Surgical Site Infection Prevention Protocol for Total Joint Arthroplasty
(Developed by ID/Stewardship, Infection Prevention & Control, and Orthopaedics)
3/12/18

Pre-Hospital

- Patient Education
- 6 Chlorhexidine Gluconate wipes at home the evening before surgery
- Pre-op evaluation & tight control of blood glucose in Diabetics; Target HgbA1C < 8 if age < 70; < 9 if age > 70
- Smoking cessation strongly emphasized; increased risks discussed with patient
- No intra-articular injections for 3 months prior to surgery

Pre-operative phase:

- Preoperative hair clipping in the ASU if required
- 6 Chlorhexidine Gluconate wipes
- Betadine nasal swab anti-sepsis in the pre-op area

Intra-operative phase:

<table>
<thead>
<tr>
<th>Anesthesia:</th>
<th>All Staff:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Antibiotic prophylaxis as per chart below, 30-60 minutes prior to incision</td>
<td>☑ Scrubs may not be worn outside of the hospital</td>
</tr>
<tr>
<td>☑ The use of antibiotic impregnated cement in patients with DM, CKD, BMI&gt;40 or other conditions at higher risk for infection</td>
<td>☑ Entrance to the OR should only through the sub-sterile.</td>
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<tr>
<th>Surgeon/House-staff:</th>
<th></th>
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<tbody>
<tr>
<td>☑ Surgical field preparation with alcohol followed by 2% chlorhexidine gluconate -70% isopropyl alcohol or Iodine Povacrylex 0.7% available iodine and 74% isopropyl alcohol</td>
<td>☑ Entrance to the OR suite should be kept closed</td>
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<tr>
<td>☑ Use of “space suit” helmet, and gown systems for everyone on the surgical field, including relief staff</td>
<td>☑ OR Room traffic kept to a minimum</td>
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<td>☑ Hand hygiene on entry and exit of rooms</td>
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</table>

I. Preoperative Antibiotic Prophylaxis - **NO history of prior infection:**

- NKDA patients or non-type I hypersensitivity reaction (unknown or remote, non-urticarial rash, etc.):
  - Cefazolin 1-2g based on age, weight, renal function (see below for dosing guidelines)

- Patients with **immediate hypersensitivity reaction** to either penicillin or cephalosporin should NOT get either agent (hives/urticarial, anaphylaxis, angioedema, facial swelling, bronchospasm, or intubation):
  - Vancomycin 1-1.5g infused slowly; based on weight (see below for dosing guidelines)
II. Preoperative Antibiotic Prophylaxis – REVISION after recent infection:

- PLEASE CALL ID/STEWARDSHIP PRIOR TO ALL CASES TO CUSTOMIZE PROPHYLXIS:
  - Patients with history of MRSA infections should receive Vancomycin (1g for patients ≤ 100kg, 1.5g for patients >100kg infused slowly)
  - Patients with history of MSSA or Streptococcal infections should receive Cefazolin 1-2g
  - Patients with history of infection with Gram negatives, Enterococcus, or other bacteria should receive regimen to cover skin flora in addition to specific bacteria – please call ID / Stewardship
  - Patients with immediate hypersensitivity reaction to either penicillin or cephalosporin (hives/urticarial, anaphylaxis, angioedema, facial swelling, bronchospasm, or intubation) should receive Vancomycin (1g for patients ≤ 100kg, 1.5g for patients >100kg)

III. Preoperative Antibiotic Prophylaxis – ACTIVE infection:

- ID consult and stewardship approval required for integration of antibiotics into orthopedic devices during surgery (i.e. vancomycin, gentamicin, tobramycin)
  - Page Dr. Nori at 917-956-3736
- If possible, hold antibiotic prophylaxis until OR specimens obtained for culture. Discuss with ID/stewardship if AFB and/or fungal cultures are needed as these are very rare infections. Prioritize aerobic/anaerobic cultures.

### Antibiotic Dosing Guidelines

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Dose (IV)</th>
<th>Instructions</th>
<th>Suggested intra-op re-dosing interval (nl renal function)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefazolin</td>
<td>1g for weight &lt;60kg, age &gt;80, or CrCl ≤30 ml/min or 2g for weight ≥ 60kg</td>
<td>Slow IV push over 5 min, or infusion over 30-60 minutes</td>
<td>4 hours OR Estimated Blood Loss &gt;1.5L</td>
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<tr>
<td>Severe Penicillin Allergy: Vancomycin (requires stewardship approval after 72h)</td>
<td>1g for weight ≤ 100kg, 1.5g for patients &gt;100kg</td>
<td>DO NOT IV push; avoid infusion reactions: 1g: 60 min infusion 1.5g: 90 min infusion</td>
<td>8-12 hours OR Estimated Blood Loss &gt;1.5L</td>
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</tbody>
</table>

References:


Postoperative

- Maintain glucose below 180mg/dl.
- Antibiotics to continue for **24 hours only** after surgery.
  - Cefazolin 1g Q8H x 2 doses
  - Vancomycin 1g Q12H x 1 dose
- Dressing sterility maintenance for 24 hours from the time of surgery
- ID consult for suspected infections

Please contact Dr. Priya Nori from ID/Stewardship with any questions (917-956-3736)