes of direction or intense twisting movements.

Avascular necrosis is localized death of bone tissue due to impaired or disrupted blood supply (as from traumatic injury or disease).
Axial spondylarthropathy is an inflammatory disease of the axial skeleton associated with significant pain and disability.
Balloon expulsion test (BET) is a simple, inexpensive procedure that assesses a patient's ability to expel a simulated stool.
B symptoms refer to systemic symptoms of fever, night sweats, and weight loss which can be associated with both Hodgkin lymphoma and some non-Hodgkin lymphomas. The presence of B symptoms is a prognostic factor for some lymphomas.
Congenital is a condition or trait present from birth.
Conservative management is an approach to treating pain utilizing non-surgical treatment options such as physical therapy, medication and injections, for a designated time, usually 4 to 6 weeks.
C-reactive protein (CRP) is a pentameric protein synthesized by the liver, whose level rises in response to inflammation.
Crohn's disease is chronic inflammation that typically involves the lower portion of the ileum, often spreads to the colon, and is characterized by diarrhea, cramping, loss of appetite and weight and the development of abscesses and scarring.
Dermatomyositis is a rare disease that causes muscle inflammation and skin rash. Symptoms include a red or purple rash on sun exposed skin and eyelids, calcium deposits under the skin, muscle weakness, and trouble talking or swallowing.
Diverticula is an abnormal pouch or sac opening from a hollow organ.
Diverticulitis is inflammation of an abnormal pouch or sac opening from a hollow organ (such as the intestine or bladder).
Edema an abnormal infiltration and excess accumulation of serous fluid in connective tissue or in a serous cavity.
Electromyogram (EMG) is a test that converts the electrical activity associated with functioning skeletal muscle into a visual record or into sound used to diagnose neuromuscular disorders and in biofeedback training.
Endoscopy is a procedure that uses an endoscope to examine the inside of the body. An endoscope is a thin, tube-like instrument with a light and a lens for viewing. It may also have a tool to remove tissue to be checked under a microscope for signs of disease.
Endometriosis is the presence and growth of functioning endometrial tissue in places other than the uterus that often results in severe pain and infertility.
Fibroids are growths made of smooth muscle cells and fibrous connective tissue. These growths develop in the uterus and appear alone or in groups. They range in size, from as small as a grain of rice to as big as a melon. In some cases, fibroids can grow into the uterine cavity or outward from the uterus on stalks.

Fistula is an abnormal connection that leads from an abscess, hollow organ or part to the body surface, or from one hollow organ or part to another, and may be surgically created to permit passage of fluids or secretions.

Gleason score is a score that is the sum of the two Gleason grades assigned to a prostate tumor that is based on a scale of 2 to 10 with the lowest numbers indicating a slow-growing tumor unlikely to spread and the highest numbers indicating an aggressive tumor.

Table 1. Prostate Cancer Grade Groups

Grade Group	Gleason Score	Cancer Grade
Grade Group 1	Gleason score of 6 or less	Low grade cancer
Grade Group 2	Gleason score 3+4=7	Medium grade cancer
Grade Group 3	Gleason score 4+3=7	Medium grade cancer with more abnormal cells
Grade Group 4	Gleason score of 8	High grade cancer
Grade Group 5	Gleason score of 9 to 10	High grade cancer

Hematoma is a mass of usually clotted blood that forms in a tissue, organ or body space as a result of a broken blood vessel.

Hematospermia is the presence of blood in the semen.

Hereditary paraganglioma syndrome is a group of familial cancer syndromes. It's characterized by the presence of paragangliomas (PGL), which are tumors that arise from neuroendocrine tissues. These tumors are distributed symmetrically along the spine from the base of the skull to the pelvis.

Hernia is a gap in the muscular wall that allows the contents inside the abdomen to protrude outward.

Iliac vein compression syndrome (May-Thurner syndrome) is a clinical syndrome of unilateral lower extremity swelling and pain due to venous hypertension caused by an iliac artery compressing an overlying iliac vein.

Incarcerated (also referred to as irreducible) is used to describe herniae, in which their contents are unable to pass back through the hernial opening to their anatomical site of origin. Incarceration is a risk factor for bowel obstruction and strangulation, and therefore usually necessitates urgent surgery.

Incisional hernia is a hernia that develops along a prior surgical incision in the abdomen.

Indeterminate findings are inconclusive or insufficient for treatment planning.

Insufficiency fracture are a subtype of stress fractures commonly associated with osteoporosis and Vitamin D deficiency.

Ischemia is a deficient supply of blood to a body part (such as the heart or brain) due to obstruction of the inflow of arterial blood.

Lumbosacral plexopathy is an injury to the nerves in the lumbar and/or sacral plexus.

Magnetic resonance (MR) defecography is an imaging exam that uses an MRI machine to examine the pelvic floor, rectum, and sphincter.

Magnetic resonance enterography (MRE) is a type of magnetic resonance imaging (MRI) that uses a contrast material to produce detailed images of the small intestine and bowel.

Magnetic resonance imaging (MRI) is a non-invasive diagnostic technique that produces computerized images of internal body tissues and is based on nuclear magnetic resonance of atoms within the body induced by the application of radio waves.

Magnetic resonance venogram (MRV) is a diagnostic procedure that uses a combination of a large magnet, radiofrequencies, and a computer to produce detailed images of organs and structures within the body. An MRV uses magnetic resonance technology and intravenous (IV) contrast dye to visualize the veins. Contrast dye causes the blood vessels to appear opaque on the X-ray image, allowing the visualization the blood vessels being evaluated. MRV is useful in some cases because it can help detect causes of leg pain other than vein problems.

May-Thurner syndrome (iliac vein compression syndrome) is a clinical syndrome of unilateral lower extremity swelling and pain due to venous hypertension caused by an iliac artery compressing an overlying iliac vein.

Meralgia paresthetica is a disorder characterized by tingling, numbness, and burning pain in the outer side of the thigh. The disorder is caused by compression of the lateral femoral cutaneous nerve, a sensory nerve to the skin, as it exits the pelvis.

Metastases is the spread of a disease-producing agency (such as cancer cells) from the initial or primary site of disease to another part of the body.

Multiple endocrine neoplasia type 1 (MEN1) is a rare endocrine tumor syndrome with high penetrance. This syndrome is also known as Wermer syndrome. It primarily causes neoplasia of the parathyroid glands, the anterior pituitary gland, and the neuroendocrine tissue of gastro-entero-pancreatic organ systems.

Nerve conduction study (NCS) is a test that measures how fast an electrical impulse moves through the nerve and can identify nerve damage.

Multiple endocrine neoplasia type 1 (MEN1) is a rare endocrine tumor syndrome with high penetrance. This syndrome is also known as Wermer syndrome. It primarily causes neoplasia of the parathyroid glands, the anterior pituitary gland, and the neuroendocrine tissue of gastro-entero-pancreatic organ systems.

Non-diagnostic is a result that does not lead to a confirmed diagnosis.

Occult hernia or hidden hernia, also commonly referred to as an occult inguinal hernia, is an undetectable mass of herniated tissue.

Osteomyelitis is an infectious, inflammatory disease of bone. It is often painful, bacterial in origin and may result in the death of bone tissue.

Osteonecrosis is localized death of bone tissue due to impaired or disrupted blood supply.

Paraneoplastic syndrome is a group of rare disorders that are triggered by an abnormal immune system response to a cancerous tumors.

Pediatric approximate ages are defined by the US Department of Health (USDH), the Food and Drug Administration (FDA), and the American Academy of Pediatrics (AAP) as the following:

- Infancy, between birth and 2 years of age
- Childhood, from 2 to 12 years of age
- Adolescence, from 12 to 21 years of age, further defined by the AAP into:
    1. Early (ages 11–14 years)
    2. Middle (ages 15–17 years),
    3. Late (ages 18–21 years)
    4. Older ages may be appropriate for children with special healthcare needs.

Pelvic congestion syndrome occurs when varicose veins develop around the ovaries, similar to varicose veins that occur in the legs. The valves in the veins no longer function normally, which causes blood to back up. The veins become engorged or "congested", which can be very painful.
Perianal is located around the anus, the opening of the rectum to the outside of the body.
Peritonitis is inflammation of the smooth transparent serous membrane that lines the cavity of the abdomen of a mammal and is folded inward over the abdominal and pelvic viscera.
PI-RADS Assessment Categories for Prostate Cancer uses a combination of imaging findings (T2W, DWI, and dynamic contrast enhancement [DCE]) predicts the probability of a cancer that is clinically significant, which is defined as the presence of any of the following:

- Gleason score ≥7 (including 3+4 with prominent but not predominant Gleason 4 component)
- volume is greater than or equal to 0.5 mL
- Extraprostatic extension

Each lesion is assigned a score from 1 to 5 indicating the likelihood of clinically significant cancer:

Table 2. PI-RADS Assessment Categories for Prostate Cancer

PI-RADS Category	PI-RADS Category Description
PIRADS 1	Very low (clinically significant cancer is highly unlikely to be present)
PIRADS 2	Low (clinically significant cancer is unlikely to be present)
PIRADS 3	Intermediate (the presence of clinically significant cancer is equivocal)
PIRADS 4	High (clinically significant cancer is likely to be present)
PIRADS 5	Very high (clinically significant cancer is very likely to be present)

Piriformis syndrome is a condition in which the piriformis muscle, located in the buttock region, spasms and causes buttock pain because the piriformis muscle compresses the sciatic nerve.
Placenta accreta is a rare but serious pregnancy condition. It occurs when the placenta grows too deeply into the uterine wall. The placenta can also attach to the muscle of the womb or nearby structures, such as the bladder.
Placenta percreta is a serious pregnancy condition that occurs when the placenta attaches itself and grows through the uterus, sometimes extending to nearby organs, such as the bladder.

Positron emission tomography (PET) scan is a procedure in which a small amount of radioactive glucose (sugar) is injected into a vein, and a scanner is used to make detailed, computerized pictures of areas inside the body where the glucose is taken up. It is a medical imaging test that shows the metabolic or biochemical function of organs and tissues.

Prostate specific antigen (PSA) is a protease (an enzyme that hydrolyzes proteins) secreted by epithelial cells of the prostate gland. PSA's concentration in blood serum tends to be proportional to the clinical stage of the disease, making it useful in detecting prostate cancer.

Prostate-specific membrane antigen (PSMA) is a type II membrane protein originally characterized by the murine monoclonal antibody (mAb) 7E11-C5.3 and is expressed in all forms of prostate tissue, including carcinoma.

Pudendal neuralgia is long-term pelvic pain that originates from damage or irritation of the pudendal nerve – a main nerve in the pelvis. The pudendal nerve supplies areas including the: lower buttocks. area between the buttocks and genitals (perineum) area around the anus and rectum.

Recurrence is a new occurrence of something that happened or appeared before.

Retroperitoneal fibrosis (RPF) occurs when extra fibrous tissue forms in the area behind the stomach and intestines. The tissue forms a mass (or masses) or tough fibrotic tissue. It can block the tubes that carry urine from the kidney to the bladder. The cause of this problem is mostly unknown.

Sacroiliac joint dysfunction is a condition in which pain is caused by the sacroiliac joint that connects the sacrum and the pelvis, believed to be caused by either too much movement (hypermobility) or too little movement (hypomobility) at the joint.

Sacroiliitis is an inflammation of one or both of the sacroiliac joints, which are situated where the lower spine and pelvis connect.

Spigelian hernia is a rare ventral hernia that is defined as herniation of abdominal contents or peritoneum through a defect, namely the Spigelian fascia which is comprised of the transversus abdominis and the internal oblique aponeuroses.

Spondylarthropathy is an inflammatory arthritis affecting the spine.

Staging in cancer is the process of determining how much cancer is within the body (tumor size) and if it has metastasized (spread).

Strangulated hernia occurs when the hernia contents are ischemic due to a compromised blood supply. This phenomenon occurs most commonly when there is a small opening in the musculature and a significant quantity of contents within the hernia itself.

Stress fracture is a tiny crack in a bone caused by repetitive force, often from overuse — such as repeatedly jumping up and down or running long distances.

Stricture is a narrowing or constriction of the lumen of a tube, duct or hollow organ such as the esophagus, ureter or urethra.

Surveillance in cancer is the ongoing, timely and systematic collection and analysis of information on new cancer cases, extent of disease, screening tests, treatment, survival and cancer deaths.
Ulcerative colitis (UC) is a nonspecific inflammatory disease of the colon of unknown cause characterized by diarrhea with discharge of mucus and blood, cramping abdominal pain, inflammation and edema of the mucous membrane with patches of ulceration.
Ulcerated is a break in the skin or mucous membrane with loss of surface tissue, disintegration and necrosis of epithelial tissue and often pus.
Ultrasound is the diagnostic or therapeutic use of ultrasound and especially a noninvasive technique involving the formation of images used for the examination and measurement of internal body structures and the detection of bodily abnormalities.
Varicocele is abnormal dilation and enlargement of the scrotal venous pampiniform plexus which drains blood from each testicle.
Von Hippel-Lindau disease is a rare genetic disease that is characterized by hemangiomas of the retina and cerebellum, cysts or tumors of the central nervous system, pancreas, kidneys, adrenals and reproductive organs that is typically inherited as an autosomal dominant trait.

MRI Pelvis References

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