Sports Medicine & Joint Center
Funabashi Orthopaedic Hospital

Debate:
Bony Bankart Repair

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Disclosure

- Speakers bureau/paid presentations
  - *DepuySynthes; Smith&Nephew*
- Unpaid consultant
  - *DepuySynthes; Smith&Nephew ;Biomet*
- Orthopaedic publications editorial
  - *Journal of Shoulder and Elbow Surgery*

Bony Bankart Repair

- Bony Bankart lesion
  - Chronic anterior rim fracture
  - Fragment connected to ligament
- Can incorporate fragment into Bankart repair!
- Less invasive, anatomical…
- But NOT popular yet!!

Sugaya, et al, JBJS 87A, 2005; 88A, 2006

Why??

- Bone fragment too small!?
  - ➢Yes, but mostly well retained
- Soft tissue repair unreliable!?
  - ➢No, ligament tensioning crucial!
- Technically difficult!?
  - ➢No, master proper procedures!!

Pearls for AS BB Repair

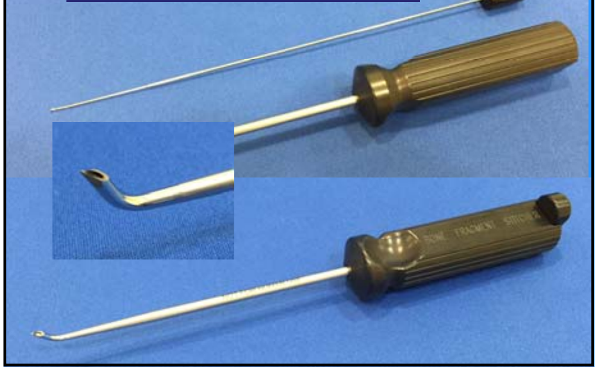
1. Preop Imaging: 3DCT
2. Extensive complex release
3. Repair inferior labrum first
4. Stabilize the fragment by a big grasper
5. Penetrate the fragment using Bone Stitcher

Sugaya, et al, JBJS 87A 2005; EST 2006; JBJS 97A 2015; EST 2016

AS Bony Bankart Repair

- Fragment management
  - ◆Pass around it? or penetrate it?

Bone Stitcher™



Portal Placement

Main working portal
- Anterior

Cannulaless!!

- Anterosuperior

Accessary working portal

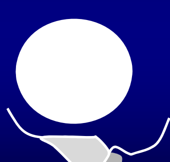
- Posterior

Main viewing portal

Sugaya et al, Arthroscopy, 2004

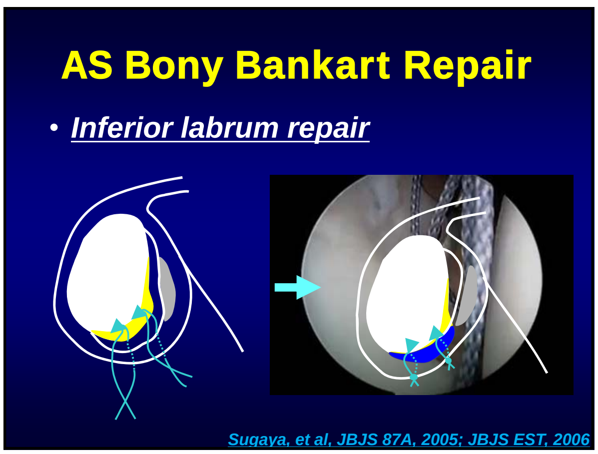
AS Bony Bankart Repair

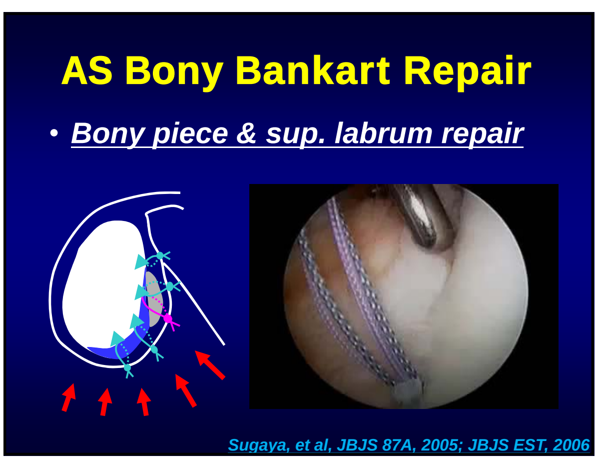
- ***Bone piece displaced inferiorly & medially***



Sugaya, et al, JBJS 87A, 2005; JBJS EST, 2006

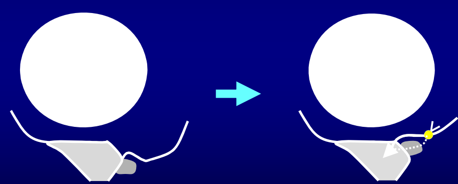

AS Bony Bankart Repair
• Complex release and preparation
Sugaya, et al, JBJS 87A, 2005; JBJS EST, 2006


AS Bony Bankart Repair
• Inferior labrum repair
Sugaya, et al, JBJS 87A, 2005; JBJS EST, 2006


AS Bony Bankart Repair
• Bony piece & sup. labrum repair
Sugaya, et al, JBJS 87A, 2005; JBJS EST, 2006

AS Bony Bankart Repair

- *Repair completed*



Sugaya, et al, JBJS 87A, 2005; JBJS EST, 2006

AS Bony Bankart Repair

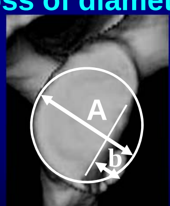
- My 1st case in May, 2000
  - ➢Early series reported in JBJS-Am 2005
  - ➢Technical note in JBJS-EST 2006
- Technical modifications
  - ➢Use of high strength sutures, etc.

    .....until 2005
- Jan. 2005 to Dec. 2006 (2 years)
  - ➢85 AS bony Bankart repairs

Bone Loss Measurements

- Use of inferior circle

Loss of diameter



Method I

Sugaya, JBJS Am, 2005

Loss of area

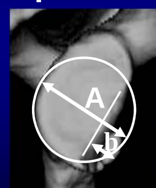
Method II

Sugaya, JBJS Am, 2003

Subjects

Jan. 2005 to Dec. 2006

- 85 AS bony Bankart repairs
  - ➢39 shoulders <15% bone loss
  - ➢46 shoulders ≧15% bone loss



Method I

Kitayama, Sugaya, et al, JBJS 97A, 2015

Subjects

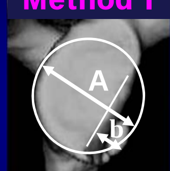
Jan. 2005 to Dec. 2006

- 46 shoulders ≧15% bone loss
- 38 (83%) available for F/U
  - ➢34 males, 4 females
  - ➢Ave. age: 23.4 (15 – 36) years
  - ➢Ave. F/U: 6.2 (5 – 8.1) years

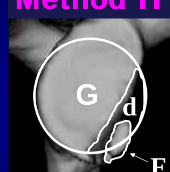
Kitayama, Sugaya, et al, JBJS 97A, 2015

Preoperative Bone Loss

Method I



Method II



- 20.4 (15.2-26.2)%
- 22.2 (15.9-30.3)%
  - Fragment size: 4.7 (0.4-12.4)%
  - Real bone loss: 17.5 (10.3-24.1)%

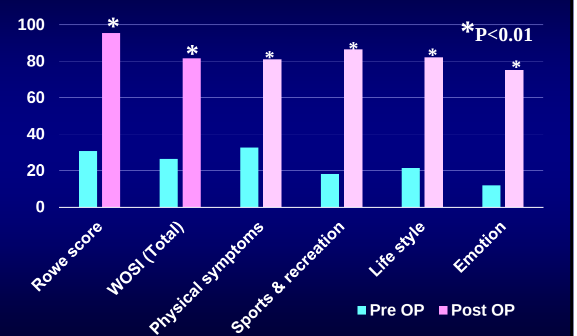
Kitayama, Sugaya, et al, JBJS 97A, 2015

Results: *Recurrence*

- 1/38 patients experienced recurrence (2.6%)
  - ➢Due to a major trauma in the ... c accident 5M aft...
  - ➢... of the fragment confirmed by 3DCT
  - **Augmentation necessary!!**
  - ◆Early stage failure before obtaining bony union

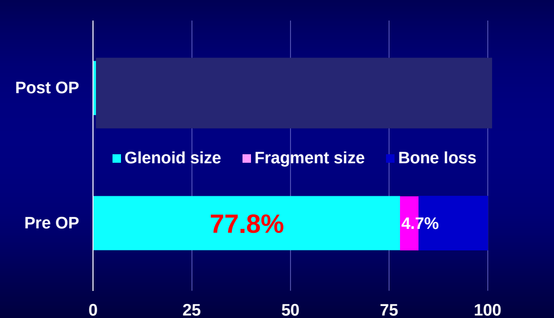
Kitayama, Sugaya, et al, JBJS 97A, 2015

Results: *Functional Outcome*



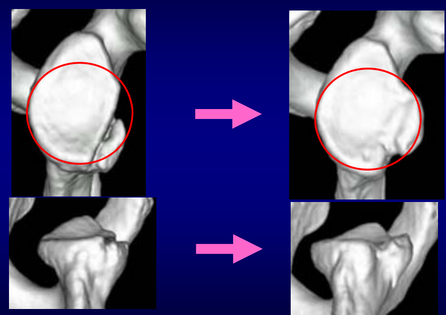
Kitayama, Sugaya, et al, JBJS 97A, 2015

Results: *Glenoid Bone Loss*



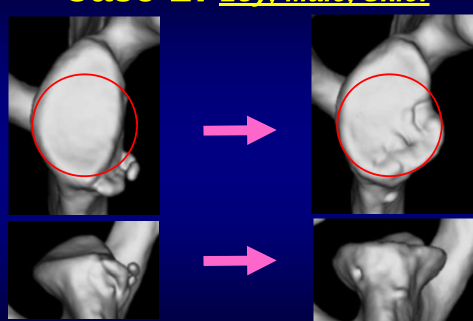
Kitayama, Sugaya, et al, JBJS 97A, 2015

Case 1: *22y, Male, Rugby Player*



Pre-op 8y Post-op

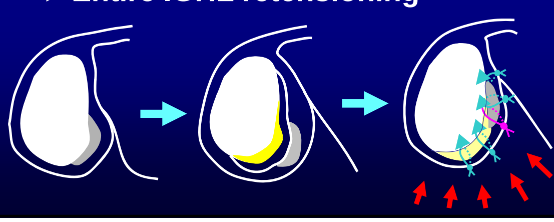
Case 2: *28y, Male, Skier*



Pre-op 8y Post-op

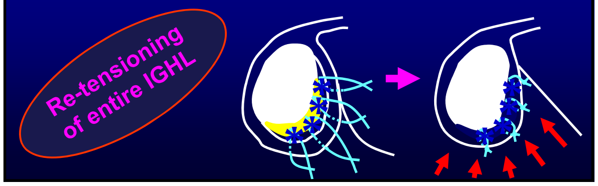
Why Bone Volume Increased?

- Extensive labrum release
  - Excellent fragment reduction
  - Entire IGHL retensioning



Romeo’s Group Concept

- Entire IGHL complex integrity
  - ➢Four-quadrant approach
    - ✓ Seroyer, Nho, Provencher, Romeo, Arthroscopy, 2010
  - ➢Inferior suture anchor placement
    - ✓ Frank, Romeo, Cole, Provencher, Verma, et al, AJSM 2014



Take Home Messages

◆Tensioning of the entire IGHL

►Prevent bone resorption & recurrence

►Promote bony union

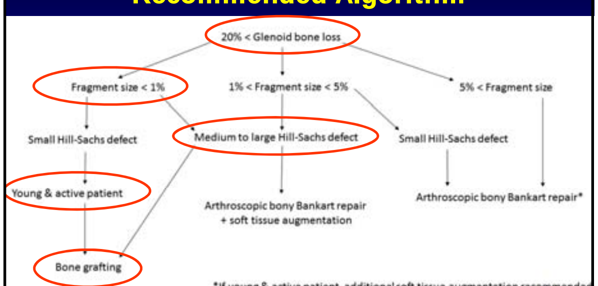
►Induce new bone formation

◆To avoid early stage failure

►Secure repair & augmentation

Kitayama, Sugaya, et al, JBJS 97A, 2015

Bony Bankart Lesion:
Recommended Algorithm



Kitayama, Sugaya, et al, JBJS 97A, 2015


Thank You!
Tokyo, 2017