

Appendix 1: MON (Maz Oxford Nuffield) Pin Infection Grading System

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| Pin Site Reaction (NOT Infection) Grade 0 | No pain at pin site (s) Able to mobilise Slight pink-redness +/- clear discharge Normal x-ray findings | “Watch site for any changes” |
| MINOR GRADE 1 (Bone not involved) | Signs and Symptoms | Treatment |
| Grade 1 A | Pain at pin site (s) Able to mobilise with analgesia Redness at pin site (s) +/- Discharge of serous / purulent exudate +/- Slight pyrexia +/- Minor local swelling +/- Normal x-ray findings | Increase local pin site care to daily No showers – use dressing pack Swab for Culture & Sensitivity Immediate commencement on oral anti-staphylococcal antibiotic 10 d Discharge Home Elevate limb when resting |
| Grade 1 B | Increasing pain at pin site (s) Unable to mobilise with analgesia Spreading redness at pin site (s) +/- Discharge of serous / purulent exudate +/- Pyrexia +/- Systemic signs of infection +/- Moderate to large local swelling +/- Normal x-ray findings | Increase local pin care to daily No showers – use dressing pack Swab for Culture & Sensitivity Admit. Limb elevation. Increase analgesia IV antibiotics 5-7 days. |
| MAJOR GRADE 2 (Bone is involved) | Signs and Symptoms | Treatment |
| Grade 2 A (Acute) | Same as above + X-ray changes: Periosteal reaction present +/- Bone Lysis | Same as above + If No response to local treatment or IV antibiotics- Remove pin. IV antibiotics 5-7 days Second stage: new pin placement |
| Grade 2 B (Chronic) | Same as above + X-ray changes: Periosteal reaction present Bone lysis +/- loosening of pin +/- Sinus formation +/- Sequestrum (dead bone) | Same as above + Surgery to remove wires / pins / fixator and curettage Sterile Site samples for Culture & Sensitivity Long course antibiotics (guided by Sensitivities) |
| MAJOR GRADE 3 (Bone is involved) | Signs and Symptoms | Treatment |
| (Residual Infection following removal of fixator pin) Grade 3 | Pain / tenderness over old pin tract +/- sinus formation X-ray changes: Ring Sequestrum at old pin tract on x-ray | Debridement of pin tract (s) with drilling & excision of dead bone Sterile site samples for Culture & Sensitivity Long course antibiotics (guided by Sensitivities) |