



MEDICAL DEVICE RESEARCH

MEDICAL DEVICE RESEARCH AUSTRALIA PTY LTD

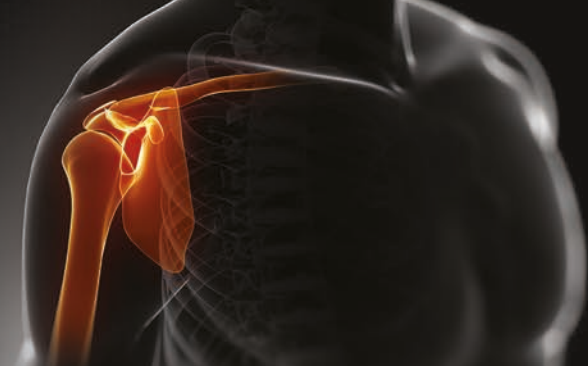
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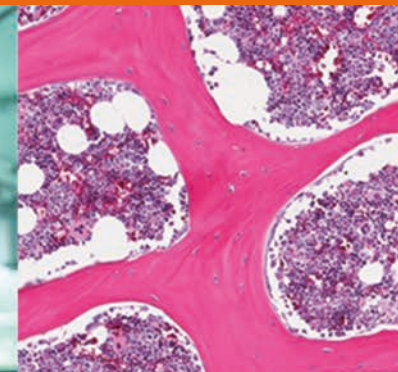
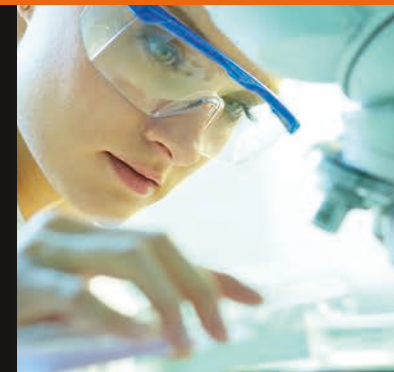
insight

analysis

understand

MDR is an international team of biomedical engineering consultants that specialise in the research, design, analysis and testing of medical devices and associated products. Our aim is to:

“Provide insight through analysis
and understanding”



Implant
Retrieval
Analysis



Did you know that if an implant is revised before 8 years then it might be considered an adverse event by the TGA?

An adverse event requires an investigation into the cause of the revision of the implant, and the sponsoring company is required to report the incident to the Therapeutic Goods Agency (TGA)*. The aim of this initiative is to identify trends of revisions with particular devices at an early stage to avoid putting additional patients at risk.

*Verbal communication with TGA

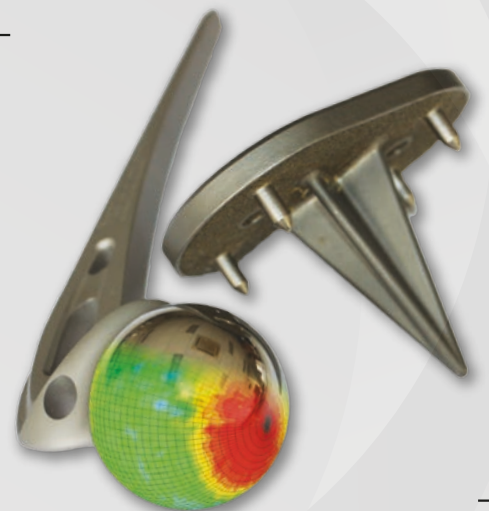
When implants are retrieved and analysed, important information can be learnt from the failures. Medical Device Research (MDR) Australia specialise in the analysis of prematurely revised implants to determine the mode of failure using a range of specifically designed tests. MDR Australia holds a database of information from previously analysed implant revisions which helps to identify the reasons for any subsequent revisions.

“The only real mistake is the one from which we learn nothing.”

- John Powell

Premature revision of implants occurs for a variety of reasons, and information from retrieved implants is extremely valuable to both surgeons and manufacturers.

The knowledge gained from revised devices can be used to change both clinical practice and implant design leading to improved implant longevity.



MDR Australia can perform a number of testing protocols on the retrieved samples, including histopathology, engineering, trace element analysis and radiology.

These diagnostic tests include:

- Analysis of metal ion and oxide levels in whole bloods, plasma and tissue
- Histological analysis of periprosthetic tissue
- Macro and microscopic analysis of implant surfaces
- Image analysis of in/ongrowth surfaces (LM, SEM)
- Fractography of structural failures (SEM)
- X-Ray investigative techniques (XPS, XRD, EDX)
- Mass spectrometry investigative techniques (ICP-MS/AES)
- Wear assessment of bearing interfaces (CMM/FEA)
- High end imaging techniques (hot & cold neutron beams, synchrotron)

MDR Australia can customise the implant retrieval analysis to obtain the key information to to suit any budget.

For a complete list of tests or more information on MDR visit:
www.mdresearch.com.au

