STEMLESS ARTHROPLASTY

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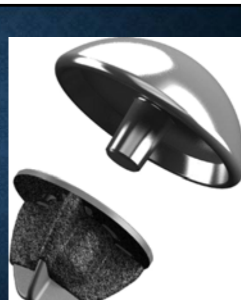
DISCLOSURES

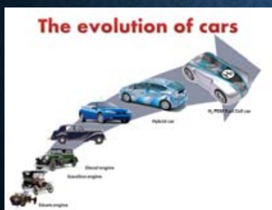
- Consultant for DJO
- Consultatnt for Conventus
- Consultant and receive royalties from Tornier/Wright

STEMLESS ARTHROPLASTY

- Stemless is not new. Between 2004 and 2013 over 10,000 stemless arthroplaties have been performed
    - Ambacher et al Orthopade 2013
- Used in both primary arthroplasty and reverse arthroplasty with equally promising results
    - Churchill et al JSES 2014

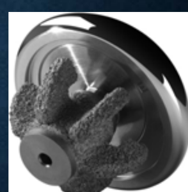


SHOULDER STEMS HAVE EVOLVED



WHY STEMLESS?

- Anatomic reconstruction of the head regardless of the degree of head offset with respect to the shaft
- Infinite number of head inclination and version options
- Almost complete elimination of periprostheitic humeral fractures
- More efficient and easier humeral preparation
- Can be used more easily in malunions and altered humeral anatomy

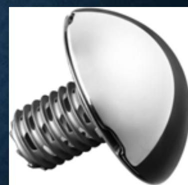


STRESS SHEILDING

- Athwal et al evaluated stress shielding in an FEA model comparing traditional, short stem and stemless desings
- 3D CT's were created from OA patients and modeled 3 abduction angles and measured stress at several levels in the bone in native state and after implantation
- Standard length stems had significantly more stress shielding
- Reduction in stem length better mimicked the intact state

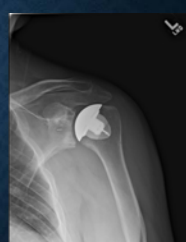
CLINICAL STUDIES

- Uschok et al compared 20 stemless to 20 traditional stems
  - Functional results and Constant scores were similar
  - At 2 years postop 41% of the stemmed designs demonstrated some calcar osteolysis while 0% were seen in the stemless
- Razmjou et al compared the Neer II, Bigliani Flatow, and TESS stemless.
  - At 2 years follow up radiolucent lines were present in 18% of the Neer II, 8% of the Bigliani Flatow and 0% of the stemless



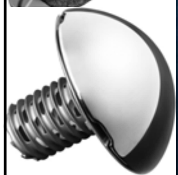
SIMPLICTI IDE

- 157 patients were implanted at 14 different centers
- At 2 year follow up the Constant scores were >85 for 91% of patients
- There were no radiolucencies around the nucleus or the glenoid
- The results were similar to a matched stemmed cohort



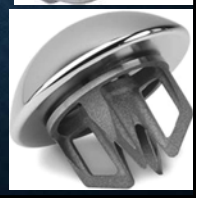
PERFORMING A STEMLESS

- The humeral head is used as the guide to determine placement of the fixation device
- This ensures anatomic placement regardless of humeral offset and anatomy
- The fixation device is press fit. Sometimes a core drill is used but mant times it can just be impacted in place
- A radio-opaque head is placed and ROM and stability can be checked and radiographic appearance as well.

STEMLESS ARTHROPLSTY

- With so many stemless options that have equal if not better humeral fixation, why use a stem?
- It is easier to reproduce the normal anatomy
- It is easier to revise
- Still allows for easy access to the glenoid
- More efficient operation with reduced operative times

THANK YOU