### Appendix

#### Management recommendations for patients with metal-on-metal hip replacement implants

<table>
<thead>
<tr>
<th></th>
<th>MoM hip resurfacing (no stem)</th>
<th>Stemmed MoM total hip replacements – femoral head diameter &lt;36mm</th>
<th>Stemmed MoM total hip replacements – femoral head diameter ≥36mm</th>
<th>DePuy ASR™ hip replacements (all types)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptomatic patients</strong></td>
<td>Annual for the life of the implant</td>
<td>According to local protocols</td>
<td>According to local protocols</td>
<td>Annually for the life of the implant</td>
</tr>
<tr>
<td><strong>Asymptomatic patients</strong></td>
<td>According to local protocols</td>
<td>Recommended in all cases</td>
<td>Recommended in all cases</td>
<td>Annually for the life of the implant</td>
</tr>
</tbody>
</table>

#### Imaging: MARS MRI or ultrasound

- **Symptomatic patients**
  - Recommended in all cases
- **Asymptomatic patients**
  - Recommended in all cases

#### 1st blood metal ion level test

- **Symptomatic patients**
  - Yes
- **Asymptomatic patients**
  - No - unless concern exists for cohort or patient becomes symptomatic

#### Results of 1st blood metal ion level test

- Blood metal ion level >7ppb indicates potential for soft tissue reaction
  - **Symptomatic patients**
    - Yes - 3 months after 1st blood test if result was >7ppb
  - **Asymptomatic patients**
    - No - unless concern exists for cohort or patient becomes symptomatic

#### 2nd blood metal ion level test

- **Symptomatic patients**
  - Yes - 3 months after 1st blood test if result was >7ppb
- **Asymptomatic patients**
  - Yes - unless concern exists for cohort or patient becomes symptomatic

#### Results of 2nd blood metal ion level test

- Blood metal ion level >7ppb indicates potential for soft tissue reaction especially if greater than previously
  - **Symptomatic patients**
    - Yes - 3 months after 1st blood test if result was >7ppb
  - **Asymptomatic patients**
    - Yes - unless concern exists for cohort or patient becomes symptomatic

#### Consider need for revision

- **Symptomatic patients**
  - If imaging is abnormal and/or blood metal ion levels rising
- **Asymptomatic patients**
  - If imaging is abnormal and/or blood metal ion levels rising

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*Notes and guidance on next page*
Appendix

Table footnotes:

- Blood metal ion testing to be in whole blood
- 7 parts per billion (ppb) equals 119 nmol/L cobalt or 134.5 nmol/L chromium

Guidance notes

- On the basis of current knowledge, this chart has been produced as a guide to the management of these patients. It will not necessarily cover all clinical situations and each patient must be judged individually.
- MARS MRI scans (or ultrasound scans) should carry more weight in decision making than blood ion levels alone.
- Patients with muscle or bone damage on MARS MRI are those of most concern. A fluid collection alone around the joint in an asymptomatic patient, unless it is very large can be safely observed with interval scanning.
- Local symptoms include pain and limping.