

Management of a Young Active Patient  
with a B2 Glenoid with  
Hemiarthroplasty, Biologic Resurfacing  
and Soft tissue rebalancing.  
Tampa 2016

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Disclosure These Opinions are those of a  
Crazy Texan and may only apply to Crazy  
Texas patients and when surgeries are  
performed by a Crazy Texan



Buy My Music on Itunes or listen to spotify

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### Disclosures

- Arthrex Consultant, Fellowship Support
- Tornier Consultant, Fellowship Support
- Talk contains Non Homologous (Off Label) use of Acellular Dermal Matrix.

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Principles of Biologic Resurfacing have remained the same since 1995 However bearing surface recommendations have changed

- Provides immediate smooth wettable surface with low co-efficient of friction.
- Provides intermittent pressure to cancellous surface and blood clot without friction.
- **Drill holes relieve venous hypertension and for Denervation effect.**

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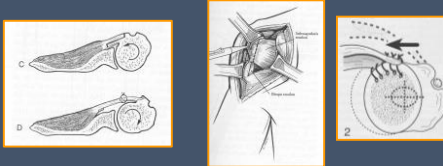
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**It is not just the resurfacing itself !**  
**Pearls for success : Gain External Rotation**

- Subscapularis Z –lengthening or medial recession. If use osteotomy or tenotomy make and do aggressive capsulectomy




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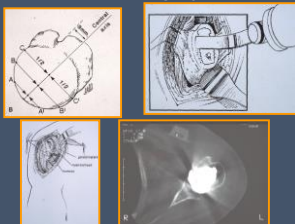
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**It is not just the resurfacing itself !**  
**Pearls for success :**  
*Use Humeral side flexibility to adjust for uncorrectable glenoid version issues and avoid Bone grafts*

- Anatomic or less retroverted humeral osteotomy.
- Use biceps Distance as a guide.
- Final osteotomy after reaming of glenoid




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It is not just the resurfacing itself !

Pearls for success : Hemiarthroplasty rather than resurfacing  
remove as much bone as possible while preserving cuff avoid  
overstuffing

Excavate all anchors curette out  
PLLA Tracks



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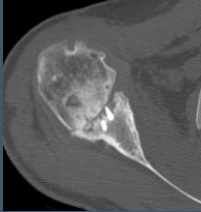
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It is not just the resurfacing itself !

Pearls for success : excavate all anchors cysts etc  
from glenoid vault if necessary Bone graft



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It is not just the resurfacing itself !

Pearls for success : Ream Glenoid only to  
subchondral bone

- Glenoid reaming to correct version abnormalities.
- High side takedown
- Create a bleeding **subchondral** surface.



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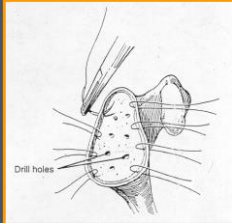
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It is not just the resurfacing itself !  
Pearls for success :  
Drill Holes beyond the Subchondral bone

- Preserve labrum
- Drill holes in glenoid to decrease venous hypertension. Denervating the cystic areas as well as the deeper recesses where nerve fibers and substance p is found



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### Current technique

- Same as previous but with allograft dermal matrix doubled as the bearing surface
- aspirate bone marrow from humeral head prior to Osteotomy
- Soak graft in marrow and inject marrow behind graft prior to closure
- Why change ?



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### Biologic Resurfacing with Graft Jacket Current Technique



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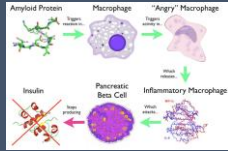
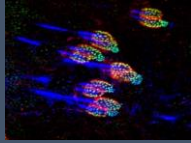
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### What do Matrices do



Recruit native stem cells  
 Down regulate inflammatory Macrophages  
 Upregulate Type II macphages

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### Results

- 55 cases from 2004 to 2011
- Single Surgeon
- Biologic Glenoid Resurfacing 3<sup>rd</sup> Generation Humeral Stem

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### Results

- Avg Age 50 yo (23-65)
- Follow-up: 60 mo (26-109)
- Etiology:
  - Primary OA 38
  - Post Reconstruction arthrtis 9
  - Dislocation OA 6
  - Septic arthritis 2
- 85% Follow-up Rate
- ASES: 76 (24-100)
- WOOS %: 76% (22-99)
- VAS: 2.4
- Preop % Normal: 31%
- Postop % Normal: 72 (20-100)

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Results  
Satisfaction Rate

- Satisfaction:
  - Highly Satisfied 55%
  - Satisfied 23%
  - Not Satisfied 22%

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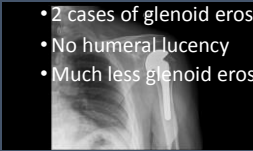
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Radiographic Results

- Avg. Joint Space: 0.91mm
- 2 cases of glenoid erosion
- No humeral lucency
- Much less glenoid erosion



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Complications

- 4 Revisions to TSA (7.3%)
  - 3 persistent pain
  - 1 infection (alcohol/drug)
- 1 Intraoperative fx
- 7 pts with impingement
  - Had complete pain relief with subacromial injection
    - ASES 54 → 83
- 2 pts with Impingement requiring SAD/DCE

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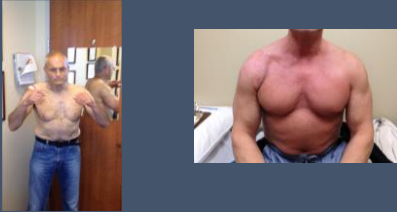
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### Clinical Failures



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### Conclusions

- 3<sup>rd</sup> generation Shoulder designs allow the surgical latitude to recreate near normal mechanics of the shoulder.
- This and the Advances in Biology will make application of this procedure more reproducible and reliable in the future

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### Conclusion

- The most important factor is what the patients biological surface creates and relief of pain by denervation/decompression via drill holes .
- Newer Biological tissues may improve the results and signal tissues to convert to cartilaginous anlage.

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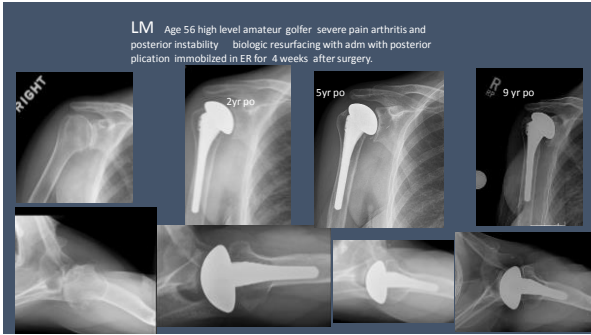
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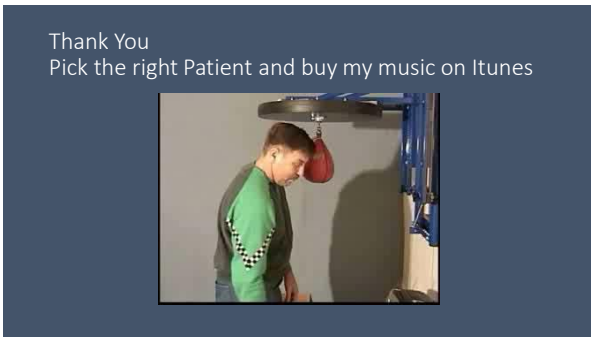
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