Radiology Incidental Findings Quick Reference

Consolidated white paper and consensus recommendations, organized by organ system

Compiled November 2026

How to Use This Reference

This guide consolidates the ACR Incidental Findings Committee white papers and related consensus documents (Fleischner, Lung-RADS, TI-RADS, SRU, Bosniak v2019, Bone-RADS, CAR, Pituitary Society) into one place. Chapters run head to toe. Each chapter uses the same layout so it can later become app screens:

1. **Applies to / excludes** — who the guideline is for.
2. **Key definitions** — thresholds and imaging features.
3. **Flowchart** — the decision path.
4. **Quick table** — the actionable answer.
5. **Pearls** — practical points.
6. **Sources** — full URLs.

These are guidance documents, not standards of care. Clinical context, patient preference, life expectancy and local practice take priority. High-yield items were cross-checked against the primary papers in November 2026 (see Verification Log). Items still marked **[unverified]** could not be checked against the full original text and rely on secondary summaries.

Chapters

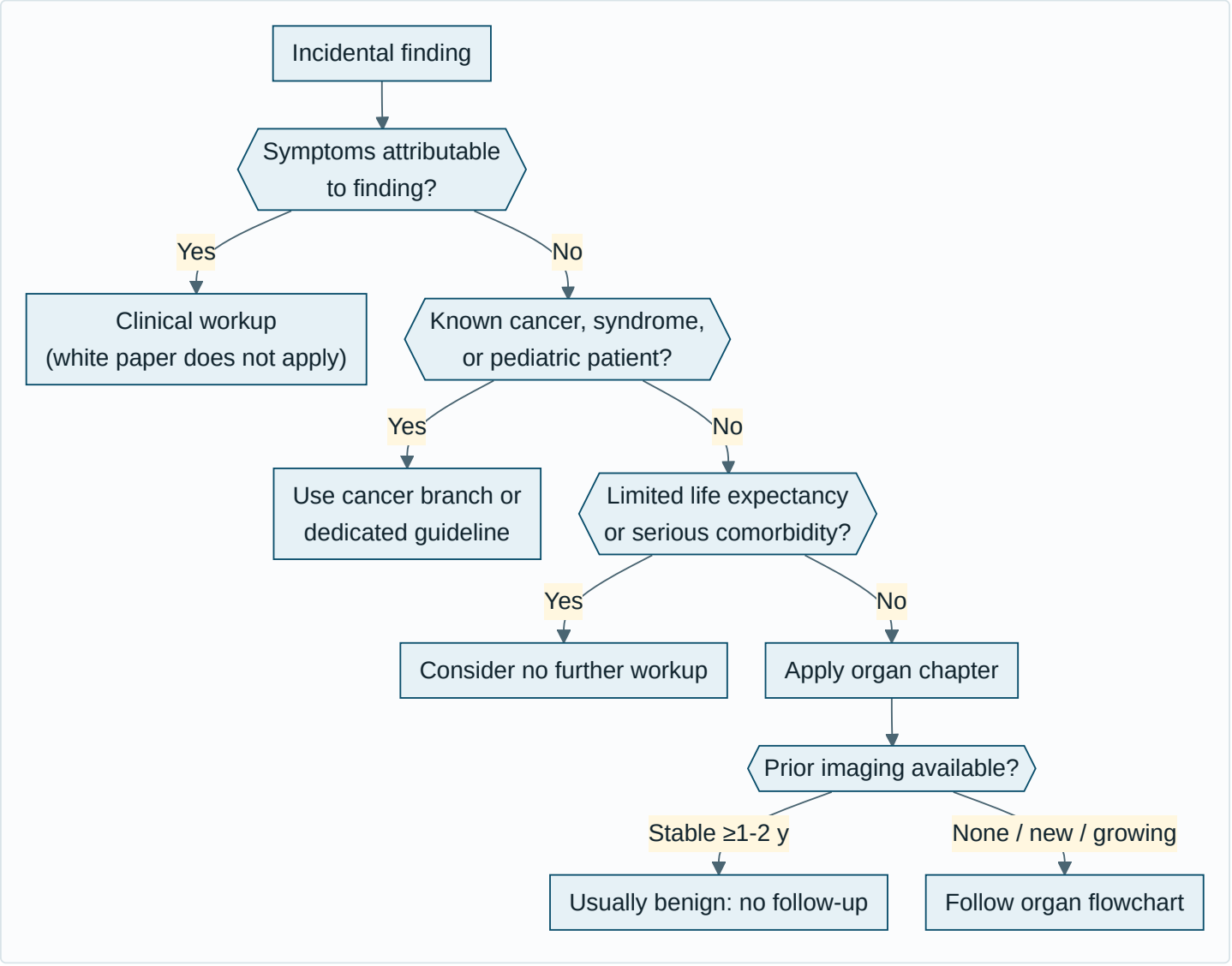
#	Chapter	Main source
1	General principles	ACR IF program
2	At-a-glance thresholds	All
3	Neuro: pituitary and pineal	ACR 2018, Pituitary Society 2025, ACR 2026
4	Neck: thyroid	ACR 2015, TI-RADS 2017
5	Chest: lung nodules	Fleischner 2017, Lung-RADS v2022
6	Chest: mediastinum, heart, vessels and other chest CT findings	ACR 2018, ACR LCS 2021, SCCT/STR 2016
7	Liver	ACR 2017
8	Gallbladder and bile ducts	ACR 2013, SRU 2022
9	Pancreas	ACR 2017
10	Spleen	ACR 2013, CAR 2025
11	Adrenal	ACR 2017
12	Kidney	ACR 2018, Bosniak v2019
13	Adnexa	ACR 2020, SRU 2019, O-RADS

#	Chapter	Main source
14	Abdominal and pelvic lymph nodes	ACR 2013
15	Abdominal and pelvic vessels	ACR 2013
16	Bone	Bone-RADS (SSR 2022, ACR 2023)
17	Pediatrics and special populations	ACR 2026 road map
—	Verification log	Nov 2026 cross-check
18	Master source list	—

1. General Principles

When white papers do not apply (in nearly every ACR paper):

- The patient has symptoms attributable to the finding.
- The patient has a known or suspected cancer that could explain the finding. Many papers have a separate branch for this.
- The patient is a child. Most adult papers apply to age 18 or older; Fleischner applies to age 35 or older.
- The patient has a hereditary syndrome or high genetic risk, for example VHL, MEN or BRCA.
- Life expectancy or comorbidity makes workup futile.



Reporting principles

- **Look for priors first.** Stability over 1 year (adrenal, spleen, nodes, liver) or 2 years (solid lung nodule, adnexa) usually ends the workup.
- **Give a specific recommendation.** State the modality and interval, for example “Adrenal protocol CT in 12 months”, not “clinical correlation”.
- **Leave out findings that need no action.** For example, the ACR thyroid paper advises leaving subcentimeter nodules out of the impression (ACR thyroid 2015).
- **Use the right recommendation language.** CMS quality measure #405 (no follow-up imaging for benign renal, adrenal and liver lesions) penalizes reflexive follow-up for findings the white papers call benign (CMS MIPS #405).

Sources: ACR Incidental Findings hub; ACR compilation and summary.

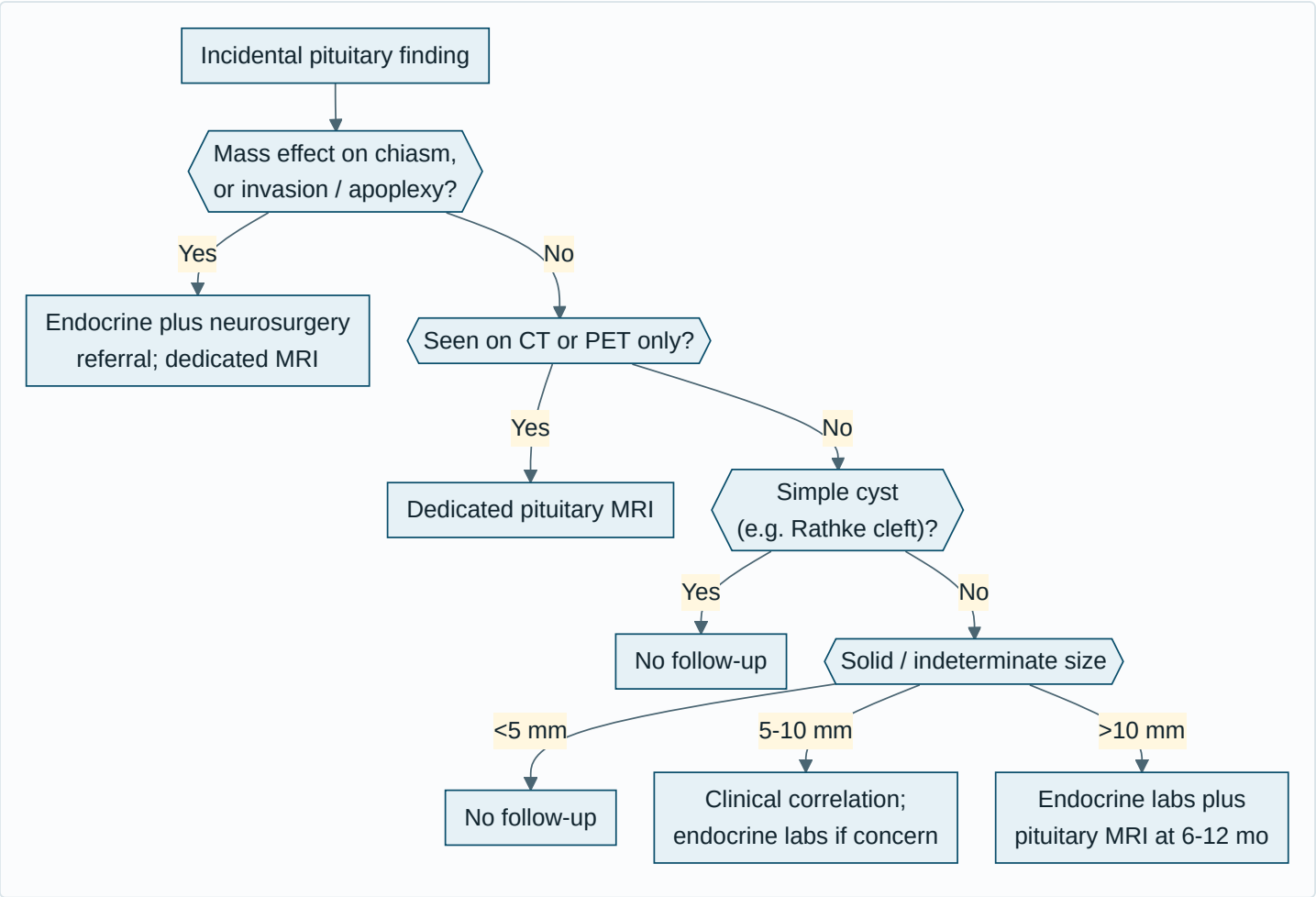
2. At-a-Glance Thresholds

Organ	“Leave it alone”	Key action threshold	Chapter
Pituitary	Solid <5 mm; simple cyst	>10 mm: endocrine labs plus MRI at 6–12 mo	3
Pineal cyst (MRI)	Simple <15 mm	Nonsimple ≥10 mm: neurosurgery	3
Thyroid (CT/MR)	<1.5 cm (age ≥35); <1 cm (age <35)	Suspicious features or PET uptake: US	4
Lung nodule, solid	<6 mm (low risk)	>8 mm: CT at 3 mo, PET or biopsy	5
Mediastinal node	<15 mm short axis	≥15 mm unexplained: clinical consult; PET/CT or CT at 3–6 mo	6
Thoracic aorta	Normal for age, sex, BSA	Aneurysm ≈5.0 cm ascending, ≈4.0 cm descending (ACR 2018); ≥5.5 cm: consider intervention	6
Liver, low risk	<1 cm, or benign features	>1.5 cm suspicious or flash: MRI	7
GB polyp (US)	≤9 mm ball-on-wall; ≤6 mm sessile	≥15 mm, or growth ≥4 mm/12 mo: surgery	8
CBD	≤6 mm (≤10 mm post-cholecystectomy)	Dilated with abnormal labs: MRCP/EUS	8
Pancreatic cyst	—	>2.5 cm with high-risk features, or MPD ≥7 mm: EUS/FNA	9
Spleen	Benign features	Suspicious: PET, MRI or biopsy	10
Adrenal	<1 cm; ≤10 HU; fat; stable ≥1 y	≥4 cm without cancer: resection	11
Kidney	−10 to 20 HU, or ≥70 HU homogeneous	Solid ≥1 cm: urology	12
Adnexal simple cyst	≤5 cm pre; ≤3 cm post	Larger: US	13
Retroperitoneal node	<1 cm short axis	Abnormal: CT/MRI at 3 mo, or biopsy	14
AAA	<2.5 cm	≥5.5 cm: repair	15
Splenic artery aneurysm	—	≥2 cm: treat; <2 cm yearly	15
Bone	Fat, classic benign appearance	Pain, cortical destruction, soft tissue: Bone-RADS4	16
L1 trabecular HU	>130 HU	100–130 HU: consider PCP; <100 HU: PCP and consider DEXA	6

3. Neuro: Pituitary and Pineal

3.1 Pituitary incidentaloma (ACR 2018)

Applies to: adults with an incidental sellar finding and no known pituitary disease.



Pituitary Society 2025 consensus (refinement for follow-up schedules)

Lesion	First follow-up MRI
Microadenoma <10 mm	2–3 years (many need none if small and stable)
Macroadenoma ≥5 mm from chiasm	1 year
Macroadenoma <5 mm from chiasm	6–12 months (plus visual fields)
Growth of 15–20%	Endocrine and neurosurgery referral

- Use a dedicated pituitary MRI with gadolinium.
- Hormone screening is recommended for all macroadenomas.

Sources: ACR pituitary white paper 2018 (Hoang, JACR 15:966-972); Pituitary Society consensus 2025 (Fleseriu, Nat Rev Endocrinol).

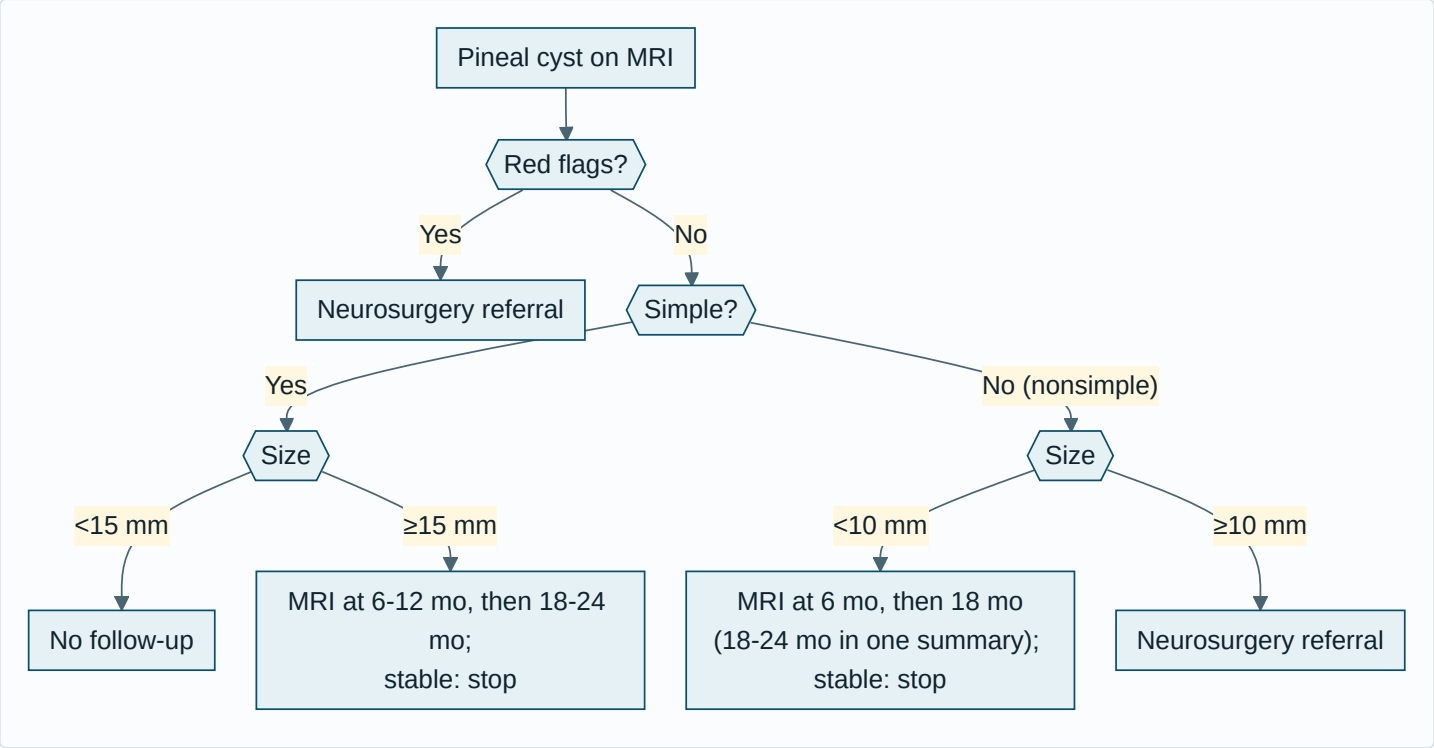
3.2 Pineal cyst (ACR 2026)

Definitions

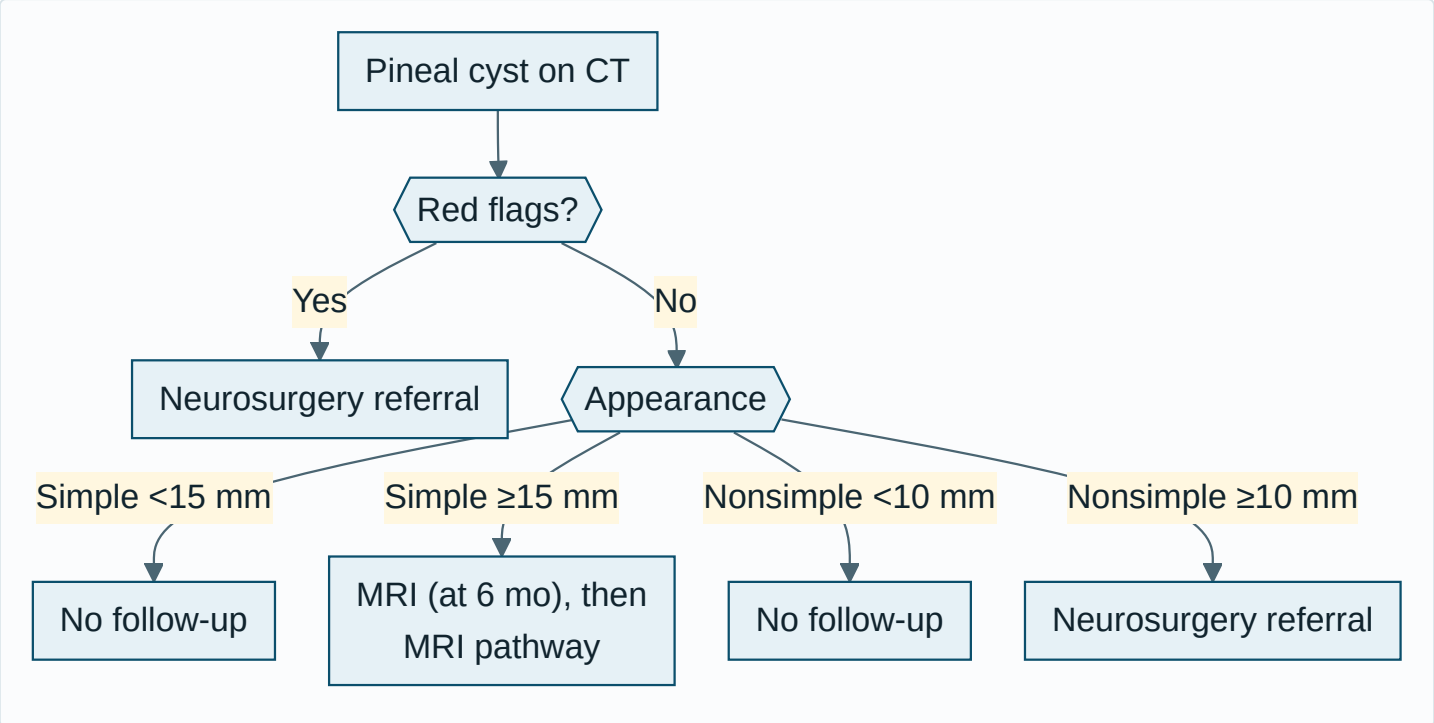
- **Applies to:** asymptomatic adults aged 18 or older; not for symptoms referable to the pineal region.
- **Simple cyst:** thin or imperceptible wall; homogeneous simple-fluid signal (T1, T2, FLAIR) or attenuation.
- **Nonsimple cyst:** thickened wall (>2 mm), nodular component, septations, or contents not compatible with simple fluid.

- **Red flags (neurosurgery, whatever the size):** mass effect on the aqueduct, hydrocephalus, or tectal signal change (tectal hypoattenuation on CT). One summary also lists symptoms such as papilledema or Parinaud syndrome. Headache alone is not an indication.
- **Any increase in size or complexity at follow-up:** neurosurgical consultation.

MRI pathway



CT pathway



Sources: ACR pineal cyst white paper (Moonis, JACR 2026;23:117-122); rad-call summary; SERAM summary. **[unverified]** Original full text is paywalled; two independent summaries agree on the thresholds above. The CT “nonsimple <10 mm: no follow-up” branch appears in only one summary.

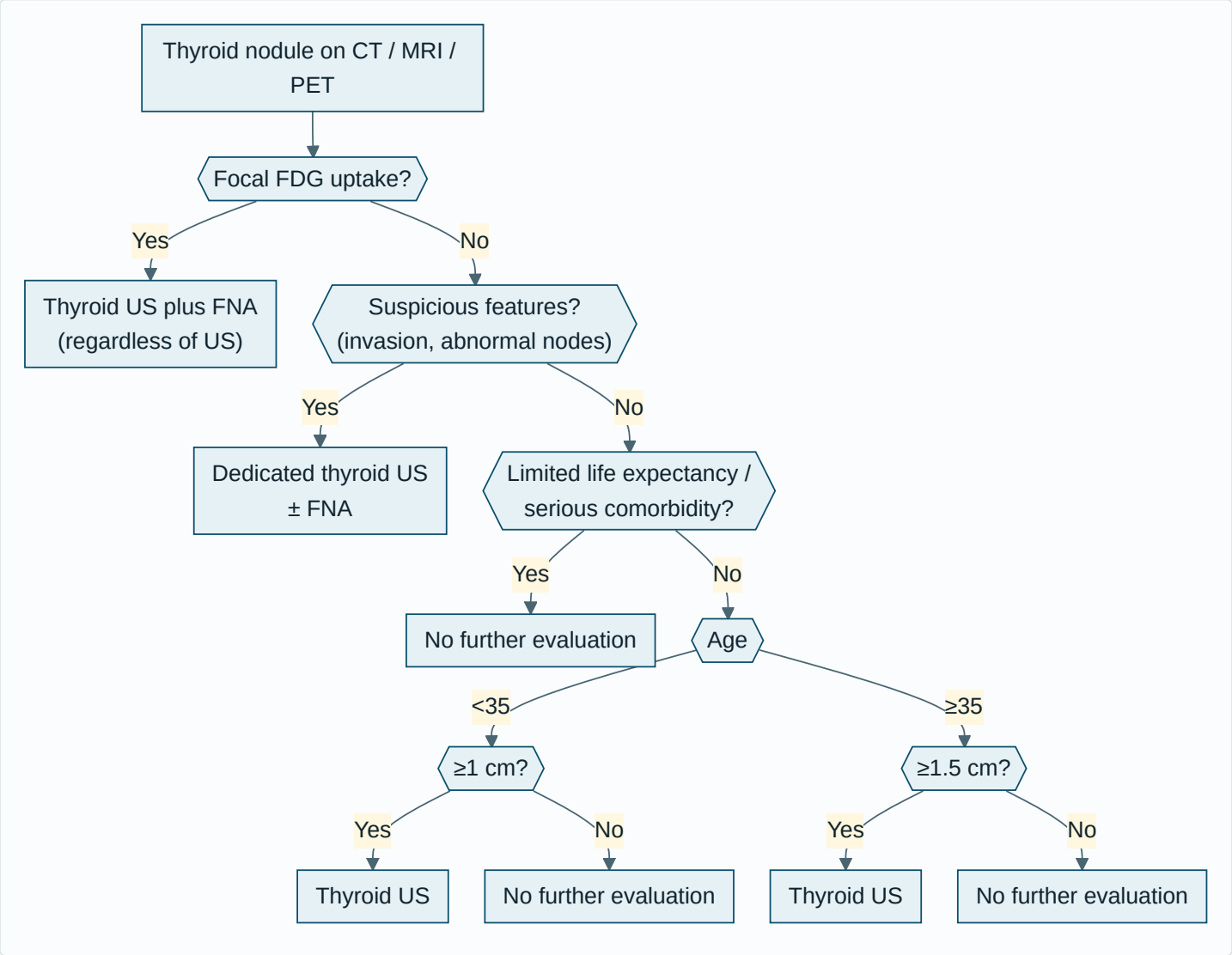
4. Neck: Thyroid

4.1 Incidental thyroid nodule on CT, MRI or PET (ACR 2015)

Applies to: adults. **Excludes:** patients at high risk for thyroid cancer, symptomatic patients and children.

Suspicious features

- Invasion of local tissues.
- Abnormal lymph nodes, i.e. nodes with calcification, cystic change or increased enhancement. Pay attention to levels IV and VI.



Pearls

- Measure the largest nodule in the axial plane.
- Nodules that do not qualify should not appear in the impression.
- The ACR lung screening guide uses >15 mm as the trigger for US (ACR LCS one-pager).

Source: ACR thyroid white paper 2015 (Hoang, JACR 12:143-150), full text PDF.

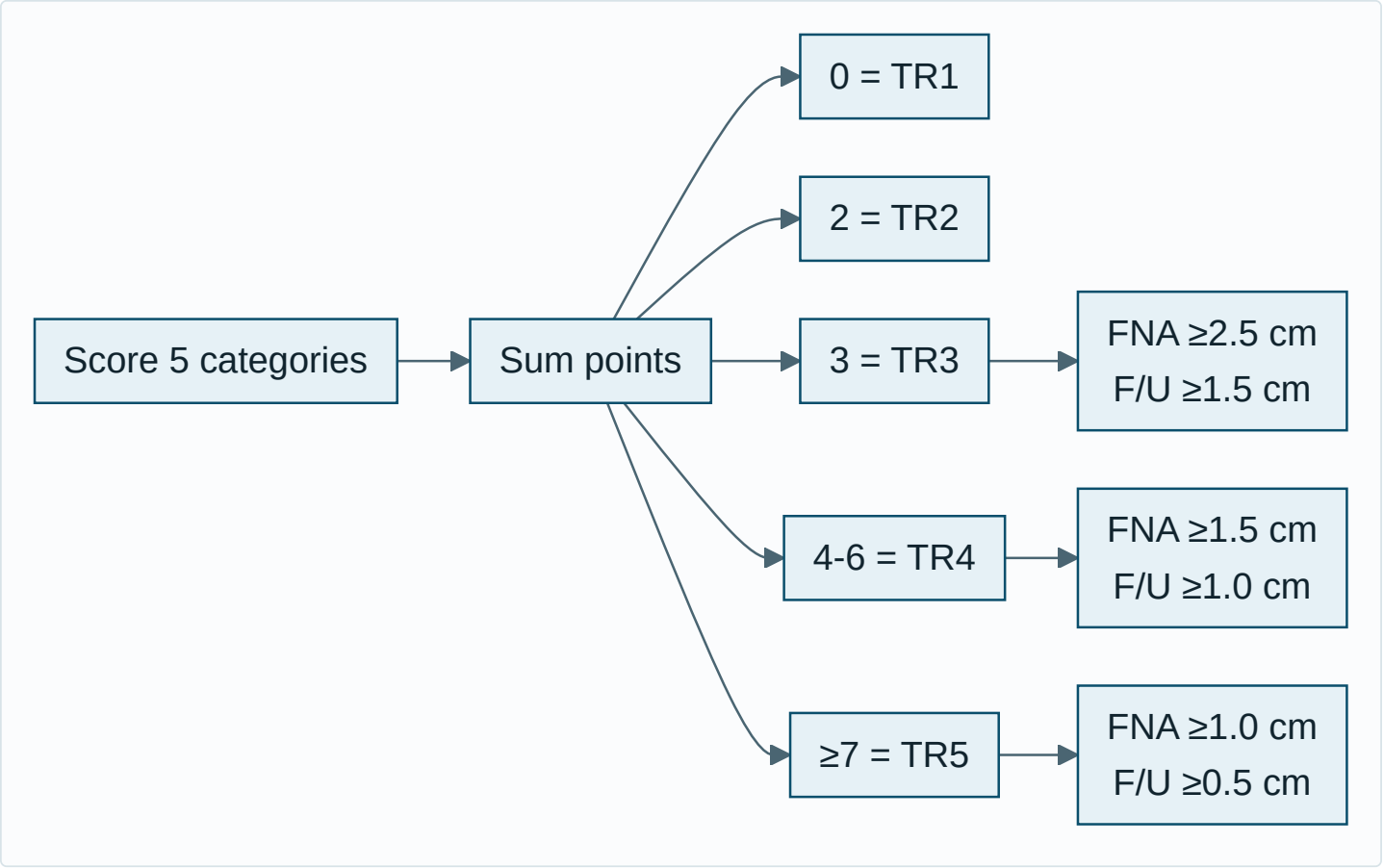
4.2 ACR TI-RADS (ultrasound)

Points. Select one feature from each of the first four categories, then add every echogenic focus that applies.

Category	0 points	1 point	2 points	3 points
Composition	Cystic or almost completely cystic; spongiform	Mixed cystic and solid	Solid or almost completely solid	—
Echogenicity	Anechoic	Hyperechoic or isoechoic	Hypoechoic	Very hypoechoic
Shape	Wider than tall	—	—	Taller than wide
Margin	Smooth or ill-defined	—	Lobulated or irregular	Extrathyroidal extension
Echogenic foci	None, or large comet-tail	Macrocalcification	Peripheral (rim)	Punctate echogenic foci

Levels and actions

Total points	Level	FNA if	Follow-up if	Follow-up schedule
0	TR1 benign	—	—	None
2	TR2 not suspicious	—	—	None
3	TR3 mildly suspicious	≥2.5 cm	≥1.5 cm	1, 3 and 5 y
4–6	TR4 moderately suspicious	≥1.5 cm	≥1.0 cm	1, 2, 3 and 5 y
≥7	TR5 highly suspicious	≥1.0 cm	≥0.5 cm	Annually for up to 5 y



Pearls

- Spongiform nodules score 0 regardless of other features.
- If calcification shadowing obscures the nodule, assume solid (2) and isoechoic (1).
- Growth that triggers action is a 20% increase in two dimensions with at least 2 mm, or a 50% increase in volume.
- Biopsy at most the two highest-scoring nodules.
- Stop follow-up at 5 years if unchanged. Do not image more often than once a year. If the TR level increases, repeat US in 1 year.

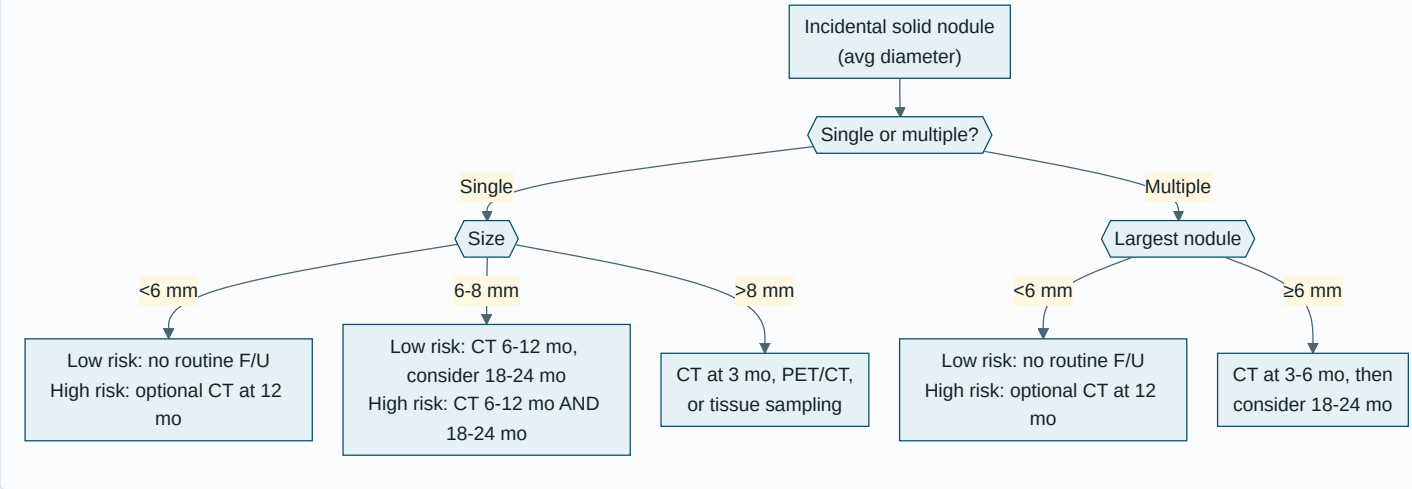
Source: ACR TI-RADS white paper 2017 (Tessler, JACR 14:587-595).

5. Chest: Lung Nodules

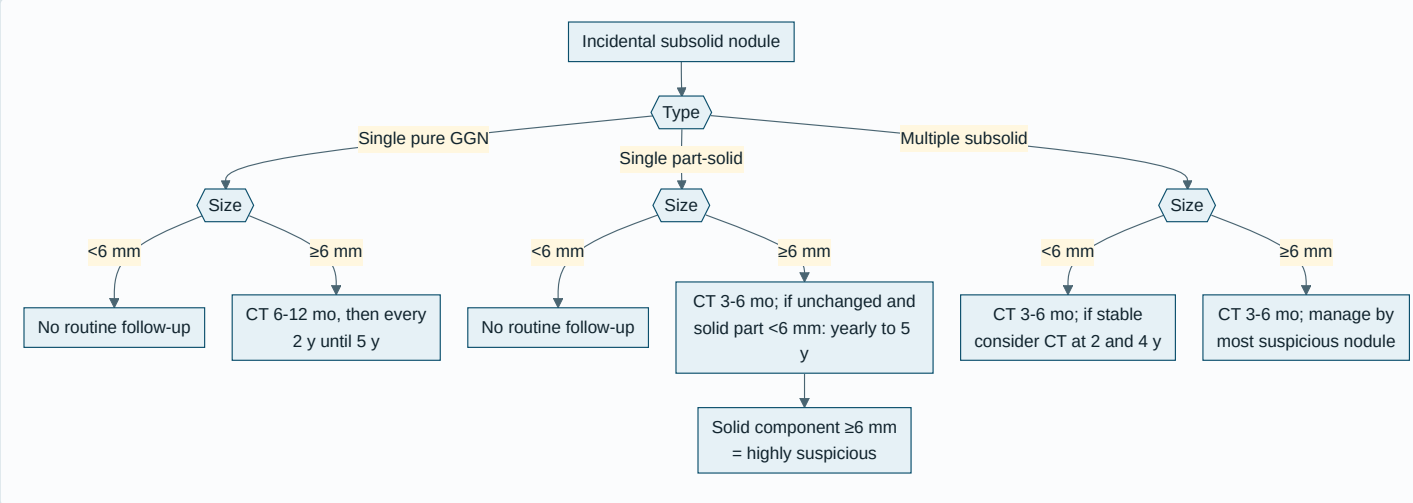
Which system?

- **Fleischner 2017:** incidental nodules in adults aged 35 or older who are not immunocompromised and have no known cancer.
- **Lung-RADS v2022:** low-dose CT lung cancer screening only.
- **Neither:** patients with known cancer, immunocompromise or age under 35 are managed clinically.

5.1 Fleischner 2017: solid nodules



5.2 Fleischner 2017: subsolid nodules



Quick table (Fleischner 2017)

Nodule	<6 mm	6–8 mm	>8 mm
Single solid, low risk	None	CT 6–12 mo, then consider 18–24 mo	CT 3 mo, PET or biopsy
Single solid, high risk	Optional CT 12 mo	CT 6–12 mo and 18–24 mo	CT 3 mo, PET or biopsy
Multiple solid, low risk	None	CT 3–6 mo, then consider 18–24 mo	Same
Multiple solid, high risk	Optional CT 12 mo	CT 3–6 mo and 18–24 mo	Same
Pure GGN	None	≥6 mm: CT 6–12 mo, then every 2 y to 5 y	Same

Nodule	<6 mm	6–8 mm	>8 mm
Part-solid	None	≥6 mm: CT 3–6 mo, then yearly to 5 y	Same

Pearls

- **Measuring:** report the average of the long and short axis, rounded to the nearest millimeter. “<6 mm” means ≤5 mm after rounding. (The 2024 Fleischner glossary uses “micronodule” for nodules <6 mm.)
- **Perifissural nodules:** nodules with typical intrapulmonary lymph node morphology (triangular or lentiform, attached to a fissure or pleura) need no follow-up even if the average diameter exceeds 6 mm. Consider CT at 6–12 months if the border is spiculated, the fissure is displaced, or there is a cancer history.
- **High-risk factors:** older age, heavy smoking, larger size, irregular or spiculated margins, upper lobe location; also emphysema, fibrosis, family history, and asbestos or radon exposure.
- **Stability:** solid nodules stable for about 2 years are benign; follow-up can stop at 12–18 months if morphology is benign and stability is unequivocal. Subsolid nodules need 5 years.

Sources: Fleischner Society 2017 (MacMahon, Radiology 284:228-243); Fleischner 2017 summary table; Fleischner glossary 2024.

5.3 Lung-RADS v2022 (screening LDCT only)

Category	Key findings (baseline unless stated)	Management
0 Incomplete	Prior CT being located; part or all of lungs not evaluable; findings suggesting infection or inflammation	Comparison, or LDCT in 1–3 mo
1 Negative	No nodules; complete, central, popcorn or concentric calcification; fat	LDCT at 12 mo
2 Benign	Juxtapleural <10 mm mean, solid, smooth, oval/lentiform/triangular. Solid <6 mm at baseline, or new <4 mm. Part-solid <6 mm total at baseline. GGN <30 mm (baseline, new or growing), or ≥30 mm stable/slow-growing. Subsegmental airway nodule. Category 3 stable at 6 mo. Category 4B proven benign	LDCT at 12 mo
3 Probably benign	Solid 6 to <8 mm at baseline, or new 4 to <6 mm. Part-solid ≥6 mm with solid part <6 mm, or new <6 mm total. GGN ≥30 mm at baseline or new. Thick-walled cyst with growing cystic component. Category 4A stable at 3 mo (excluding airway nodules)	LDCT at 6 mo
4A Suspicious	Solid 8 to <15 mm at baseline; growing <8 mm; new 6 to <8 mm. Part-solid with solid part 6 to <8 mm, or new/growing solid part <4 mm. Segmental or more proximal airway nodule at baseline. Thick-walled (≥2 mm) or multilocular cyst at baseline, or cyst becoming multilocular	LDCT at 3 mo; PET/CT if solid part ≥8 mm
4B Very suspicious	Solid ≥15 mm; new or growing ≥8 mm. Solid component ≥8 mm, or new/growing solid component ≥4 mm. Segmental airway nodule stable or growing at follow-up. Thick-walled cyst with growing wall or nodularity; growing multilocular cyst; increased loculation or new opacity. Slow-growing solid/part-solid nodule over multiple exams	Diagnostic chest CT, PET/CT, tissue sampling, referral
4X	Category 3 or 4 with additional features that increase suspicion	As for 4B
S	Clinically significant non-lung finding	Per finding

- **Growth:** an increase of more than 1.5 mm in mean diameter within 12 months.
- **Stepped management:** a category 3 nodule stable at 6 mo becomes 2; a category 4A nodule stable at 3 mo becomes 3.

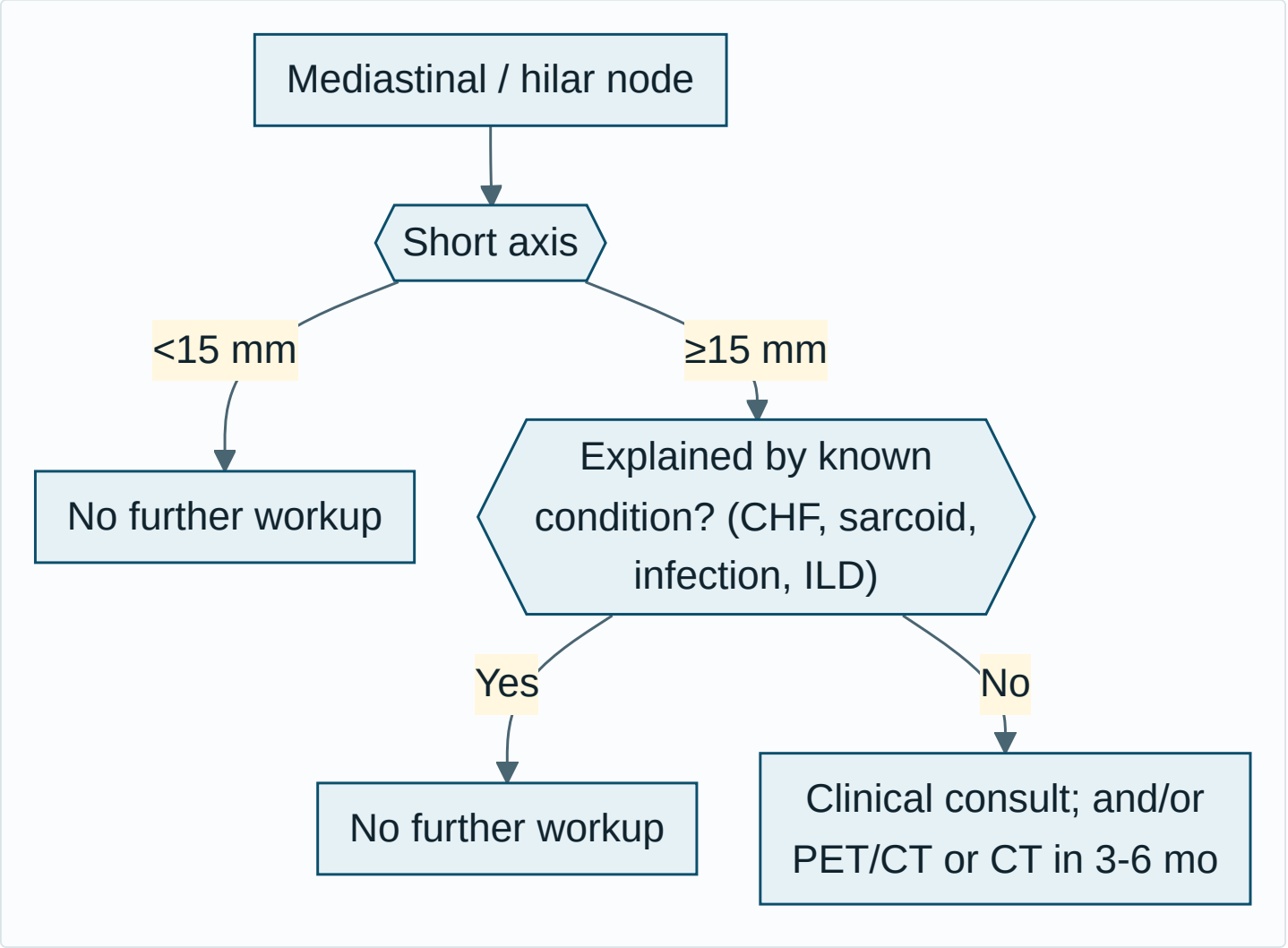
- **Slow-growing GGN:** may remain category 2 until a solid component develops.

Sources: ACR Lung-RADS v2022 full table; ACR Lung-RADS v2022 summary.

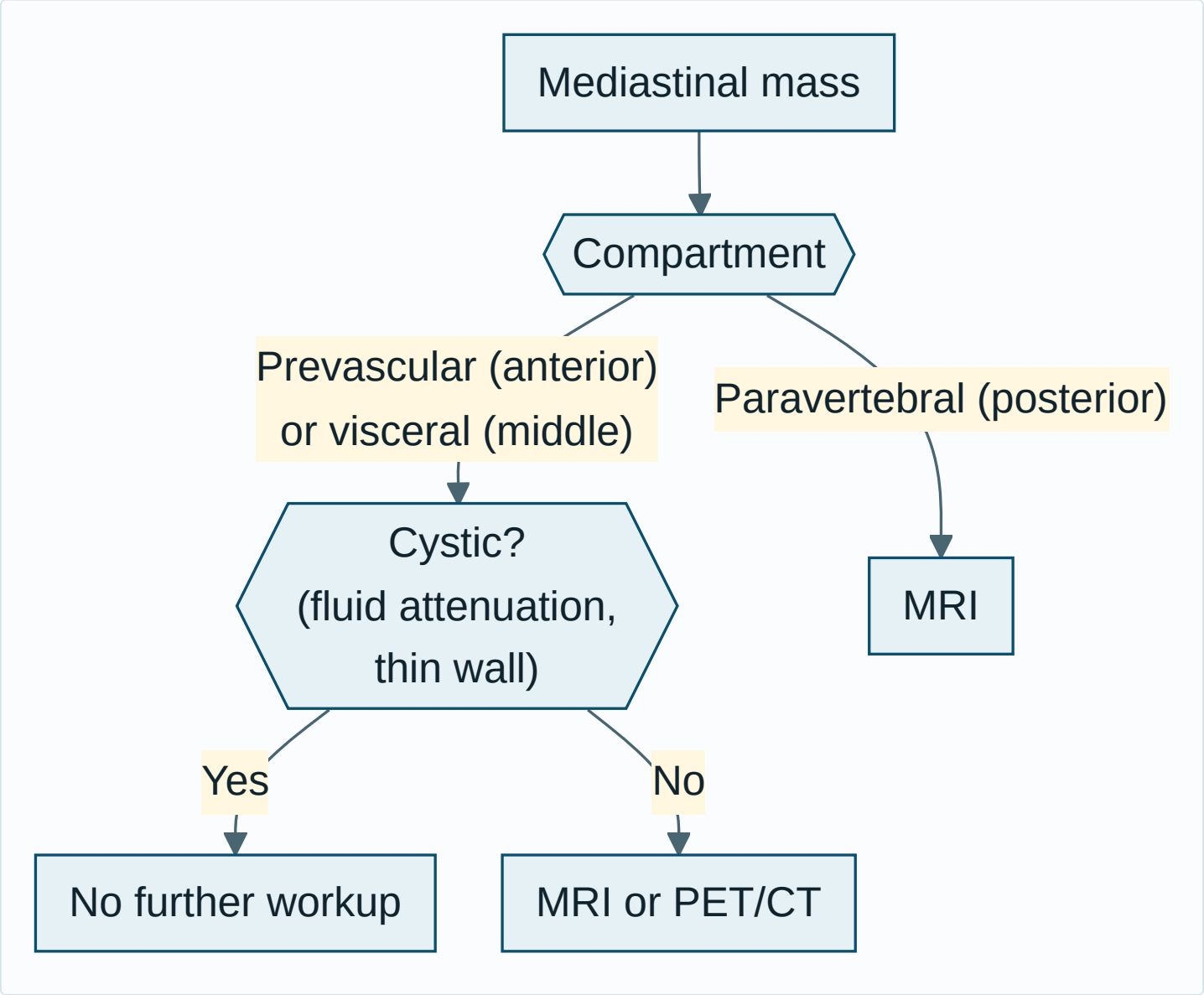
6. Chest: Mediastinum, Heart, Vessels and Other Chest CT Findings

Applies to: adults with incidental findings on chest CT (ACR 2018).

6.1 Mediastinal and hilar lymph nodes



6.2 Mediastinal mass



- **Nodes:** suspected lymphoma (for example B symptoms) is outside the algorithm. In young men with unexplained nodes, consider lymphoma or germ-cell tumor; FDG PET/CT is recommended. Benign features: smooth borders, homogeneous attenuation, fatty hilum; calcification usually means granulomatous disease.
- **Thymus:** a soft-tissue mass shaped like the thymus is usually hyperplasia, especially in young patients or after chemotherapy, steroids or stress. If uncertain, use chemical-shift MRI (hyperplasia loses signal on opposed-phase), or CT at 3 months as a reasonable alternative. A homogeneous prevascular mass in an adult over 40 most likely represents thymoma. The 2018 paper gives no size-based follow-up rule for small thymic nodules.
- **Posterior (paravertebral) masses:** follow with MRI, given the likelihood of nerve origin.

6.3 Pericardium, heart and great vessels

Finding	Threshold	Action
Pericardial cyst	≤10 HU, thin wall	None
Pericardial lesion	Cyst >10 HU, thickening >3–4 mm, or effusion >50 mL, not explained by known disease	Consider MRI or short-term CT follow-up

Finding	Threshold	Action
Ascending aorta	Dilated: above normal for age, sex and BSA. Aneurysm: ≈5.0 cm (150% of normal)	Report and measure; ≥5.5 cm consider intervention; connective tissue disease with ≥5.0 cm: consider root replacement
Descending aorta	Aneurysm ≈4.0 cm	Report and measure; ≥5.5 cm consider intervention
Main pulmonary artery	≥3.0 cm, or equal to the ascending aorta	Report as dilated
Coronary artery calcium	Any	Report (Agatston or visual: none, mild, moderate, heavy); heavy or severe: further evaluation
Aortic valve calcification	Moderate or severe	Consider echocardiography (BSCI/BSCCT/BSTI)

Note on aortic thresholds: the ACR 2018 paper uses ≈5.0 cm for an ascending aneurysm. The Dartmouth calculator shows 4.0–4.4 cm dilated and ≥4.5 cm aneurysm, and the 2021 LCS guide uses ≥42 mm for surveillance; these lower cut points come from later or local sources, not the 2018 paper.

Sources: ACR mediastinal and cardiovascular white paper 2018 (Munden, JACR 15:1087-1096), full text; Dartmouth ACR mediastinal summary tool.

6.4 Coronary artery calcium on non-gated chest CT (SCCT/STR 2016)

Visual grade (report on every non-gated chest CT)

Visual grade	Risk	Suggested report language
None	Very low	Report as absent
Mild	Mildly increased	Report; PCP ASCVD risk assessment
Moderate	Moderately increased	Report; PCP ASCVD risk assessment
Severe	Moderately to severely increased	Report; PCP ASCVD risk assessment

Reference Agatston risk groups (formal scoring only, not visual-grade equivalents): 0 very low; 1–99 mild; 100–299 moderate; ≥300 moderate to severe. The ACR 2018 paper lists 0 / 1–100 / 101–300 / >300.

- **SCCT/STR (Class I):** evaluate and report CAC on all non-contrast chest CT in patients aged 40 or older, as none, mild, moderate or severe. Ordinal scoring is reasonable (IIa); Agatston scoring may be reasonable (IIb). Treatment recommendations are outside the guideline's scope.
- **BSCI/BSCCT/BSTI 2021:** report on all non-gated thoracic CT; no further imaging for asymptomatic patients, refer for primary prevention; do not call calcium "normal for age"; skip if stents or CABG are present; moderate or severe aortic valve calcification: consider echocardiography.

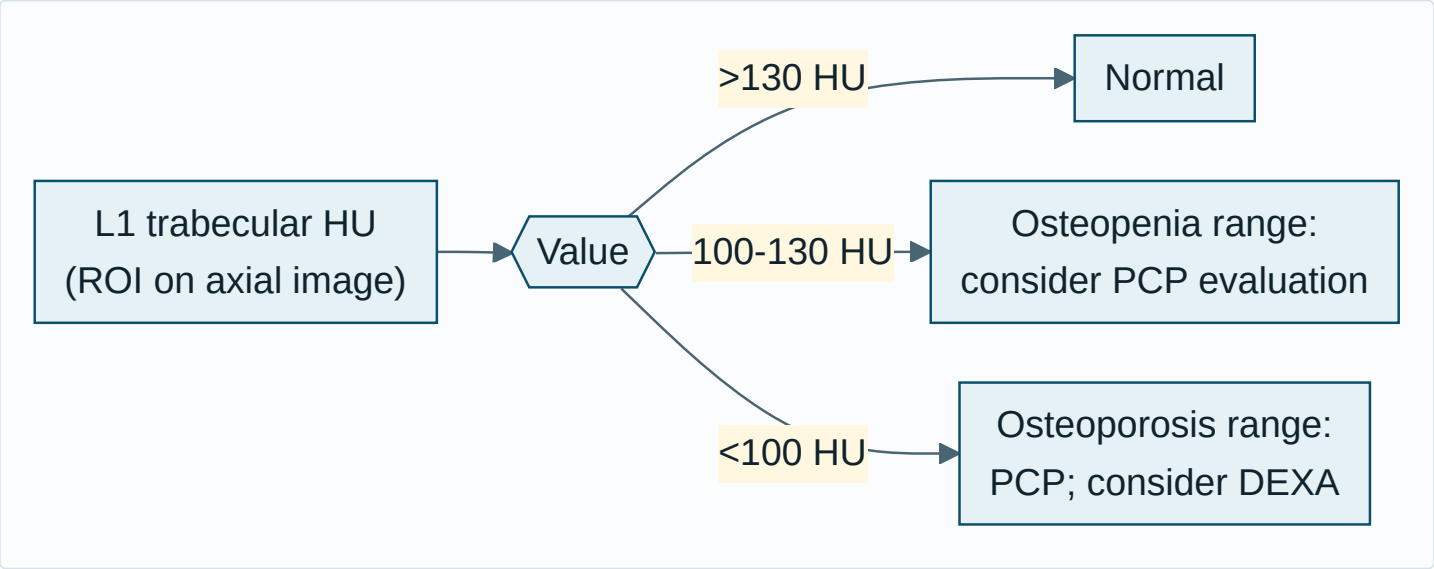
Sources: SCCT/STR guideline 2016 full text; BSCI/BSCCT/BSTI consensus 2021.

Source: SCCT/STR guideline 2016 (Hecht, J Cardiovasc Comput Tomogr).

6.5 Other chest CT findings (ACR lung cancer screening incidental-findings guide, 2021)

Finding	Threshold	Action
Ascending aorta	≥42 mm	PCP surveillance or cardiology consultation
Main pulmonary artery	≥31 mm	PCP evaluation; consider cardiology or pulmonary consultation
Coronary calcium	Present	PCP evaluation for ASCVD risk
Aortic valve calcification	Moderate or greater	PCP evaluation
Pericardial effusion	Moderate or large	Discuss with PCP
Emphysema / bronchial wall thickening	Present	Consider PCP evaluation; may benefit from pulmonary consultation
Fibrotic ILD	Present	Pulmonary consultation
Bronchiectasis, GGO, cystic or diffuse nodular disease	Present	PCP evaluation; consider pulmonary consultation

Finding	Threshold	Action
Mediastinal node	≥15 mm, unexplained	PCP evaluation; consider pulmonary consultation; consider CE CT at 3–6 mo
Breast nodule, mass or asymmetry	Any (not coarse calcification or simple cyst)	Diagnostic mammogram with or without US
Thyroid nodule	>15 mm or suspicious features	Thyroid US and clinical evaluation
Hepatic steatosis or cirrhosis	Present	PCP evaluation
L1 trabecular attenuation	>130 HU normal; 100–130 HU osteopenia; <100 HU osteoporosis	100–130: consider PCP; <100: PCP and consider DEXA



Sources: ACR LCS incidental findings one-pager 2021; ACR white paper on incidental lung findings 2021 (Munden, JACR 18:1267-1279). Table confirmed against the one-pager. **[unverified]** The full 2021 lung-findings white paper (emphysema, ILA, cysts, bronchiectasis details) was not accessible.

7. Liver

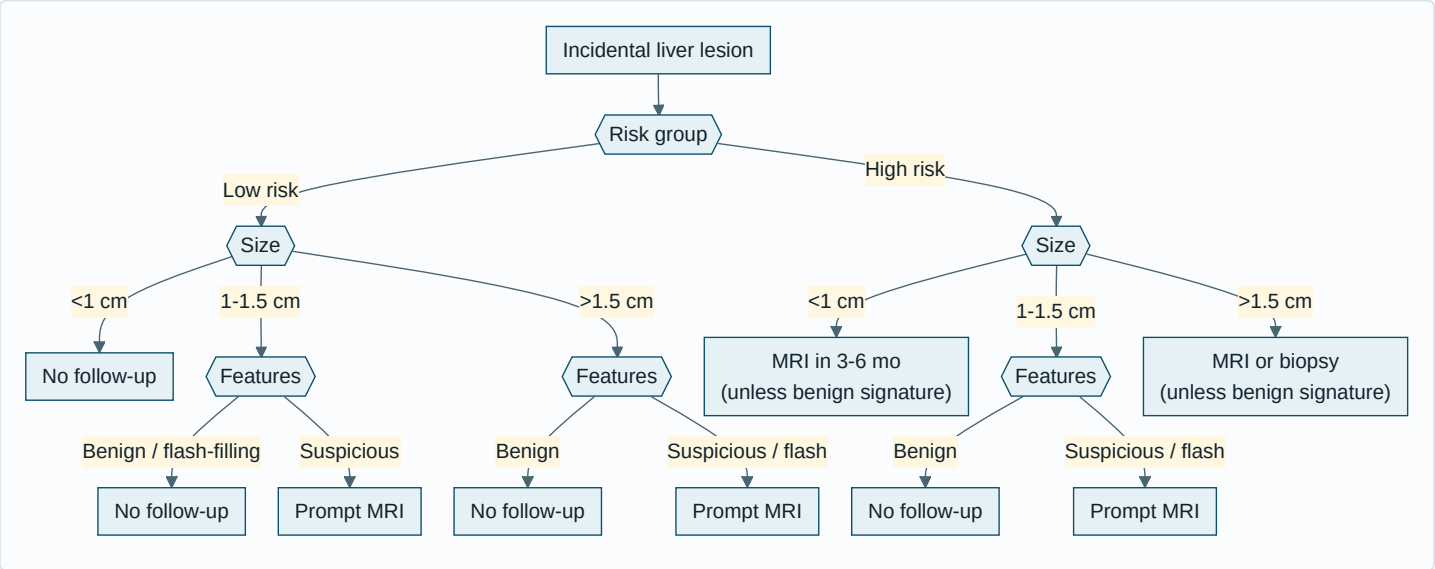
Applies to: incidental liver lesions on CT in adults (ACR 2017). Patients with cirrhosis or chronic hepatitis B should be managed with LI-RADS.

Risk groups

- **Low risk:** no known malignancy, no hepatic dysfunction and no hepatic risk factors.
- **High risk:** known extrahepatic malignancy, cirrhosis, hepatitis, NASH, alcohol abuse, PSC, PBC, hemochromatosis or anabolic steroid use.

Imaging features

- **Benign:** sharp margin and homogeneous low attenuation ≤20 HU, or a typical hemangioma, FNH, focal fat or perfusion pattern.
- **Suspicious:** ill-defined margin, heterogeneity, mural thickening or nodularity, thick septa, or enhancement >20 HU.
- **Flash-filling:** uniform arterial hyperenhancement.



Pearls

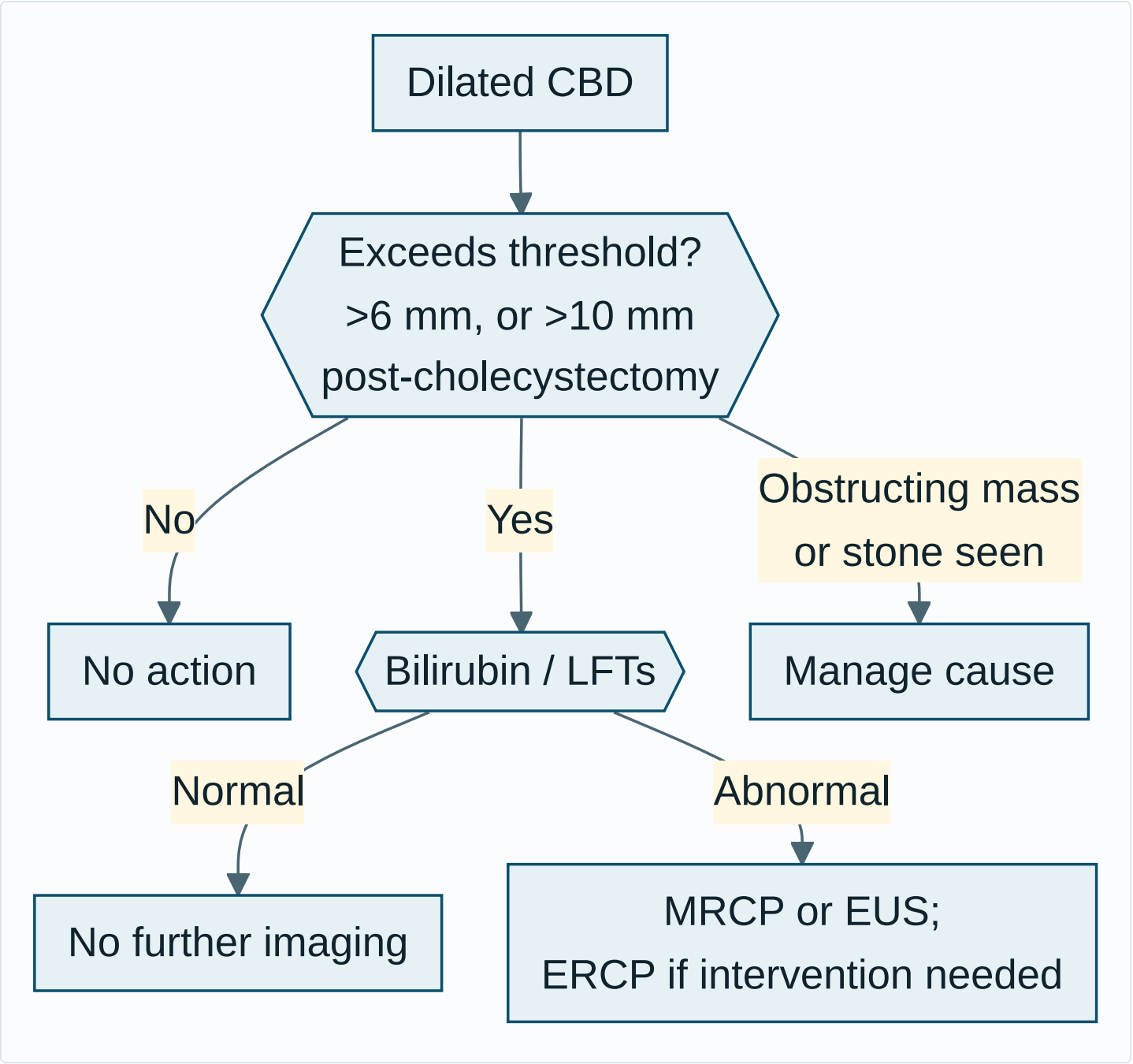
- **Oncology referral:** vascular invasion, biliary dilatation or adenopathy.
- **FNH vs adenoma:** for a lesion over 3 cm or subcapsular, use gadoxetate MRI to separate the two.
- **Biopsy:** core biopsy is preferred over FNA.
- **At-risk livers:** use LI-RADS CT/MRI v2018. Treatment response uses LI-RADS TRA v2024.

Sources: ACR liver white paper 2017 (Gore, JACR 14:1429-1437); ACR LI-RADS; CAR hepatobiliary incidental findings 2020.

8. Gallbladder and Bile Ducts

8.1 ACR 2013 (CT and MRI findings)

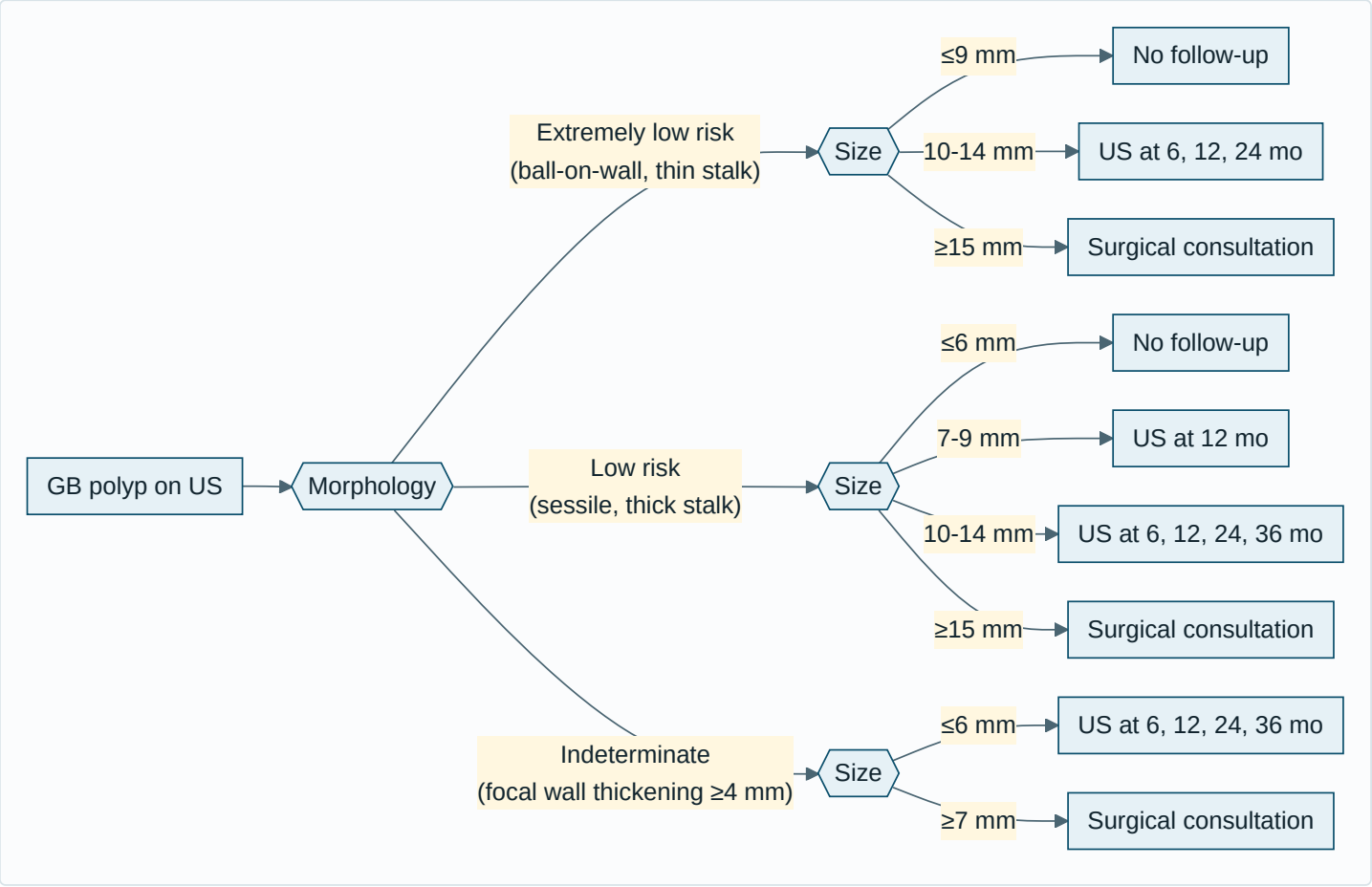
Finding	Threshold	Action
Gallstones, asymptomatic	Any	None
Porcelain gallbladder	—	Generally no follow-up (low cancer risk)
Wall thickening	>3 mm, diffuse	None (usually systemic cause)
Wall thickening	Focal	Evaluate with US or MRI
Distension	>4 × 9 cm, asymptomatic	None
Polyp on CT/MR	≤6 mm	None
Polyp on CT/MR	7–9 mm	US yearly
Polyp on CT/MR	≥10 mm	Surgical consultation
CBD diameter	>6 mm (age <60, GB present); >10 mm after cholecystectomy	Normal LFTs: none. Abnormal LFTs: MRCP, EUS or ERCP



Source: ACR gallbladder and biliary white paper 2013 (Sebastian, JACR 10:953-956).

8.2 SRU 2022 gallbladder polyp consensus (ultrasound)

Applies to: polyps found on US. **Excludes:** PSC, and findings suggesting malignant invasion (refer to oncology). If polyp shape is uncertain, use the low-risk category.



Pearls

- Surgical consultation at follow-up if the polyp grows 4 mm or more within 12 months, or reaches 15 mm (extremely low or low risk) or 7 mm (indeterminate).
- Growth of up to 3 mm can be natural history. Maximum follow-up is 3 years.
- For 10–14 mm polyps, patient factors or growth may justify surgical consultation.
- Up to 34% of polyps shrink or resolve; the paper gives no specific rule for shrinking polyps.
- Gallbladder polyps are mostly cholesterol polyps or pseudopolyps.

Source: SRU gallbladder polyp consensus 2022 (Kamaya, Radiology 305:277-289).

9. Pancreas

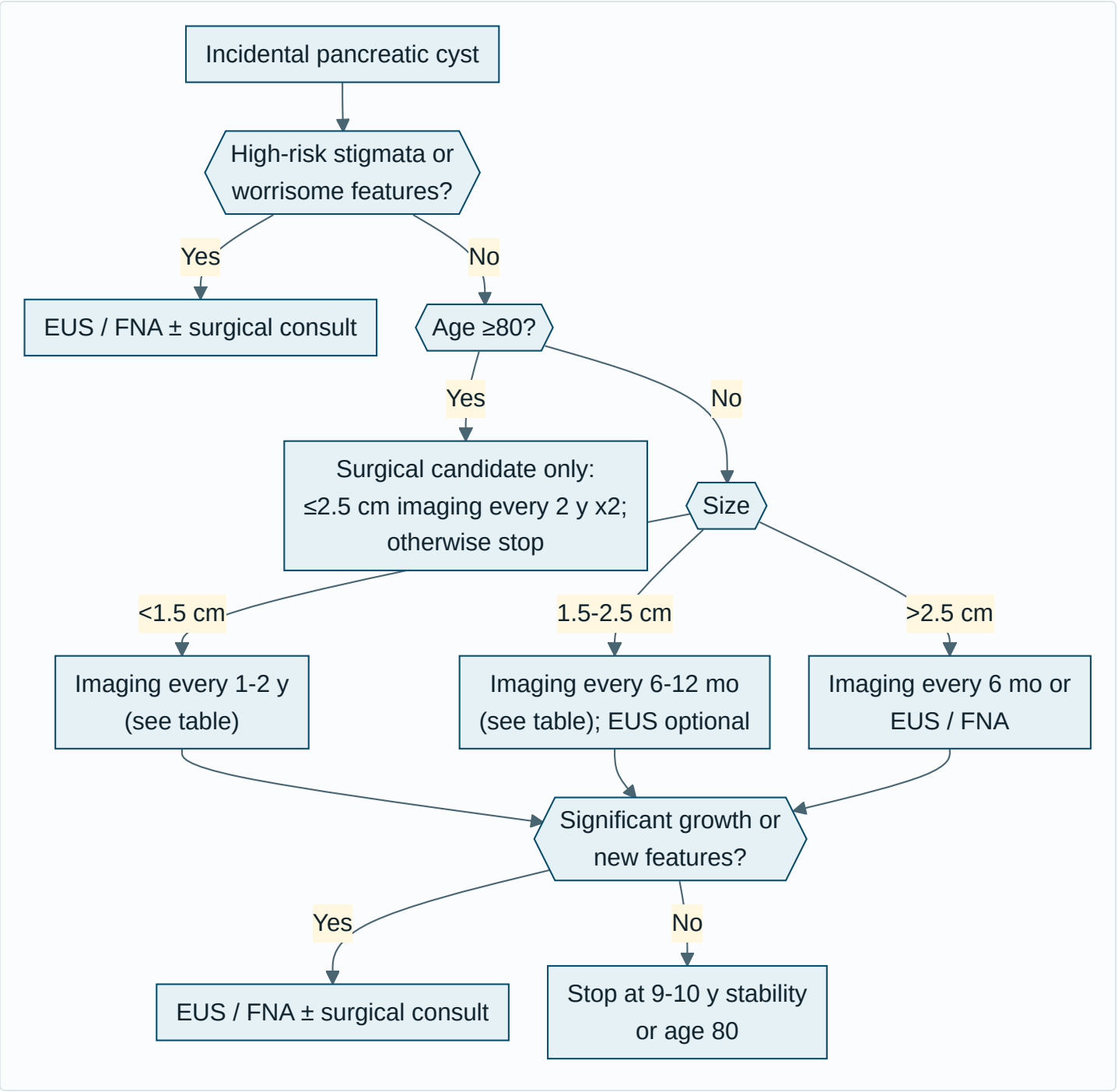
Applies to: asymptomatic incidental pancreatic cysts in adults (ACR 2017). Imaging is MRI/MRCP, or pancreas-protocol CT.

Features

- **High-risk stigmata:** obstructive jaundice with a cyst in the head, an enhancing solid component, or MPD ≥10 mm.
- **Worrisome features:** cyst ≥3 cm, thickened or enhancing wall, non-enhancing mural nodule, MPD 7–9 mm, or abrupt MPD caliber change.

Significant growth

Baseline size	Growth that counts
<5 mm	≥100%
5–14 mm	≥50%
≥15 mm	≥20%



Surveillance schedules (ACR 2017)

Size	Age <65	Age 65–79
<1.5 cm	Yearly ×5, then every 2 y ×2; stop at 9 y	Every 2 y ×5; stop at 10 y
1.5–1.9 cm, communicates with duct (BD-IPMN)	Yearly ×5, then every 2 y ×2	Same
2.0–2.5 cm, or no or indeterminate communication	Every 6 mo ×4, yearly ×2, every 2 y ×3; stop at 10 y (EUS/FNA is an alternative)	Same
>2.5 cm, low risk	Every 6 mo ×4, yearly ×2, every 2 y ×3, or EUS/FNA	Same
>2.5 cm with high-risk features (mural nodule, thick wall, MPD ≥7 mm, peripheral calcification)	EUS/FNA plus surgical consult	Same

Pearls

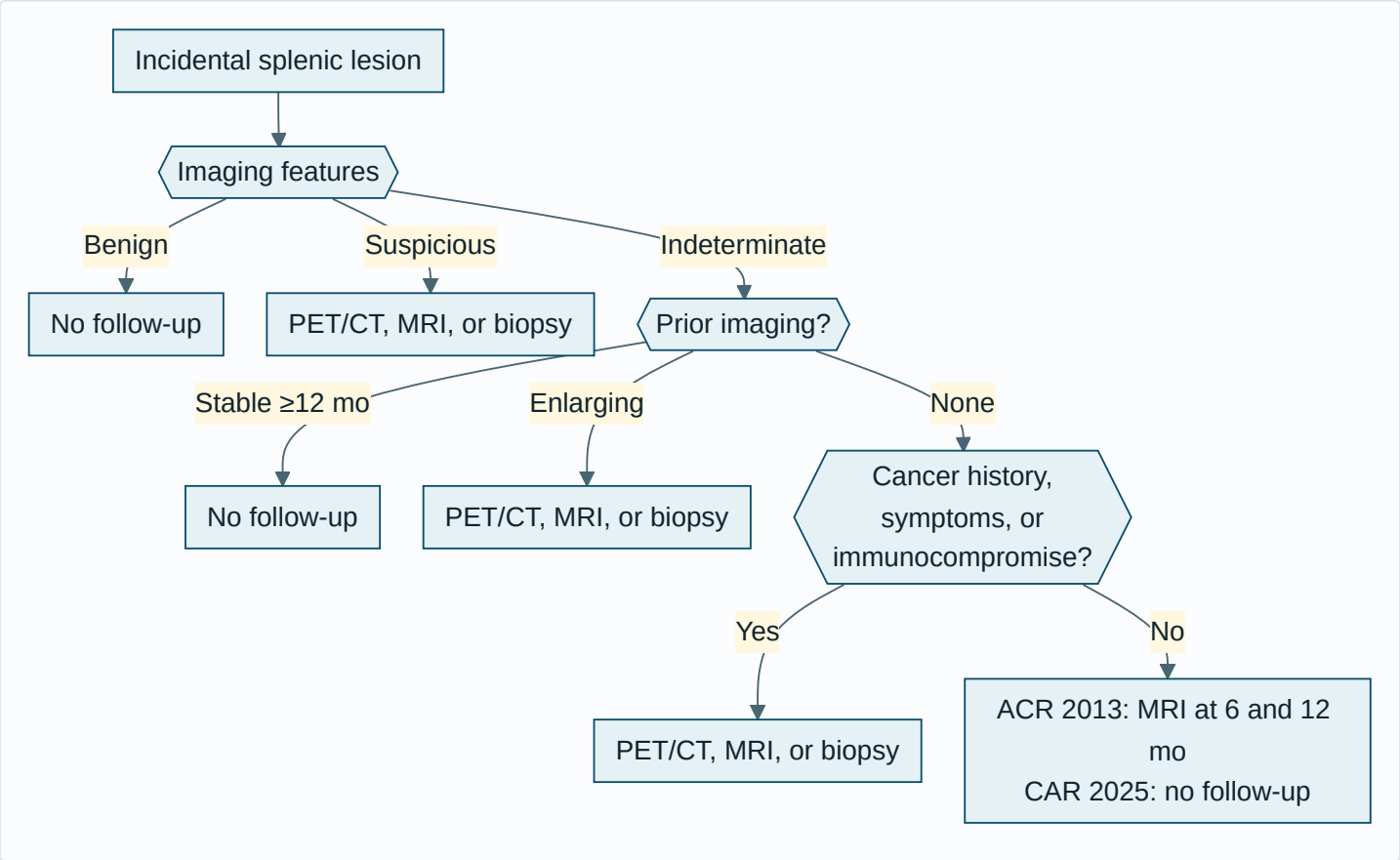
- A cyst that grows past 2.5 cm should go to EUS/FNA.
- Serous cystadenoma over 4 cm: surgical consultation.
- Surveillance generally stops at age 80.

Source: ACR pancreatic cyst white paper 2017 (Megibow, JACR 14:911-923).

10. Spleen

Imaging features

- **Benign:** homogeneous, ≤20 HU, no enhancement, smooth margin and no wall.
- **Suspicious:** heterogeneous, enhancing, irregular margin, necrosis, or invasion of the splenic parenchyma or vessels.
- **Indeterminate:** neither benign nor suspicious.



Splenomegaly and growth (CAR 2025)

- Splenomegaly is a craniocaudal length over 13 cm.
- Look for portal hypertension and hematologic causes.
- Growth of a solid lesion by more than 5 mm per year is suspicious.

Sources: ACR spleen and lymph node white paper 2013 (Heller, JACR 10:833-839); CAR spleen and lymph node recommendations 2025.

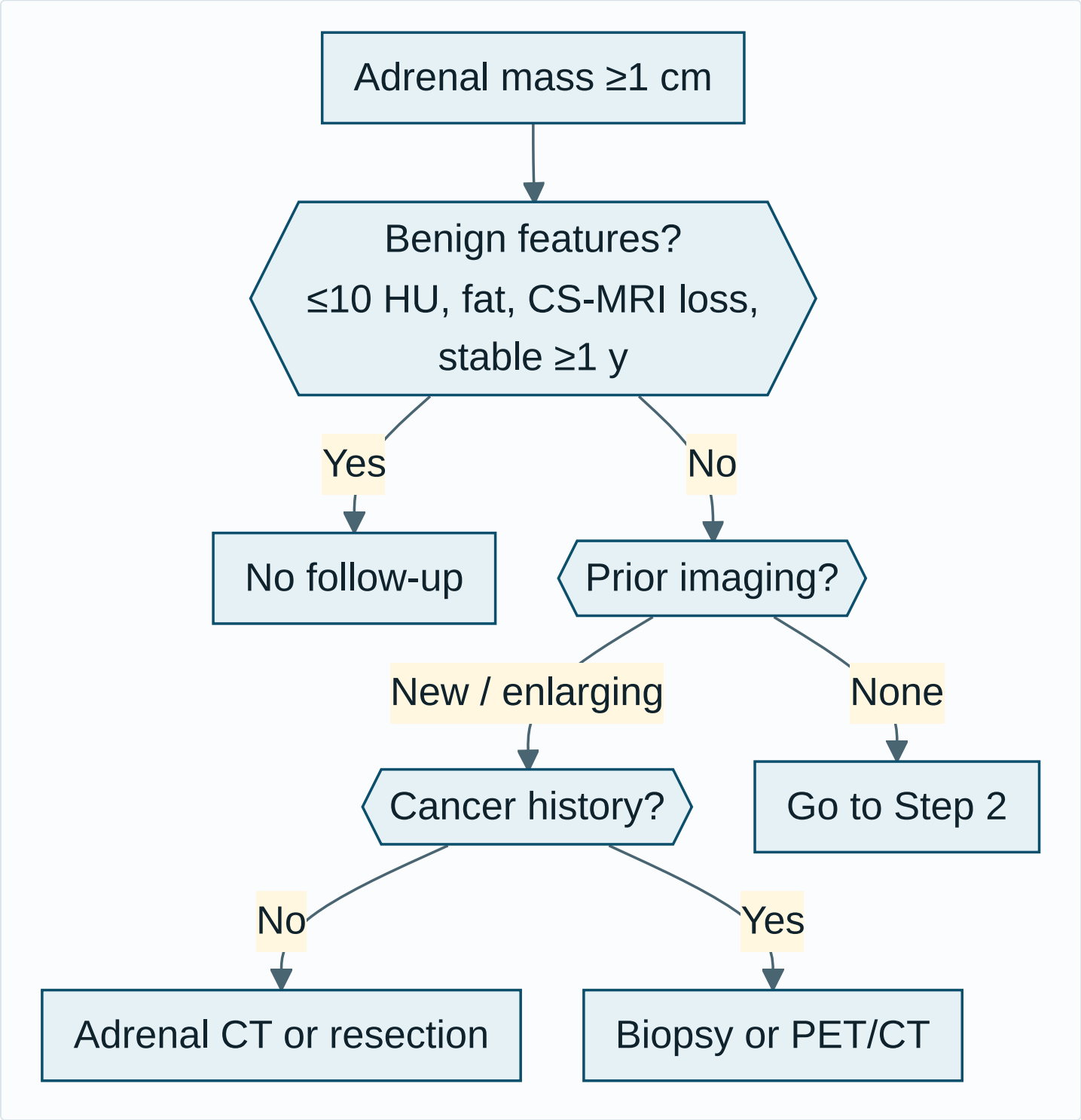
11. Adrenal

Applies to: adults aged 18 or older with an asymptomatic adrenal mass of 1 cm or more. Masses under 1 cm need no workup.

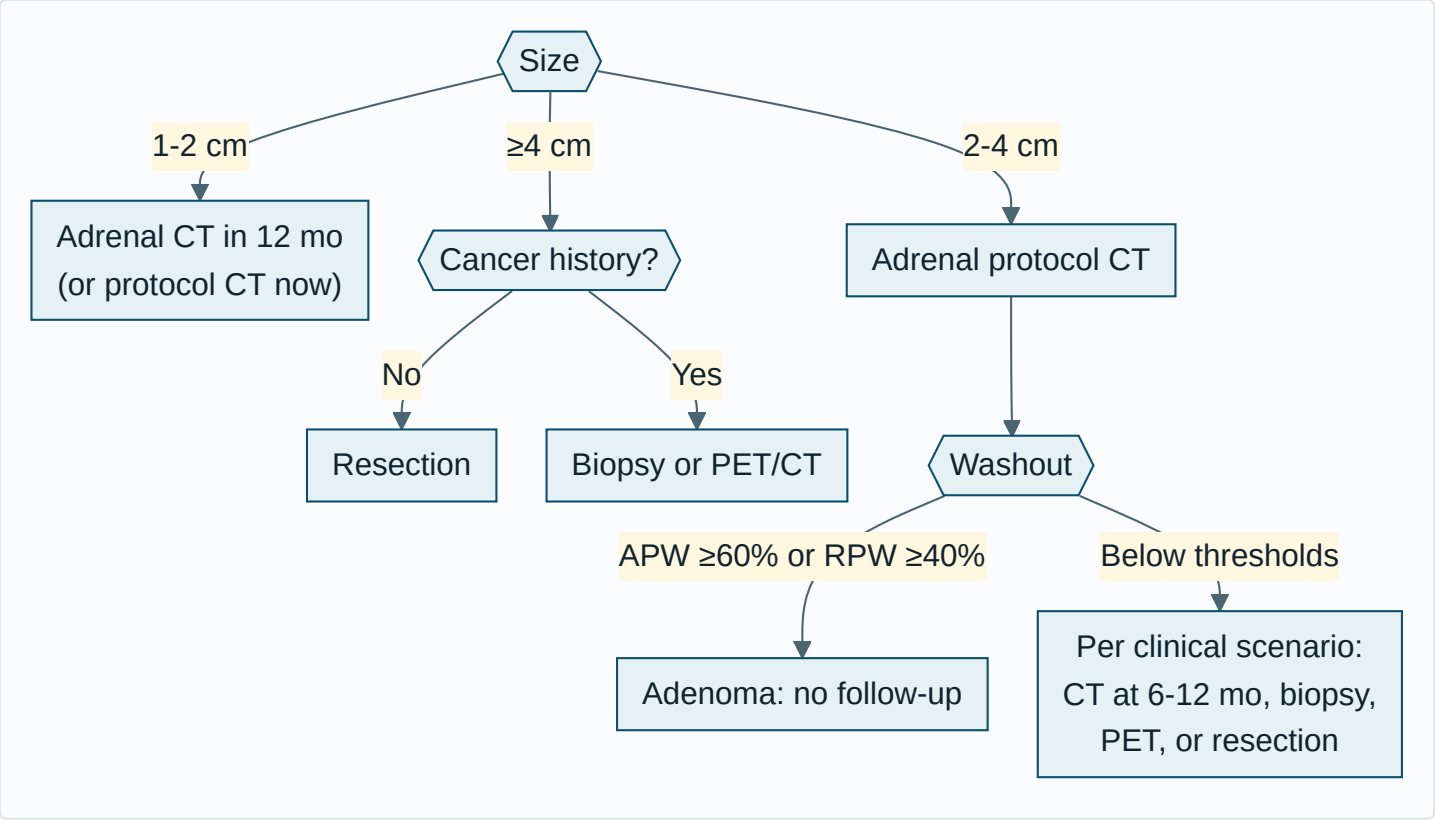
Benign: no follow-up

- Myelolipoma (macroscopic fat).
- Unenhanced attenuation ≤10 HU, or signal loss on chemical-shift MRI.
- Stable for 1 year or more.
- Non-enhancing (change of less than 10 HU), or calcified.

Step 1: triage



Step 2: no prior imaging



Washout formulas

Formula	Definition	Adenoma threshold
APW (absolute percentage washout)	(Enhanced − Delayed) / (Enhanced − Unenhanced) × 100	≥60%
RPW (relative percentage washout)	(Enhanced − Delayed) / Enhanced × 100	≥40%

Pearls

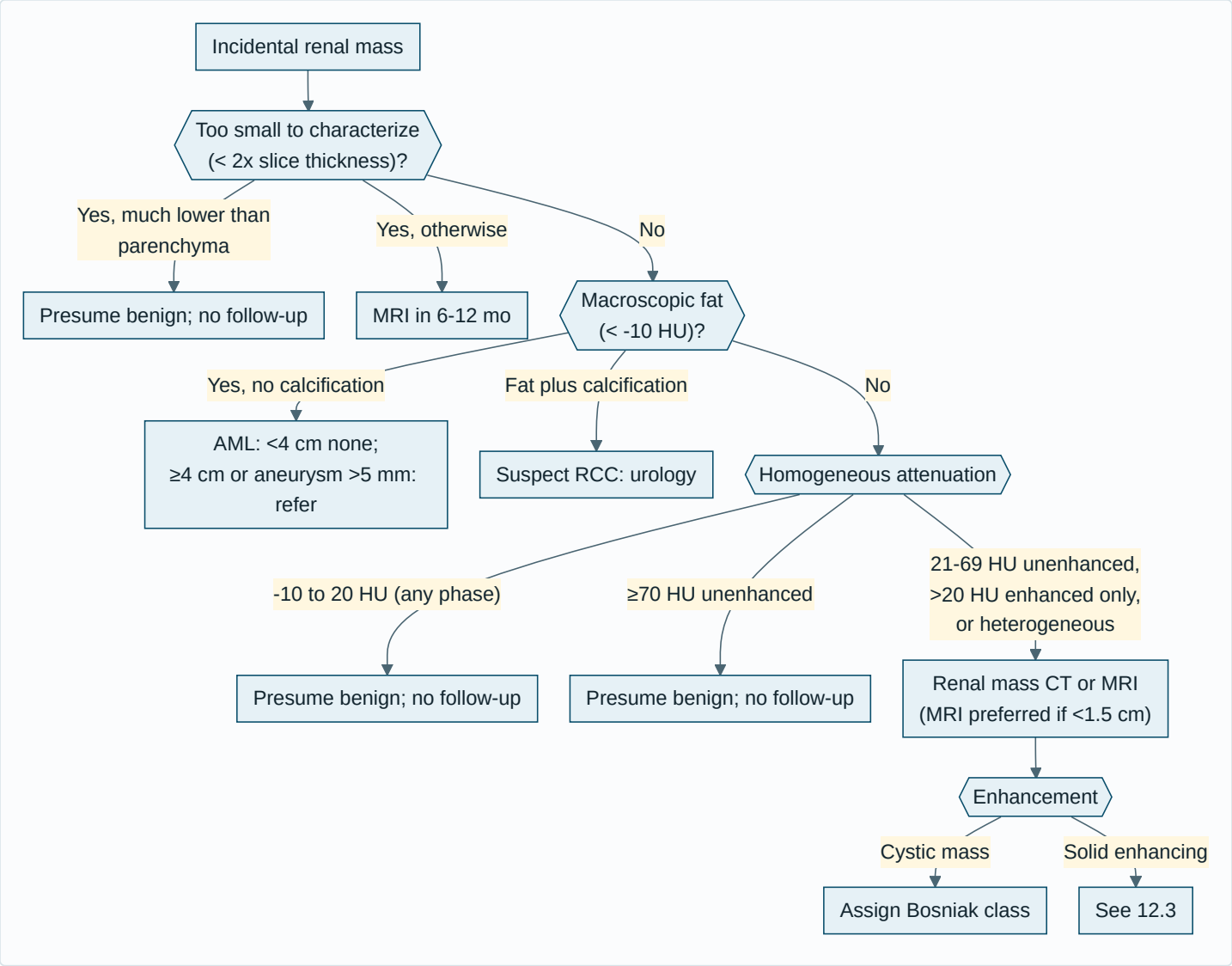
- Enhancement over 110–120 HU raises concern for pheochromocytoma.
- Consider biochemical testing: a dexamethasone suppression test and plasma metanephrines. Add aldosterone and renin if the patient is hypertensive.
- The 10 HU threshold can be used on virtual unenhanced dual-energy images.

Source: ACR adrenal white paper 2017 (Mayo-Smith, JACR 14:1038-1044).

12. Kidney

Applies to: adults. **Excludes:** hereditary RCC syndromes, symptoms and infection.

12.1 Is it a cyst? (ACR 2018 renal white paper)



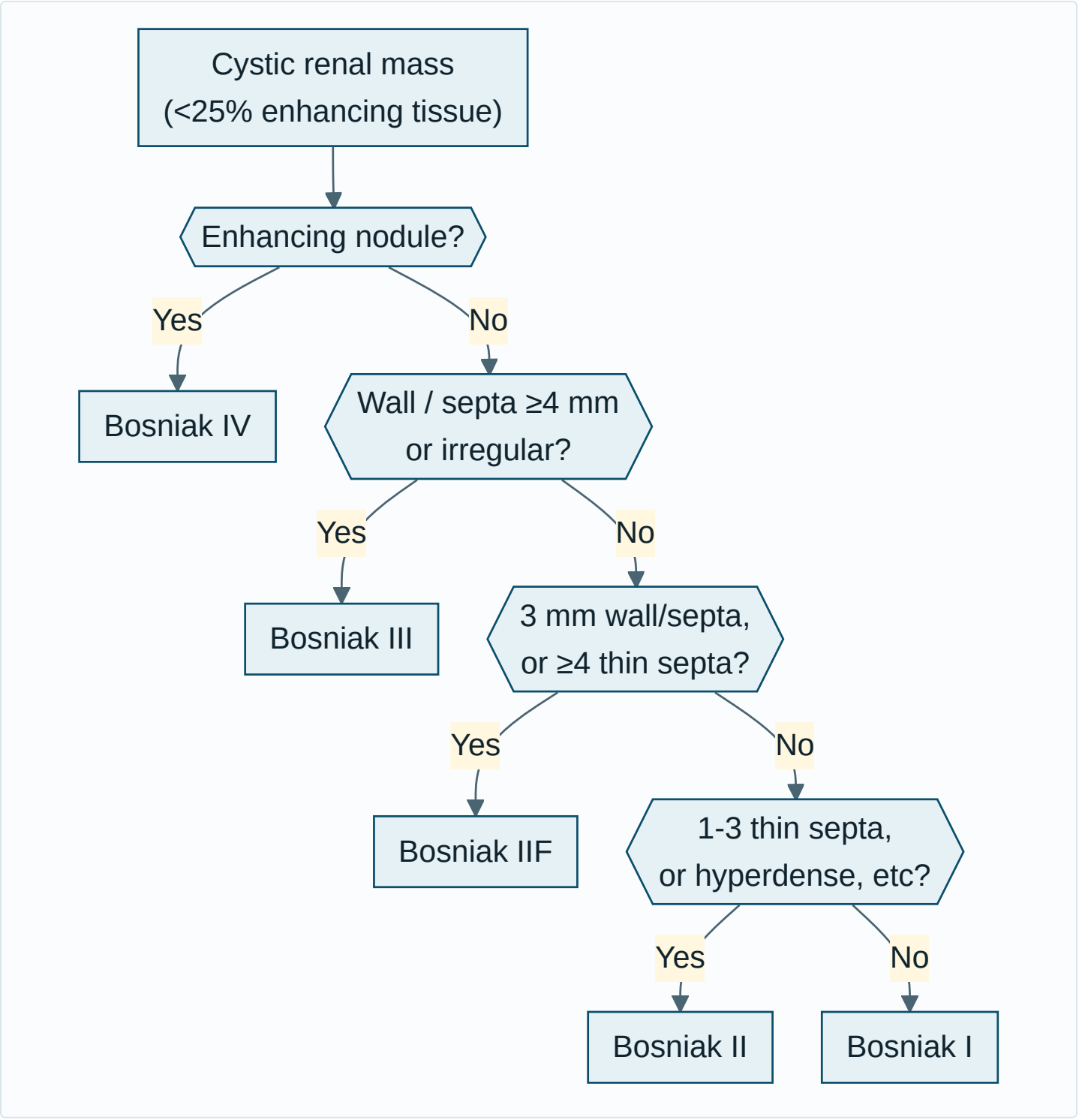
Enhancement thresholds

Modality	Definite	Equivocal
CT	≥20 HU	10–19 HU
MRI	≥15% signal increase	—

12.2 Bosniak v2019 (renal mass protocol CT or MRI)

Class	Key features	Malignancy	Management
I	Thin (≤2 mm), smooth wall. Homogeneous simple fluid, −9 to 20 HU (CSF-like on MRI). No septa or calcification	<1%	None

Class	Key features	Malignancy	Management
II	1–3 thin septa; calcification; homogeneous ≥70 HU unenhanced; homogeneous non-enhancing >20 HU on renal mass CT; −9 to 20 HU on unenhanced CT; 21–30 HU on portal venous phase; too small to characterize. All with smooth thin (≤2 mm) walls; calcification of any type allowed. MRI: markedly T1 hyperintense (about 2.5 times renal parenchyma)	<1%	None
IIF	Smooth, minimally thickened (3 mm) enhancing wall or septa; ≥4 smooth thin enhancing septa. MRI: heterogeneously T1-hyperintense cyst	Uncertain (reported 0–38%); ~10% progress, and ~85% of progressors are malignant	Observation. ACR 2018 renal paper: imaging at 6 and 12 mo, then yearly for 5 y
III	Enhancing thick (≥4 mm) or irregular (protrusion ≤3 mm with obtuse margins) wall or septa	~50% (25–100%)	Urology: treatment or active surveillance
IV	Enhancing nodule: ≥4 mm protrusion with obtuse margins, or any size with acute margins	~90% (56–100%)	Urology (AUA supports surgery when ≥2 cm)



Sources: Bosniak v2019 (Silverman, Radiology 292:475-488); ACR renal white paper 2018 (Herts) for the IIF schedule.

12.3 Solid renal mass

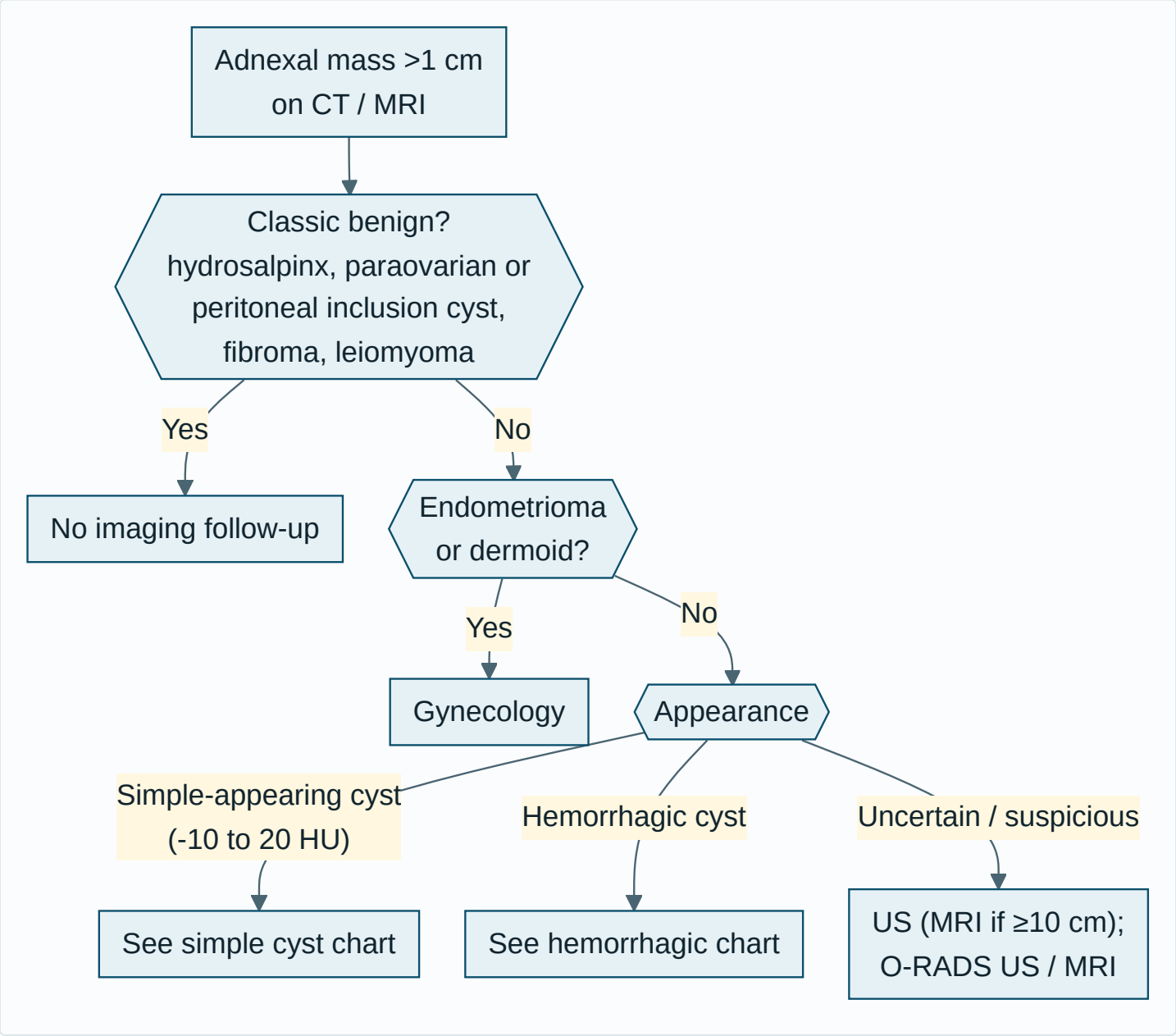
Size	Action
<1 cm	MRI or CT at 6–12 mo, then yearly for 5 y. Stable means growth of 3 mm per year or less
1–4 cm	Urology referral; consider biopsy, active surveillance or ablation
>4 cm	Urology referral
Growth ≥4 mm per year	Refer

Source: ACR renal mass white paper 2018 (Herts, JACR 15:264-273), full text PDF.

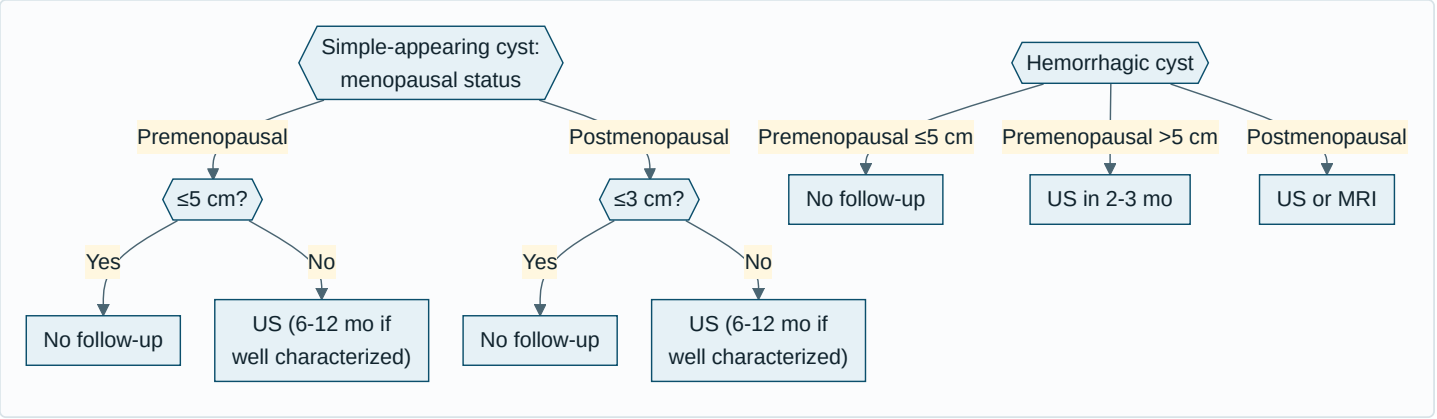
13. Adnexa

13.1 Incidental adnexal mass on CT or MRI (ACR 2020)

Applies to: masses larger than 1 cm. **Excludes:** masses stable for 2 years or more, high genetic risk and symptoms. If menopausal status is unknown, treat age 50 or older as postmenopausal.



Simple-appearing and hemorrhagic cysts



Source: ACR adnexal white paper 2020 (Patel, JACR 17:248-254).

13.2 Simple adnexal cyst on US (SRU 2019 update)

Status	Reporting	Follow-up US
Premenopausal	Describe if >3 cm. If ≤3 cm, call the ovary normal (may say “follicle”)	Only if >5–7 cm (7 cm when well seen and documented)
Postmenopausal	Describe if >1 cm. If ≤1 cm, call the ovary normal	Only if >3–5 cm (5 cm when well seen and documented)

- A clearly paraovarian or paratubal simple cyst needs no follow-up at any size.
- Defining a simple cyst requires a full-quality sonogram: anechoic, a smooth thin wall, no septation or solid component, and no Doppler flow.

Source: SRU simple adnexal cyst consensus update 2019 (Levine, Radiology).

13.3 O-RADS US v2022 (pointer)

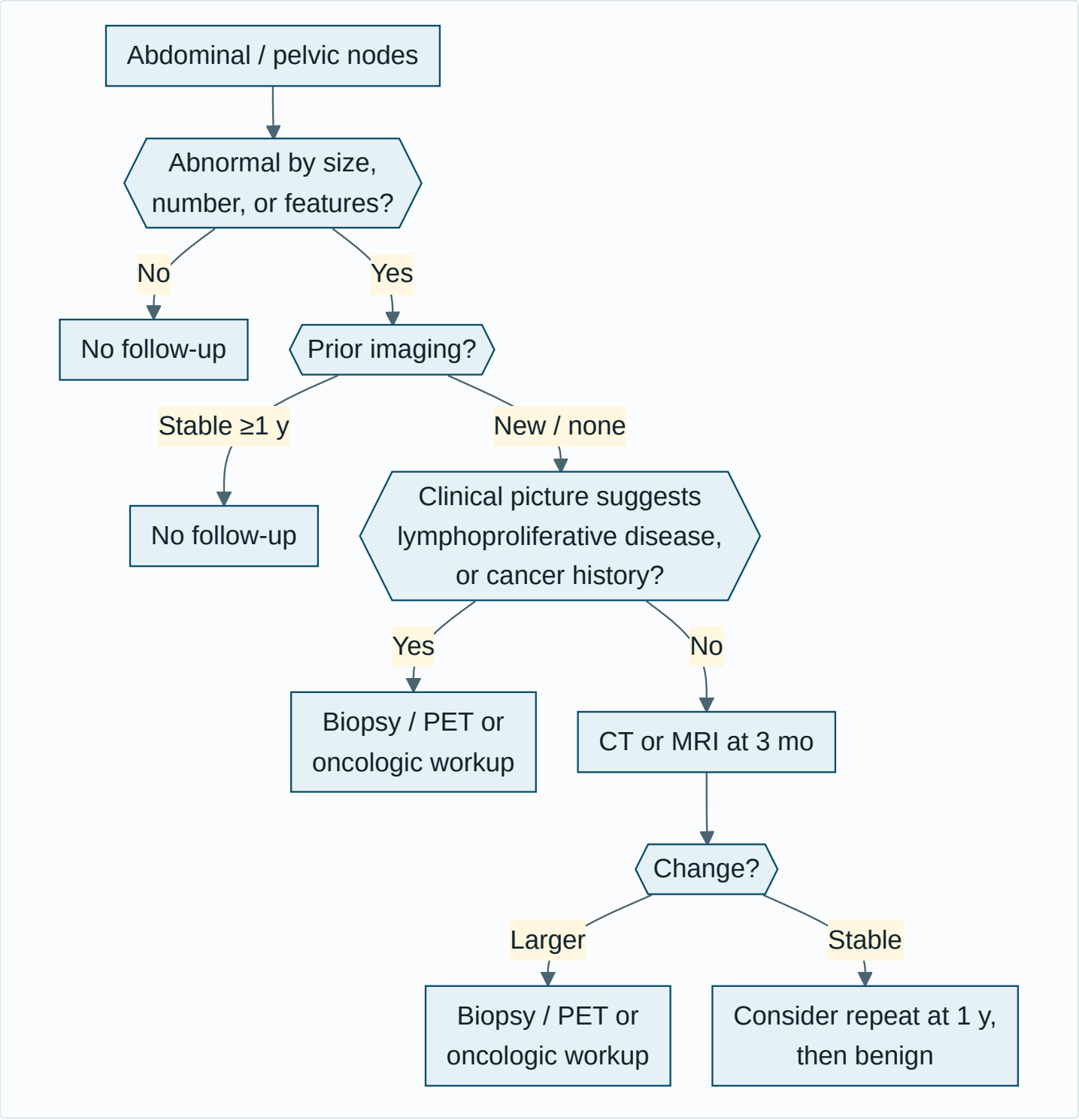
Score	Risk of malignancy	Management outline
1	Normal premenopausal ovary	None
2	Almost certainly benign (<1%)	Mostly none, or follow-up by size
3	Low risk (1 to <10%)	US specialist or MRI; gynecology
4	Intermediate (10 to <50%)	MRI, or gynecologist with gyn-oncology input
5	High (≥50%)	Gyn-oncology

Source: O-RADS US v2022 (Strachowski, Radiology 2023).

14. Abdominal and Pelvic Lymph Nodes

Abnormal nodes

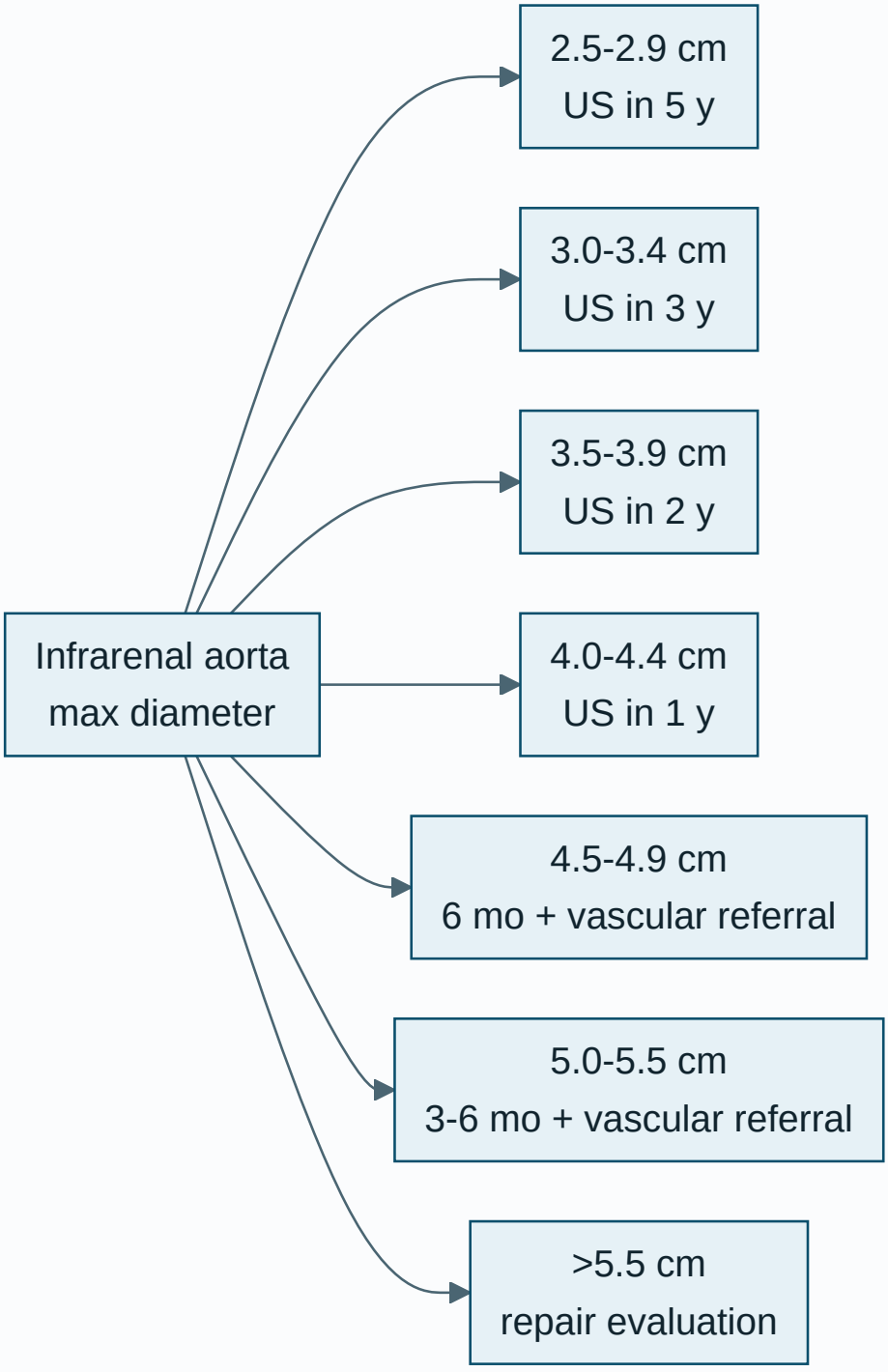
- **Size:** short axis ≥1 cm in the retroperitoneum. Other stations have their own thresholds.
- **Increased number:** 3 or more nodes in one station, or 2 or more in two or more regions, even if each is under the size threshold.
- **Abnormal features:** necrosis, unusual enhancement, or calcification.



Sources: ACR spleen and lymph node white paper 2013; CAR spleen and lymph node recommendations 2025.

15. Abdominal and Pelvic Vessels

15.1 Abdominal aortic aneurysm



Diameter	Interval
2.5–2.9 cm	5 years
3.0–3.4 cm	3 years
3.5–3.9 cm	2 years

Diameter	Interval
4.0–4.4 cm	1 year
4.5–4.9 cm	6 months, plus vascular referral
5.0–5.5 cm	3–6 months, plus vascular referral

15.2 Other vascular findings

Finding	Threshold	Action
Penetrating aortic ulcer	Asymptomatic	Annual imaging
Common iliac aneurysm	≥2.5 cm; 3.0–3.5 cm	3.0–3.5 cm: 6 mo, then yearly
Common iliac aneurysm	≥3.5 cm	Treat
Splenic artery aneurysm	<2 cm	Yearly imaging
Splenic artery aneurysm	≥2 cm, or pregnancy or childbearing potential	Treat
Renal artery aneurysm	1.0–1.5 cm	Imaging every 1–2 y
Renal artery aneurysm	>1.5–2.0 cm	Repair
Other visceral aneurysm	≥2 cm	Treat
Pancreaticoduodenal or gastroduodenal aneurysm	Any size	Treat
Median arcuate ligament compression, May-Thurner, nutcracker, dilated pelvic veins	Asymptomatic	No action

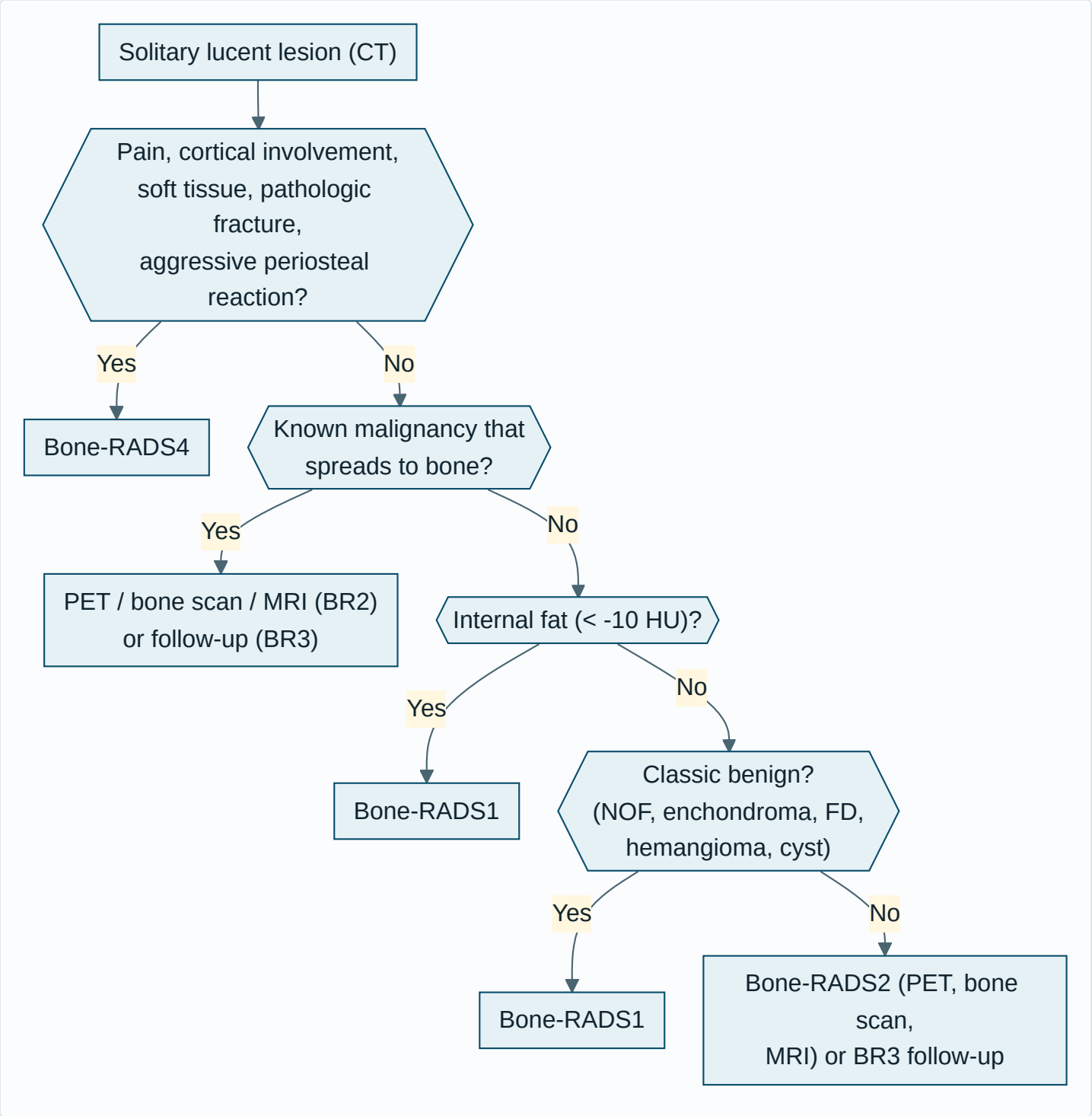
Source: ACR vascular white paper 2013 (Khosa, JACR 10:789-794).

16. Bone

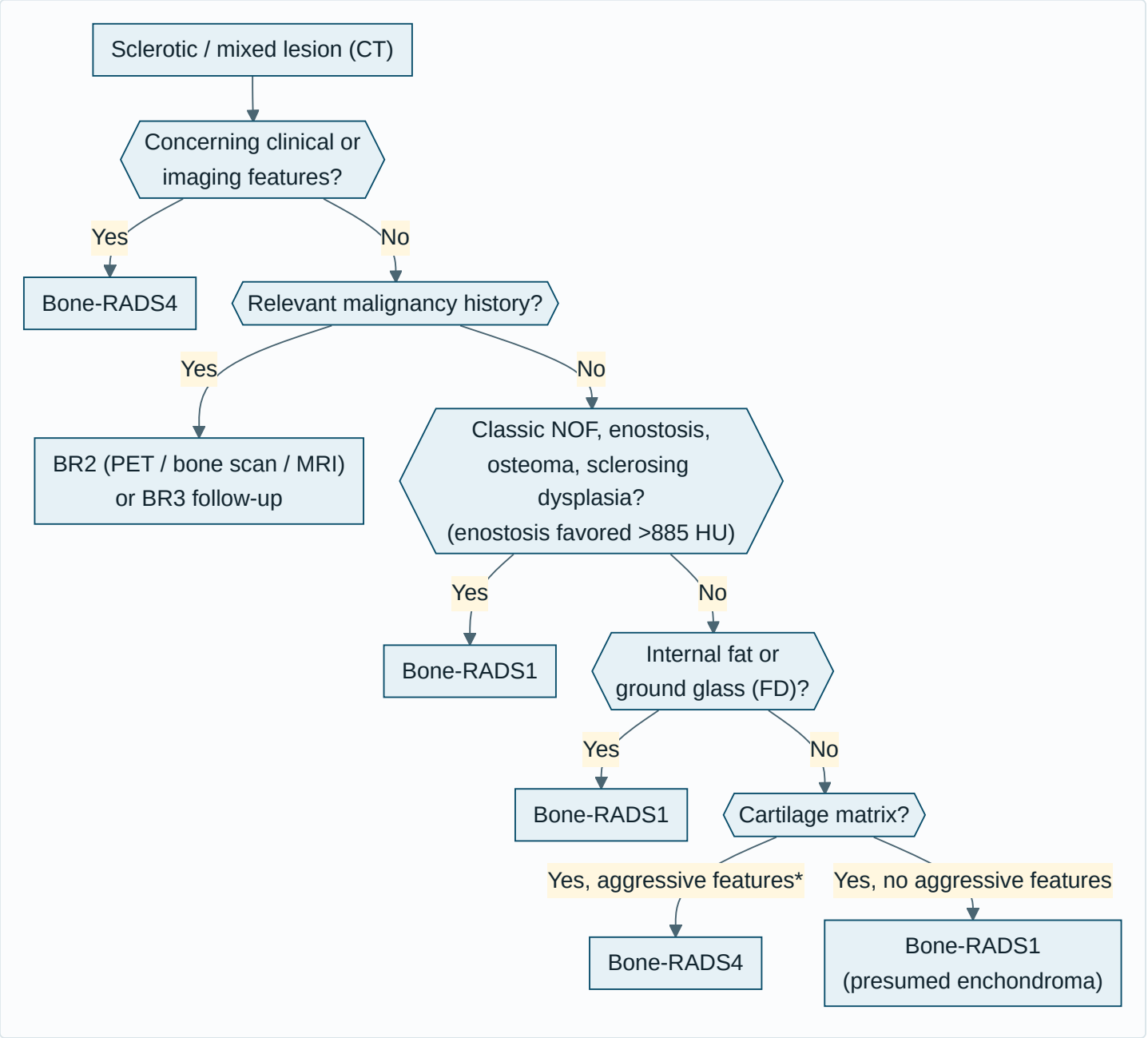
16.1 Bone-RADS categories (SSR 2022; ACR 2023 for radiographs)

Category	Meaning	Action
Bone-RADS1	Very likely benign	Leave alone
Bone-RADS2	Incompletely assessed	Different modality: CT, MRI, bone scan or radiographs
Bone-RADS3	Indeterminate, likely benign	Follow-up imaging at 6, 6 and 12 months (2 years total)
Bone-RADS4	Suspicious	Biopsy and/or oncology or orthopedic oncology referral

16.2 CT: solitary lucent lesion

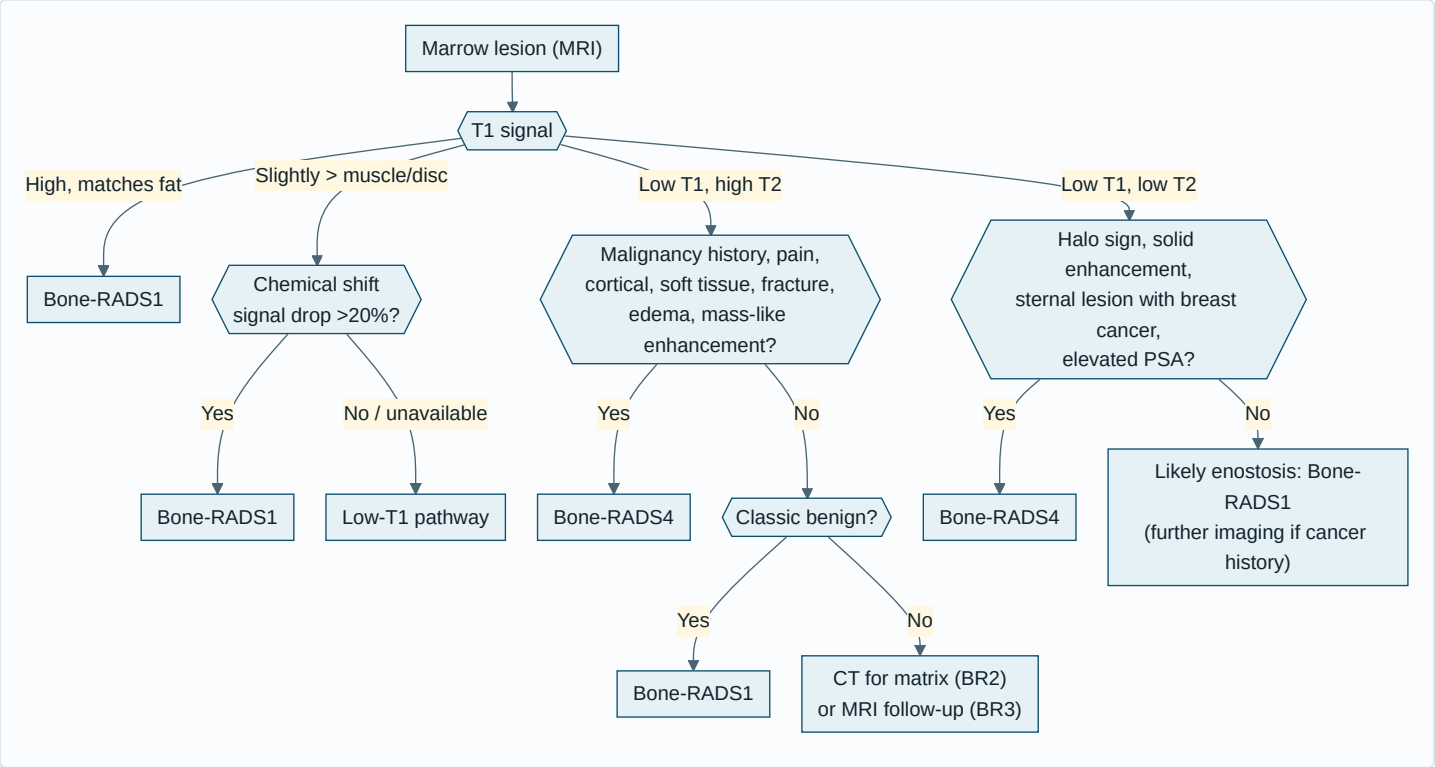


16.3 CT: sclerotic or mixed lesion



* Aggressive features include endosteal scalloping over two-thirds of the cortex or lesion length, expansile remodeling, cortical breakthrough, periosteal reaction, a soft-tissue mass, or an axial or epiphyseal location.

16.4 MRI



Pearls

- Internal fat has a 99.5% negative predictive value for malignancy.
- Enostoses can grow: under 25% in 6 months or under 50% in 1 year is expected.
- Vertebral hemangiomas found incidentally need no workup.

Sources: Bone-RADS (Chang, Skeletal Radiol 2022;51:1743-1764); ACR Bone-RADS; CAR MSK incidental findings 2023.

17. Pediatrics and Special Populations

- **Pediatrics.** Adult white papers generally do not apply under 18, and Fleischner does not apply under 35. The 2026 ACR pediatric road map describes priorities for pediatric guidelines but gives no organ thresholds. Use pediatric literature and subspecialty input.
- **Known malignancy.** Use the cancer branch of each flowchart (adrenal, liver, nodes, bone) or oncologic staging.
- **Immunocompromised patients.** Fleischner does not apply. Treat lung nodules and splenic lesions with a lower threshold for workup.
- **Hereditary syndromes.** VHL, BHD, MEN, BRCA and Lynch call for dedicated surveillance protocols.
- **Elderly or limited life expectancy.** Pancreatic cyst surveillance stops at age 80. The thyroid paper allows no workup when comorbidity is serious.

Source: ACR pediatric incidental findings road map (Sammer, JACR 2026).

Verification Log (November 2026)

Cross-check of previously flagged items against the primary papers. NEJM was also searched; it holds clinical reviews (pulmonary nodules, adrenal incidentaloma, thyroid nodules) rather than the society white papers, so it was not used as a primary source.

Topic	Result	What changed	Primary source checked
Lung-RADS v2022	Corrected	Juxtapleural <10 mm (not ≤10); added new/growing part-solid, cyst, airway and stepped-management criteria; 4B airway rule is “stable or growing at follow-up”	Lung-RADS v2022 table
Fleischner 2017	Corrected	Removed “<3 mm do not measure”; perifissural rule is “no follow-up even if >6 mm” (not “up to 10 mm”); stability can stop at 12–18 mo	Fleischner 2017
TI-RADS	Confirmed	Added stop at 5 y, no intervals <1 y, repeat in 1 y if TR level rises	TI-RADS white paper
Bosniak v2019	Corrected	Malignancy rates updated (II <1%; IIF uncertain); IIF schedule attributed to ACR 2018 renal paper, not v2019	Bosniak v2019
SRU GB polyps	Corrected	Low-risk 10–14 mm and indeterminate ≤6 mm: US at 6, 12, 24 and 36 mo; removed “or surgical consult” branch and the unsupported “shrinks ≥4 mm, stop” rule	SRU 2022
Mediastinum/CV (ACR 2018)	Corrected	Ascending aneurysm ≈5.0 cm per paper (4.5 cm is from the Dartmouth tool); pericardial action is MRI or short-term CT; PA “report as dilated”; thymus rule added	ACR 2018 full text
Coronary calcium	Corrected	Agatston groups relabelled as formal-score reference, not visual equivalents; added age ≥40 and UK reporting rules	SCCT/STR 2016; BSCI/BSCCT/BSTI 2021
LCS one-pager (2021)	Corrected	Actions reworded to match (PCP or consult wording; L1 100–130 HU is “consider PCP”, not DEXA)	ACR LCS one-pager
Pineal cyst (ACR 2026)	Still unverified	Definitions and flowchart refined; original paywalled, two summaries agree	rad-call; SERAM
ACR lung findings 2021	Still unverified	Full paper not accessible; abstract only	PubMed

18. Master Source List

Topic	Citation	URL
ACR IF program	ACR Incidental Findings	https://www.acr.org/clinical-resources/clinical-tools-and-reference/Incidental-Findings
Thyroid	Hoang JK et al. JACR 2015;12:143-150	https://pubmed.ncbi.nlm.nih.gov/25456025/
TI-RADS	Tessler FN et al. JACR 2017;14:587-595	https://www.professionalradiology.com/media/user/resources/ACR%20Thyroid%20Imaging%20TI-RADS%20White%20Paper%202017.pdf
Pituitary	Hoang JK et al. JACR 2018;15:966-972	https://www.professionalradiology.com/media/user/resources/PIIS154614401830379X.pdf
Pituitary consensus	Fleseriu M et al. Nat Rev Endocrinol 2025;21:638-655	https://www.nature.com/articles/s41574-025-01134-8
Pineal cyst	Moonis G et al. JACR 2026;23:117-122	https://www.ncbi.nlm.nih.gov/pubmed/41212135
Lung nodules	MacMahon H et al. Radiology 2017;284:228-243	https://pubs.rsna.org/doi/10.1148/radiol.2017161659
Lung-RADS (full table)	ACR Lung-RADS v2022	https://geiselmed.dartmouth.edu/radiology/wp-content/uploads/sites/47/2025/01/Lung-RADS-2022.pdf
Lung-RADS	ACR Lung-RADS v2022	https://cs.acr.org/-/media/ACR/Files/RADS/Lung-RADS/Lung-RADS-2022-Summary-_Final.pdf
Mediastinum/CV	Munden RF et al. JACR 2018;15:1087-1096	https://pubmed.ncbi.nlm.nih.gov/29941240/
Lung findings	Munden RF et al. JACR 2021;18:1267-1279	https://pubmed.ncbi.nlm.nih.gov/34246574/
LCS incidental	ACR LCS IF one-pager 2021	https://thoracicrad.org/wp-content/uploads/2021/11/ACR-LCS-IF-one-pager.pdf
Coronary calcium	Hecht HS et al. SCCT/STR 2016	https://escholarship.org/content/qt43z4z4f4/qt43z4z4f4.pdf
Coronary calcium (UK)	Williams MC et al. BJR 2021;94:20200894	https://pmc.ncbi.nlm.nih.gov/articles/PMC7774698/
Liver	Gore RM et al. JACR 2017;14:1429-1437	https://pubmed.ncbi.nlm.nih.gov/28927870/
LI-RADS	ACR LI-RADS	https://www.acr.org/Clinical-Resources/Clinical-Tools-and-Reference/Reporting-and-Data-Systems/LI-RADS
Gallbladder/biliary	Sebastian S et al. JACR 2013;10:953-956	https://geiselmed.dartmouth.edu/radiology/wp-content/uploads/sites/47/2019/04/incidental_GB_Biliary_2013.pdf
GB polyps	Kamaya A et al. Radiology 2022;305:277-289	https://geiselmed.dartmouth.edu/radiology/wp-content/uploads/sites/47/2024/01/2022-incid-GB-polyp-recs-SRU.pdf

Topic	Citation	URL
Pancreas	Megibow AJ et al. JACR 2017;14:911-923	https://pubmed.ncbi.nlm.nih.gov/28533111/
Spleen/nodes	Heller MT et al. JACR 2013;10:833-839	https://www.radcommons.org/residents/files/general/Spleen%20and%20Lymph%20nodes%20(ACR%202013).pdf
Spleen/nodes (CAR)	CAR 2025	https://journals.sagepub.com/doi/10.1177/08465371251346732
Adrenal	Mayo-Smith WW et al. JACR 2017;14:1038-1044	https://pubmed.ncbi.nlm.nih.gov/28651988/
Kidney	Herts BR et al. JACR 2018;15:264-273	https://pubmed.ncbi.nlm.nih.gov/28651987/
Bosniak v2019	Silverman SG et al. Radiology 2019;292:475-488	https://pmc.ncbi.nlm.nih.gov/articles/PMC6677285/
Adnexa	Patel MD et al. JACR 2020;17:248-254	https://pubmed.ncbi.nlm.nih.gov/31790673/
Adnexal cyst (SRU)	Levine D et al. Radiology 2019	https://pubs.rsna.org/doi/10.1148/radiol.2019191354
O-RADS US	Strachowski LM et al. Radiology 2023	https://pubs.rsna.org/doi/10.1148/radiol.230685
Vascular	Khosa F et al. JACR 2013;10:789-794	https://geiselmed.dartmouth.edu/radiology/wp-content/uploads/sites/47/2019/04/incidental_vascular_2013.pdf
Bone-RADS	Chang CY et al. Skeletal Radiol 2022;51:1743-1764	https://pmc.ncbi.nlm.nih.gov/articles/PMC9283187/
Bone-RADS (ACR)	ACR Bone-RADS	https://www.acr.org/Clinical-Resources/Clinical-Tools-and-Reference/Reporting-and-Data-Systems/Bone-RADS
MSK (CAR)	CAR 2023	https://journals.sagepub.com/doi/full/10.1177/08465371231152151
Hepatobiliary (CAR)	CAR 2020	https://pubmed.ncbi.nlm.nih.gov/32515993/
Pediatric road map	Sammer MBK et al. JACR 2026	https://pubmed.ncbi.nlm.nih.gov/42678316/
CMS measure	MIPS #405	https://qpp.cms.gov/docs/QPP_quality_measure_specifications/Claims-Registry-Measures/2026_Measure_405_MedicarePartBClaims.pdf