From Dr Sarah Wollaston MP, Chair

Rt Hon Jeremy Hunt MP
Secretary of State for Health

30 October 2017

Dear Jeremy,

I understand from correspondence to the Committee that concerns have been raised about the safety and efficacy of metal-on-metal (MoM) hip implants. I understand there were at least 31,171 MoM hip implants in the UK between 2003 and 2011, of which many were subject to failure, and wide scale recalls and revisions have followed. Concern has been raised with me about research, including that commissioned by BMC Psychiatry, which I am told may show neurocognitive and depressive deficits after cobalt and chromium metallosis following MoM implant failure, which the report suggests may have implications for public health.

I am sure you will be aware of the All Party Parliamentary Group on Dementia’s focus on neurocognitive deficits and their causation, as expressed in their report of 2016, ‘Dementia Rarely Travels Alone: living with dementia and other conditions’. I would be grateful if you could let me know what assessment your Department has made of any possible risks of MoM implants to patient wellbeing, and whether, following new research such as that published by BMC Psychiatry, your risk assessment of the treatment has changed.

I would also be grateful if you could let me know what policy responses the Government has considered to ensure that MoM implants do not continue to be used without due consideration of the concerns raised.

I would expect the Committee to wish to publish your response. I should also inform you that I am writing in similar terms to the Chief Executive of the Medicines and Healthcare products Regulatory Agency, Dr Ian Hudson.

Yours sincerely,

Dr Sarah Wollaston MP
Chair of the Committee
From Dr Sarah Wollaston MP, Chair

Medicines and Healthcare Products Regulatory Agency

30 October 2017

Dear Dr Hudson,

I understand from correspondence I have received that concerns have been raised about the safety and efficacy of metal-on-metal (MoM) hip implants. I understand there were at least 31,171 MoM hip implants in the UK between 2003 and 2011, of which many were subject to failure, and wide scale recalls and revisions have followed. Concern has been raised with me about research, including that commissioned by BMC Psychiatry, which I am told may show neurocognitive and depressive deficits after cobalt and chromium metallosis following MoM implant failure, which the report suggests may have implications for public health.

I am sure you will be aware of the All Party Parliamentary Group on Dementia’s focus on neurocognitive deficits and their causation, as expressed in their report of 2016, ‘Dementia Rarely Travels Alone: living with dementia and other conditions’. I would be grateful if you could let me know what assessment your agency has made of any possible risks of MoM implants to patient wellbeing, and whether, following new research such as that published by BMC Psychiatry, your risk assessment of their use has changed.

I would also be grateful if you could let me know what policy recommendations your agency has considered to ensure that MoM implants do not continue to be used without due consideration of any potential negative effects on psychological health.

I would expect the Committee to wish to publish your response. I should also inform you that I am writing in similar terms to the Secretary of State for Health, the Rt Hon Jeremy Hunt MP.

Yours sincerely,

Dr Sarah Wollaston MP
Chair of the Committee
Dear Dr Wollaston,

Correspondence number 13795

Thank you for your letter dated 30th October 2017, relating to the safety and efficacy of metal-on-metal (MoM) hip implants, and for highlighting the work of the All Party Parliamentary Group on Dementia. You have asked MHRA to inform you of any policy recommendations MHRA has considered to ensure that MoM implants do not continue to be used without due consideration of any potential negative effects on psychological health.

The MHRA has been proactive in monitoring patients with this type of device. This has been done through monitoring adverse incidents reported directly via the MHRA’s yellow card reporting system and from reports from elsewhere; such as through the information held by the National Joint Registry of England, Wales Northern Ireland and Isle of Man (NJR), scientific literature reviews, regular dialogue with clinicians and our Expert Advisory Group (EAG).

MHRA first issued safety advice in relation to the issue of device failure with an associated local soft tissue reaction in 2010, and again in 2012. The latest update to the advice was published via a medical device alert (MDA/2017/018) in June 2017. The updated advice is to ensure all patients continue to receive the appropriate level of care, and provides recommendations for follow-up of both symptomatic and asymptomatic patients implanted with MoM hip replacements. These include guidance on appropriate imaging (Metal Artefact Reduction Sequence (MARS) MRI / ultrasound), blood metal level tests and situations where revision may need to be considered.

MHRA is aware of a small number of scientific publications which has looked for an association between MoM joint replacements and systemic issues such as neurocognitive deficit and cardiac failure in relation to a rapidly wearing hip. Currently the relationship between blood ion levels and systemic problems are complex and not well understood. This is because many of these symptoms are relatively common, non-specific and can be related to a great number of other conditions. It is known these symptoms are not always found in patients with high levels of metal ions and may occur even in the absence of a hip replacement.
MHRA has recently tasked an independent Orthopaedic Expert Advisory Group (OEAG), which includes leading clinical experts from non-orthopaedic specialities, to review the available literature and provide MHRA with expert opinion and recommendations from their findings. The group will consider whether it is necessary to take any additional steps as part of MHRA’s regulatory responsibilities to ensure greater patient safety in relation to metal-on-metal hip joint replacements. Discussions on the scientific literature on this subject included the paper published by BMC Psychiatry referenced in your letter, and more detailed comment will be made when our independent experts formally present their findings to the Chair in writing. At present none of the findings discussed would indicate a requirement for regulatory action.

To date the majority of complications associated with metal-on-metal hips continues to be local soft tissue reactions around the hip. In line with current scientific understanding and expert advice provided to MHRA, it is clear a blood metal ion test may give an indication of a failing hip replacement, however, there is currently insufficient evidence of a definitive link with the symptoms of systemic upset and elevated metal ion levels to warrant additional testing in patients with well-functioning hips. This is because, as stated above, many of these symptoms are relatively common, non-specific and are related to a great number of other conditions.

MHRA has collaborated with the clinical community and the National Joint Registry to look at the most serious potential systemic effects such as cancer. This provided reassurance that metal on metal hip replacements were not associated with cancer in the first 7 years of implantation: Risk of cancer in first seven years after metal-on-metal hip replacement compared with other bearings and general population: linkage study between the National Joint Registry of England and Wales and hospital episode statistics

Further information can be found at: http://www.njrcentre.org.uk/njrcentre/Research/NJRIndepthstudies/tabid/315/Default.aspx

MHRA have also commissioned a data linkage study to look for an association between MoM patients and cardiac failure and we expect this study is about to be published in the Bone and Joint Journal. Relating to this, the same research centre has recently published a study looking for correlation between MoM hips and cardiac toxicity: Assessing for Cardiotoxicity from Metal-on-Metal Hip Implants with Advanced Multimodality Imaging Techniques.

Clinicians will consider the risks and benefits of implantable medical devices when they select a hip replacement device for their patient. The 14th annual NJR report indicates that the use of MoM bearings including resurfacing has declined drastically and is currently performed in very low numbers making up less than 1% of all cases in 2016.


MHRA has undertaken a considerable amount of work regarding metal-on-metal hip replacements since concerns were raised about their performance and complications related to their premature wear. This work continues and is being carried out with the cooperation and collaboration of independent external experts and the various manufacturers involved.

It is recognised that the clinical and scientific community may not know all of the long term effects from a failure of these implants and it is for this reason the MHRA and the clinical community remain vigilant. The MHRA will review and consider updating its advice as new information becomes available.
Yours sincerely,

Dr Ian Hudson,
Chief Executive Officer
Medicines and Healthcare Products Regulatory Agency
151 Buckingham Palace Road, London, SW1W 9SZ
www.mhra.gov.uk
Dear Dr Wollaston,

Thank you for your letter dated 30th October 2017, relating to the safety and efficacy of metal-on-metal (MoM) hip implants.

I am aware that Dr Ian Hudson, chief executive of the Medicines and Healthcare products Regulatory Agency, has provided advice and we will continue to monitor the situation with interest.

Yours sincerely,

Jeremy Hunt
From Dr Sarah Wollaston MP, Chair

Medicines and Healthcare Products Regulatory Agency 1 December 2017

Dear Dr Hudson,

Thank you for your reply to my correspondence regarding the safety and efficacy of metal-on-metal (MoM) hip implants. You provide a comprehensive summary of the approaches that the MHRA is adopting in response to the concerns raised.

Despite this, further concern has been raised with me that, in addition to the relatively well publicised issues with MoM hip implants specifically, there are further apprehensions surrounding the risks of Chrome-Cobalt alloys in the making of any Orthopaedic implants. While MoM hip implants are included in these fears, the scope of potential implants affected extends to include a much more diverse range of cases.

I have been informed that, while Chrome-Cobalt alloys were authorised for use in a variety of Orthopaedic implants around forty years ago, there has yet to have been a full scale clinical review of their propensity towards toxicity and the relevant side effects this risks causing. Given the toxicity issues already identified in relation to MoM hip implants, which are demonstrated by the MHRA’s safety advice in relation to device failure with an associated local soft tissue reaction in 2010 and 2012, it has been suggested to me that the safety of Chrome-Cobalt alloys in Orthopaedic implants could demand review.

I would again be very grateful if you could know what policy recommendations your agency has considered around Chrome-Cobalt implants, and whether these differ from the approaches you have adopted towards MoM hip implants in particular.

I would expect the Committee to wish to publish your response to this communication along with your reply to my original correspondence.

Yours sincerely,

Dr Sarah Wollaston MP  
Chair of the Committee
Dear Dr Wollaston,

Thank you for your letter dated 1st December in which you have asked MHRA about policy recommendations our agency may have considered around chrome-cobalt alloys being used in orthopaedic implants, and whether these differ from the approaches we have adopted towards Metal on Metal (MoM) hip implants in particular.

As you know, the Agency is responsible for overseeing the implementation and adherence to the EU Medical Device Directives. It would be up to manufacturers to determine the composition of materials used in the manufacture of medical devices and demonstrate that their selection and the device comply with the various regulations.

Metal alloys used in orthopaedic implants vary in composition and any potential risk to health from these alloys will be influenced by the mechanical and biocompatibility properties, and the intended use of the particular device and its application. For example, an articulating joint implant may have potential to wear in a way a non-articulating or non-load bearing device will not.

Under the European Medical Device Directive [93/42/EEC] the manufacturer of orthopaedic implants will assess the risks of a particular device to patients of the finished product. As part of this they must mitigate any residual risk to the lowest practical level. The risk assessment is unique to each device. Manufacturers’ assessment will consider the risks and benefits of their device and factors such as the type of device, intended conditions of use, degree and duration of patient contact, the benefit gained from use of the device and potential of the device to cause harm. The potential for materials to leach or wear from the device will also be considered.

Biocompatibility is often defined as the ability of a material to perform with an appropriate host response in a specific application. The manufacturer will add the biocompatibility and mechanical data of the device to the technical documentation. The manufacturer’s technical documentation including their safety assessment is assessed by an independent organisation called a Notified Body as part of the CE certification process. Notified Bodies are designated by Competent Authorities in the member states of Europe. A manufacturer can choose any Notified Body with the appropriate assessment scope in the UK or other European country to attain CE Mark certification.

Despite the due diligence of pre-clinical testing and modelling it is unfortunately inevitable some problems will be unforeseen and may only emerge after a device is placed on the market from experience gained through clinical use of the device. It is, therefore, important for manufacturers to continue to monitor the performance of their device and have a post market surveillance system in
place to detect problems and take appropriate safety action when required. In addition to the
manufacturer directly monitoring the safety of their devices, MHRA also has a role in monitoring the
safety of devices in the marketplace. MHRA monitors adverse incident reports submitted to MHRA by members of the public,
healthcare professionals and the device manufacturer. MHRA will also review emerging evidence
from the scientific literature and from working with our collaborating organisations such as the
National Joint Registry system and professional organisations. As part of our risk assessment we
can engage with independent experts and expert advisory groups who can provide us with advice on
the need for safety action. The identification of a local soft tissue reaction associated with wear debris
from metal on metal hip replacements, which are predominately made of cobalt-chrome alloys, is one
such example of a problem identified in the post market surveillance phase and where timely MHRA
safety advice was issued to facilitate early detection of a MoM hip implant failing with a local soft
tissue reaction. This was to ensure the best possible outcomes for the patient when they need a
revision.

You asked if MHRA has issued any specific policy statements about cobalt-chrome implants. Our
current safety guidance is specifically for monitoring patients with MoM hip replacement implants.
This is because we do not currently have evidence to indicate a need for further safety advice
regarding all implants which have these metals.

However, as mentioned in our previous reply, MHRA has undertaken a considerable amount of work
regarding hip implants with these cobalt-chromium alloys. This included seeking advice in 2006 from
the Committee on Mutagenicity of chemicals in Food, Consumer Products and the Environment
(COM) on the genotoxic risk from wear of metal on metal hip replacements containing cobalt and
chromium metals. MHRA then set up an expert working group to assess the clinical significance of
the COM findings and to put these into a risk-benefit context. This was communicated to relevant
stakeholders at the time. MHRA has, since then, continued to monitor relevant scientific
developments in close association with the British Orthopaedic Association and information from data
collected by the National Joint Registry of England Wales, Northern Ireland and the Isle of Man.

More recently, our Orthopaedic Expert Advisory Group (OEAG) has considered the putative issue of
systemic problems from orthopaedic devices containing cobalt-chromium alloys. They considered a
pragmatic approach to help establish if there is a cause for concern would be to firstly focus on
problems from MoM orthopaedic hip implants. MHRA will consider the findings and recommendations
from the OEAG and take further action if needed.

In addition, MHRA has been proactive by looking at how we can contribute to the improvement of
relevant standards which can be used to demonstrate compliance with new emerging implants. In this
regard, MHRA has recently become a member of the national committee for the biological evaluation
of medical devices who work on the development and revision of the standards which can be used by
manufacturers. MHRA has also recently participated in a European Committee for standardisation
(CEN) workshop, which is currently developing guidance for measuring the biological impact of wear
particles. This group are aiming to publish their initial guidance early next year.

I hope this goes some way to explain how the medical device regulations and how MHRA is
contributing to the continuing improvement of safety of metal orthopaedic implants and other medical
devices. I mentioned in my last correspondence to you that MHRA commissioned a data linkage
study to look for an association between MoM patients and cardiac failure and expect this study to be
published in the Bone and Joint Journal. I will update you with the publication when it becomes
available.

Yours Sincerely