TOOLS FOR PRACTICE #410 | March 30, 2026

TOOLS FOR PRACTICE

PEER PATIENTS EXPERIENCE EVIDENCE RESEARCH

Whole-Body MRI for Cancer Screening: Many findings, little benefit

CLINICAL QUESTION

What are the potential benefits and harms of performing whole-body MRI for cancer screening in asymptomatic adults?

BOTTOM LINE

Systematic reviews of observational studies found that 94% of patients who undergo whole-body MRI will have a radiologic abnormality and up to 30% require additional investigations. Ultimately, 1.1-1.6% will have a pathologically confirmed cancer. No data on mortality exists. Whole-body MRI for cancer screening in asymptomatic individuals should not be encouraged.

EVIDENCE

- No randomized controlled trials exist comparing patients who receive whole-body MRI to those who do not. Evidence primarily from 2 systematic reviews of cohort studies of whole-body MRI (commonly head to mid-thigh). Pathological confirmation required for cancer diagnosis.
- Systematic review, 10 studies (9204 adults) between 2015-2025. Patients who underwent whole-body MRI:[1]
    - Confirmed cancers: 1.6%.
        - Most common: prostate, renal, lung, thyroid.
    - 12% had findings requiring additional testing.

    - Higher quality studies that also included >1000 patients:[2,3] Cancer detection rates ~1.2%.
- Systematic review, 12 studies (6214 adults) between 2005-2020. Patients who underwent whole-body MRI:[4]
    - Confirmed cancers: 1.1%.
        - Most common: renal, prostate, lung.
    - 94% of patients had at least one finding; 30% required further investigations.
    - Studies that reported total number of findings averaged ~4.5 findings per person.
- Limitations:
    - No mortality data available.
    - Unable to determine sensitivity/specificity or likelihood ratios, as do not know number of people who tested negative on whole-body MRI who ended up having a cancer.

CONTEXT

- Patients who undergo whole-body MRI have higher downstream health care costs, primarily from additional imaging and speciality consultations.[5]
- Time to perform whole-body MRI depends on machine, sequences captured and protocols, but typically 60-90 minutes.[6,7]
- Body specific MRIs: take 20 (knee) or 30 minutes (brain):[8,9]
    - For every whole-body MRI, clinics could perform ~3 body specific MRIs.
- Body-specific MRIs have greater clinical utility. Example: knee MRI for meniscal tears:[10]
    - Likelihood ratios (LR): positive (LR+) ~8, LR negative-~0.1: good for ruling in and almost essentially rules out meniscal tear in patients with suspected meniscal tears.
- Organizations/guideline groups recommend against using whole-body MRI for screening asymptomatic patients.[11,12]

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