



# Hip product review

**David Kelman, PE**

Group Director Hip Development

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150  
years  
Innovation.  
For generations.

# What does our strategy mean for products?



## Retain

Helps patients retain an active lifestyle, with no restrictions on post-procedure activities

(SUPARTZ<sup>◊</sup>)



## Restore

Restores normal function with advanced implants & surgical techniques

(COMPETITOR<sup>◊</sup>, JOURNEY<sup>◊</sup>, BHR<sup>◊</sup>)



## Replace

Replaces patient joints with artificial devices

(SYNERGY<sup>◊</sup>, PROFIX<sup>◊</sup>, GENESIS<sup>◊</sup> II)

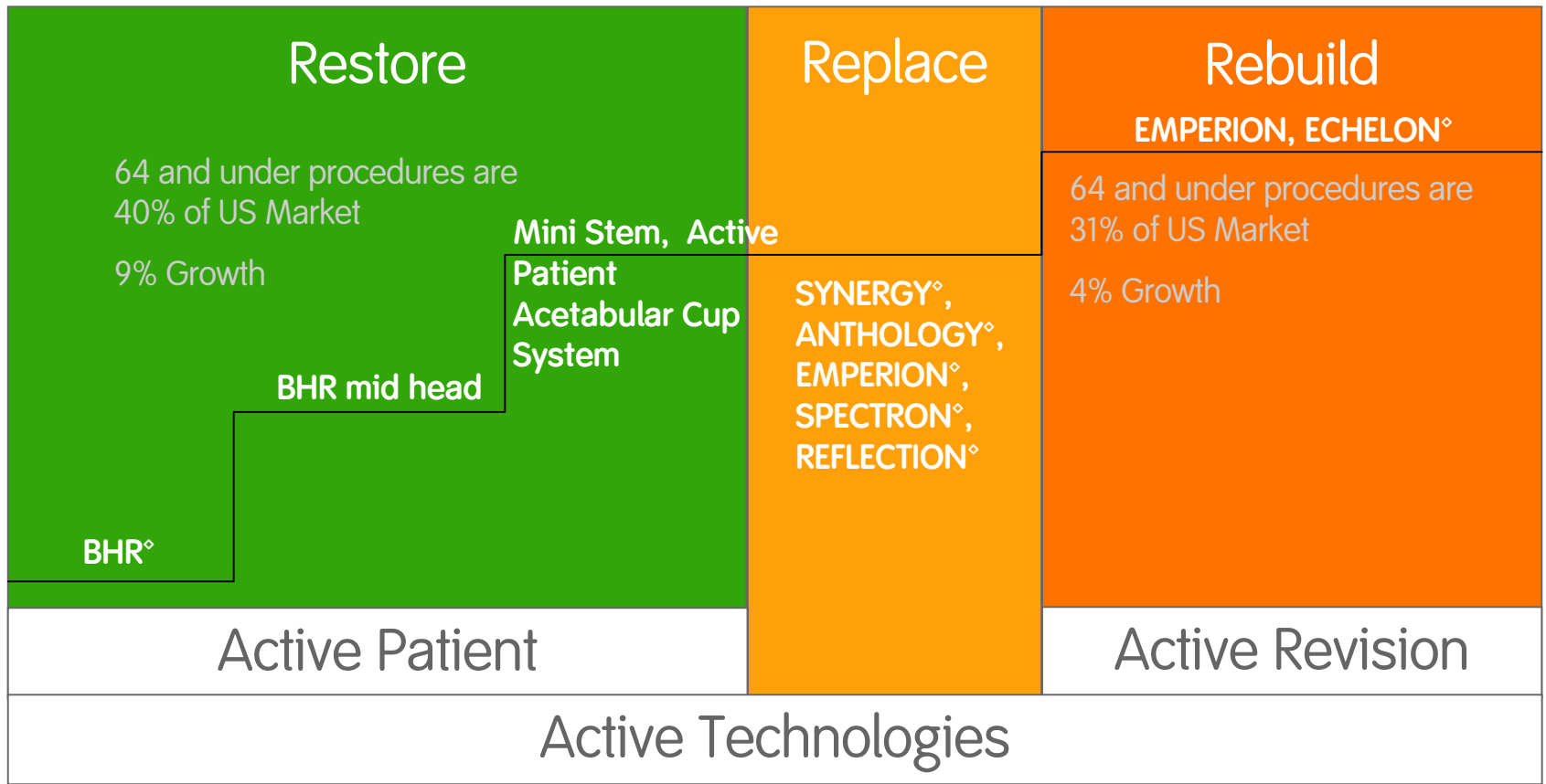


## Rebuild

Rebuilds the body to recover from implant failure

(LEGION<sup>◊</sup>, EMPERION<sup>◊</sup>)

# Hip product portfolio



Source: Solucient, 2005

# Today's 65 senior is not *really* 65

1960 active senior



2006 active senior



# Smith & Nephew orthopaedics hip portfolio



# Clinical performance



## SPECTRON<sup>◇</sup> stem

100% survival rate of the SPECTRON stem at 12 years <sup>1</sup>

97.0% survival rate of SPECTRON stem at 9.6 years <sup>2</sup>

99.7% survival rate of SPECTRON EF at 7 yrs <sup>3</sup>

## SYNERGY<sup>◇</sup> stem

99.5% Survivorship <sup>4</sup>

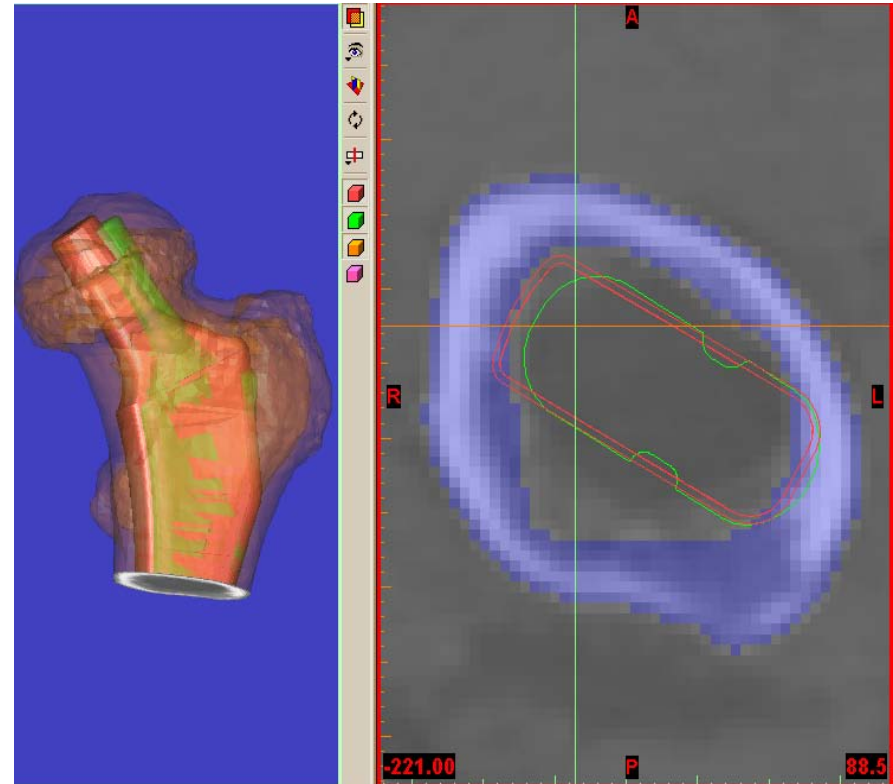


1. "The Charnley Versus the Spectron Hip Prosthesis", *The Journal of Arthroplasty* Vol. 14 No. 14 1999, Goran Garellick, et al MD, PhD.
2. "Hip Arthroplasty With a Collared Straight Cobalt-Chrome Femoral Stem Using Second Generation Cementing Technique", *The Journal of Arthroplasty* Vol. 15 No. 2 2000, Ashay Kale, MD et al.
3. Swedish National Hip Registry, 2000 Report, Henrik Malchau, MD, PhD

4. Bourne, Robert, M.D., F.R.C.S.; Rorabeck, Cecil, M.D., F.R.C.S.; The London Health Sciences Centre Experience: Synergy Tapered Hip System; International Hip Meeting. Prague, Czech Republic. May 2001

# Knowledge of the shape of the femur

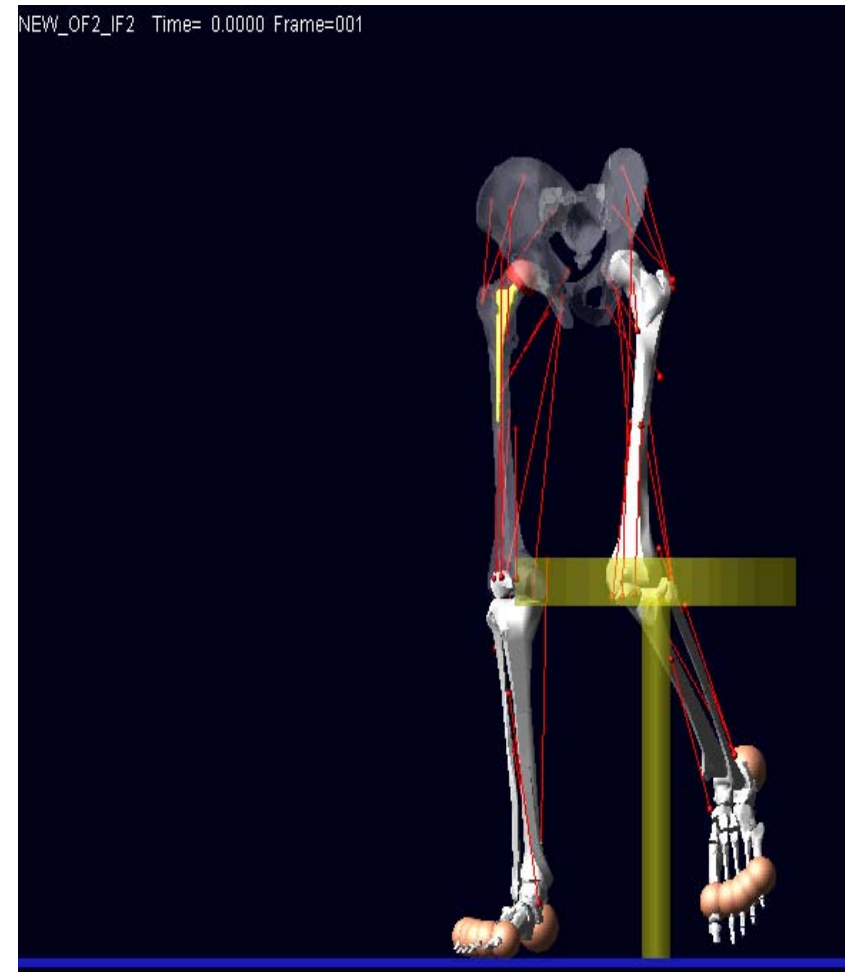
- Extensive knowledge of the femoral shape based on
  - CT database
  - Radiographic analysis
  - Clinical analysis
- Ability to apply this knowledge to design implants that properly fit the geometric shape of the femur



# Re-establishing the biomechanics of the hip

The first to promote the re-establishment of the natural biomechanics of the hip

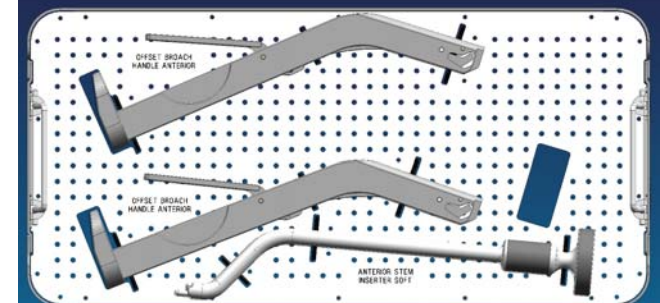
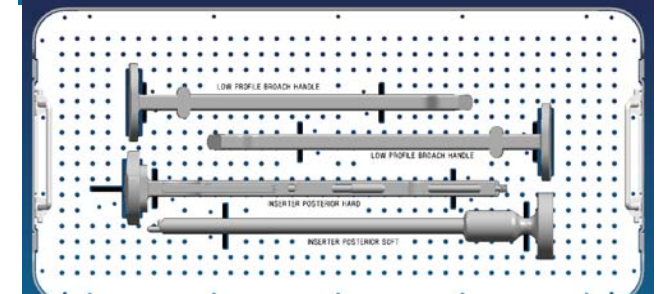
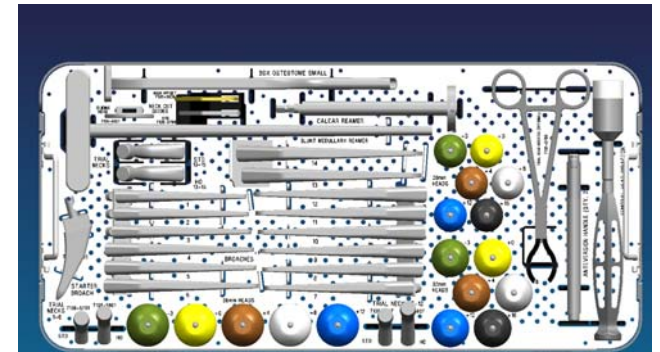
- Place the center of the femoral head and the shaft of the femur to the natural locations
  - Dual offsets femoral stems
  - Appropriate range of offsets for the stem size
- Enhanced Range of Motion
  - Circulotrapezoidal neck geometry
  - Femoral heads with significant neck length adjustment without compromising ROM
  - Acetabular components designed with enhanced ROM





# Instrumentation

- Easy to use instrumentation
- Standardization between systems
- Ergonomic instrumentation
- Reduced number of instruments
- Instruments laid out in order of use



# Hip product highlights for 2007

ANTHOLOGY<sup>◇</sup> stem



EMPERION<sup>◇</sup> stem



# ANTHOLOGY<sup>◇</sup> Hip System

- Value proposition
- The ANTHOLOGY<sup>◇</sup> system provides the surgeon a press-fit implant that is optimum for all femur types
- It is designed to be MIS friendly, reduce dislocations, and be more bone and tissue conserving than previous primary implant designs



# EMPERION<sup>◇</sup> Modular Hip System

- Versatile
  - Primary and Revision Implant Options
  - Treats more indications than the competition
  - Optimal solution for patients with difficult anatomy
- Modular titanium stem
- Infinite version adjustment
- Simple nomenclature, instrumentation, & procedure

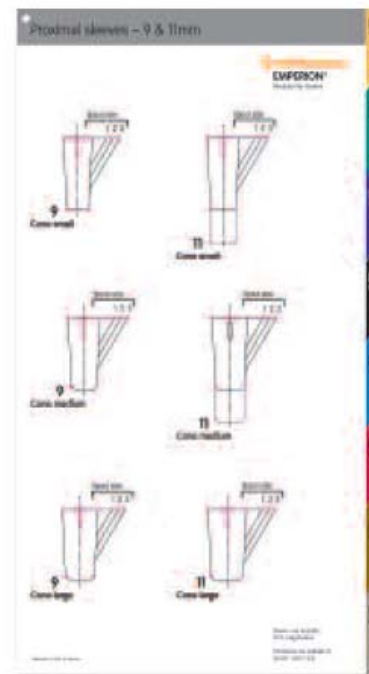


# Surgery: paint by number

Distal diameter of stem (mm)	Color
9	Orange
11	Green
13	Purple
15	Black
17	Blue
19	Red
21	Olive
23	Grey



Color-coded trays



Color-coded templates



Color-coded trials

# Primary OA case



# Proximal – distal mismatch



# Complete revision portfolio

## Proximal and distal mismatch

### EMPERION<sup>◇</sup> stem

- Proximal fit and distal fill
- Proximal fixation
- Version control



## Distal fixation

### ECHELON<sup>◇</sup> stem

- Extensively porous coated
- Porous Plus HA
- Cemented option



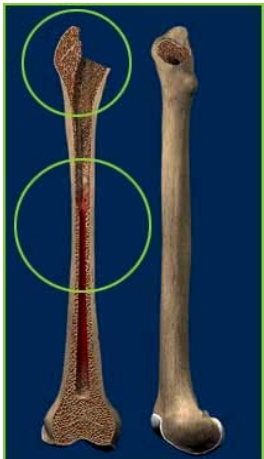


# Types of revisions and stems to use

## Paprosky's Revision Classification System

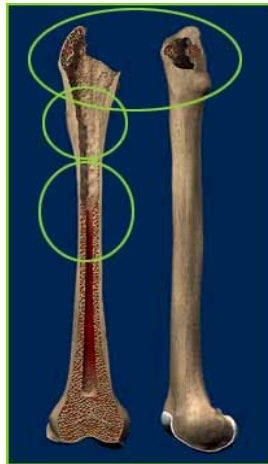
Type 1

EMPERION<sup>®</sup> stem



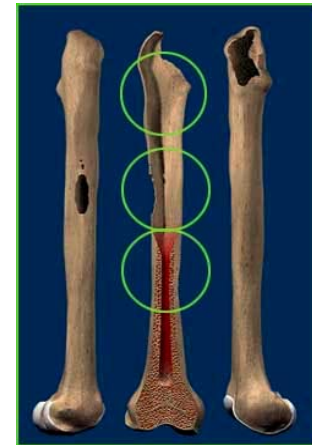
Type 2

EMPERION stem  
ECHELON<sup>®</sup> stem



Type 3

ECHELON stem  
EMPERION stem (Tall Sleeve)



# Future opportunities

## Using technology to address opportunities

### – Implant

- Biomechanics
- Fixation
- Bone/tissue preservation
- Longevity

### – Instrumentation

- Reproducibility
- Ergonomics
- Simplicity
- Efficiency

 We are **smith&nephew**