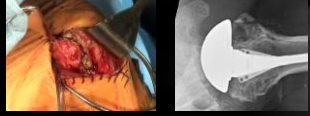



TOP REASONS 5

Top 5 Reasons Why Lesser Tuberosity Osteotomy is Better...



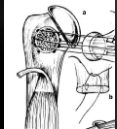


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5. Biomechanically Stronger

- **Stronger Repair with Osteotomy than Tenotomy**
 - Krishnan (JSES 2009)
 - Osteotomy significantly stronger than Tenotomy
 - Higher Load to Failure (430/466 vs 252)
 - Ponce (JSES 2005)
 - Less Displacement Under Cyclic Load
 - Higher Load to Failure

4. Bones heal better to Bones

- **Bone healing more reliable than tendon healing**
 - Gerber (JBJS 2005, 39 cases) → 100% Union
 - Ponce (JBJS 2005, 76 cases) → 100% Union
 - Krishnan (JSES 2009, 108 cases) → 97% Union
 - Scalise (JBJS 2010, 35 cases) → 100% Union
 - Jandhyala (JSES 2011, 36 cases) → 100% Union
- **Tenotomy/Peel healing rates found to be much lower** *(unless operated on by Lapner or Athwal)*
 - Buckley (JSES 2014) → 4/32 (13%) abn healing
 - Liem (JSES 2012) → 7/23 (30%) abn healing
 - Scalise (JBJS 2010) → 7/15 (46%) abn healing
 - Jackson (JSES 2010) → 7/15 (47%) retear
 - Armstrong (JSES 2006) → 4/30 (13%) retear




3. We Like to Monitor Healing with Radiographs

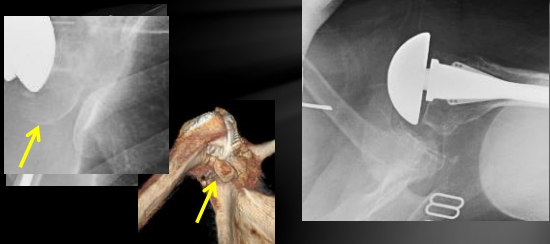
- **We are Orthopods.... That's what we do!**
- Confidence in return to activity



Look for Displacement

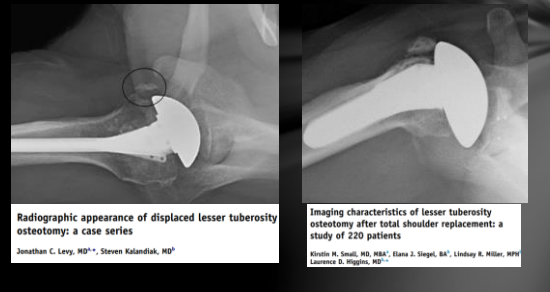
- **Must look on Grashey (not always seen on Axillary View)**

Radiographic appearance of displaced lesser tuberosity osteotomy: a case series
Jonathan C. Levy, MD*, Steven Kalandak, MD* JSES 2011



Observe Non-unions

- **Can See on Axillary as remains stable**

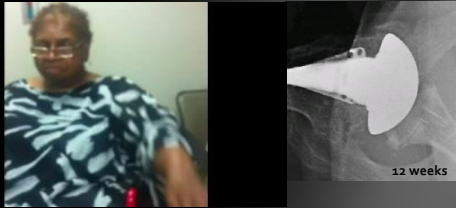


Radiographic appearance of displaced lesser tuberosity osteotomy: a case series
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Imaging characteristics of lesser tuberosity osteotomy after total shoulder replacement: a study of 220 patients
Kirolos H. Small, MD, MBA*, Hana J. Siegel, BA*, Lindsay B. Miller, MPH*, Lawrence B. Wiggin, MD**

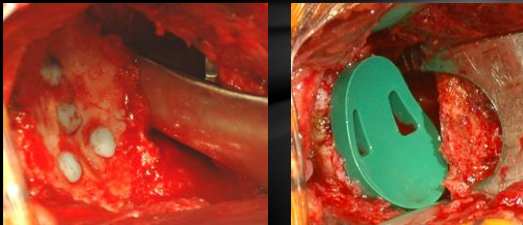
May not need to act...

- **Refused second surgery**



2. Improved Exposure

Less humerus to retract posteriorly



1. Patients Do Better

- **Numerous Studies Suggest Excellent Subscap Function**
 - Flatow (JSES 2008, 30 cases)
 - 93% Tuck in Shirt
 - 60% Normal Belly-Press
 - Gerber (JBJS 2005, 39 cases)
 - 89% Normal Belly Press
 - 75% Normal Lift Off
 - Ponce (JBJS 2005, 76 cases)
 - 82% Normal Belly Press
 - Krishnan (JSES 2009, 108 cases)
 - 86% Normal Belly Press
 - 82% Tuck in Shirt
 - Triplett (JSES 2015, 105 patients (LTO) with min 2 year f/u)
 - Improved **Functional Internal Rotation**
 - 85% reach small of back
 - 92% Wash Back/ Fasten Bra
 - 96% Toileting
 - 89.4% Internal Rotation T12 or higher
- **Comparison Studies Suggest Better Results**
 - Scallise (JBJS 2010, 35 cases)
 - Higher post-op Penn scores for LTO vs. Tenotomy
 - Jandhyala (JSES 2011)
 - Improved strength with belly press vs Tenotomy

82-89% Normal Belly Press

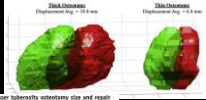
Maintained internal rotation function

Just The Tip LTO Technique

1. Biceps Tenodesis
2. Open Rotator Cuff Interval
3. Osteotome
4. Release Remaining Subscapularis Tendon



Biomechanically Stronger



Effect of lesser tuberosity osteotomy size and repair placement during total shoulder arthroplasty
Kocher et al. 2006, Levy et al. 2011, Levy et al. 2012, Levy et al. 2013, Levy et al. 2014, Levy et al. 2015, Levy et al. 2016, Levy et al. 2017, Levy et al. 2018, Levy et al. 2019, Levy et al. 2020, Levy et al. 2021, Levy et al. 2022, Levy et al. 2023, Levy et al. 2024, Levy et al. 2025

Have faith in the bone!

Have Confidence with the Lesser Tuberosity Osteotomy!

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