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Managing Hardware-Related Infections: Evidence Based Strategies

Outline

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Factors determining treatment:

1. Host (age, diabetes, immunodeficiency, co-morbidities)
2. Bacteria (resistant: i.e. MRSA, VRE, polymicrobial)
(low-grade, i.e. susceptible: p. acnes, staph. epi,)
3. Acuity (acute < 3 weeks, subacute 3-6 weeks, chronic > 6 weeks)
4. Bone (i.e. union, delayed union, nonunion)
5. Magnitude of intervention required (i.e. simple HR, complex reconstruction)

Treatment Options

1. Simple hardware removal, irrigation and debridement
2. Hardware removal and revision fixation (ex-fix, ORIF)
3. Local antibiotics (pellets, powder, PMMA, antibiotic nail)

References

[Preoperative diagnosis of infection in patients with nonunions.](#)

Stucken C, Olszewski DC, Creevy WR, Murakami AM, Tornetta P.
J Bone Joint Surg Am. 2013 Aug 7;95(15):1409-12

[Maintenance of Hardware After Early Postoperative Infection Following Fracture Internal Fixation](#)

Marschall Berkes, MD, William T. Obrebsky, MD, MPH, Brian Scannell, MD, J. Kent Ellington, MD, Robert A. Hymes, MD, Michael Bosse, MD,
J Bone Joint Surg Am, 2010 Apr 01;92(4):823-828.