

# EVOLUTION OF SHOULDER INSTABILITY SURGERY which operation is best

Dr Jerome Goldberg



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# DISCLOSURE

- Arthrex fund POW Shoulder fellowship
- Co Director of POW Orthopaedic Research Laboratory
- MAC of Device Technologies
- Chairman AusBio
- Board member of International Board of Shoulder Surgery



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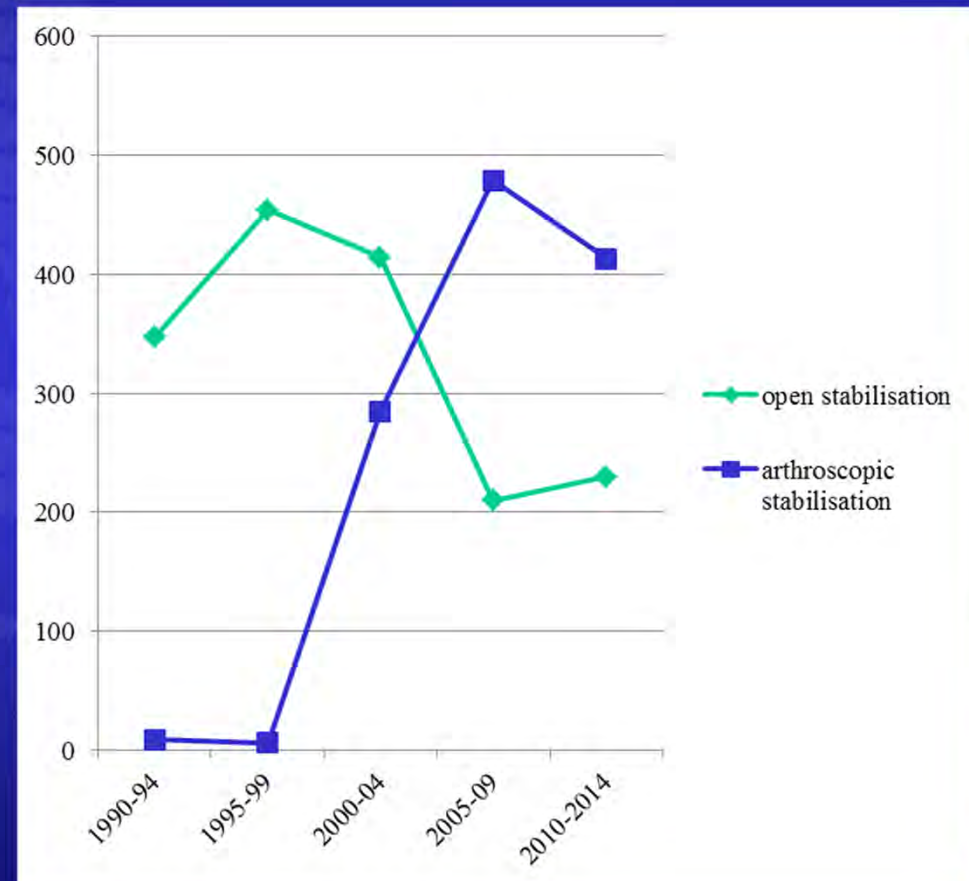
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# NUMBERS BETWEEN 1990 - 2014

OPEN STAB 1655

ARTHROSCOPIC STAB 1652

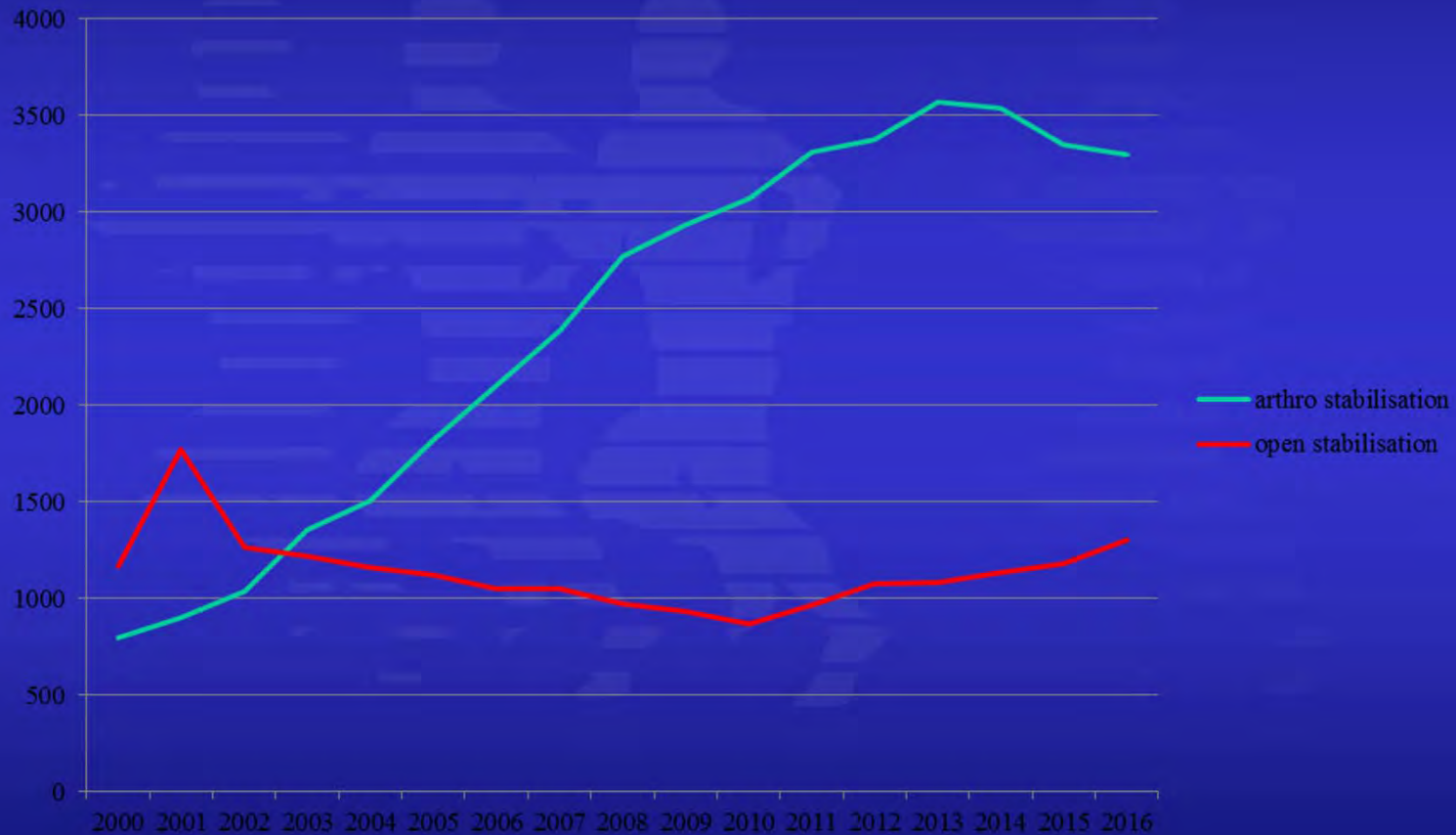


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# MEDICARE NUMBERS 2000- 2016



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# What Ops are available

## ARTHROSCOPIC

- Labral repair
- Capsular plication
- Remplisage
- combinations



## OPEN

- Labral repair
- Capsular shift
- Bony procedure - Latarjet



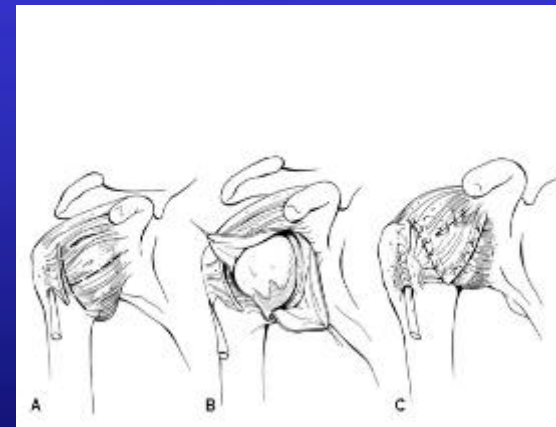
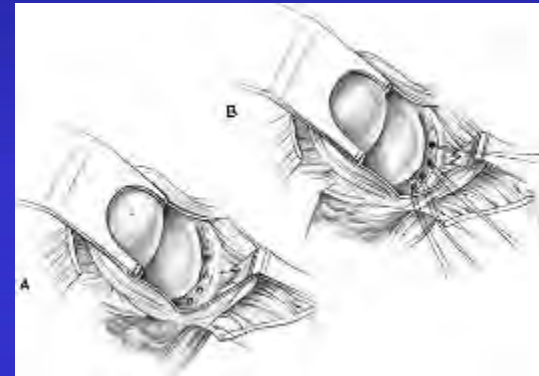
# What do we know

- Arthroscopic and open surgery generally give good results
- Open surgery is more reliable in contact athletes
- Arthroscopic surgery gives poor results when there is bone
- Rehabilitation time is similar for both types of surgery
- Repairing HAGL lesions arthroscopically is risky to axillary nerve



# OPEN STABILISATION 1990 - 2000

- Labral repair with anchors
- Capsular shift
- Failure rate approx 15%
- Failure occurred at labral repair
- Did not recognise importance of bony pathology



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# TRANSOSSEOUS REPAIR

- Anchor repair “spot weld healing”
- Transosseous repair
  - More surface area
  - More pressure
  - Higher load to failure
  - Less gap formation
  - ? Better healing



Knee Surgery, Sports traumatology,  
Arthroscopy ,19:9 2011

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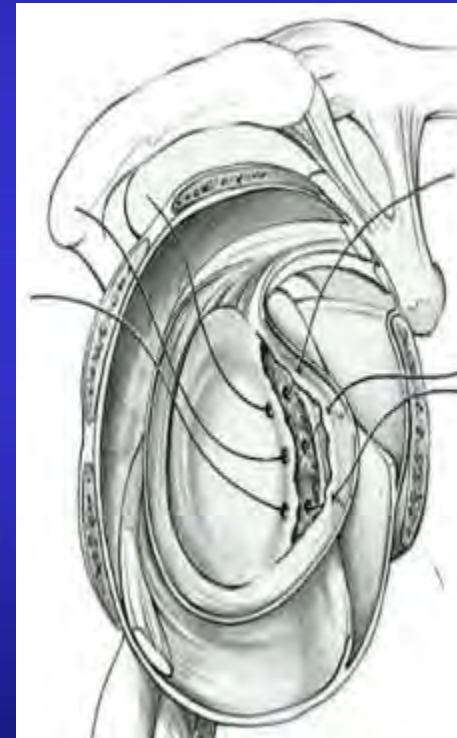
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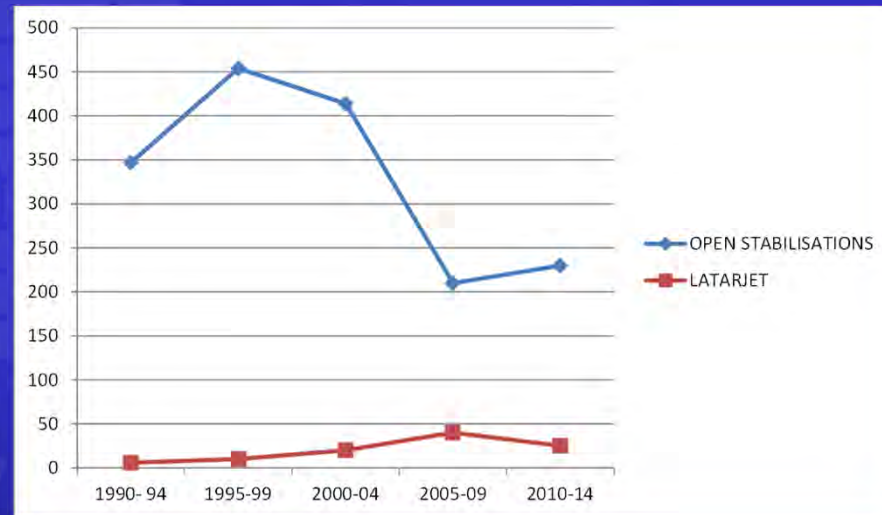
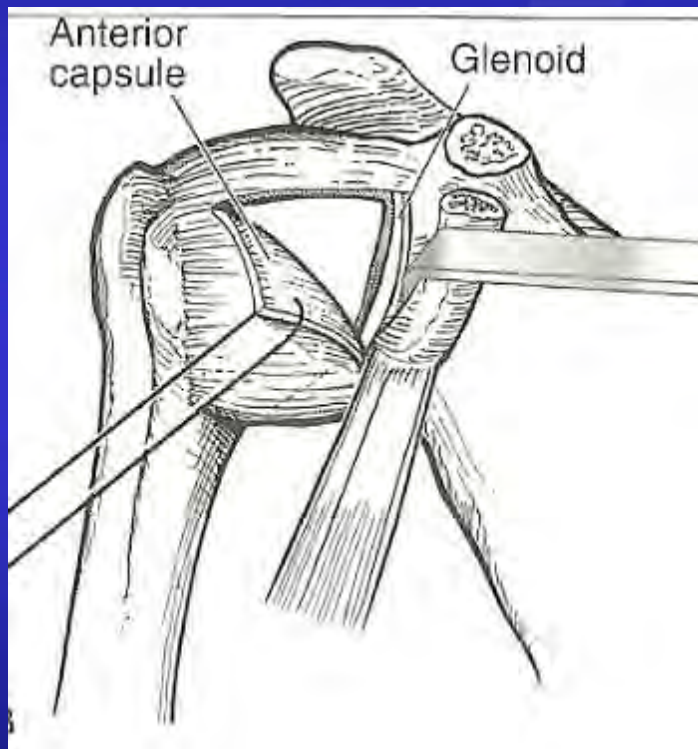
# OPEN STABILISATION 2000 - 2014

- Transosseous labral repair
- Capsular plication
- Recognised significance of bony pathology



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# OPEN STABILISATION 2000 - 2014

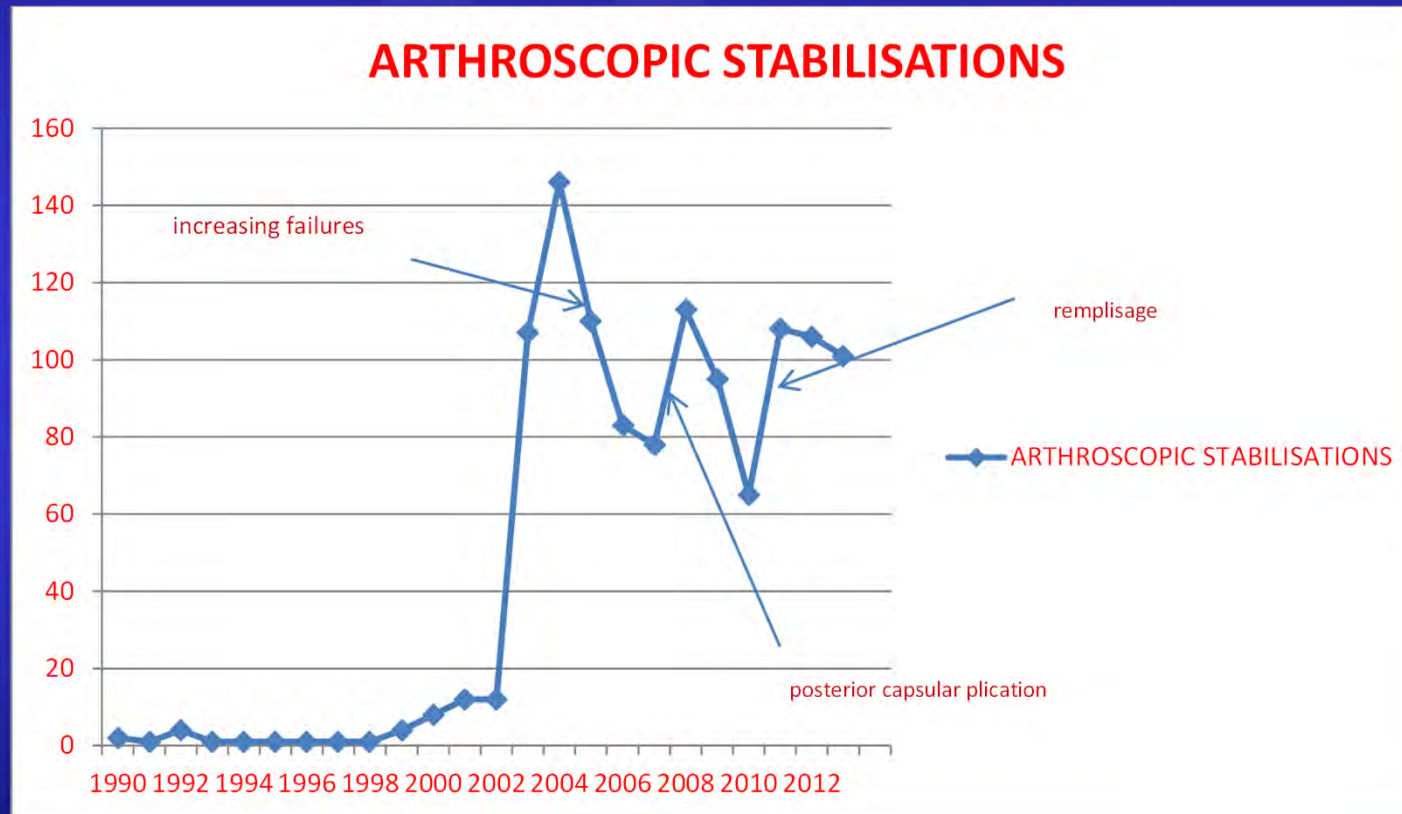


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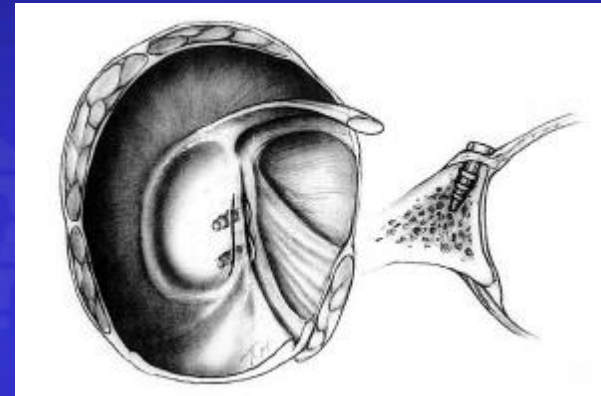
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# ARTHROSCOPIC STABILISATION



# ARTHROSCOPIC STABILISATION 2000 -2003

- Initiated by market forces
- Suture taks
- Labral repairs with knotless anchors
- Unacceptable failure rate especially in contact athletes



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## ARTHROSCOPIC STABILISATION 2000 - 2010

- Labral repair with anchors & knots – allowed for capsular plication as well
- Posterior capsular plication with anchor
- RI closure in selected patients



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# ARTHROSCOPIC STABILISATION 2004 - 2010

Failure with

- Contact athletes
- ALPSA lesions
- Bony bankhart
- Hill Sachs



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# ARTHROSCOPIC STABILISATION 2010 - 2014

- More selective
- More likely to do remplissage or posterior capsular plication



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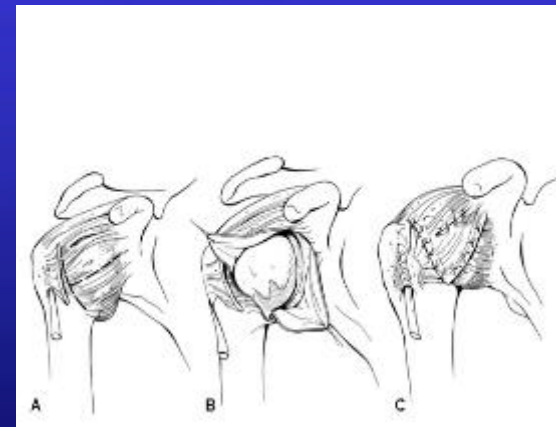
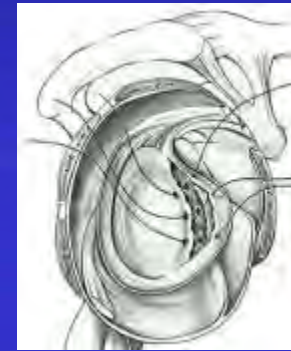


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# WHY IS AN OPEN REPAIR LIKELY TO GIVE BETTER OUTCOMES??

- Transosseous labral repair likely to be stronger
- Open capsular plication tightens capsule more than arthroscopic plication (50% vs 23% - Cohen J.Arth 2005)



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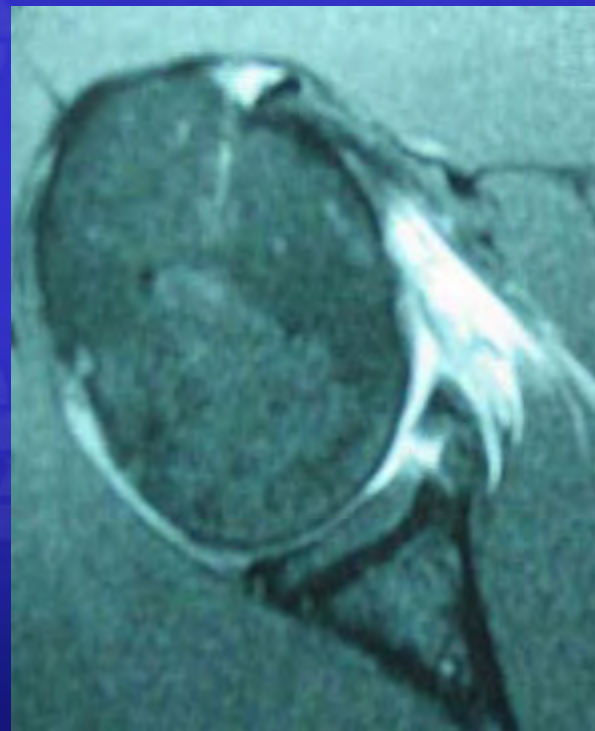
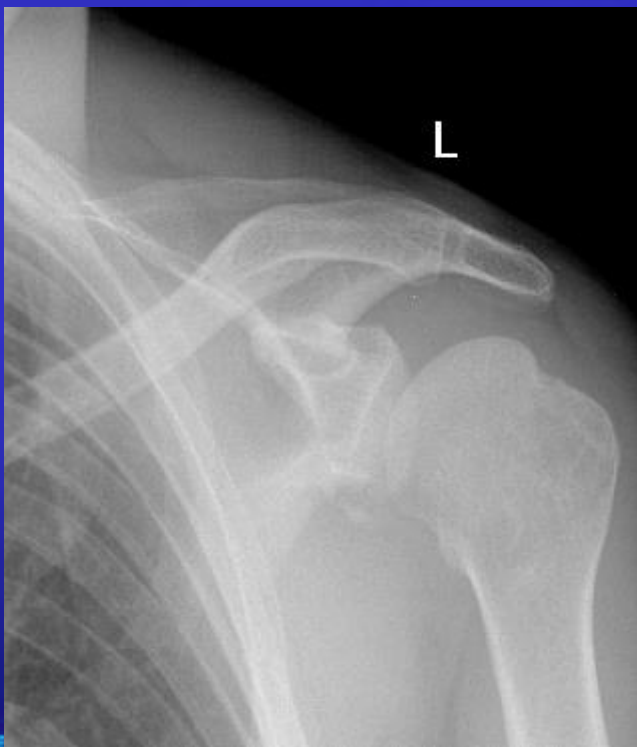


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# MY PARADIGM



# MY PARADIGM

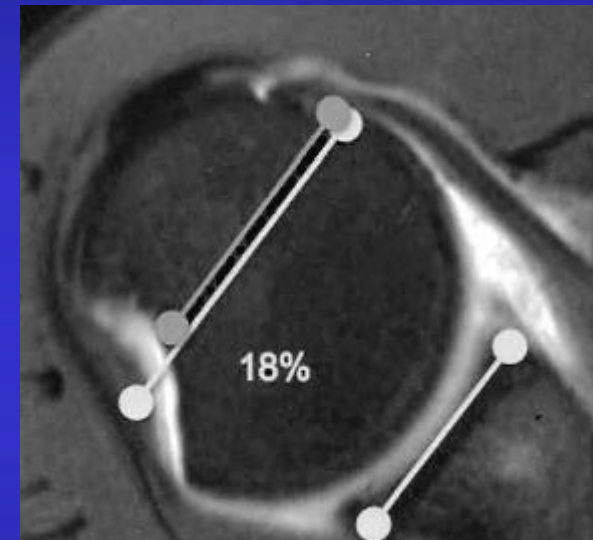


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# MY PARADIGM



## FLATOW METHOD

< 20% - insignificant

20% - 40% - variable significance – esp if associated with glenoid bone loss

> 40% - very significant



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# MY PARADIGM

## DIVISIONS

- Labral tear only – NC
- Labral tear only – C
- SLAP lesion alone
- Capsular stretch (+/- labral tear) no bone damage
- Mild bone damage
- Significant bone damage

## Contact & Active include

- Rugby
- AFL
- Waterskiing
- Snow skiing/snowboarding
- Soccer goalie
- Basketball
- Heavy weights/bodybuilding
- Heavy manual workers
- Overhead workers
- Rockclimbing
- Moderate weights



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# MY PARADIGM

anterior labral tear only – non contact

## ARTHROSCOPIC

- First time dislocators
- Recurrent dislocations  
( plus posterior capsular plication)

## OPEN

- Associated with HAGL



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# MY PARADIGM

anterior labral tear only – contact

## ARTHROSCOPIC

- In season instability (plus posterior plication + RI closure)
- Posterior labral tear only

## OPEN

- All others



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# MY PARADIGM SLAP lesion

## ARTHROSCOPIC

- All
- If contact athlete combine with capsular plication



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# MY PARADIGM

## Capsular stretch/MDI (+/- labral tear)-no bone damage

### ARTHROSCOPIC

- Non contact



### OPEN

- Contact athletes
- Very active
- Associated with HAGL





# MY PARADIGM

## mild bony damage

### ARTHROSCOPIC

- Non contact/inactive  
(remplisage if needed)



### OPEN

- Contact/active



# MY PARADIGM

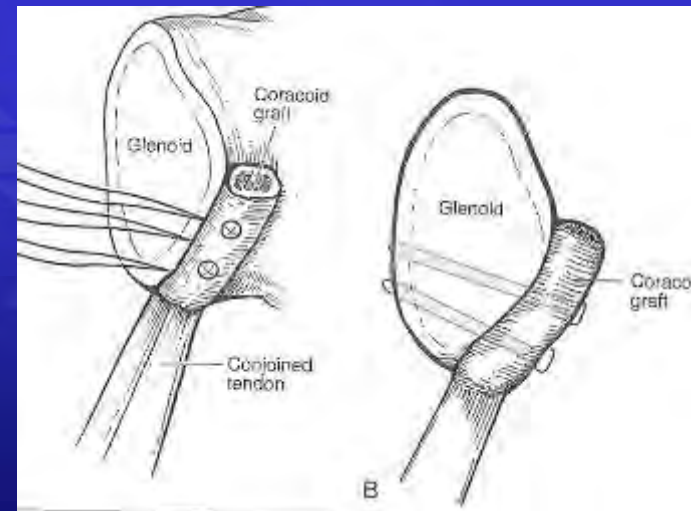
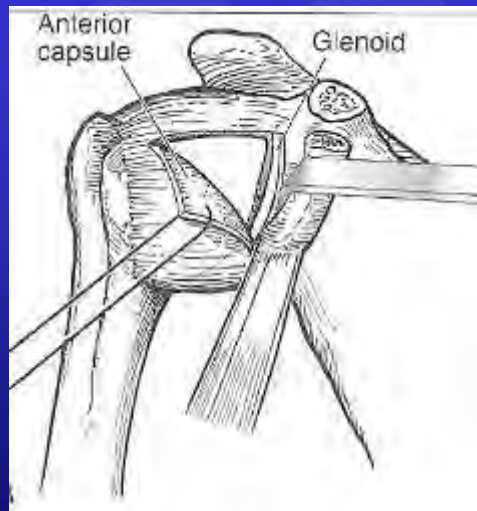
## significant bony damage

### ARTHROSCOPIC

- No place

### OPEN

- Latarjet
- Graft extracapsular



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# SUMMARY

	NON CONTACT	CONTACT
<b>LABRAL TEAR or ALPSA ONLY</b>	Arthroscopic	Open ( except in season)
<b>HAGL</b>	Open	Open
<b>CAPSULAR STRETCH ONLY (+/- labral tear) – no bone damage</b>	Arthroscopic	Open
<b>SLAP</b>	Arthroscopic	Arthroscopic plus plication
<b>MILD BONE DAMAGE</b>	Arthroscopic with remplisage	Open
<b>SIGNIFICANT BONE DAMAGE</b>	Latarjet	Latarjet



# SUMMARY

Greater trend to open surgery especially if

- Contact athlete
- Very active
- Even mild/moderate bony pathology
- Consider transosseous labral repair in open surgery

A Latarjet procedure is not a benign operation and is not the only open procedure available

Arthroscopic surgery should include if indicated

- Posterior capsular plication
- remplisage

Age at time of surgery (yr)	
≤20	2
>20	0
Degree of sport participation (preoperative)	
Competitive	2
Recreational or none	0
Type of sport (preoperative)	
Contact or forced overhead	1
Other	0
Shoulder hyperlaxity	
Shoulder hyperlaxity (anterior or inferior)	1
Normal laxity	0
Hill-Sachs on anteroposterior (AP) radiograph in external rotation	
Visible	2
Not visible	0
Glenoid contour on AP radiograph	
Loss of contour	2
No loss of contour	0
Score >3: Risk of recurrence 10%	
Score >6: Risk of recurrence 70%	

Contact sport – 3  
Age bracket to 25  
3 points < 25 yrs



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# THANK YOU



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