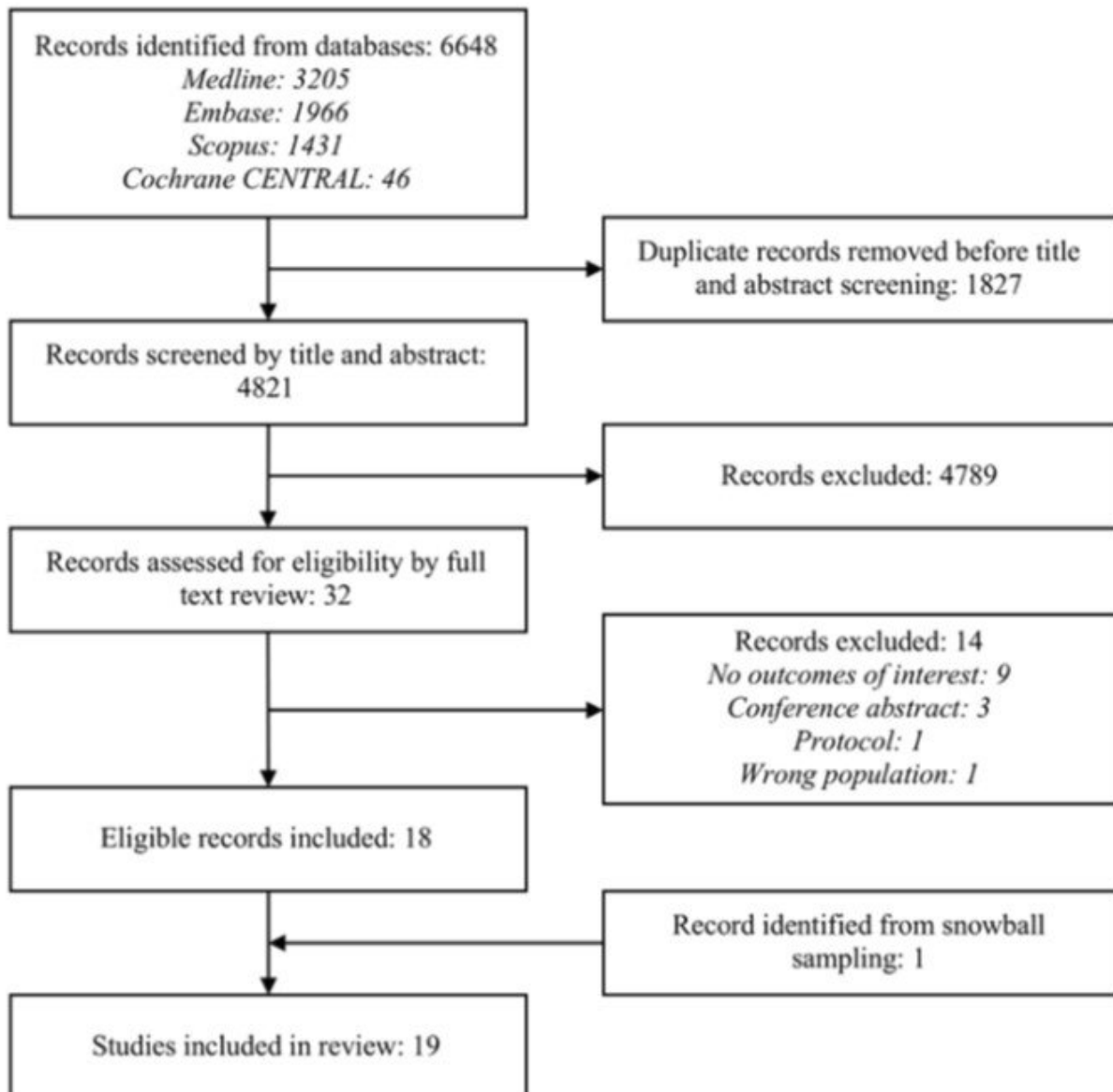


MRI surveillance for postsurgical musculoskeletal soft-tissue sarcomas: Systematic review and meta-analysis

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A total of 4,821 unique titles and abstracts were identified. After screening for eligibility and snowball sampling, 19 studies were included; all were retrospective cohorts. Credit: ARRS/AJR

According to study published in the *American Journal of Roentgenology* (AJR), MRI-based surveillance after surgical treatment of musculoskeletal soft-tissue sarcomas (STS) shows utility for detecting clinically occult local recurrences (LRs), potentially improving patient outcomes.

"When used at a high intensity, MRI-based surveillance can detect many clinically occult LR, although the studies are small, occasionally conflicting, and often of [poor quality](#)," wrote corresponding author Natalia Gorelik, MD, from the department of diagnostic radiology at McGill University Health Center in Montreal, Quebec, Canada. "A [survival benefit](#) could be associated with imaging use, but further research is needed to evaluate the causality of any observed survival differences."

In this AJR [systematic review](#) and meta-analysis, Gorelik et al. systematically searched multiple electronic databases through November 2022 for controlled trials and [cohort studies](#) on the usefulness of MRI-based surveillance for musculoskeletal STS. A total of 4,821 unique titles and abstracts were identified. After screening for eligibility and snowball sampling, 19 studies were included; all were retrospective cohorts.

Using an adapted Newcastle-Ottawa scale for assessing bias risk, random effects meta-analyses of the proportion of LR discovered by MRI, as

opposed to clinically, were conducted. The association of low- versus high-intensity surveillance—high intensity defined as at least one local surveillance imaging examination for low-risk tumors, as well as at least three for high-risk tumors during the first 2 posttreatment years—with the proportion of LR detected on MRI was assessed with a chi-square test of subgroup differences.

Ultimately, when MRI-based surveillance of musculoskeletal STSs was used at a [high intensity](#), 53% (95% CI, 36–71%) of LRs were discovered with MRI. Four studies reported trends toward better survival for imaging-detected LRs or with more frequent imaging use.

"Although definite conclusions on the value of MRI-based surveillance are challenging to draw," the authors acknowledged, "this study provides a comprehensive overview of the available evidence on the topic."

More information: Natalia Gorelik et al, Usefulness of MRI-Based Local Surveillance After Surgical Treatment of Musculoskeletal Soft-Tissue Sarcomas: A Systematic Review and Meta-Analysis, *American Journal of Roentgenology* (2023). [DOI: 10.2214/AJR.22.28865](https://doi.org/10.2214/AJR.22.28865)

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