

IM reaming with increased rates of infection when compared to non-reamed techniques.

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QUESTION 4: Are antibiotic coated rods (ACRs) and antibiotic coated plates (ACPs) an acceptable alternative to cement only implants?

RECOMMENDATION: Antibiotic-loaded polymethyl methacrylate (AL-PMMA) spacers can be considered an established treatment concept for local antibiotic delivery in osteomyelitis and implant-associated infections.

ACRs and ACPs can also be of value in specific indications, mainly infected non-unions, in order to address both local delivery of antibiotics and biomechanically stable fixation of the non-union site to allow for possible spontaneous bone consolidation.

LEVEL OF EVIDENCE: Limited

DELEGATE VOTE: Agree: 91%, Disagree: 5%, Abstain: 4% (Super Majority, Strong Consensus)

RATIONALE

Biomechanically stable ACRs, such as antibiotic coated interlocking nails, and ACPs exhibit the advantage of additionally providing sufficient biomechanical stability to allow for bone healing in infected non-unions compared to antibiotic delivery only by biomechanically unstable drug carriers. There are only a few limited case series available on biomechanically stable ACRs [1–4] and ACPs with the study of Conway et al. being the largest with 110 patients on locked ACRs that were retrospectively analyzed [1]. A good overall clinical outcome could be accomplished with an overall limb salvage rate of 95% (105/110 patients) in infected non-union and infected arthrodesis.

For ACPs, there is only one case report and one case series with four patients all of whom showed healing of the formerly infected fracture by the use of the ACPs [5,6].

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