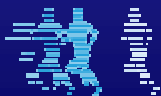


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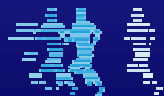
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Dr Andreas Loeffler
Joint Replacement & Spine Surgery

National Joint Replacement Registry

AL

Past President
Hip, Knee and Spine Surgeon



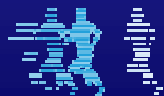
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ORTHOPEDIC SURGERY & SPORTS MEDICINE

Dr Andreas Loeffler
Joint Replacement & Spine Surgery

Joint Replacements

- Relieve pain and restore movement
- Liberate patients and families
- Back to work and sport
- An investment



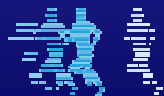
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Joint Replacements

- Relieve pain and restore movement
- Liberate patients and families
- Back to work and sport
- An investment



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Dr Andreas Loeffler
Joint Replacement & Spine Surgery

Joint Replacements

- Relieve pain and restore movement
 - Liberate patients and families
 - Back to work and sport
 - An investment
-
- Not all are the same
 - How do we assess prostheses?



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Post market surveillance: a Registry

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Joint Replacement & Spine Surgery

AOA NJRR

- Started in 1999 in SA
- Fully national 2002
- Participation by all public and private hospitals
- Voluntary participation by all surgeons
- Patients can opt out

• Federal Quality Assurance Legislation



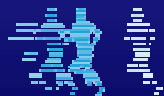
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Dr Andreas Loeffler
Joint Replacement & Spine Surgery

Purpose of the Registry

- Collect demographic data on joint replacement surgery
- Provide a mechanism for audit of hospitals and surgeons
- Improve outcomes



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ORTHOSPORTS - THE NATIONAL JOINT REPLACEMENT SURGERY REGISTRY

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Joint Replacement & Spine Surgery

Purpose of the Registry

- Collect demographic data on joint replacement surgery
- Provide a mechanism for audit of hospitals and surgeons
- Improve outcomes
- Revision is a clear endpoint of failure
- Reducing the revision rate is the principal



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Reasons for Revision

- Failure of the bone: fracture, loosening, subsidence
- Infection
- Recurrent dislocation
- Fracture of the prosthesis: neck, stem, head, liner
- Aseptic loosening: polyethylene wear, Metal on Metal
- Leg length discrepancy, squeaking



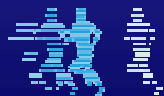
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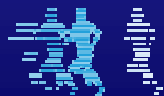
Reasons for Failure

- Prosthesis related: design, manufacture, materials
- Surgeon related: choice of implant, technique
- Patient related: activity
- Biology: polyethylene wear, MoM reaction



Registry Reports

- Currently over 1.1 Million joint replacements, mostly hips and knees
- Kaplan Meier survivorship
- Hazard ratio and p-value
- Cumulative percentage revision



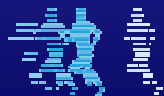
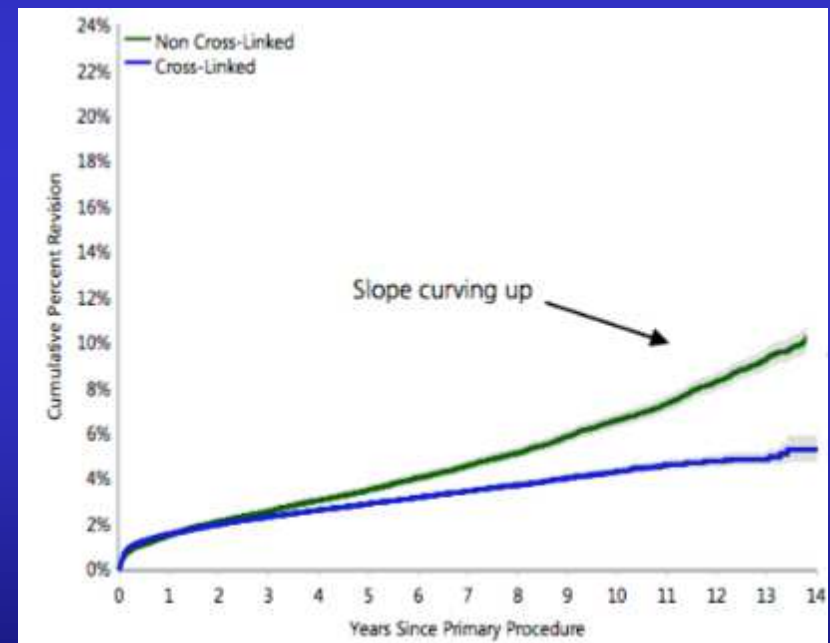
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Registry Reports

- Currently over 1.1 Million joint replacements, mostly hips and knees
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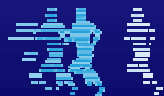
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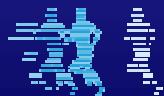
Registry Reports

- Prostheses with a higher than anticipated rate of revision
- Two or more times higher, compared to all other prostheses
- Several factors may contribute to failure
- Review by a group of arthroplasty specialists
- Notification of TGA



International Collaboration

- International Society of Arthroplasty Registries
- Different data collected
- Different prostheses available
- Patient reported outcomes
- Pooling of data
- External validation



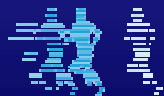
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Joint Replacement & Spine Surgery

Registry Reports

- Hip and Knee
- Lay summary
- Shoulder
- Wrists and Elbow
- Ankle
- Disc
- Cement
- Metal and Ceramic bearings
- Mortality



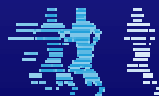
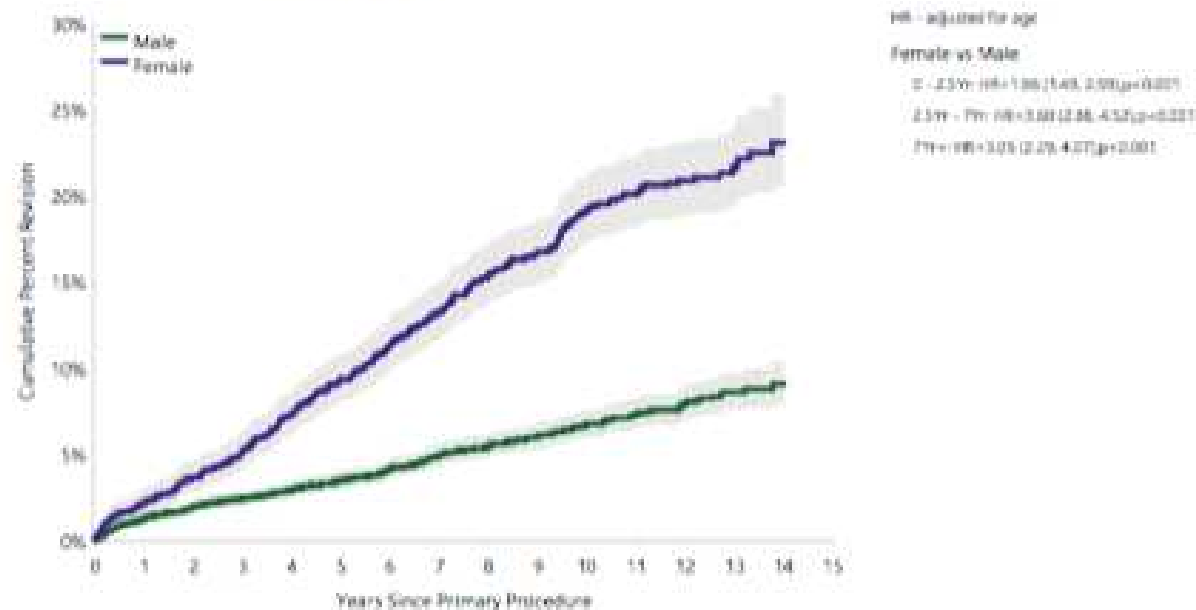
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Resurfacing

Figure YH15 Cumulative Percent Revision of Primary Total Resurfacing Hip Replacement in Patients Aged <55 Years by Gender (Primary Diagnosis OA)

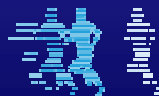
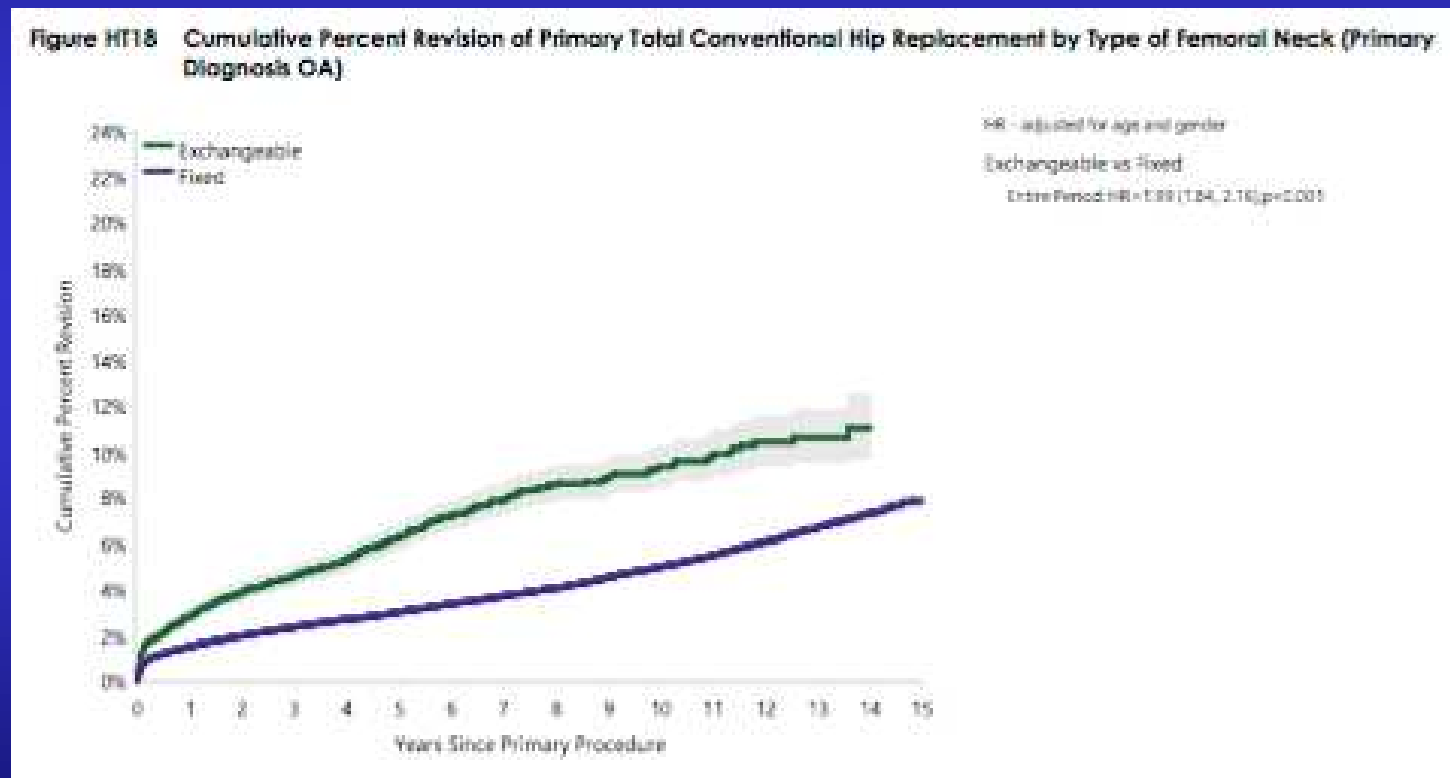


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Exchangeable necks



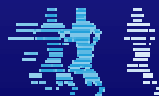
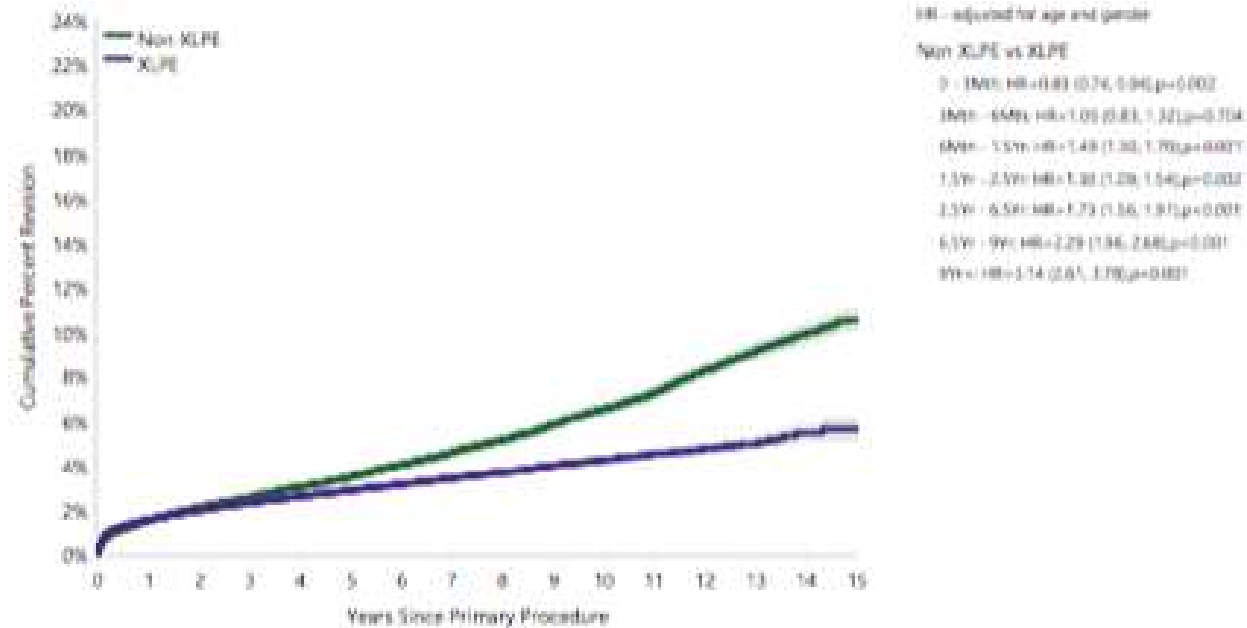
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XLPE

Figure HT24 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Polyethylene Type (Primary Diagnosis OA)



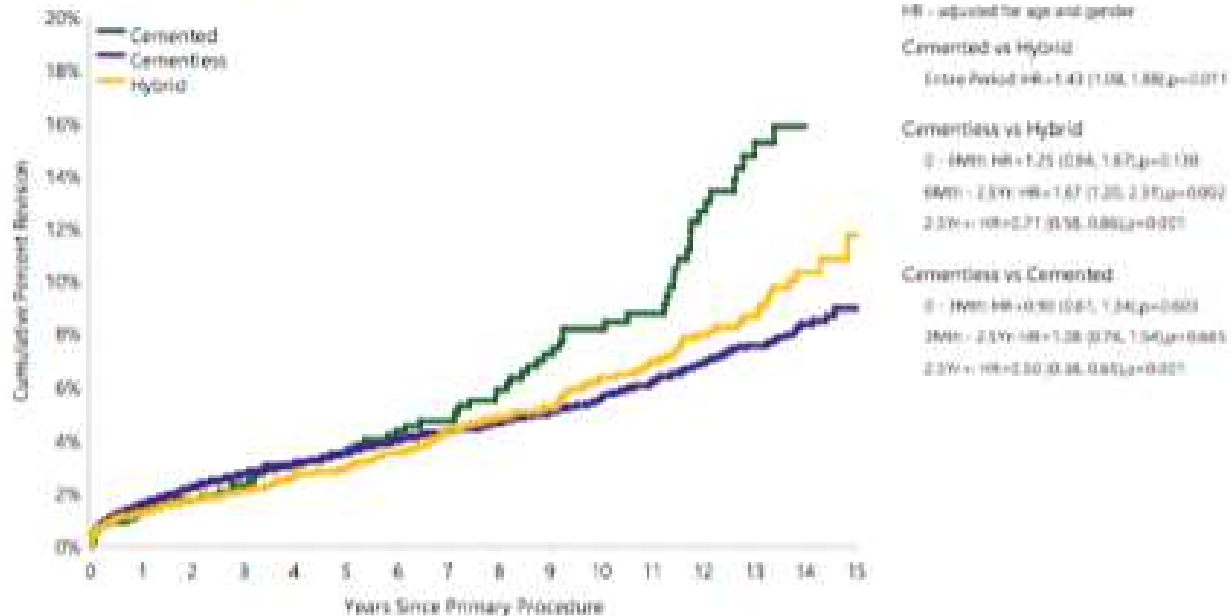
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Cemented hips <55

Figure YH7 Cumulative Percent Revision of Primary Total Conventional Hip Replacement in Patients Aged <55 Years by Fixation (Primary Diagnosis OA)

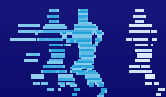
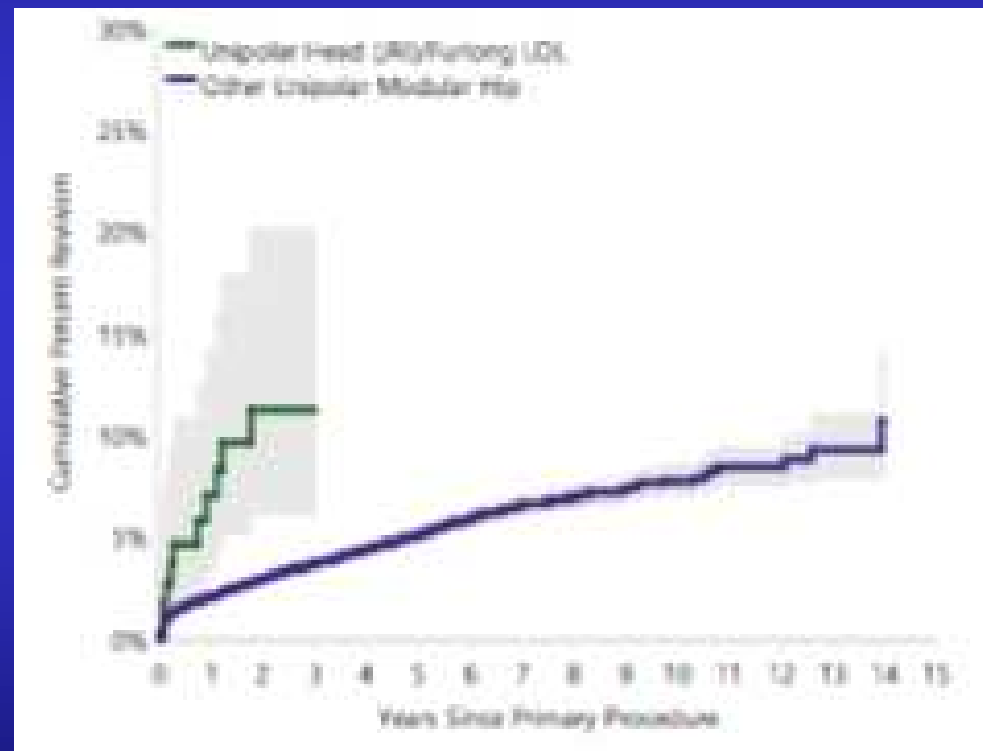


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Identified prosthesis



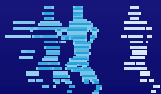
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Not Recommended

- Metal on Metal
 - Resurfacing
 - Exchangeable necks
 - Austin Moore
 - Non-XLPE
-
- Individual prostheses



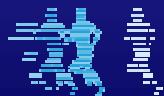
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The Surgeon Portal

- Since 2008 surgeons are linked to each case
- Confidential, but discussion encouraged
- All cases shown with reasons for revision
- Revision rates compared to national average
- Additional reports and analysis available



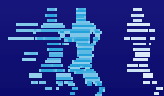
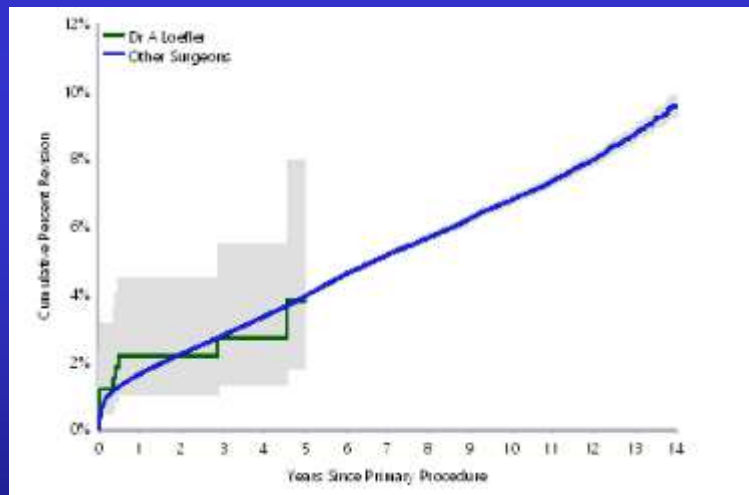
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Joint Replacement & Spine Surgery

The Surgeon Portal

- My data for THR



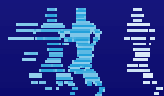
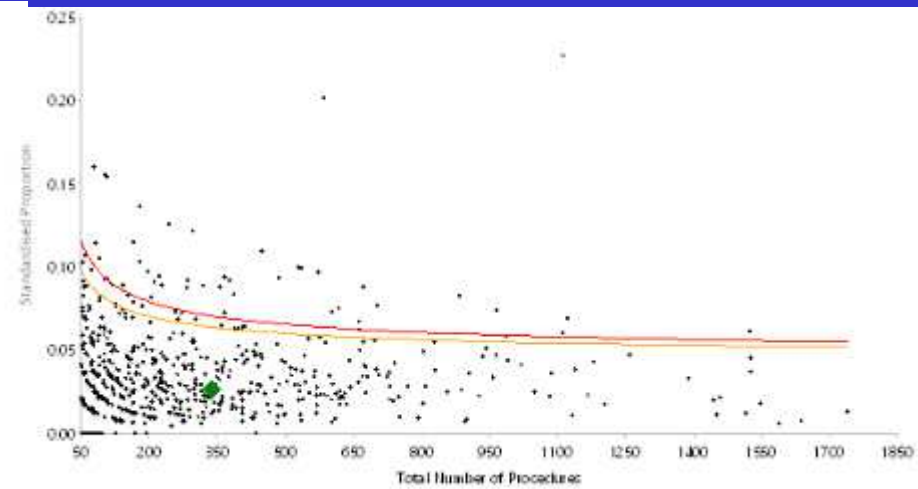
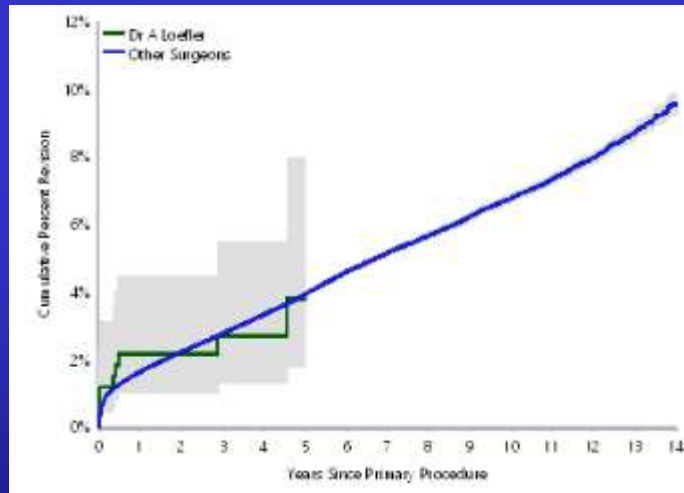
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The Surgeon Portal

- My data for THR
- Funnel plot



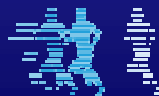
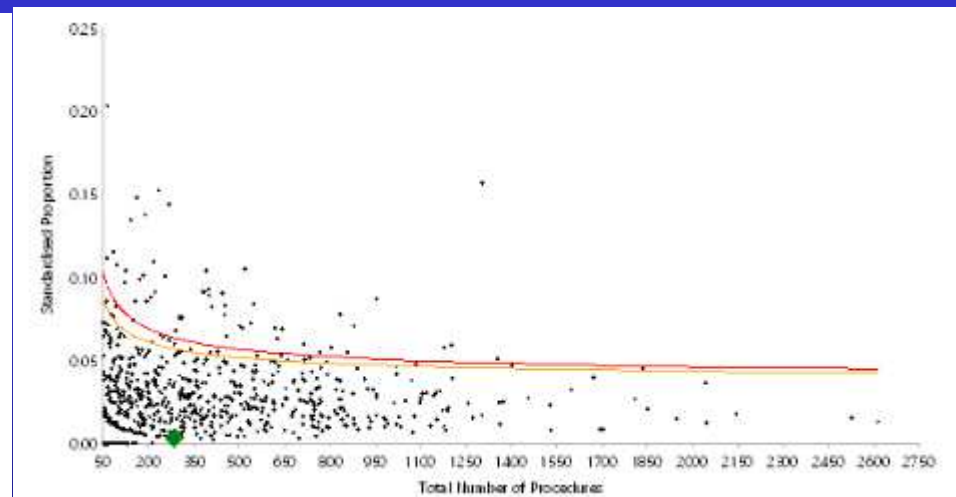
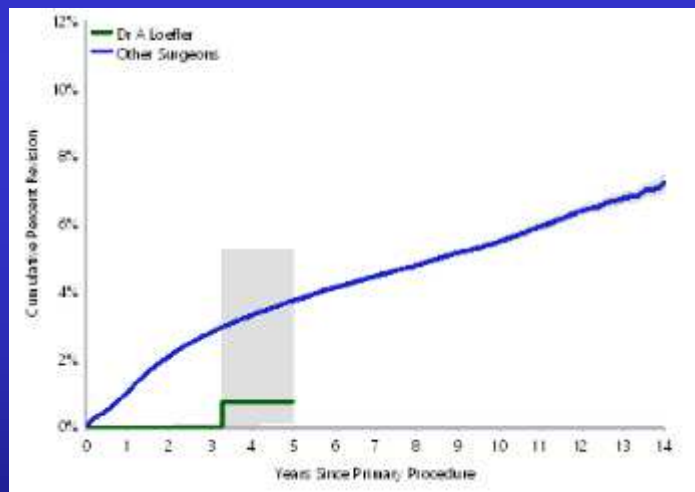
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The Surgeon Portal

- My data for TKR



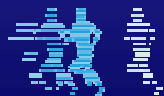
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Statistics from 2015

- No of hips 44 710
- No of knee 57 860
- No of shoulders 5 170



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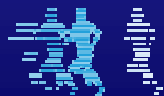
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Statistics from 2015

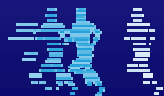
- No of hips 44 710
- No of knee 57 860
- No of shoulders 5 170

- New: ASA score and BMI
- Hips – 60% normal and pre-obese
- Knees – 60% pre-obese and obese



Results of the Registry

- A significant reduction in the rate of revision
- An estimated saving of \$600 Million in Australia
- A saving of pain and suffering



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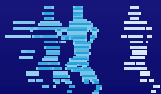
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Results of the Registry

- A significant reduction in the rate of revision
- An estimated saving of \$600 Million in Australia
- A saving of pain and suffering

- Identification of prostheses related problems
- A change in the use of prostheses
- Evidence based decision making



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Dr Andreas Loeffler
Joint Replacement & Spine Surgery

Thank you



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