

# Arthroplasty Society of Australia

## Annual Scientific Meeting

Hyatt Hotel Canberra  
30 April – 3 May 2008



# PROGRAM & ABSTRACTS

# CONTENTS PAGE

			PAGE
<b>PROGRAM</b>			<b>2</b>
<b>ABSTRACT 1</b>	Dr Al Burns	The use of VAC dressings in difficult arthroplasty wounds	<b>5</b>
<b>ABSTRACT 2</b>	Dr Graham Lowe	Late Infection of Total Hip Arthroplasty treated with V.A.C. (Vacuum Assisted Closure) system	<b>6</b>
<b>ABSTRACT 3</b>	Dr Roger Westh	Trabecular Metal Screws for Avascular Necrosis of the Femoral Head A Small Case Series	<b>7</b>
<b>ABSTRACT 4</b>	Dr Berni Einoder	Ceramic bearing failure – illustrative cases and analysis of causes	<b>8</b>
<b>ABSTRACT 5</b>	Prof Don Howie	Techniques in femoral impaction bone grafting including mechanical vibration	<b>9</b>
<b>ABSTRACT 6</b>	Dr David Bracy	The place of Unicompartmental Knee Arthroplasty	<b>10</b>
<b>ABSTRACT 7</b>	Dr Peter Lewis	Retrospective review of the Avon Patellofemoral Replacement	<b>11</b>
<b>ABSTRACT 8</b>	Dr Nigel Broughton	The Rotating Hinge Knee: Indications, results and complications from 15 cases.	<b>12</b>
<b>ABSTRACT 9</b>	Dr Al Burns	The cost effectiveness of revision TKA	<b>13</b>
<b>ABSTRACT 10</b>	Dr Roger Paterson	Arthrodesis for Proximal Tibio-Fibular Joint (PTFJ) Pain	<b>14</b>
<b>ABSTRACT 11</b>	Dr Tim McTighe	A New Approach To Neck Sparing THA Stem	<b>15</b>
<b>ABSTRACT 12</b>	Dr John Harris	The functional anatomy of the Ligamentum Teres	<b>16</b>
<b>ABSTRACT 13</b>	Dr Ron Sekel	Early Results of a Modular Hip Replacement Stem - Prospective Clinical Trial of 45 patients	<b>17</b>
<b>ABSTRACT 14</b>	Dr Bill Walter	Long term results of cementless total hip replacement for reversal of hip ankylosis	<b>18</b>
<b>ABSTRACT 15</b>	Dr Dick Beaver	The Margron prosthesis: My experience with a cohort of tapered cone, threaded modular stems for total hip arthroplasty	<b>19</b>
<b>ABSTRACT 16</b>	Dr Tim McTighe	A Novel Approach to Reduction of Wear In THA	<b>20</b>
<b>ABSTRACT 17</b>	Dr Andrew Shimmin	Bone density changes above a BHR acetabular component compared to a cemented acetabulum in conventional total hip arthroplasty	<b>21</b>
<b>ABSTRACT 18</b>	Dr Stephen Graves	Outcomes of resurfacing, relationship to head size – data from the Australian National Joint Replacement Registry	<b>22</b>
<b>ABSTRACT 19</b>	Dr Neil Bergman	Clinical and radiological results of a porous tantalum acetabular system in revision hip surgery	<b>23</b>
<b>ABSTRACT 20</b>	Prof Don Howie	Reporting survival of total hip replacement -The cemented polished double taper stem in young patients	<b>24</b>
<b>ABSTRACT 21</b>	Dr Richard De Steiger	Practice change in the light of Registry data and personal audit	<b>25</b>
<b>ABSTRACT 22</b>	Dr Greg Keene	Surgery Learning Curves and the National Joint Registry	<b>26</b>

## A NEW APPROACH TO NECK SPARING THA STEM

**TIMOTHY MCTIGHE, Dr. H.S. (hc)\***

**IAN WOODGATE, M.D.,**

**ALLEN TURNBULL, M.D.,**

**JOHN HARRISON, M.D.,**

**JOHN KEGGI, M.D.,**

**ROBERT KENNON, M.D.,**

**LOUIS KEPPLER, M.D.,**

**DECLAN BRAZIL, PhD.,**

**HUGH U. CAMERON, M.B., F.R.C.S.**

\*Joint Implant Surgery & Research Foundation, Chagrin Falls, Ohio, USA



### INTRODUCTION:

Architectural changes in the proximal femur after THA continue to be a problem. In an attempted, to reduce these changes some surgeon designers have advocated the concept of neck sparing stem designs.

To-date neck-sparing stems have been disappointing in their ability to maintain the calcar. A new approach was undertaken to improve load transfer and to create a tissue-sparing stem that would be simple in design, reproducible in technique and provide for fine-tuning joint mechanics while maintaining compressive loads to the calcar.

### METHODS:

Review of previous published work was evaluated along with FEA modeling in creating a new approach to neck sparing stems for THA.

The MSA™ Stem is a simple curved stem with a unique lateral T-back designed for torsional stability, ease of preparation and insertion. The proximal design has a novel proximal conical shape designed to transfer compressive forces to the calcar.

A modular neck provides for fine-tuning joint mechanics.

### RESULTS:

FEA modeling will be reviewed. Strain patterns for the MSA™ stem demonstrated better patterns vs. long stems or the short Biodynamic stem.

### DISCUSSION:

In theory neck retaining devices provide for:  
 Bone and Tissue sparing  
 Restoration of joint mechanics  
 Minimal blood loss  
 Potential reduction in rehabilitation

Ease of revision  
 Simple surgical technique  
 Options for bearing surface  
 Selection of femoral head diameter  
 Standard surgical approach to the hip

We are encouraged and believe there are advantages in the concept of neck sparing stems. Clinical / surgical evaluation is now underway and will be reported on in the future.

## A NOVEL APPROACH TO REDUCTION OF WEAR IN THA

**RICHARD TREHARNE**, PhD, MBA,

**TIMOTHY MCTIGHE**, Dr. H.S. (hc)\*

\* Joint Implant Surgery & Research Foundation, Chagrin Falls, Ohio, USA



### INTRODUCTION:

Polyethylene and metal has been the material of choice since the 1960's.

We are now seeing the third generation of cross-linked polyethylene along with work on alternative hard on hard bearings trying to reduce the generation of wear debris.

Issues have been raised from squeaking to high trace elements and strength characteristics of current materials.

Ideally, the surfaces for articulating bearing surfaces will be made from materials having high strength, high wear, and corrosion resistance, a high resistance to creep, and low frictional moments.

This paper will review characteristics of a novel new approach for a bearing material.

### METHODS:

A review of past and current materials along with mechanical testing in creating a new approach to the development of a hydrophilic material replacing the polyethylene side of the bearing surface.

Studies have demonstrated the advantages of the full-fluid film layer of lubrication in-terms of enhanced wear performance.

An acetabular "buffer" bearing was developed that features a pliable bearing surface formulated, biocompatible polycarbonate urethane (PCU). A review of design objectives and testing will be highlighted in this paper.

### RESULTS:

Wear studies have demonstrated performance up to twelve times better compared to polyethylene.

34 components have been implanted reaching two years post-op. Two devices have been removed both for non-related implant issues. Retrieval analysis did not show any appreciable wear or damage to the bearing material.

### CONCLUSIONS:

To date we are encouraged by the early basic and clinical science, however, only additional research and time will demonstrate the long-term viability of this material.