

Historical pitfalls and actual situation - What have we learned & whar are current needs?

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University of Southern Denmark
DENMARK



Professor Klaus-Peter Günther, Dresden, Germany

Acknowledgement



Added substantial to present lecture

Historical pitfalls

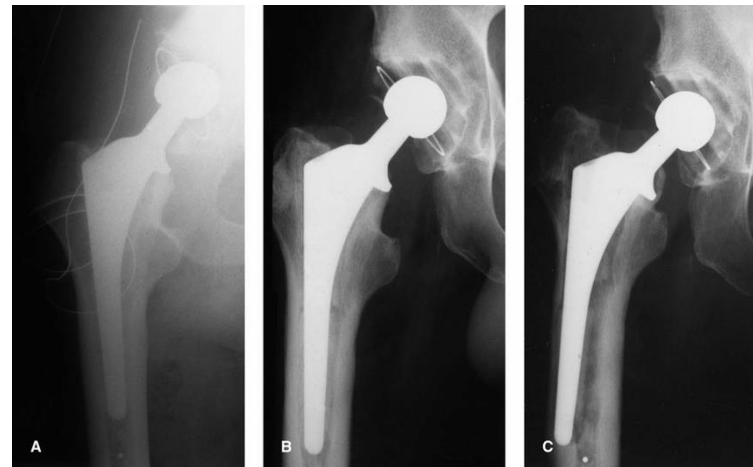


Boneloc Bone Cement (1992-1996)

Acta Orthop Scand. 1998 Oct;69(5):479-83.

Inferior performance of Boneloc bone cement in total knee arthroplasty: a prospective randomized study comparing Boneloc with Palacos using radiostereometry (RSA) in 19 patients.

Nilsson KG¹, Dalén T.



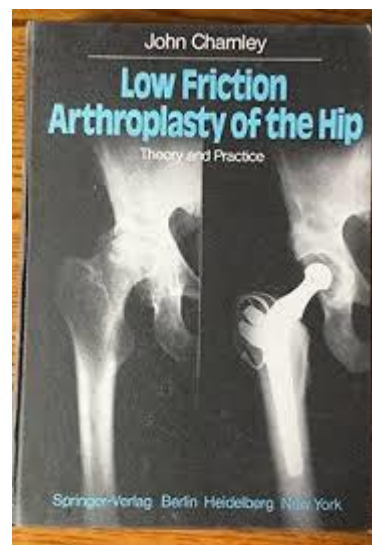
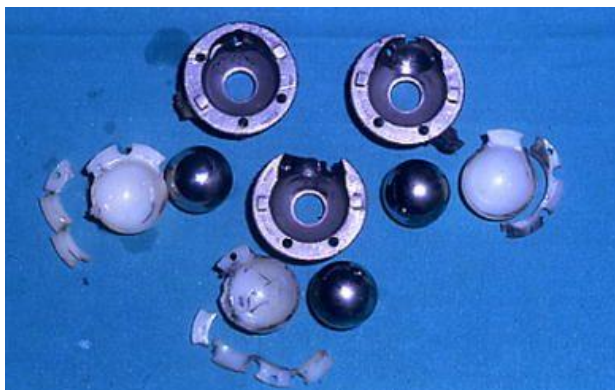
Hylamer polyethylene (1959, 1968, 1996)



CHANGING CRYSTALLINITY OF POLYETHYLENE IN THE ACETABULAR CUPS OF WELLER HIP PROSTHESES

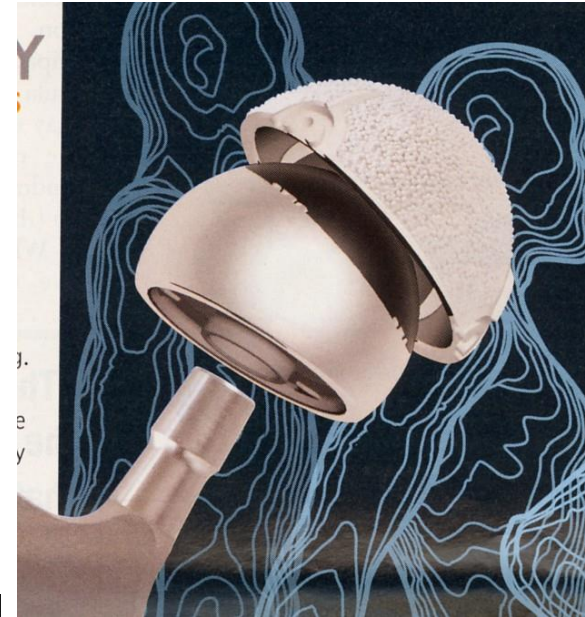
J. OTFINOWSKI, A. PAWELEC

From Jagiellonian University Medical College, Kraków, Poland

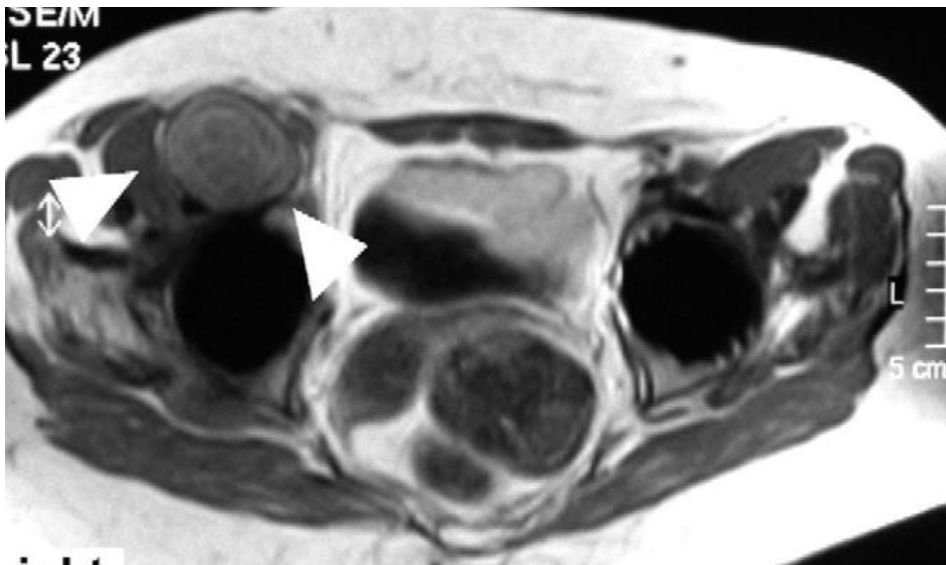


Metal-on-Metal Bearings

Large head THA / Resurfacing THA



MoM – pseudo-tumor





Medical Device Alert

Ref: MDA/2012/036 Issued: 25 June 2012 at 11:00

Device

All metal-on-metal (MoM) hip replacements

EMENT PATIENTS



**RAPID
RECOVERY**

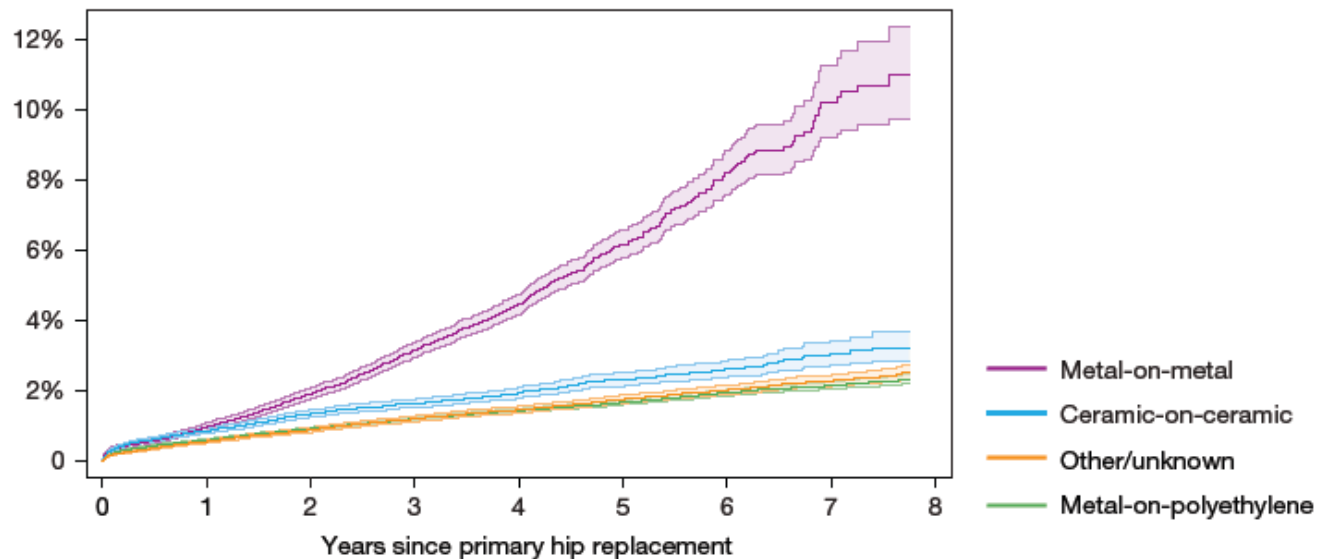
Vejle Sygehus
- en del af Sygehus Lillebælt

Region of
Southern Denmark

Outcome of MoM Bearings

Figure L2

Risk of revision by bearing surface (cumulative hazard with 95% confidence intervals).



© National Joint Registry 2012

National joint registry England and Wales 2012

European Recommendations MoM



Deutsche
Arthrose-Hilfe e.V.
DAH

**Consensus statement “Current Evidence on
the Management of Metal-on-Metal Bearings”**

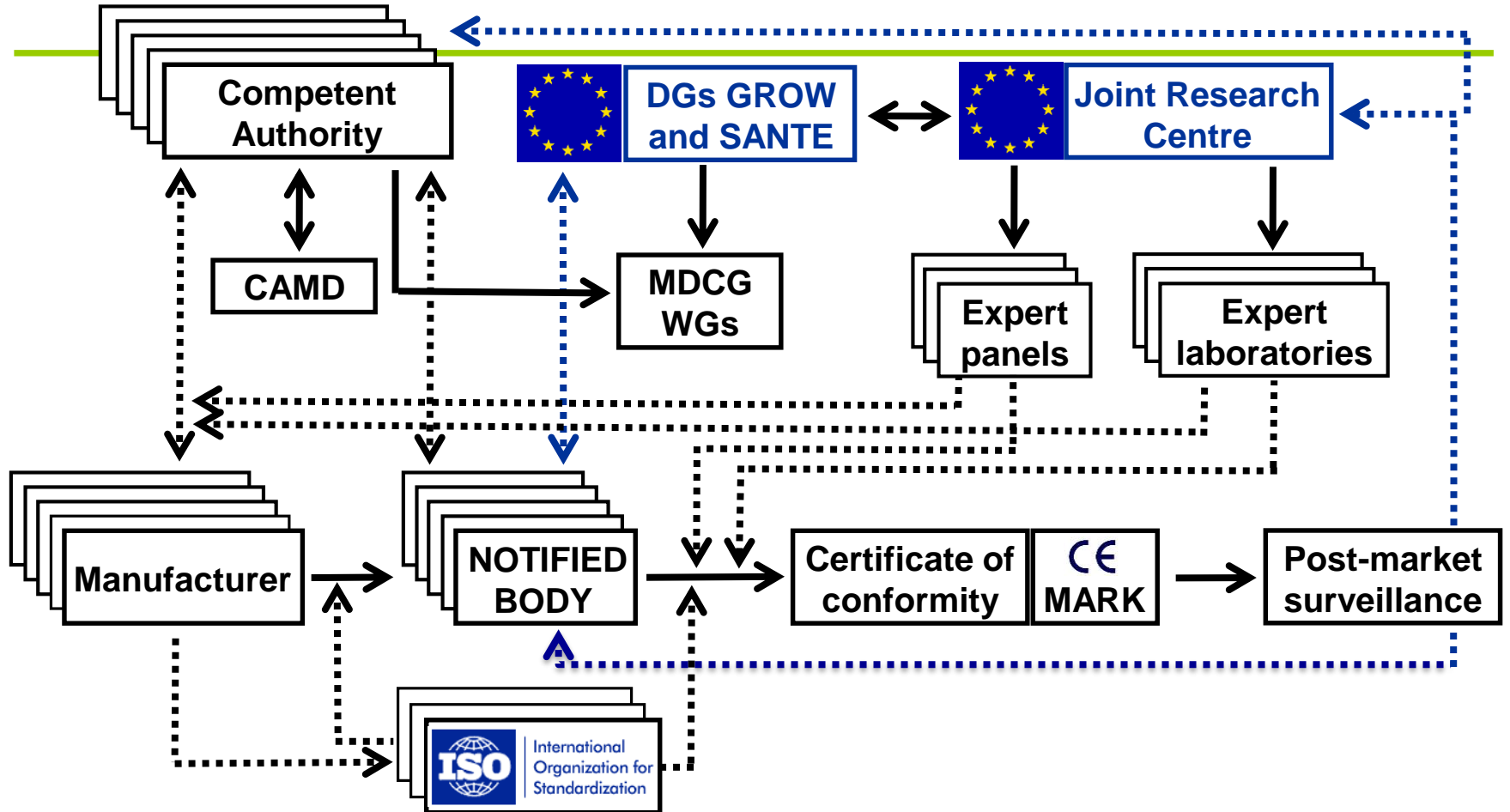
April 16, 2012

http://www.efort.org/communications/pdf/2012_05_10_MoM_Consensus_statement.pdf

Actual Situation

- **NEW MDR**

EU Medical Device Regulatory System



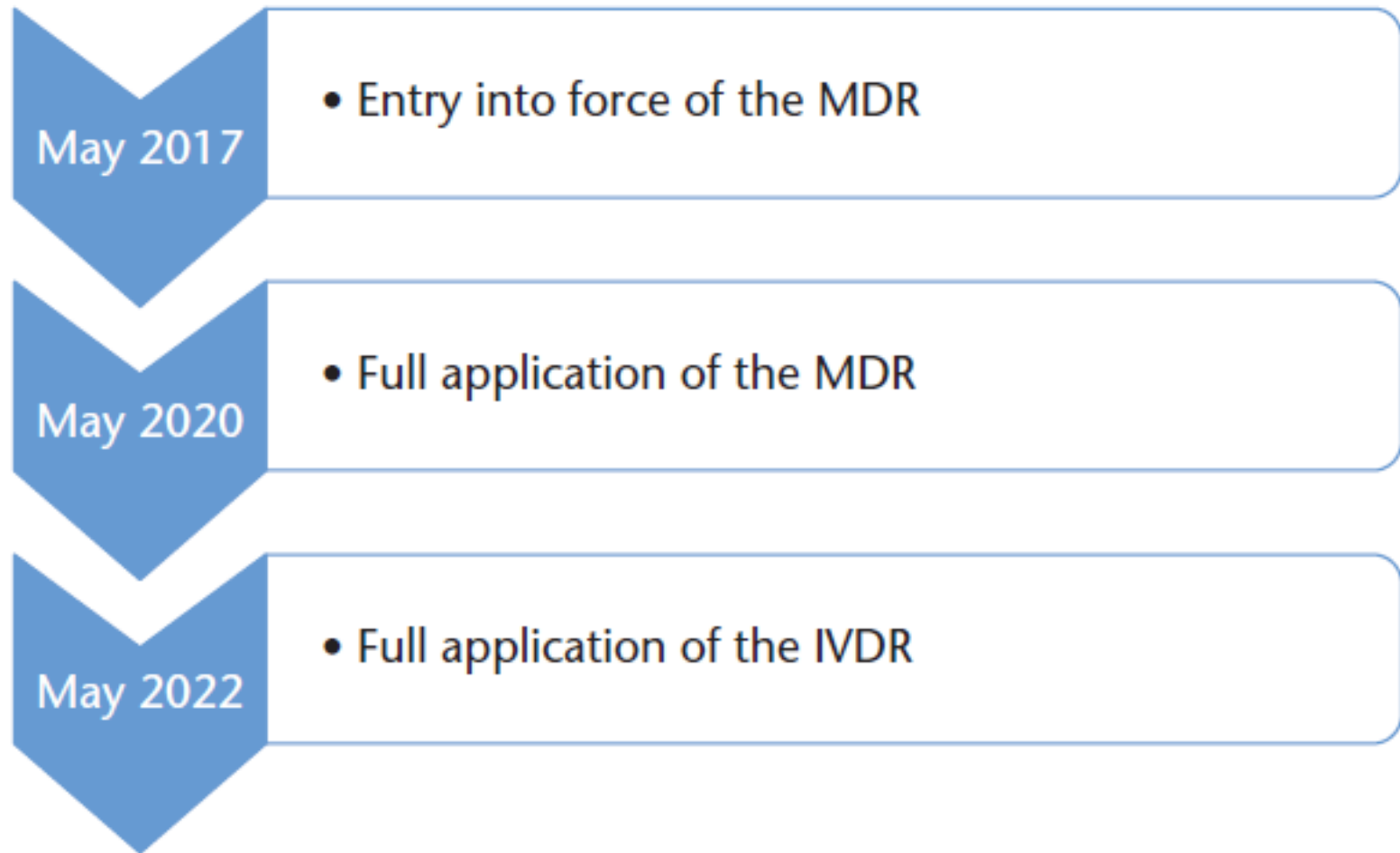
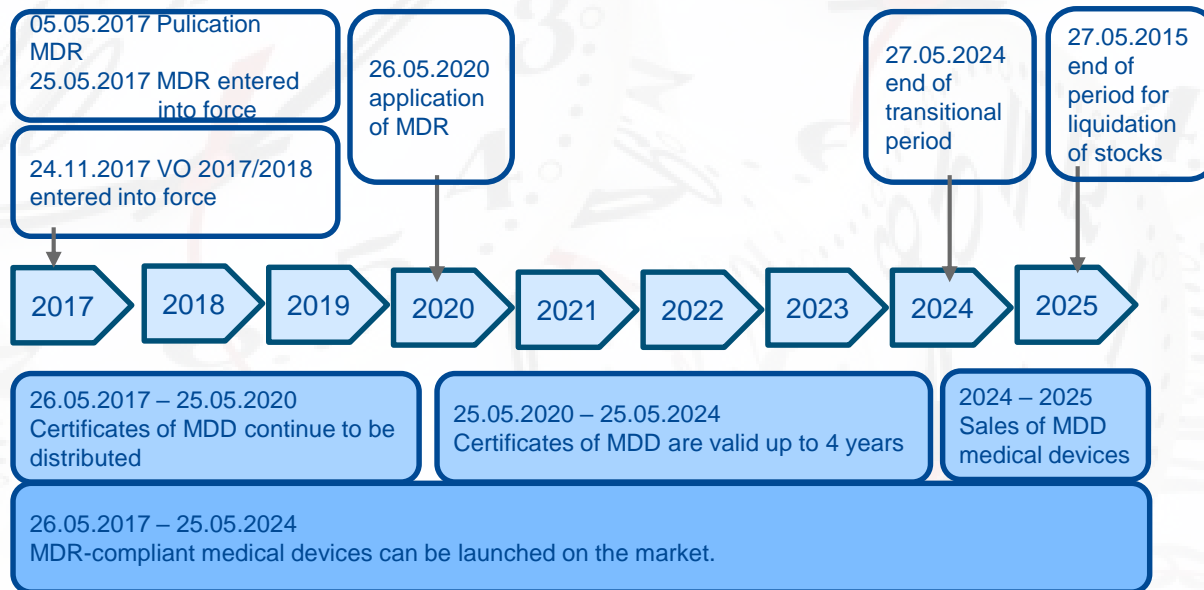
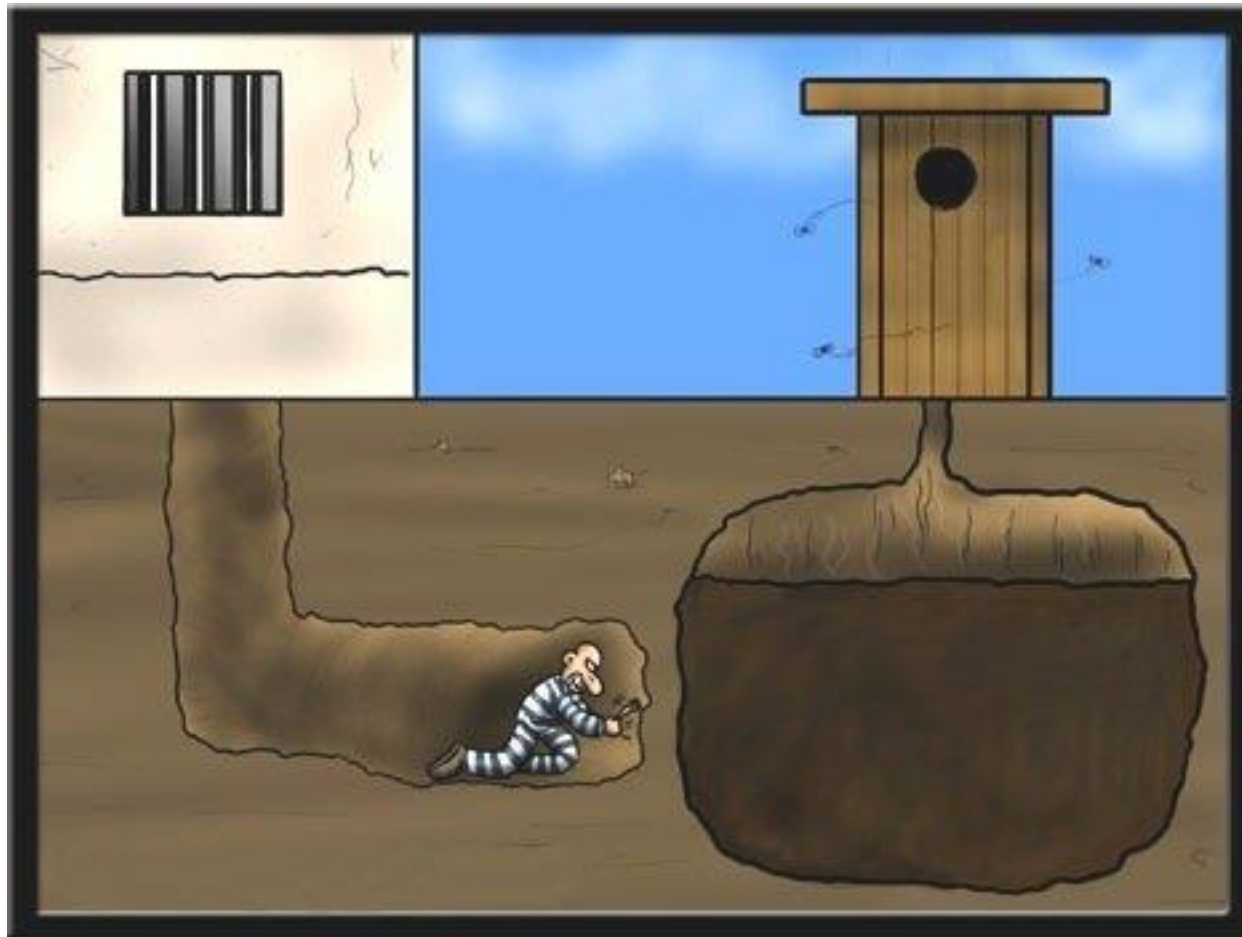


Fig. 1 Timeline for implementation of the new regulations.

Timeline for MDR introduction

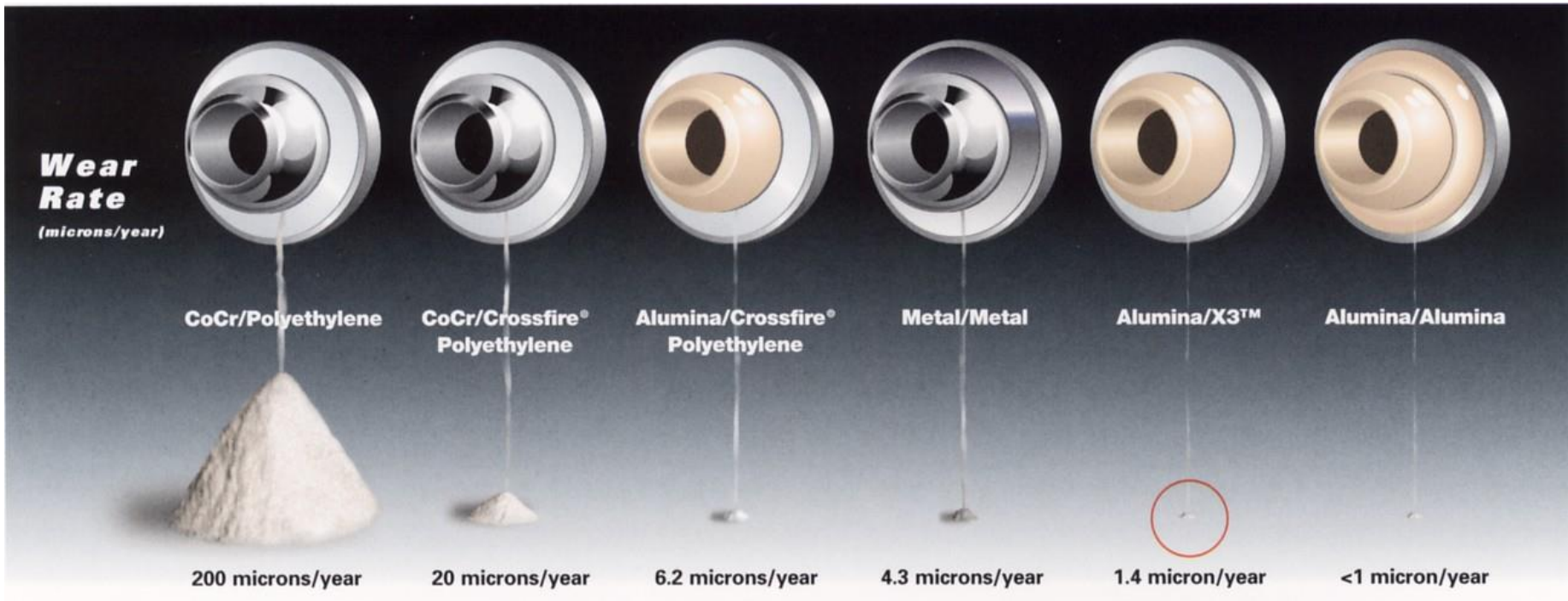


What have we learned?

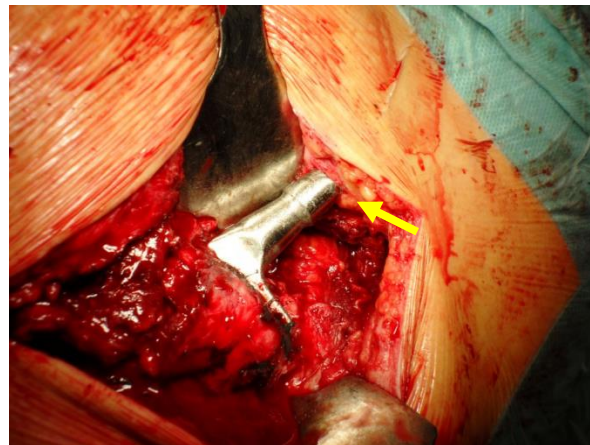
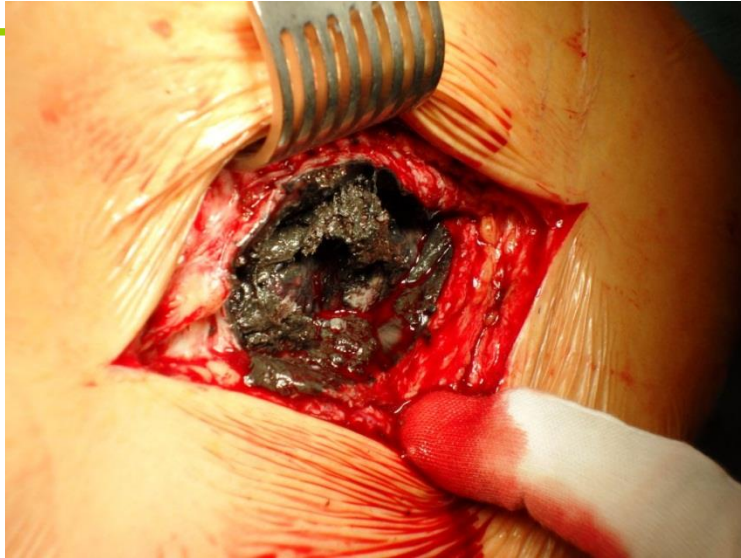


Innovation is needed

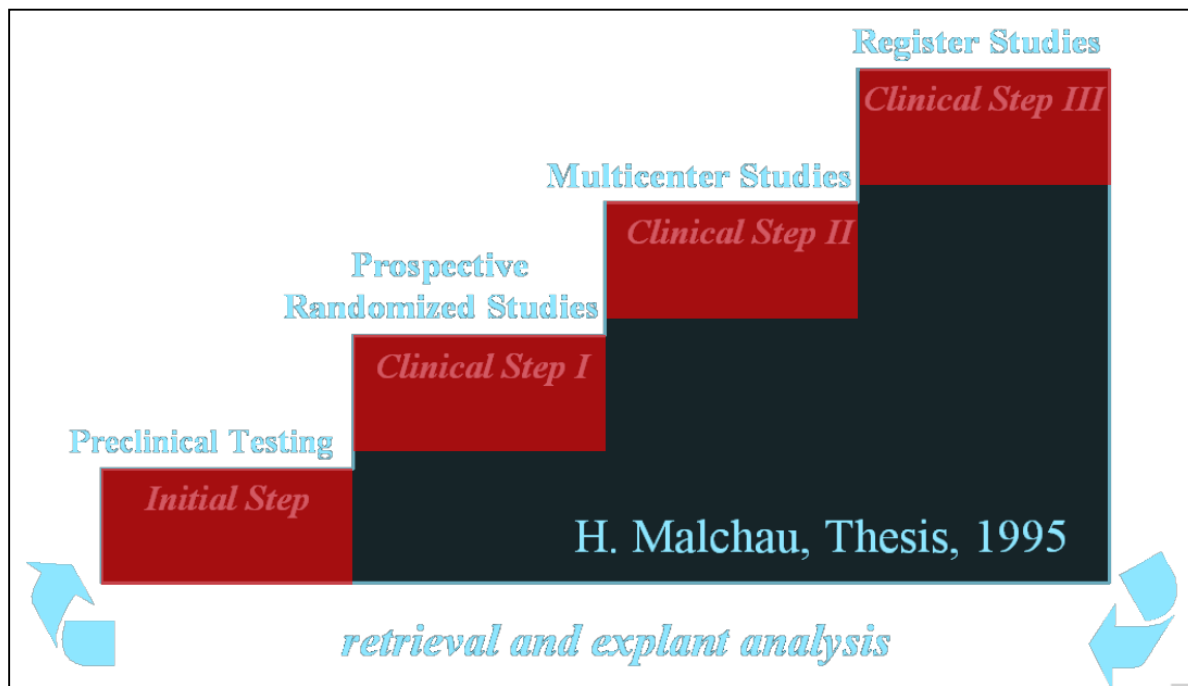
Tribology



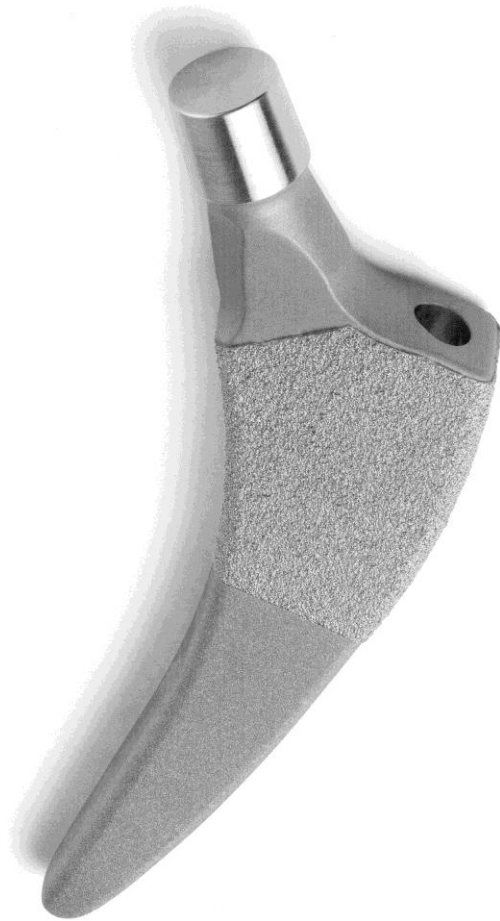
Failure will occur – also in future



Step wise introduction (Malchau thesis 1995)



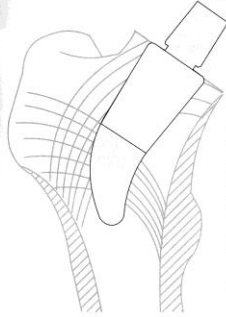
Experimental surgery – step-wise introduction



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Experimental – step-wise introduction

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Stem Type	Relative neck fatigue strength
Ti modular stem	83%
SMF stem	100%
Ti monolithic stem	18%

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Alinger P, Tsai S, and Bergin A. CoCr and Ti-6Al-4V Modular Neck Fatigue Testing. Poster no. 479 presented at the Society for Biomaterials 2009 Annual Meeting and Exposition, April 22-25, 2009, San Antonio, TX.



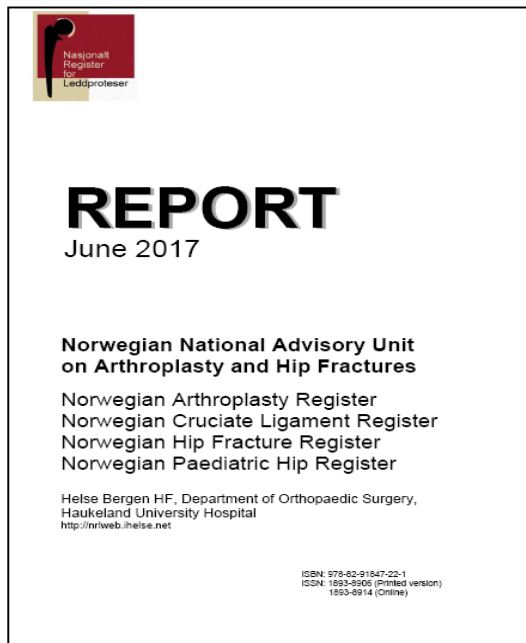
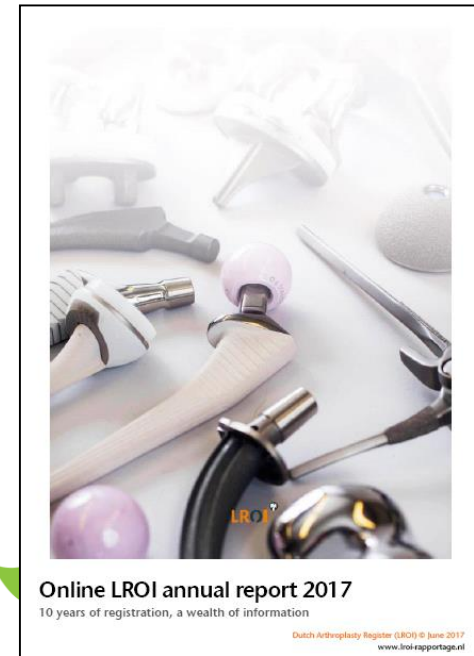
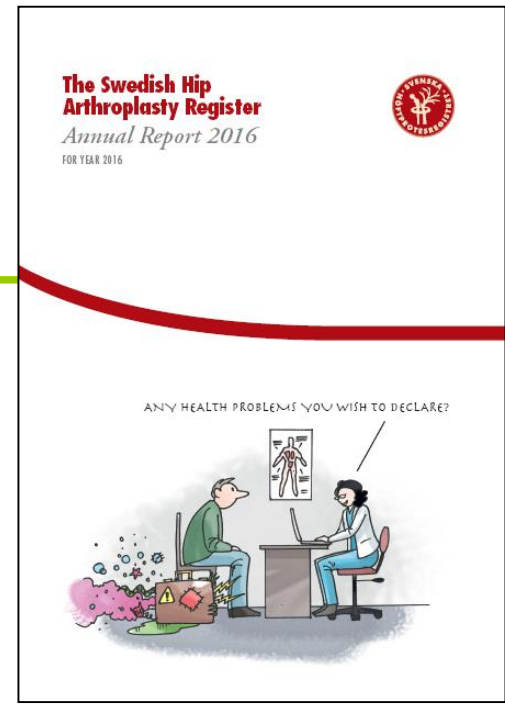
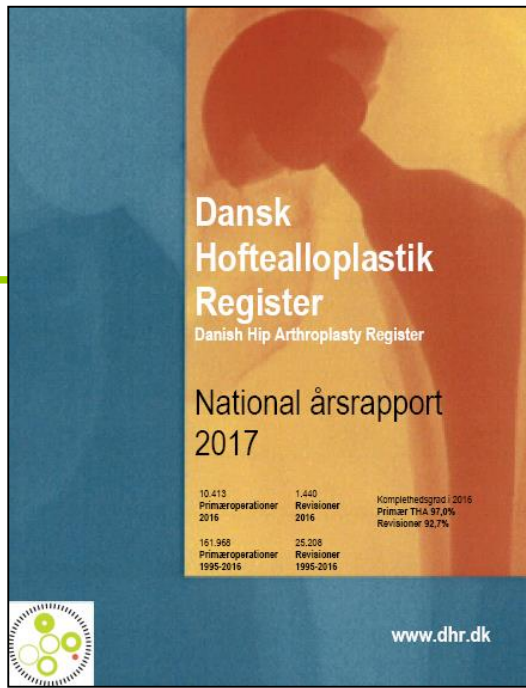
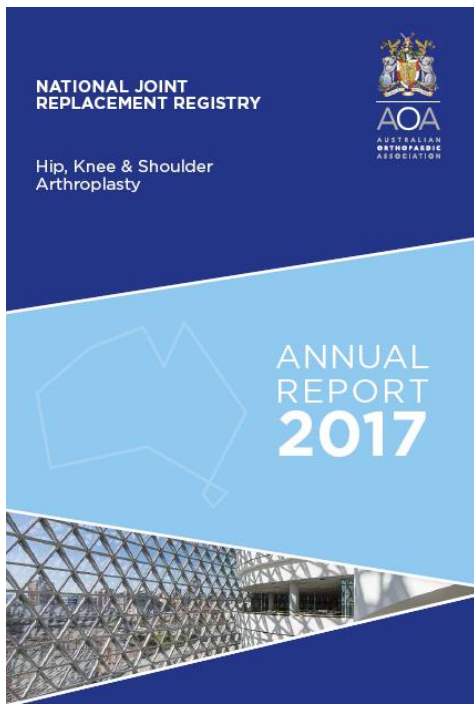
**RAPID
RECOVERY**

Specialized Hip and Knee
Replacement

Region of
Southern Denmark

What are current needs?





Close collaboration all stakeholders

AESCULAP
Implant Systems

Halifax
Biomedical Inc.

phoenix ortho
extend your practice

Angiotech
Redefining Success

KCI

ROBODOC
Curux Technology Corporation

Baxter

ORTECH

SALIENT
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MEDSTRAT

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DJO

OSTEOTECH

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Exactech

PEAK
surgical

WRIGHT

Zimmer

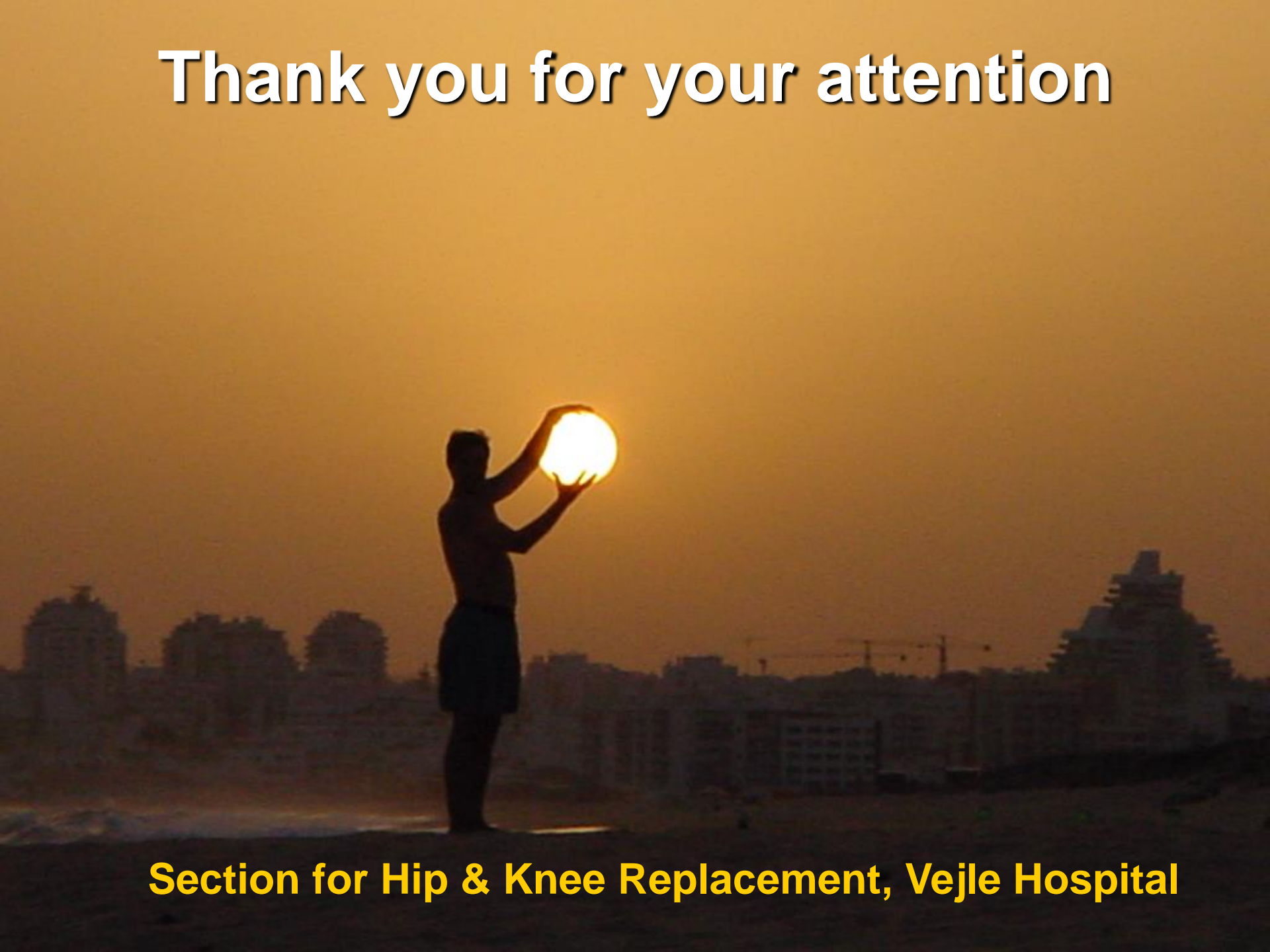
We all look for safe implants – how to get it?



Education & training



Thank you for your attention



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