

1.1. PREVENTION: GENERAL PRINCIPLES

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QUESTION 1: What can one do if an inadvertent contamination during instrumented spine surgery occurs?

RECOMMENDATION: There is no data to support a particular strategy in preventing infection after inadvertent contamination of spinal implants.

LEVEL OF EVIDENCE: Consensus

DELEGATE VOTE: Agree: 100%, Disagree: 0%, Abstain: 0% (Unanimous, Strongest Consensus)

RATIONALE

Left uncovered in the operating suite, spinal implants can become contaminated within 30 minutes [1]. There are no human data to support a particular algorithm for management of inadvertent contamination. In animal studies, tobramycin powder has been shown to reduce infection in contaminated spine surgery and vancomycin powder has been shown to reduce infection in contaminated knee surgery [2,3]. At least one suggests that management of inadvertent contamination should be individualized to the clinical situation and stage of surgery, and many surgeons are reluctant to proceed with implant surgery if contamination has occurred. Some experts recommend intraoperative irrigation with solutions containing antibiotics, without supporting data (personal communication).

REFERENCES

- [1] Menekse G, Kusu F, Suntur BM, Gezercan Y, Ates T, Ozsoy KM, et al. Evaluation of the time-dependent contamination of spinal implants: prospective randomized trial. *Spine*. 2015;40:1247–1251. doi:10.1097/BRS.0000000000000944.
- [2] Laratta JL, Shillingford JN, Hardy N, Lombardi JM, Saifi C, Romanov A, et al. Intrawound tobramycin powder eradicates surgical wound contamination: an in vivo rabbit study. *Spine*. 2017;42:E1393–E1397. doi:10.1097/BRS.0000000000002187.
- [3] Edelstein AI, Weiner JA, Cook RW, Chun DS, Monroe E, Mitchell SM, et al. Intra-articular vancomycin powder eliminates methicillin-resistant *S. aureus* in a rat model of a contaminated intra-articular implant. *J Bone Joint Surg Am*. 2017;99:232–238. doi:10.2106/JBJS.16.00127.



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QUESTION 2: How should spine surgery patients with postoperative diarrhea be managed?

RECOMMENDATION: Diarrhea can be managed in a standard approach with careful attention to the surgical site.

LEVEL OF EVIDENCE: Consensus

DELEGATE VOTE: Agree: 93%, Disagree: 0%, Abstain: 7% (Super Majority, Strong Consensus)

RATIONALE

Postoperative diarrhea poses a risk of contaminating the surgical incision. Maintaining a clean and dry surgical site is crucial. Postoperative diarrhea is generally self-limiting but infectious etiologies, especially *C. difficile*, are particularly concerning in the inpatient setting and should be ruled out. After infectious causes are ruled out, a standard approach should be implemented to address diarrhea including discontinuing potentially inciting medication (antibiotics), increasing fiber content and using antisecretory (i.e., bismuth subsalicylate) and antimotility (i.e., loperamide) agents. A balanced

electrolyte rehydration should also be utilized. The use of probiotics and prebiotics can be used in cases of post-antibiotic-associated illness [1].

REFERENCES

- [1] Riddle MS, DuPont HL, Connor BA. ACG Clinical Guideline: diagnosis, treatment, and prevention of acute diarrheal infections in adults. *Am J Gastroenterol*. 2016;111:602–622. doi:10.1038/ajg.2016.126.

