DJD: Scope Debridement, Resurfacing: Does it Work?

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Disclosures

• Reviewer Arthroscopy, JBJS, Orthopedics, Sports Health, AJSM, Arthroscopy
• Editorial Board Orthopedics Today
• Editorial Board Orthopedics
• Editor Ortho Hyperguide Slack
• Board of Directors Eastern Ortho. Assoc., AANA
• Book Royalties Springer

Age is a number

• ‘Physiologic’ 40
• Activity
We will see more of this!

The Problem: too young/active for arthroplasty!

Sperling: High glenoid lucency rate pts. < 50 TSA

Remember we are Living Longer

• Statins
• Cancer becoming ‘degenerative disease’
• Arthroplasty has finite life

• And......we don’t walk on our arms!
**Life Expectancy per Age**

**CDC**

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**Surgical Options for ‘younger patient’**

- Carticel
- Allograft
- ‘Hemi-cap’
- Hemiarthroplasty with Biologic Interposition
- Resurfacing
- Arthrodesis
- SCOPE

**Allograft**

**LARGE UNCONTAINED DEFECT**

- For unipolar lesions
- Arthroscopic Resurfacing???
- Cost
- Availability
Hemi and Bio Interposition

* Burkhead, Nicholson and Romeo, Krishnan
* Early promising results but... longevity poor (Wirth) [Elhassan] [Lee] [Muh]
  and...it is still an arthroplasty!!!
Gerber 2015

• 6 pts
• Mean age 47
• Hemi and glenoid interposition

• Mean 16 months > 5/6 revised to arthroplasty!!!!
• ‘worse than capsular interposition or meniscal allograft’

Any Role Scope??????

Is the Scope the tool of the DEVIL????
Scope Options

• Debride scope
• Debride microfracture
• Debride, capsular release scope
• Debride, capsular release, remove osteophytes (Millett CAM)
• Debride, capsular release, CAM and interposition patch

Thermal Chondroplasty

• For knees, MAYBE stabilizes edges of chondral injury
• For knees, MAYBE induces fibrocartilage (DeHaven)
• Minimize effusions and bleeding (blood is oxidizing agent)

Scope Debridement

• Weinstein Arthroscopy 2000
• Debridement only
• Discernable joint space present on XRAY
• Good/Excellent 80% avg f/U 34months
• Recommend if Humeral head/glenoid concentric
Debridement

• Safran Arthroscopy 2003
  • 18 patients
    severe DJD
    debridement only
    78% G/E avg. F/U 24 months

Results of Arthroscopic Debridement:
Safran et al, AOSSM, 2002

Satisfaction

- Extremely Pleased - Would Do Again
- Satisfied - Would Do Again
- Neutral - Would Not Do Again
- Dissatisfied - Would Not Do Again

Results Debridement cont.

• Kerr and McCarty 2008 – results worse if ‘both sides’ of joint involved
• Debridement only
• No releases mentioned
Debridement: ‘Beveling Edges’

- Rudd et al. 1987 dog model
- Stable vertical walls after debridement: less defect progression than walls beveled at 45°

Microfracture

- Best if lesion ‘shouldered’
- Careful with Diffuse disease
- Addition of HA may potentiate results
- Marrow Stem cells?

Microfracture

- To be considered in CONCERT with additional procedure
- Best for Unipolar
- May be useful in addition to interposition patch (Savoie)
Millett et al

- Microfracture
- Min 2yr F/U
- Best - smaller lesions
- Worst - Bipolar lesions
- 81% Success
- Most patients had concomitant procedures

Capsular Release:
Joint Reactive Force

- More muscle required to move stiff joint
- More load joint fulcrum
- Stiffness >> more muscle required >> more joint reactive force

Release to ‘reduce joint’

- Eccentric posterior wear
- Excessive anterior tightness
- ‘capsular constraint’ (Harryman)
Concentric Joint...portends better outcome

Release What is Tight

- Anterior capsular release: ‘reduce’ humerus on glenoid
- Interval release: external rotation, flexion increase
- Inferior release: increased abduction
- Posterior release: increased internal rotation

E.R. in Adduction
Flexion

I.R. in adduction
Flexion

ps
posterior

as
anterior

pi
inferior

ai

Minimal effect on IR and Abduction
Abduction
E.R. in abduction
Does not limit Flexion
Release

- Capsular punch
- ‘Hug’ labrum
- Contra lateral portals helpful
- ‘Excise’ interval and skeletonize coracoid release CHL

Scope debride +/- capsular release

- Works well for milder disease (Kellgren 1,2)
- Van Thiel, Romeo and Verma: poor if:
  - > 2mm joint space
  - No bipolar lesions
  - Large osteophyte

Millett Comprehensive Arthritis Management CAM

- Chondroplasty
- Loose body excision
- Osteophyte resection
- Capsular release
- Axillary nerve release
- Subacromial decompression
- Biceps tenodesis
Axillary Nerve Encroachment

- Posterior pain (quad space)
- See atrophy teres minor MRI

Dissection nerve
Millett Results

- 85% survivorship 2 years
- Kellgren 3 > Kellgren 4
- Less than 2mm joint space did less well
- Amount of osteophyte resection ~ increase forward flexion

Arthroscopic Interposition?
Technical Challenge

Savoie  Restore Patch for ‘Severe’ DJD

- 23 pts
- Mean age 32
- Min 3 yr f/u
- 75% satisfied
- ASES 22 > 78
- Abduction 60 to 120
- ‘Squaring’ humeral head > less well
Savoie cont.

- MRI 1-3 yr post op
- "persistent covering glenoid in all cases"
- Hyaline cartilage per BX

De Beer Dermal Allograft 2010

- 32 patients
- Median age 57
- Min 2yr F/U
- "Functional improvement" 72%
- Constant scores 40 > 64.5
- Biopsy positive for chondrocytes and proteoglycans

Technique
Best Thing...
Veritas (truth)

- Counsel patients
- Scope options help
- Time limited
- More disease = poorer prognosis

Scope: How do we Hit it Right?

- Do more than debride
- CAM procedure good
- Add patch even better
- Get patient to 50!!!