

3.1. TREATMENT: GENERAL PRINCIPLES

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QUESTION 1: Can a non-surgical approach be used to treat postoperative spine infections? If so, what factors predict a successful outcome?

RECOMMENDATION: Postoperative spine infections should be treated with irrigation and debridement (with or without implant removal) followed by appropriate antibiotic therapy. Antibiotic suppression without surgical intervention should be attempted in cases where the patient is not a surgical candidate, or in attempt to achieve spinal fusion prior to implant removal.

LEVEL OF EVIDENCE: Strong

DELEGATE VOTE: Agree: 80%, Disagree: 7%, Abstain: 13% (Super Majority, Strong Consensus)

RATIONALE

Postoperative surgical site infections are a major complication that occur between 1 and 12% of all spinal surgeries [1–3]. Treatment varies based on general location in relation to superficial, or deep to the muscular fascia, and the time from initial surgery, with early infections occurring before 90 days and late infections occurring after 90 days.

In the case of superficial wound infections, local debridement, healing by secondary intention and a short course of antibiotics is usually sufficient [4]. Deep surgical site infections, on the other hand, require aggressive irrigation and debridement with or without implant removal. The retention of hardware predominantly depends on if the infection is early or late. Several studies have demonstrated that hardware can be retained successfully following aggressive irrigation and debridement in the setting of early infection, except in cases where the implants are loose or there is bony involvement [5–9]. Optimal treatment of delayed infections is aggressive irrigation and debridement with implant removal [10–12]. In the cases where spinal fusion has been achieved, implant removal is routinely performed. However, in cases of fusion failure or pseudoarthrosis, surgical options include aggressive debridement and irrigation with attempted implant retention, implant removal with primary or delayed reimplantation or implant removal without reimplantation [6,13–16].

Antibiotic suppression without surgical intervention is attempted in cases where the patient is not a surgical candidate, or in an attempt to achieve spinal fusion prior to implant removal.

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