

# Medical Device Alert

Ref: MDA/2012/008 Issued: 28 February 2012 at 11:00

## Device

All metal-on-metal (MoM) hip replacements

## Problem

The MHRA is issuing updated information and advice about the management and monitoring of patients implanted with metal-on-metal (MoM) hip replacements.

## Action

Put **updated** systems in place for the follow-up and investigation of patients implanted with MoM hip (see appendix).

Note: The recommendations in this Medical Device Alert (MDA) replace the advice previously given in MDA/2010/033 and MDA/2010/069.

## Action by

- Medical directors.
- Orthopaedic departments.
- Orthopaedic surgeons.
- Staff involved in the management of patients with joint replacement implants.

## CAS deadlines

Action underway: 28 March 2012

Action complete: 30 April 2012

## Problem

The majority of patients implanted with MoM hip replacements have well functioning hips and are thought to be at a low risk of developing serious problems.

A small number of patients implanted with these hips may, however, develop progressive soft tissue reactions to the wear debris associated with MoM articulations. The debris can cause soft tissue necrosis and adversely affect the results of revision surgery. The MHRA's clinical orthopaedic experts are of the opinion that early revision of poorly performing MoM hip replacements should give a better revision outcome.

Following extensive consultation with the MHRA's clinical orthopaedic experts and in the light of emerging information from the England and Wales National Joint Registry, the MHRA is issuing this **updated** advice to healthcare professionals involved in the management of patients implanted with MoM hip replacements. This advice updates the recommendations for patient follow-up previously given in MDA/2010/033 and incorporates advice on the management of patients implanted with all types of DePuy ASR™ hip replacements previously given in MDA/2010/069. DePuy ASR™ hip replacements were recalled in August 2010.

The MHRA is continuing to monitor the situation in consultation with orthopaedic experts and may issue further advice.

All adverse events should be reported to the MHRA (<http://www.mhra.gov.uk>)

## Action

Follow the advice given in the table in the appendix for the management of patients implanted with MoM hip replacements.

The table identifies four groups of MoM hip replacements:

- MoM hip resurfacing implants
- MoM total hip replacements with head diameter <36mm
- MoM total hip replacements with head diameter ≥36mm
- DePuy ASR™ hip replacements comprising:
  - ASR™ acetabular cups for hip resurfacing arthroplasty or total hip replacement
  - ASR™ surface replacement heads for hip resurfacing arthroplasty
  - ASR™ XL femoral heads for total hip replacement.

The table provides recommendations for follow-up of both symptomatic and asymptomatic patients implanted with MoM hip replacements in each of the above four groups. These include advice on appropriate imaging (Metal Artefact Reduction Sequence (MARS) MRI / ultrasound), blood metal ion levels and situations where revision may need to be considered.

Measurements of cobalt or chromium ions should be carried out:

- in England, Northern Ireland or Wales, by laboratories participating in the Trace Elements External Quality Assessment Scheme (TEQAS) - <http://www.sas-centre.org/home.html>
- in Scotland, by the Scottish Trace Element and Micronutrient Reference Laboratories - Scottish Trace Element and Micronutrient Reference Laboratory - <http://www.trace-elements.co.uk/>

## Distribution

This MDA has been sent to:

- NHS trusts in England (Chief Executives)
- Care Quality Commission (CQC) (Headquarters) for information
- HSC trusts in Northern Ireland (Chief Executives)
- NHS boards in Scotland (Equipment Co-ordinators)
- NHS boards and trusts in Wales (Chief Executives)
- General practitioners (for information)
- Primary care trusts in England (Chief Executives)

### Onward distribution

Please bring this notice to the attention of relevant employees in your establishment. Below is a suggested list of recipients.

#### Trusts

CAS and SABS (NI) liaison officers for onward distribution to all relevant staff including:

- Clinical governance leads
- Medical directors
- Nursing executive directors
- Orthopaedic departments
- Orthopaedic outpatient clinics
- Orthopaedic surgeons
- Outpatient theatre nurses
- Pathologists
- Radiology departments
- Radiology directors
- Risk managers
- Theatre managers

#### Primary care trusts

CAS liaison officers for onward distribution to all relevant staff including:

- Directors of public health
- General practitioners (for information only)
- NHS walk-in centres (for information only)

### Independent distribution

#### Establishments registered with the Care Quality Commission (CQC) (England only)

This alert should be read by:

- Hospitals in the independent sector
- Independent treatment centres
- Private medical practitioners

Please note: CQC and OFSTED do not distribute these alerts. Independent healthcare providers and social care providers can sign up to receive MDAs directly from the Department of Health's Central Alerting System (CAS) by sending an email to: [safetyalerts@dh.gsi.gov.uk](mailto:safetyalerts@dh.gsi.gov.uk) and requesting this facility.

## England

If you are in England, please send enquiries about this notice to the MHRA, quoting reference number **MDA/2012/008** or **2010/004/019/291/007**

#### Technical aspects

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**How to report adverse incidents**

Please report via our website <http://www.mhra.gov.uk>  
Further information about **CAS** can be found at <https://www.cas.dh.gov.uk/Home.aspx>

**Northern Ireland**

Alerts in Northern Ireland will continue to be distributed via the NI SABS system.  
Enquiries and adverse incident reports in Northern Ireland should be addressed to:

Northern Ireland Adverse Incident Centre  
Health Estates Investment Group  
Room 17  
Annex 6  
Castle Buildings  
Stormont Estate  
Dundonald BT4 3SQ  
Tel: 02890 523 704  
Fax: 02890 523 900  
Email: [NIAIC@dhsspsni.gov.uk](mailto:NIAIC@dhsspsni.gov.uk)  
<http://www.dhsspsni.gov.uk/index/hea/niaic.htm>

**How to report adverse incidents in Northern Ireland**

Please report directly to NIAIC, further information can be found on our website <http://www.dhsspsni.gov.uk/niaic>  
Further information about **SABS** can be found at <http://sabs.dhsspsni.gov.uk/>

**Scotland**

Enquiries and adverse incident reports in Scotland should be addressed to:

Incident Reporting and Investigation Centre  
Health Facilities Scotland  
NHS National Services Scotland  
Gyle Square  
1 South Gyle Crescent  
Edinburgh EH12 9EB  
Tel: 0131 275 7575  
Fax: 0131 314 0722  
Email: [nss.irc@nhs.net](mailto:nss.irc@nhs.net)  
<http://www.hfs.scot.nhs.uk/online-services/incident-reporting-and-investigation-centre-irc/>

## Wales

Enquiries in Wales should be addressed to:

Improving Patient Safety Team  
Medical Directorate  
Welsh Government  
Cathays Park  
Cardiff  
CF10 3NQ

Tel: 029 20823922

Email: [Haz-Aic@wales.gsi.gov.uk](mailto:Haz-Aic@wales.gsi.gov.uk)

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**Appendix**

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

	MoM hip resurfacing (no stem)		Stemmed MoM total hip replacements – femoral head diameter <36mm		Stemmed MoM total hip replacements – femoral head diameter ≥36mm		DePuy ASR™ hip replacements (all types)	
	Symptomatic patients	Asymptomatic patients	Symptomatic patients	Asymptomatic patients	Symptomatic patients	Asymptomatic patients	Symptomatic Patients	Asymptomatic patients
<b>Patient follow-up</b>	Annually for not less than five years	According to local protocols	Annually for not less than five years	According to local protocols	Annually for life of implant	Annually for life of implant	Annually for life of implant	Annually for life of implant
<b>Imaging: MARS MRI or ultrasound</b>	Recommended in all cases	<b>No</b> - unless concern exists for cohort or patient becomes symptomatic	Recommended in all cases	<b>No</b> - unless concern exists for cohort or patient becomes symptomatic	Recommended in all cases	Recommended if blood metal ion levels rising	Recommended in all cases	Recommended in all cases
<b>1<sup>st</sup> blood metal ion level test</b>	<b>Yes</b>	<b>No</b> - unless concern exists for cohort or patient becomes symptomatic	<b>Yes</b>	<b>No</b> - unless concern exists for cohort or patient becomes symptomatic	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Results of 1<sup>st</sup> blood metal ion level test</b>	<i>Blood metal ion level &gt;7ppb indicates potential for soft tissue reaction</i>		<i>Blood metal ion level &gt;7ppb indicates potential for soft tissue reaction</i>		<i>Blood metal ion level &gt;7ppb indicates potential for soft tissue reaction</i>	<i>If blood metal ion level &gt;7ppb then second blood test required 3 months later</i>	<i>Blood metal ion level &gt;7ppb indicates potential for soft tissue reaction</i>	<i>If blood metal ion level &gt;7ppb then second blood test required 3 months later</i>
<b>2<sup>nd</sup> blood metal ion level test</b>	<b>Yes</b> - 3 months after 1 <sup>st</sup> blood test if result was >7ppb		<b>Yes</b> - 3 months after 1 <sup>st</sup> blood test if result was >7ppb		<b>Yes</b> - 3 months after 1 <sup>st</sup> blood test if result was >7ppb	<b>Yes</b> - 3 months after 1 <sup>st</sup> blood test if result was >7ppb	<b>Yes</b> - 3 months after 1 <sup>st</sup> blood test if result was >7ppb	<b>Yes</b> - 3 months after 1 <sup>st</sup> blood test if result was >7ppb
<b>Results of 2<sup>nd</sup> blood metal ion level test</b>	<i>Blood metal ion level &gt;7ppb indicates potential for soft tissue reaction especially if greater than previously</i>		<i>Blood metal ion level &gt;7ppb indicates potential for soft tissue reaction especially if greater than previously</i>		<i>Blood metal ion level &gt;7ppb indicates potential for soft tissue reaction especially if greater than previously</i>	<i>If blood metal ion levels rising - further investigation required including imaging</i>	<i>Blood metal ion level &gt;7ppb indicates potential for soft tissue reaction especially if greater than previously</i>	<i>Blood metal ion level rising indicates potential for soft tissue reaction</i>
<b>Consider need for revision</b>	If imaging is abnormal and/or blood metal ion levels rising		If imaging is abnormal and/or blood metal ion levels rising		If imaging is abnormal and/or blood metal ion levels rising	If imaging is abnormal and/or blood metal ion levels rising	If imaging is abnormal and/or blood metal ion levels rising	If imaging is abnormal and/or blood metal ion levels rising

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.