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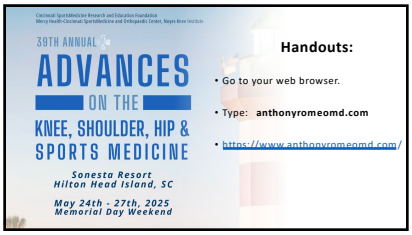

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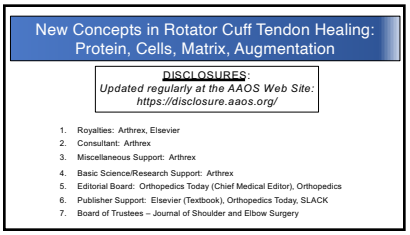

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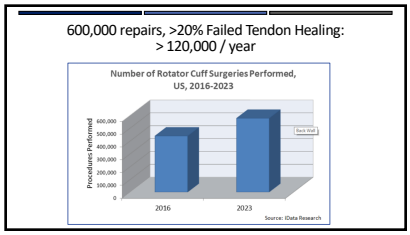

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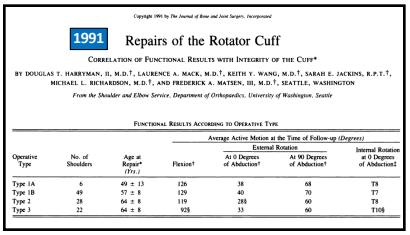

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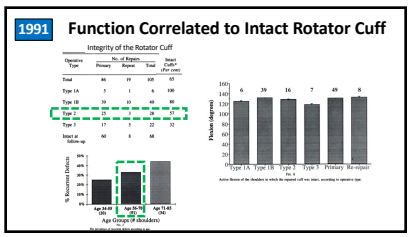

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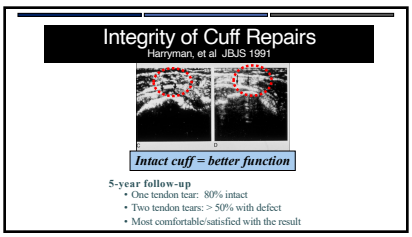

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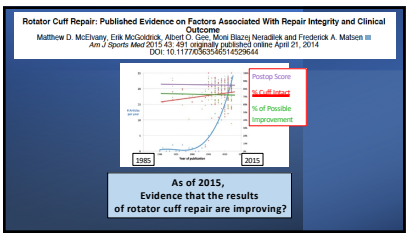
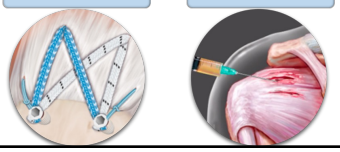


11

How can we improve?
Biomechanics and Biology

Mechanics/Structure | Biology



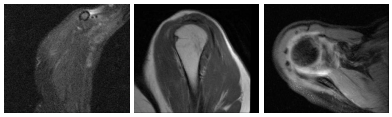
12

CASE 1: History – 63M, RHD

- ED physician with right shoulder pain
- Hx: Severe pain in Right shoulder moving heavy object
- + night pain, rest pain, overhead pain
- + weakness
- FE 130, ER-S 30, IR 60
- 4/5 supraspinatus
- 4+/5 infraspinatus, 5/5 teres minor and subscapularis

Normal Xrays

13

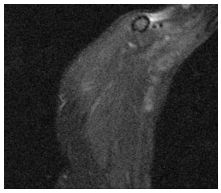


MRI

14

MRI

- Supraspinatus Tear with retraction to glenoid
- Grade 3 Fatty Infiltration – SS
- Grade 2 Fatty Infiltration - IS
- Biceps tenosynovitis
- Subscapularis intact
- No arthritis
- No significant labral tear



15

Rotator Cuff Healing Index

The Rotator Cuff Healing Index: A New Scoring System to Predict Rotator Cuff Healing After Surgical Repair

"Rohi"

Prognostic Factor	Points in RoHI
Age > 70 years	2
AP tear size > 2.5 cm	2
Retraction 1 to < 2 cm	1
Retraction 2 to < 3cm	2
Retraction ≥ 3 cm	4
Infraspinatus Fatty Infiltration Grade ≥ 2	3
Bone Mineral Density (BMD) ≤ -2.5	2
Level or Work Activity, High	2

Score	Number of Patients	Percent Healed
0 - 1	181	99.5%
2 - 4	201	89.1%
5 - 6	99	67.7%
7 - 9	64	37.5%
10 - 15	58	13.8 %

16

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Rotator Cuff Healing Index (RoHI) Score Ranges[1]

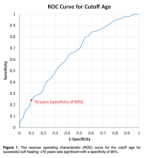
	High chance of healing	At risk for failure	High chance of failure	
Score	0-4	5-6	7-9	10-15
Healing rate	94%	68%	38%	14%

17

Age Cut-off?

The Rotator Cuff Healing Index: A New Scoring System to Predict Rotator Cuff Healing After Surgical Repair

Should there be an age limit?



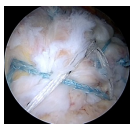
18

Outcomes of Arthroscopic Rotator Cuff Repair in Patients Aged 70 Years or Older

Nikhil N. Verma, M.D., Sanjeev Bhatia, M.D., Champ L. Baker III, M.D., Brian J. Cole, M.D., M.B.A., Nicole Bonasia, B.S., Gregory P. Nicholson, M.D., and Anthony A. Romeo, M.D.

Arthroscopy: The Journal of Arthroscopic and Related Surgery, Vol 26, No 10 (October), 2010: pp 1272-1280

- RCR better results than debridement with an average age of 74
- Constant-Murley scores:
  - 88.3% to 97.2% of normal in men
  - 81.7% to 88.8% of normal in women



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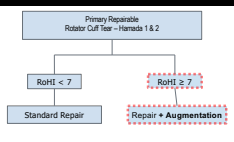
Rotator Cuff Treatment Algorithm



Jackson GR, Bedi A, Denard PJ. Graft Augmentation of Repairable Rotator Cuff Tears: An Algorithmic Approach Based on Healing Rates [published online ahead of print, 2021 Nov 10]. Arthroscopy. 2021;S0749-8063(21)00963-4. doi:10.1016/j.arthro.2021.10.032

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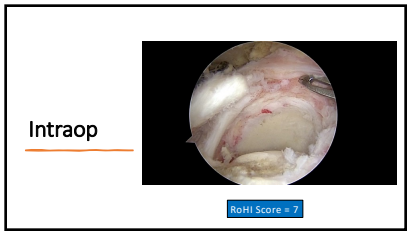

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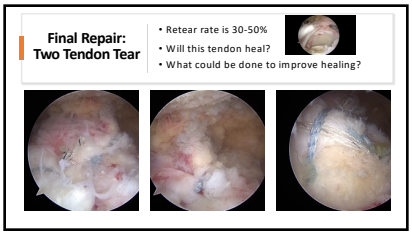

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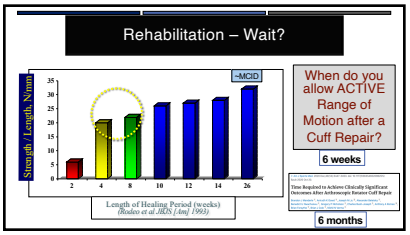

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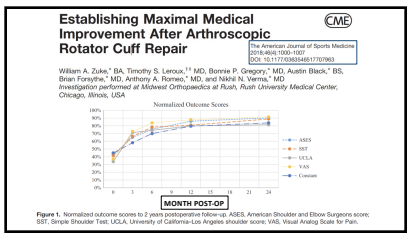

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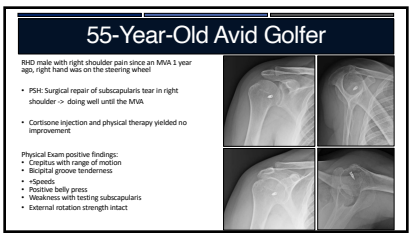

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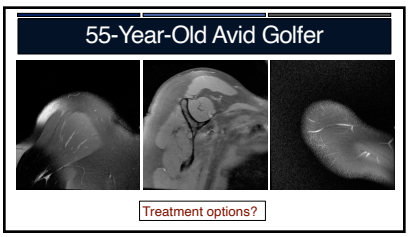

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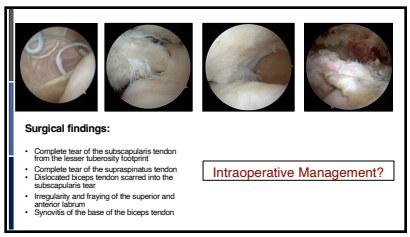

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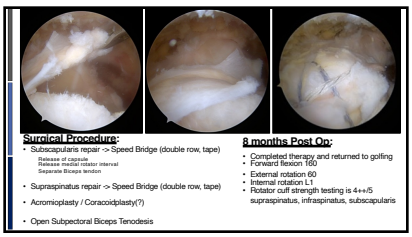

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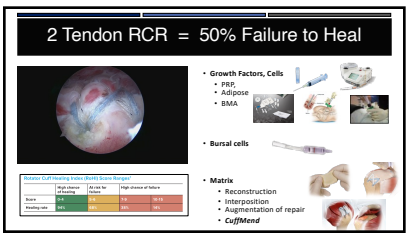

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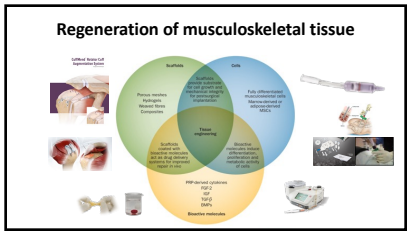

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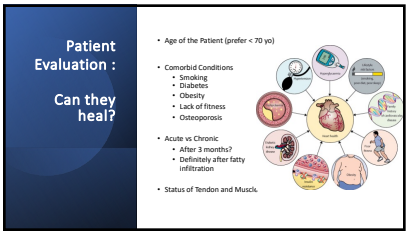

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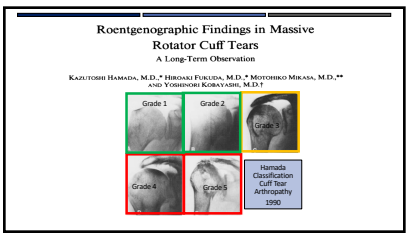

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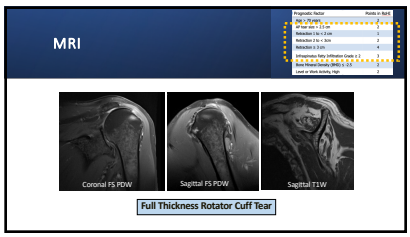

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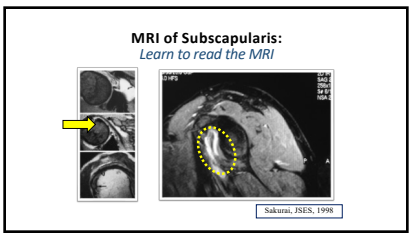

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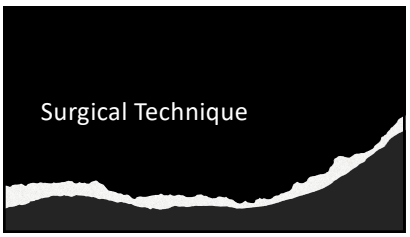

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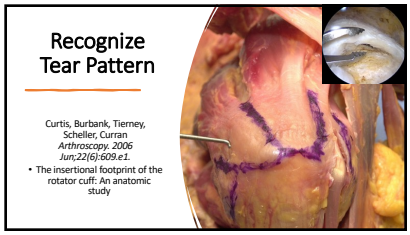

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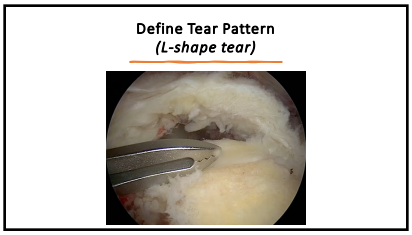

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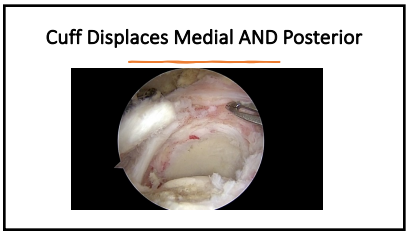

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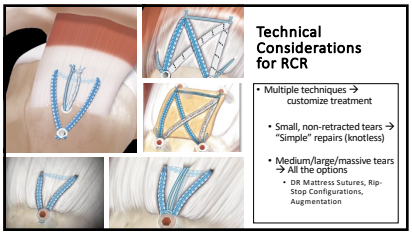

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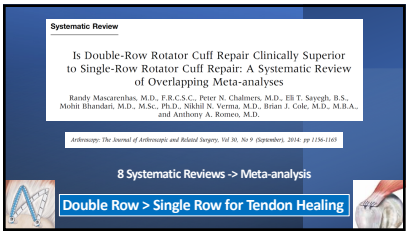

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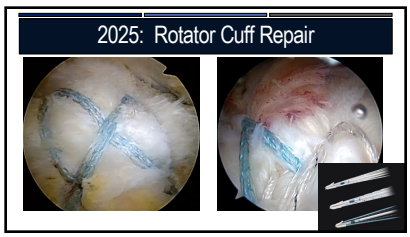

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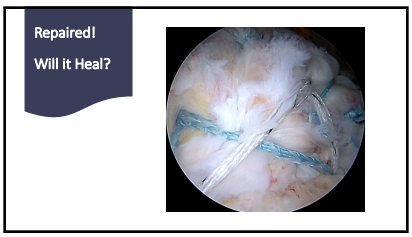

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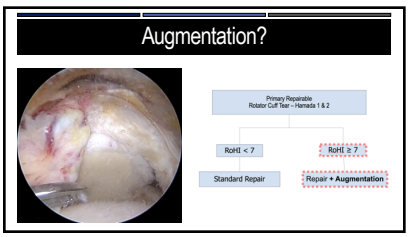

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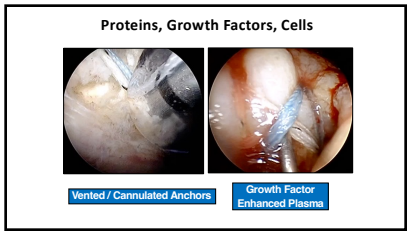

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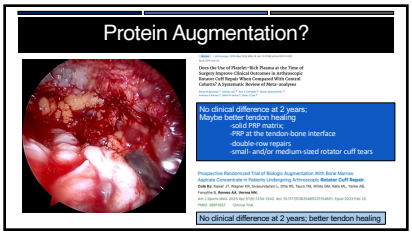

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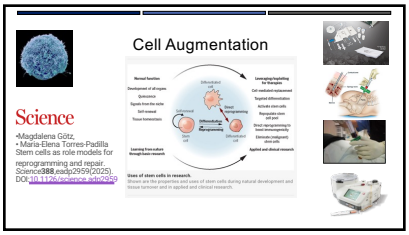

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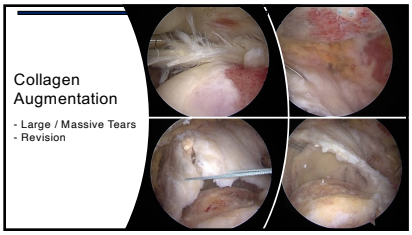

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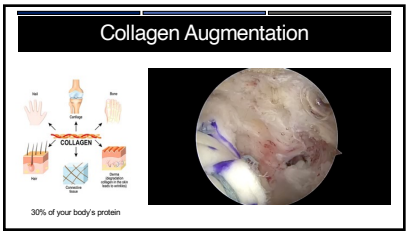

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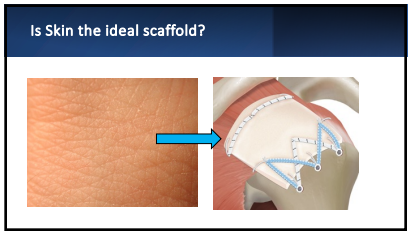

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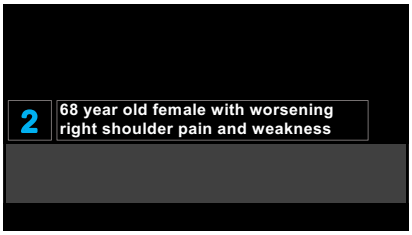

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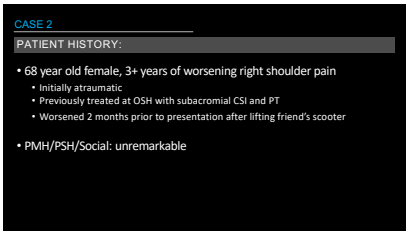

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CASE 2

PHYSICAL EXAM:

- BMI 26
- Normal C-spine ROM
- No scapular dyskinesis

- **Active ROM**: FF 150, ABD 90 (limited by pain), ER-S 60, ER-ABD 70, IR to lumbar spine
- **Strength**: 4/5 FF, 4/5 ER-S, 5/5 IR, negative belly-press & lift-off
- **Biceps**: TTP biceps groove, positive Speeds

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CASE 2

PRE-OPERATIVE IMAGING: PLAIN FILMS

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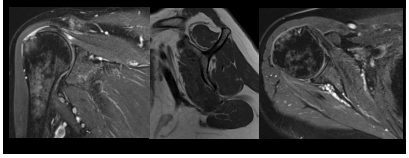
CASE 2

ADVANCED IMAGING



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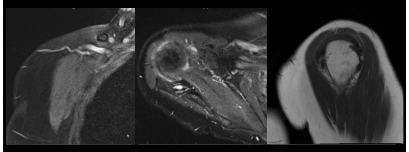
CASE 2

ADVANCED IMAGING



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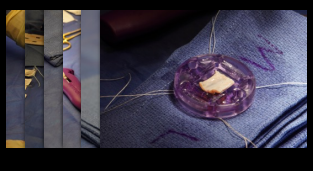
CASE 2

SURGICAL TECHNIQUE



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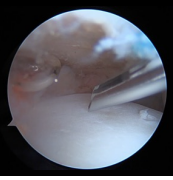
CASE 2

SURGICAL TECHNIQUE

Different Case



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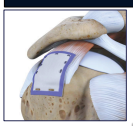
CASE 2

POST- OPERATIVE COURSE

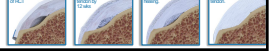
- 6 weeks sling
- Active-Assist ROM at 2 weeks
- Strengthening at 10-12 weeks
- RTS at 6-9 months

90

Porous "Bio-Inductive" Implant



- Implant derived from bovine Achilles tendon, highly purified, highly porous, highly oriented design (Xenograft)
- Bioinductive Implant gradually absorbs within six months, leaving a layer of new "tendon-like" tissue to biologically augment the existing tendon



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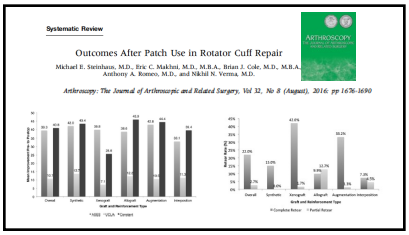

Systematic Review

Outcomes After Patch Use in Rotator Cuff Repair

Michael E. Steinhaus, M.D., Eric C. Makhni, M.D., M.B.A., Brian J. Cole, M.D., M.B.A., Anthony A. Romeo, M.D., and Nikhil N. Verma, M.D.

Arthroscopy: The Journal of Arthroscopic and Related Surgery, Vol 32, No 8 (August), 2016: pp 1676-1690

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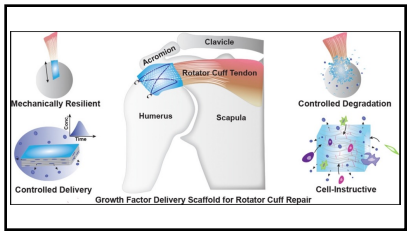

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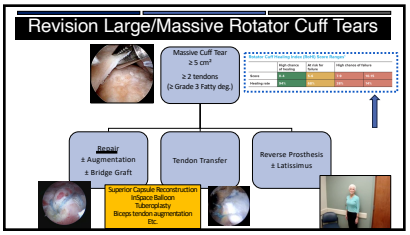

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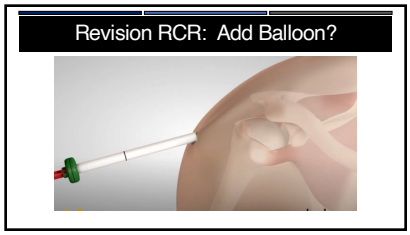

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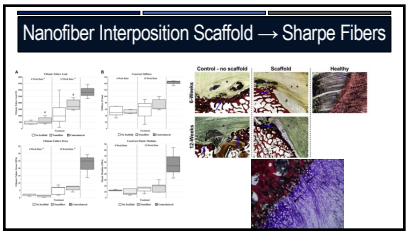

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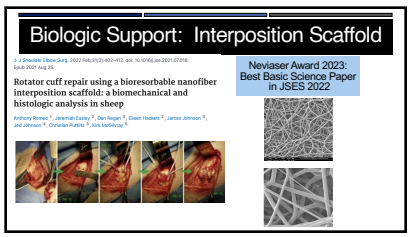

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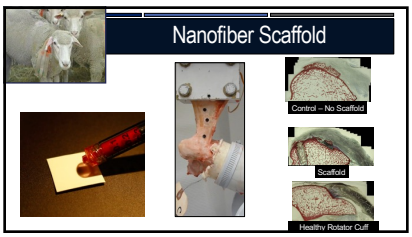

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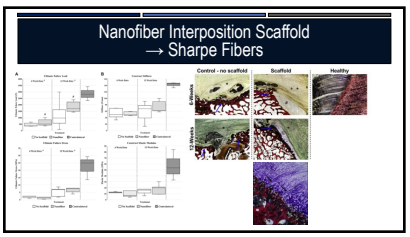

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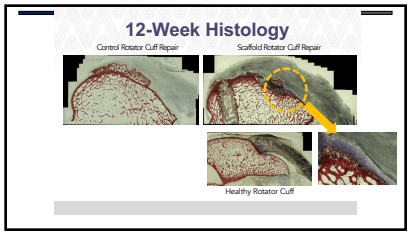

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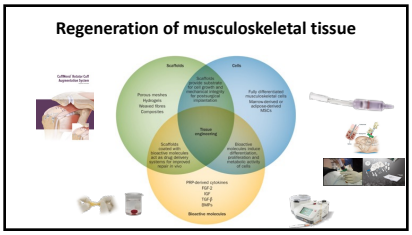

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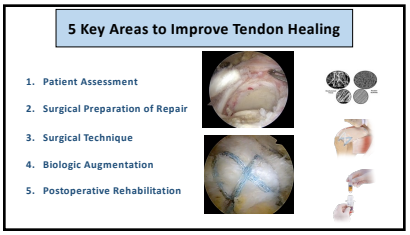

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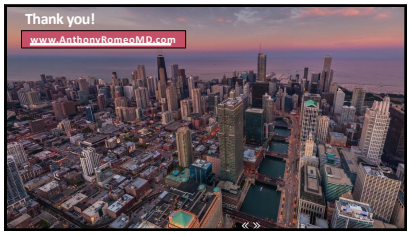

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