

**Bankart repair:  
Wake up! Scope is standard of care**



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**Which would you choose for your patients?  
Which would you choose for yourself?**

- Recurrent dislocation rate: **No difference**
- Arthritis rate: **No difference**
- Complication rate: favors **Arthroscopic**
  - Stiffness (especially loss of ER)
  - Nerve injury
  - Wound infection
- Cost: favors **Arthroscopic**
  - Longer length of stay with open
- Treat associated pathology: favors **Arthroscopic**
  - Trials all start with diagnostic @, then randomize!

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**Which would you choose for your patients?  
Which would you choose for yourself?**

- Ask yourself:
  - Is there something magic about cutting the subscap?!
    - Does making an incision in the skin affect shoulder stability?!



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**Which would you choose for your patients?  
Which would you choose for yourself?**

- But don't take my word for it
  - Level I data (**6** studies)
  - Systematic Reviews and Meta-analyses

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**Level I studies**

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### Level I data (Jørgensen et al)

- **Recurrent post-traumatic anterior shoulder dislocation – open versus arthroscopic repair**
- Jørgensen U, Svend-Hansen H, Bak K, Pedersen I  
– *KSSSTA*, 7:118-124, **1999**.
- Level I, Prospective, randomized controlled trial  
– Trans glenoid sutures
- 36 month mean follow-up (30-52)
- 41 patients (20 open, 21@)



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### Level I data (Jørgensen et al)

- **No significant difference in**
  - Recurrent instability rates
  - Constant, Rowe scores
  - Shoulder laxity with donjoy
- **Open group had**
  - Longer hospital stay
  - Decreased ROM
    - 2 patients in open group with >50% decrease in ER!
  - More cosmetic complaints



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### Level I data (Sperber et al)

- **Comparison of an arthroscopic and an open procedure for posttraumatic instability of the shoulder: A prospective, randomized multicenter study**
- Sperber A, Hamberg P, Karlsson J, Swärd L, Wredmark T  
– *JSES*, 10:105-108, **2001**.
- Level I, Prospective, randomized controlled trial
  - Included bony bankart patients if <5mm
  - Surgeries performed 1993-1996, 7 different surgeons
  - @ group with Bioabsorbable suretac (S&N)
- 56 patients (26 open, 30@), min follow up not clear

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**Level I data (*Sperber et al*)**

- **No significant difference in**
  - Recurrence rate
    - open 3/26 (12%); @ 7/30 (23%) (p=0.65)
  - Constant and Rowe scores
  - ROM
  - Apprehension
- One reoperation in each group for loose anchor

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**Level I data (*Fabbriciani et al*)**

- **Arthroscopic versus open treatment of Bankart lesion of the shoulder: A prospective randomized study**
- Fabbriciani C, Milano G, Demontis A, Fadda S, Ziranu F, Mulas PD
  - *Arthroscopy*. 20(5):456–62, 2004.
- Level I, Prospective, randomized controlled trial
- 30 open, 30@
- 2-year follow-up

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**Level I data (*Fabbriciani et al*)**

- **No recurrent instability events in either group**
- No intra- or post-op complications
- ROM domain improved with arthroscopic
  - Constant score slightly better with @
  - Rowe trend towards improvement in @
- **Limitation:**
  - No absolute ROM measurements

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**Level I data (Bottoni et al)**

- **Arthroscopic versus open shoulder stabilization for recurrent anterior instability. A prospective randomized clinical trial**
- Bottoni CR, Smith EL, Berkowitz MJ, Towle RB, Moore JH
  - *AJSM*, 34:1730-1737, **2006**.
- Level I, Prospective, randomized controlled trial
  - Tripler AMC (military population)
- 61 patients (29 open, 32@)
- 29 month fu (24-48)

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**Level I data (Bottoni et al)**

- **No recurrent dislocations in either group**
- 3 “failures” (2 open(6.9%), 1@ (3.1%)”
  - “second dislocation, recurrent subluxation, or symptoms precluding return to previous work or unrestricted active military duty”
  - Open failures (2) had recurrent instability
  - @ failure (1) had no dislocations but did not return to work due to pain
- Open group: Traumatic subscap rupture but since bankart healed not counted as failure!
- Open group: **Greater loss of motion (ER)**

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**Level I data (Netto et al)**

- **Treatment of Bankart Lesions in Traumatic Anterior Instability of the Shoulder: A Randomized Controlled Trial Comparing Arthroscopy and Open Techniques**
- Netto NA, Tamaoki MJS, Lenza M, dos Santos JBG, Matsumoto MH, Faloppa F, Belloti JC
  - *Arthroscopy*. 28(7):900–8, **2012**.
- Level I, Prospective, randomized controlled trial
  - <50 yo
- 42 patients (25 open, 17 @)
- 37.5 month mean follow-up

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**Level I data (*Netto et al*)**

- No recurrent dislocations in either group
- Open: 1 wound infection
- @: 2 subluxations (not statistically sig)
- Open group: trend toward **Greater loss of ER**

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**Level I data (*Mohtadi et al*)**

- **A Randomized Clinical Trial Comparing Open and Arthroscopic Stabilization for Recurrent Traumatic Anterior Shoulder Instability: Two-Year Follow-up with Disease-Specific QoL Outcomes**
- Mohtadi N, Chan DS, Hollinshead RM, Boorman RS, Hiemstra LA, Lo IKY, Hannaford HN, Fredine J, Sasyniuk T, Paolucci E  
– *JBJS*, 96: 353-360, **2014**.
- Level I, Prospective, randomized controlled trial  
– “expertise-based randomization”  
– Open with subscap split
- 2 year follow-up; 79 open, 83@

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**Level I data (*Mohtadi et al*)**

- **No significant difference in**  
– ASES, WOSI  
– ROM
- Open 11% failure, @23% (p =0.05)
- 3 nerve palsies (all resolved), 2 wound infections
- Limitations  
– ? “expertise-based randomization”  
– Higher percent of patients in @ involved in collision or contact sports  
– CT scans not routine so no quantification of HS or glenoid bony injury

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TABLE IV Frequency of Traumatic and Atraumatic Dislocations and Subluxations at the Two-Year Follow-up Evaluation\*

Group	Traumatic			Atraumatic	
	No Recurrence	Subluxation	Dislocation	Subluxation	Dislocation
Open (n = 65)	31	2	4	0	3
Arthroscopic (n = 87)	67	1	14	3	2

\*One patient in the open group and four patients in the arthroscopic group did not return for the two-year follow-up evaluation. However, these patients provided the necessary information regarding recurrent instability to be included in this table.

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**Systematic Reviews and Meta Analyses**

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**Systematic Review / Meta analysis**

- **The treatment of traumatic anterior instability of the shoulder: nonoperative and surgical treatment**
- Brophy RH, Marx RG
  - *Arthroscopy* 25(3):298-304, **2009**.
- Systematic Review and Meta analysis of 8 studies
  - Included only studies with suture anchors
- **No significant difference in**
  - Recurrence of Instability (8.2% open, 6.4% @)
  - ROM

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### Systematic Review / Meta analysis

- **Long-term outcomes after shoulder stabilization**
- Harris J, Gupta AK, Mall NA, Abrams G, McCormick FM, Cole B, Back BR Jr, Romeo AA, Verma NN  
– *Arthroscopy* 29:920-33, **2013**.
- Systematic Review and Meta analysis of **26** studies  
– Minimum 5 year follow-up
- **No significant difference** in
  - Rates of arthritis
  - Recurrence of Instability
  - PROMs

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### Systematic Review / Meta analysis

- **Open versus arthroscopic surgical treatment for anterior shoulder dislocation: A comparative systematic review and meta-analysis over the past 20 years**
- Hohmann E, Tetsworth K, MD, Glatt V  
– *JSES* 26:1873-1880, **2017**.
- Systematic Review and Meta analysis of **22** studies  
– Looked at 1995-2004 vs 2005-2015 publications
- **Significant difference** in
  - Recurrence of Instability in @ group 1995-2004
  - But **NO significant difference 2005-2015**
  - Decreased ER with open group

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### Conclusions

- **The labrum doesn't care if the lights are on**
- Recurrent dislocation rate: **No difference**
- Arthritis rate: **No difference**
- Complication rate: favors **Arthroscopic**
  - Stiffness (especially loss of ER)
  - Nerve injury
  - Wound infection
- Cost: favors **Arthroscopic**
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**Thank you !**

 **DUKE**  
SHOULDER SURGERY

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