

SH32. How does unexpected wound drainage influence the risk of PJI? Should it still be included in the minor criteria? What weighted score should it be given in the diagnostic criteria?

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Methodology: A comprehensive literature review was performed to identify all studies on wounds issues after shoulder arthroplasty. Searches for the terms (revision OR infection) AND (shoulder arthroplasty OR shoulder replacement) were performed using the search engines PubMed, EMBASE and Cochrane Library which were searched through April 2024. Inclusion criteria for our systematic review were all English studies (Level I-IV evidence) that reported on shoulder arthroplasty that contains patients revised for infection, or lack thereof, in cases of revision shoulder arthroplasty. Exclusion criteria were non-English language articles, nonhuman studies, retracted papers, case reports, review papers, studies with less than <10 patients in the sample size, studies infection rates, and technique papers without patient data. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) criteria were followed. Overall, 82 articles met inclusion and exclusion criteria and were reviewed.

Answer: Unexpected wound drainage is a nonspecific sign for PJI. It should be included in the minor criteria, as it may indicate an underlying infection, but may also occur in the setting of aseptic wound problems. It should be given a score of 4, unchanged from prior ICM criteria.

Strength of Recommendation: Limited

Rationale: Our systematic review found 73 studies that reported specifically on revision for infection, with 71 (97.3%) providing workup criteria.¹ The most reported clinical variables assessed were the presence of purulence, mentioned by 41 (17.7%) and sinus tracts, mentioned by 39 (16.9%). Others commonly noted were 33 (14.4%) reporting erythema, 25 (10.8%) reporting swelling and 24 (10.4%) reporting drainage. Although very suggestive of infection, these symptoms are not usually considered specific enough to reach with certainty a diagnosis of infection. Drainage could be indicative of a superficial process and not necessarily of a deep underlying issue. In fact, a certain degree of erythema and swelling can be seen in cases of hematoma, allergy or other acute aseptic problem (i.e., periprosthetic fracture or aseptic loosening).

References:

1. Clifford AL HE, Rowe DG, Kiwinda L, Doyle TR, Crook BS, Garrigues GE, Hsu JE, Seyler TM, Anakwenze OA, Klifto CS. How is Infection Diagnostic Criteria for Shoulder Periprosthetic Joint Infection Reported in Literature: Systematic Review. Shoulder Elbow 2024.