

Orthopaedic Research

An aerial photograph of Bournemouth, UK, showing the coastline, the sea, and a large island in the foreground. The water is a deep blue, and the land is green with some buildings. A large ship is visible in the water.

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Orthopaedic Research Team

- 7 year history
- Partnerships with industry and academia
- Self funding
- Clinical lead, 2 Clinical fellows, Clinical Researcher, and Pathway and Research Manager

Research team model based on fellowship experience

- Prof Don Howie, University of Adelaide
- Combining clinical and research work

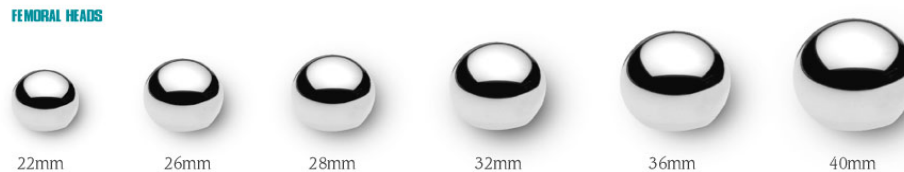


Middleton RG, Howie DW, Costi K, Sharpe P. Effects of design changes on cemented tapered femoral stem fixation. Clin Orthop Relat Res. 1998 Oct;(355):47-56.

Howie DW, Middleton RG, Costi K. Loosening of matt and polished cemented femoral. J Bone Joint Surg Br. 1998 Jul;80(4):573-6

Big Head Little Head Trial

- Multi-centre international RCT – 650 patients
- Unequivocally shows for the first time that, compared to a 28 mm articulation, a 36 mm articulation reduces the incidence of dislocation in the first year following THR

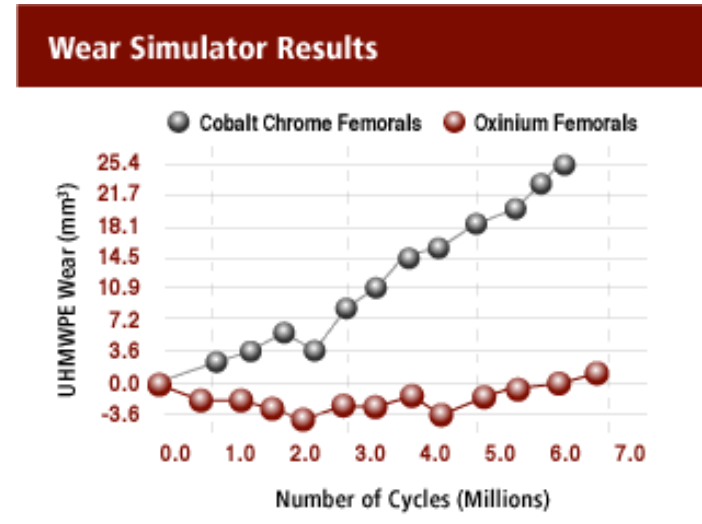


Holubowycz O, Howie DW, Middleton RG. Large articulations reduce early dislocation after hip replacement: a randomized controlled trial. Podium Presentation. AAOS Feb 2009. Las Vegas USA.

Holubowycz O, Howie DW, Middleton RG. Implant-related revision after primary total hip replacement in a randomized trial of articulation size. Podium Presentation. EFORT June 2009. Vienna, Austria.

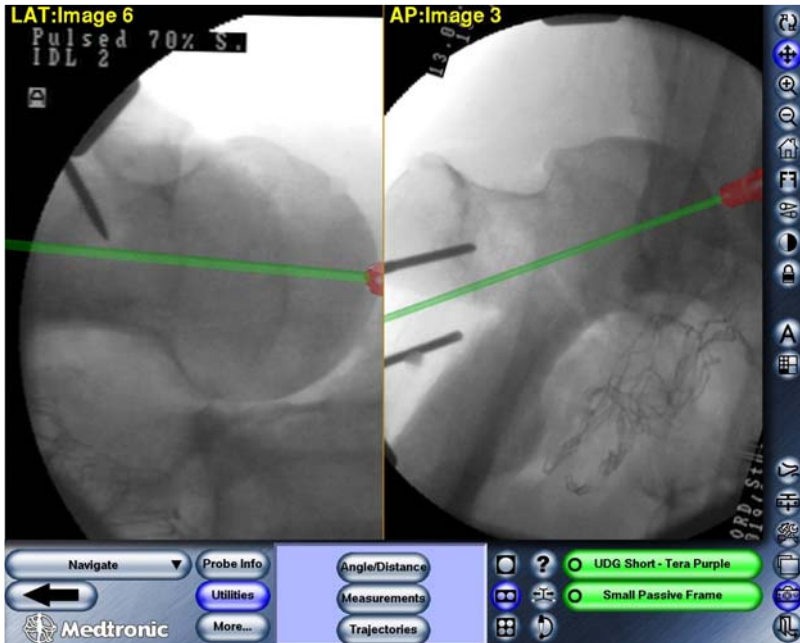
Alternate Bearing surfaces

- Oxinium Trial
- Multi-centre RCT
- Ongoing – comparing wear rates between oxinium and cobalt chrome



Sandhu HS, Middleton RG. Controversial topics in orthopaedics: ceramic-on-ceramic. Ann R Coll Surg Engl. 2005 Nov;87(6):415-6

Computer Navigated Hip Resurfacing



Middleton RG, Olyslaegers C, Wainwright TW. Computer Navigation: Improving Outcomes with Hard on Hard Bearings . In Chang J and Billau K (Eds) 2007. Bioceramics and Alternative Bearings in Joint Arthroplasty. Springer Publications: New York.

Middleton RG, Wainwright TW, Edwards S, Serjeant S. Fluoroscopic image guided vs imageless navigation in hip resurfacing. Podium Presentation. 6th Annual CAOS Conference 2006. Montreal, Canada.

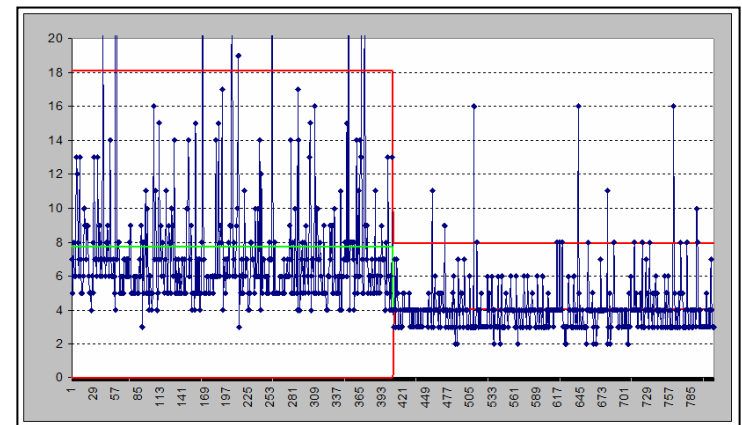
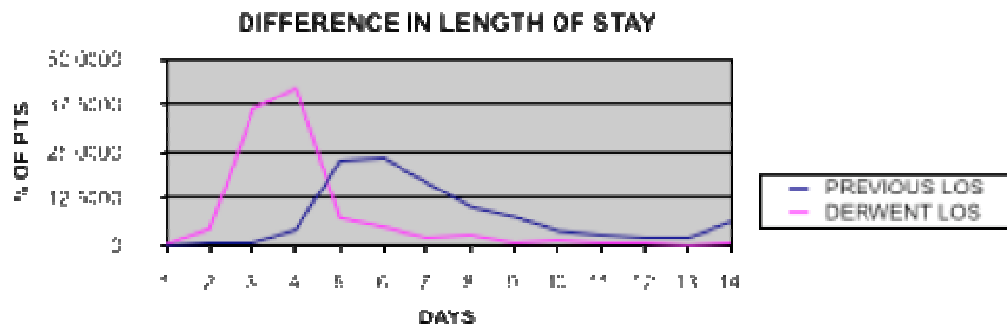
DVT Prophylaxis Trials

- Fondaparinux – study completed
- Odiparcil – study aborted
- Orthopaedics presents good opportunities
- Potential for partnerships



Pathway development

- 50% reduction in length of stay for over 2500 hip and knee replacement patients
- Service improvement methodology



TW Wainwright, C Olyslaegers, B Vingerhoeds, RG Middleton. Adopting a patient-centered pathway for hip and knee replacement patients delivers improvement in all dimensions of healthcare quality. Podium Presentation. The International Society for Quality in Health Care 25th International Conference, Copenhagen, October 2008.

Future Projects/Collaborations

- 2 proposals submitted with the BU Software Systems Research Centre (RfPB and RISC funding)

“Using software process modelling principles to develop a methodology for evaluating the extent to which individual clinical microsystems are designed around the patient”

Future Projects/Collaborations

- Cochrane review title accepted - *“Hip Resurfacing Versus Hip Replacement for Osteoarthritis in Young, Active Adults”*
- Further orthopaedic device studies
- Potential for drug trials
- Planned PhD studentship within the orthopaedic research team

In summary

- Orthopaedic research has come a long way in the last 7 years
- We have developed an internationally recognised reputation in 3 fields
- In the next 7 years we would like to partner with BU to develop our research and explore new avenues

Thank you

A sunset scene over a beach. The sun is low on the horizon, casting a bright orange glow across the sky and reflecting on the water. In the background, the silhouette of a pier or industrial building is visible against the bright sky. The foreground shows the dark sand of the beach and gentle waves washing onto the shore.

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