Periprosthetic knee joint infection survey

Dear Participant,

Periprosthetic knee infection represents a devastating rising problem in the field of knee replacement surgery. The increasing attention to the problem during the last decade has lead to the establishment of basic treatment strategies, generally agreed upon by the majority of knee surgeons. It is however to be underlined that the diversity of facets of each of the commonly adapted treatment algorithms, demonstrates a challenge in identifying the ideal treatment modality for some patients. The following survey has the primary intention of collecting expert opinions on some of the key aspects regarding the treatment of periprosthetic knee infections, the results of which shall subsequently be analyzed and published to allow for an improved reflection of truly agreed on principles.

Infected total knee prosthesis

1. How many primary knee prostheses do you implant each year?
   - □ < 50
   - □ 100 - 200
   - □ 50 - 100
   - □ > 200

2. How many primary knee replacements do you perform annually?
   - Primary total joints
   - Uni Prosthesis
   - CCK
   - Hinged

How many infected total knee prostheses do you diagnose each year? __________________________
3. How many knee replacements do you revise each year for infection reasons?

- Primary total joints: _____
- Uni Prosthesis: _____
- CCK: _____
- Hinged: _____

4. How do you diagnose periprosthetic knee joint infection? (Multiple answers are possible)

**Joint aspiration:**
- Microbiology culture
- Cell count:
  - White cell count (WCC)
  - % PMN
- Histology
- Alpha-Defensin
- C-reactive protein (CRP)
- IL-1/IL-6
- Leukocysterase

**Laboratory Investigation:**
- C-reactive protein (CRP)
- Leukocyte count
- Erythrocyte sedimentation rate (ESR)
- Blood microbiology cultures

**Biopsie:**
- Only 1
- 1-5 Biopsies
- > 5 Biopsies
- Histology
- PCR

**Swab culture**
- Yes
- No

**Sonication**

**Arthroscopic Biopsy**

5. Which imaging investigations do you rely on?
- Plain X-ray: □
- Bone SPECT/CT Scan: □
- Anti-Lekocyte SPECT/CT: □
- PET/CT: □

6. Does duration of symptoms play a role in your therapeutic regime?

- yes: □  no: □

7. Do you differentiate between an Easy and Difficult germ to treat infection?

- yes: □  no: □

8. Do you agree on the following classification of onset of infection?

- Early onset: < 3 months: □
- Delayed onset: 3-12 months: □
- Late onset: > 12 months: □
- From Symptom begin: □
- From the first procedure: □
- Other suggestions: ____________
### 9. How do you treat an infected total knee prosthesis?

<table>
<thead>
<tr>
<th>Early Infection</th>
<th>Late Infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthroscopy</td>
<td>Arthroscopy</td>
</tr>
<tr>
<td>Debridement + PE Change</td>
<td>Debridement + PE Change</td>
</tr>
<tr>
<td>Single - stage by known organism</td>
<td>Single - stage by known organism</td>
</tr>
<tr>
<td>Single – stage regardless of organism</td>
<td>Single – stage regardless of organism</td>
</tr>
<tr>
<td>Two – stage Management:</td>
<td>Two – stage Management:</td>
</tr>
<tr>
<td>- 6 weeks apart</td>
<td>- 6 weeks apart</td>
</tr>
<tr>
<td>- 3 months apart</td>
<td>- 3 months apart</td>
</tr>
<tr>
<td>- When markers are normal</td>
<td>- When markers are normal</td>
</tr>
<tr>
<td>- External Fixation</td>
<td>- External Fixation</td>
</tr>
<tr>
<td>- Mobile Spacer</td>
<td>- Mobile Spacer</td>
</tr>
<tr>
<td>- Static Spacer</td>
<td>- Static Spacer</td>
</tr>
<tr>
<td>Preoperative antibiotic therapy</td>
<td>Preoperative antibiotic therapy</td>
</tr>
<tr>
<td>- No□</td>
<td>- No□</td>
</tr>
<tr>
<td>- Yes □ Duration___________</td>
<td>- Yes □ Duration___________</td>
</tr>
</tbody>
</table>

### 10. Antibiotic therapy:

- Is an infectiologist involved in treatment planning?  
  - Yes □  
  - No □

- Does your therapeutic regime differentiate on an easy or difficult infection to treat microorganisms?  
  - Yes □  
  - No □

- Do you use biofilm penetrative antibiotics (e.g Rifampicin against S. aureus biofilms)?  
  - Yes □  
  - No □

- Do you always perform calculated antibiotic therapy?  
  - Yes □  
  - No □

### 11. Duration of antibiotic therapy?

<table>
<thead>
<tr>
<th>Intravenous</th>
<th>Oral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early infection</td>
<td>Late infection</td>
</tr>
<tr>
<td>Easy to treat germ</td>
<td>Difficult to treat germ</td>
</tr>
</tbody>
</table>

### 12. When would you attempt the revision of the total knee prosthesis? (multiple answers)

- After an antibiotic free interval  
  - Yes □  
  - No □

- Under continuous antibiotic therapy  
  - Yes □  
  - No □

- After 2-4 weeks of antibiotic therapy  
  - Yes □  
  - No □

- After 12 weeks of antibiotic therapy  
  - Yes □  
  - No □

- Other ________________________

THANK YOU FOR YOUR TIME!