# 35 years experience with the open Bristow-Latarjet procedure

**L.Hovelius**
Gävle, Sweden


An operation according Bristow-Latarjet means:
ORTHOPEDICS UPDATE 18.03.2010
A transfer of the coracoid process to the glenoid rim

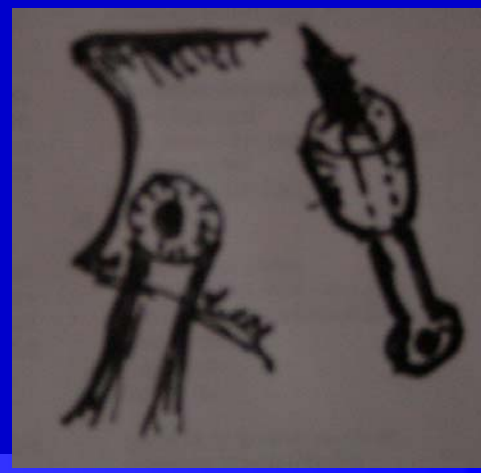
# Story behind the eponyme

"Bristow" no screw (Helfet 1958) !

Latarjet, 1954, used a screw

May, JBJS-A,1970, screw through the tip!

This method used in our shoulders
We named the method
Bristow-Latarjet (1983)



# Story behind the eponyme

"B

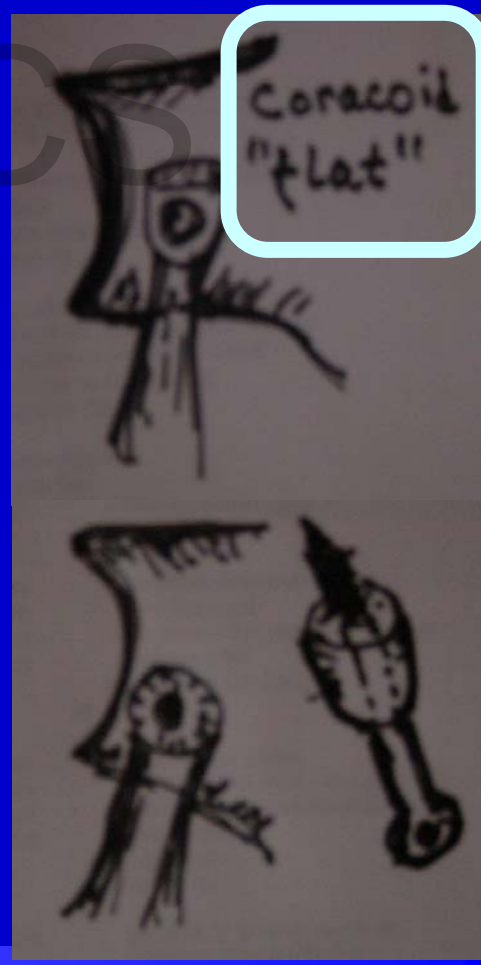
L

May,

Th

tip!

ers


35 year Bristow

L. Hovelius

**In the middle of the 70-ies we started using the Bristow-Latarjet because of our failed Putti-Platt repairs**

Hovelius et al. JBJSAm, 1978

Hovelius et al, JBJSAm, 1983

# During 1975-1979 we performed 112 Bristow-Latarjet repairs in 4 hospitals

**(when the method was introduced in Sweden)**

## Follow-up was 2-5 years

**Acta Orthopedica, 1983**
**JBJS(Am), 1983**

In retrospect this was a ”Trial Study”

# Best results in this "Trial Study" was obtained when:

1. Bony or fibrous healing of the transplant occurred

2. Position of the transplant was:
   a. Not too medial (≤ 1 cm)
   b. On or below the equator

# ”anyhow”
# There are questions:

## Is this a good method?

## How will the treatment of the joint capsule influence the operative results?

**Series 1**, operated 1980-1985

**Series 2**, operated 1986-1999

**Series 3**, operated 2000-2004

# We performed 3 operative series in Gävle 1980-2004
## (after the Trial series)

**Series 1**, operated 1980-1985
118 shoulders

**Series 2**, operated 1986-1999,
167 shoulders

***UNPUBLISHED DATA***

**Series 3,** operated 2000-2004
33 shoulders
had an additional ”capsulopexy”

# Series 1
# operated 1980-1985, 118 shoulders

follow-up, 1995-2000, **Mean 15 yrs,**
**all X-ray at 2 or 15 years**

**Prospective, all had follow-up**

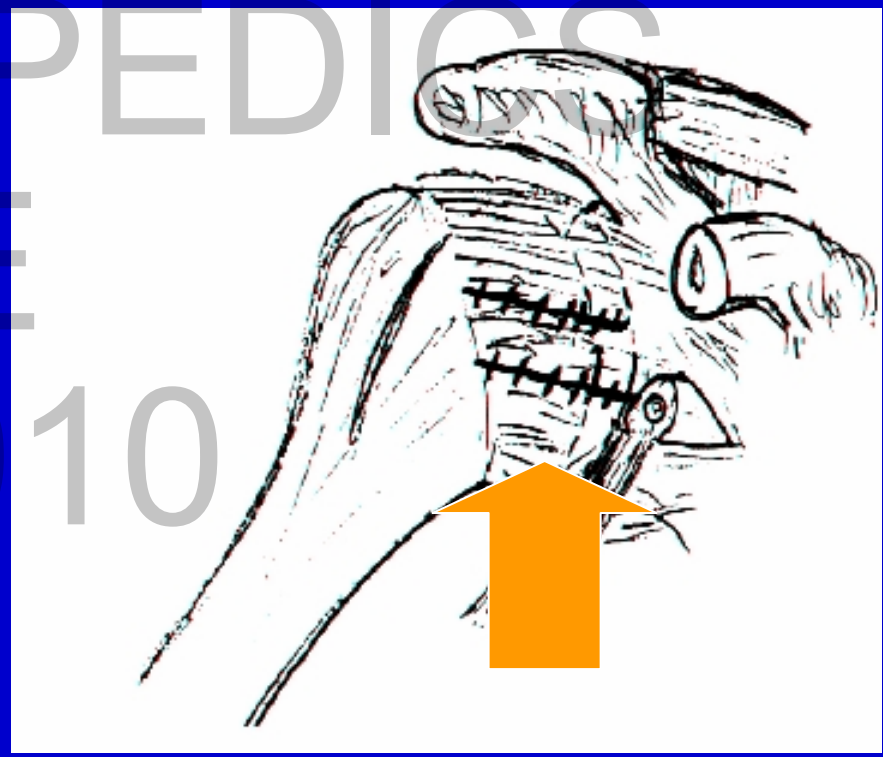
**Clinical and radiological results**
**Published , JSES 2004,2006**
**These papers did not describe "Techniqual aspects"**

# 13/118 shoulders in series 1

**(with more or less sulcus sign)**

- **Had reducement of joint volume through**
- **"modified capsular shift"**

None of these had a recurrence or sublux-ation during 15 years



**To evaluate the effect of this modification we initiated the F-up of Series 2, 2008**

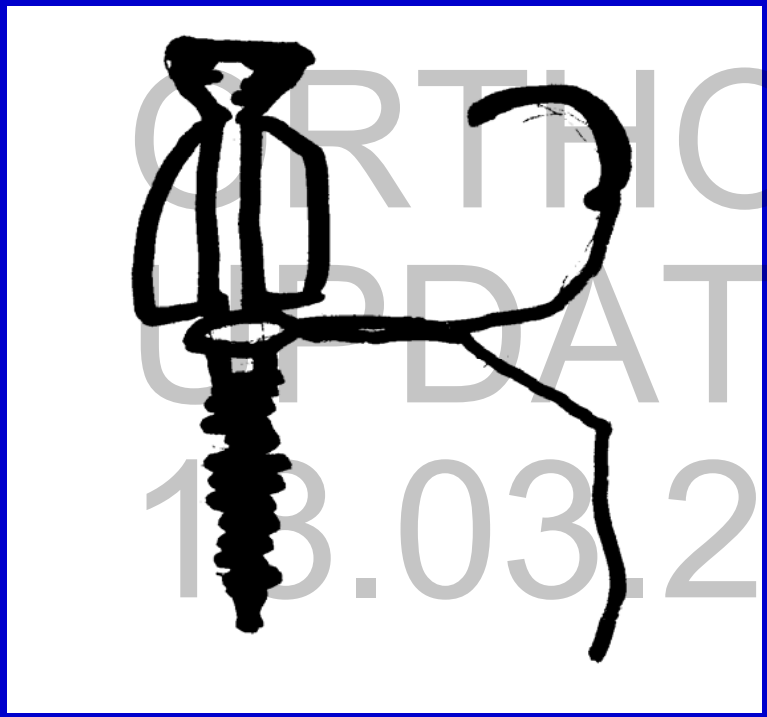
# Series 2
# operated 1986-1999, 167 shoulders

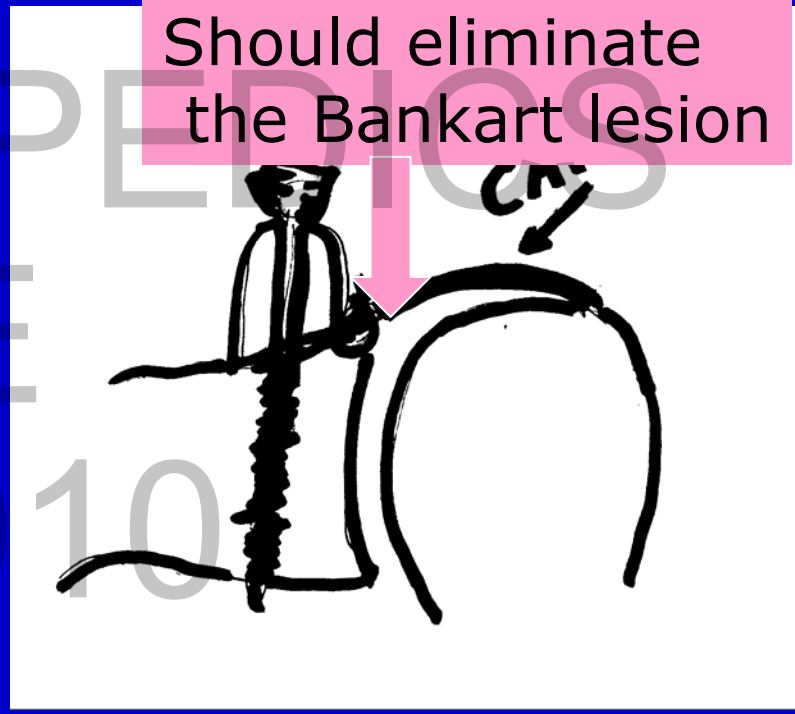
follow-up, 2008-2009, Mean 17 years,
146 X-ray (87%) after 2 yrs
and/or 2-3 months

Retrospective study all had follow-up
by questionnaire or telephone

43 had a ”modified shift”

# Can this method be further optimized if the Bankart lesion is repaired? (Series 3)



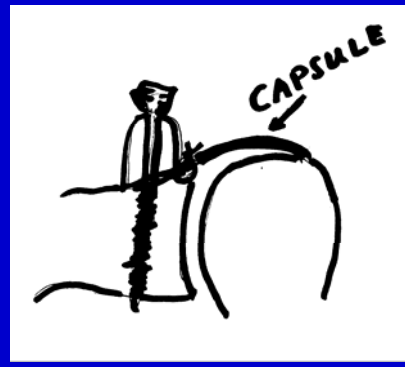





33 shoulders had this modification 2000-2004.
All had X-ray at 2-yrs

# Series 3

## operated 2000-2004, 33 shoulders with additional ”capsulopexy”



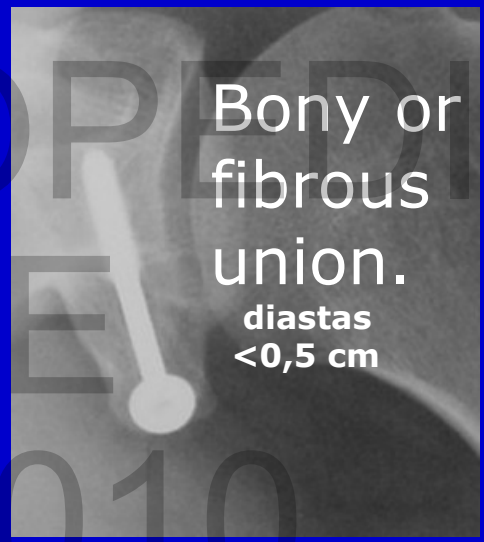

**Follow-up, 2008-2009, Mean 5.8 years, all ≥ 5 yrs**

**Prospective, all had follow-up by questionnaire (the same as Series 2) or telephone**

# We analyzed, (Series 1-3), 297 with x-ray:



1. Healing of the transplant





2. Position of the transplant

# Early "complications"
## (318 shoulders)

**Joint drainage (infection) 1**

Transplant problems

**Screw tightened 1**

**Migrated, reattached 1**

**Moved medially 1**

# General Results

## Series 1-3, 318 shoulders

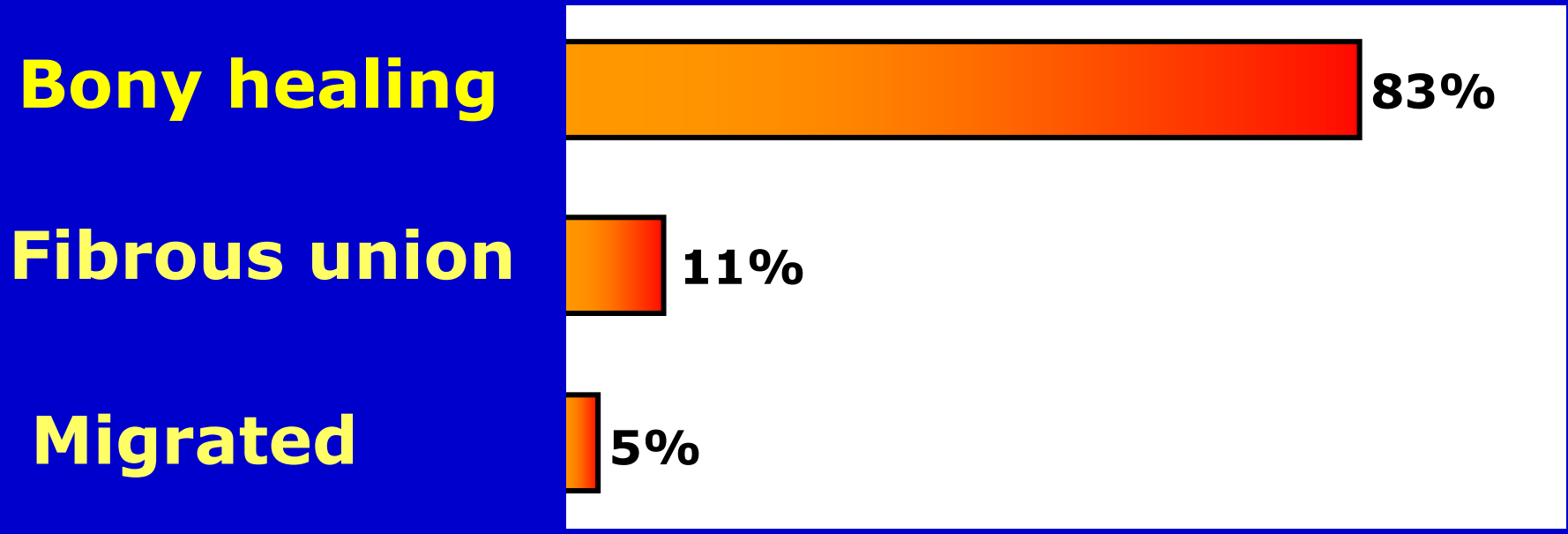
**3/318 shoulders failures, 1%, revision surgery, remaining instability**

**Further 13/315, 4%, ≥ 1 redislocation(s)**

**41/302 (13%) ≥ 1 subluxation(s)**

***306/318 (96%) satisfied or very satisfied!***

# Radiological healing of the coracoid (297 shoulders)




**We found no significant difference with respect to recurrences/subluxations between these 3 groups of healing**

# Coracoid too medial
"longitude position"

6 shoulders
(2%) had a position
≥1cm medial to the
glenoid rim.
5/6 recurred!
(P<0.001)



Too medial position(≥1 cm) means:
**>80% risk for recurrence!**

# Results – Series 1-3

| | Series 1 | Series 2 | Series 3 | Total |
|---|---|---|---|---|
| Revision surg. | 1/118 | 2/167 | 0/33 | 1% |
| Redislocation(s) | 3 | 7 | 3 | 4% |
| Subluxation(s) | 12 | 20 | 9 | 14% |

***Series 3 (”Capsulopexy”) had significantly more recurrences and subluxations than Series 1 and 2 together (P=0.016)***

# Results – Series 2-3 scoring

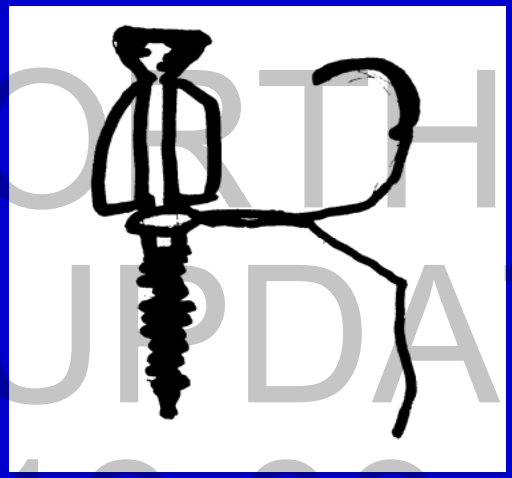
| | Series 2 | Series 3 |
|---|---|---|
| WOSI | 87 | 83 |
| SSV (Gilbart&Gerber) | 82 | 77 |
| DASH | 5 | 6 |

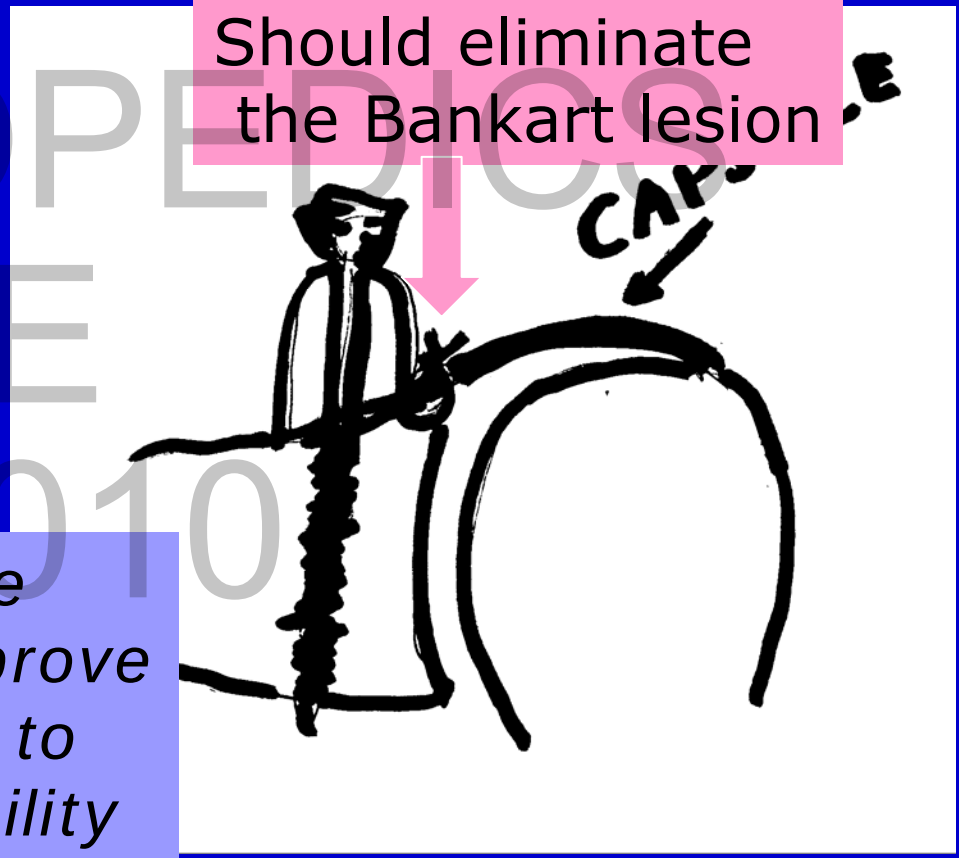
***Series 3 ("capsulopexy") worse than Series 2!!***

***Series 3 also had >restriction of out-ward rotation***

# This question

***"Can this method be further optimized ? (Series 3)"***





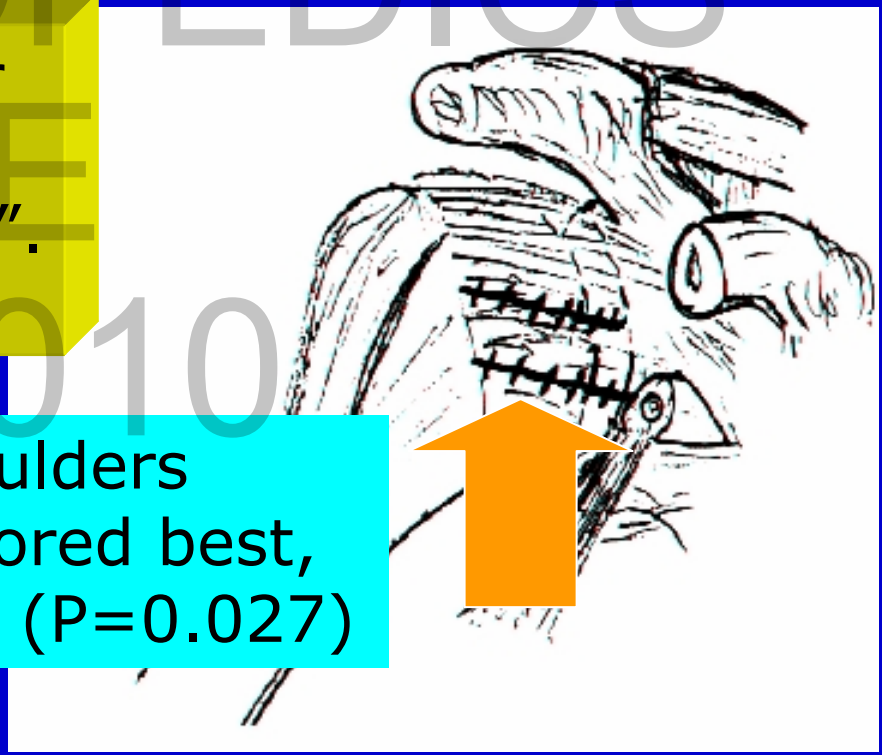



*Our modification of the Bankart repair did not improve the results with respect to subjective results or stability*

# 61/309 shoulders (with more or less sulcus sign) had this "shift"



4/61 had a recurrence or subluxation compared to 46/248 without the "shift". (P=0.037)



Furthermore the shoulders with a shift in Series 2 scored best, WOSI (P=0.014) and SSV (P=0.027)

# Significance ≥2 subluxations (Series 2) ?

| | ”≥ 2 subluxations” | ”stable” |
|---|---|---|
| WOSI | 53 | 89 |
| SSV | 48 | 84 |

***shoulders with recurrent subluxations scored significantly worse than stable shoulders (P<0.001)***

**When analyzing the results of shoulder stabilization important to consider the subluxations**

# So far we conclude that

**(Considering the May modification of the Latarjet repair):**

**Healing and position of the coracoid (not too medial, on or just below the equator)**
***important – healing however not necessary?***

**”Repair of the Bankart lesion-**
***not necessary”***

***Simultaneous reduction of joint volume reduces postoperative subluxations!***

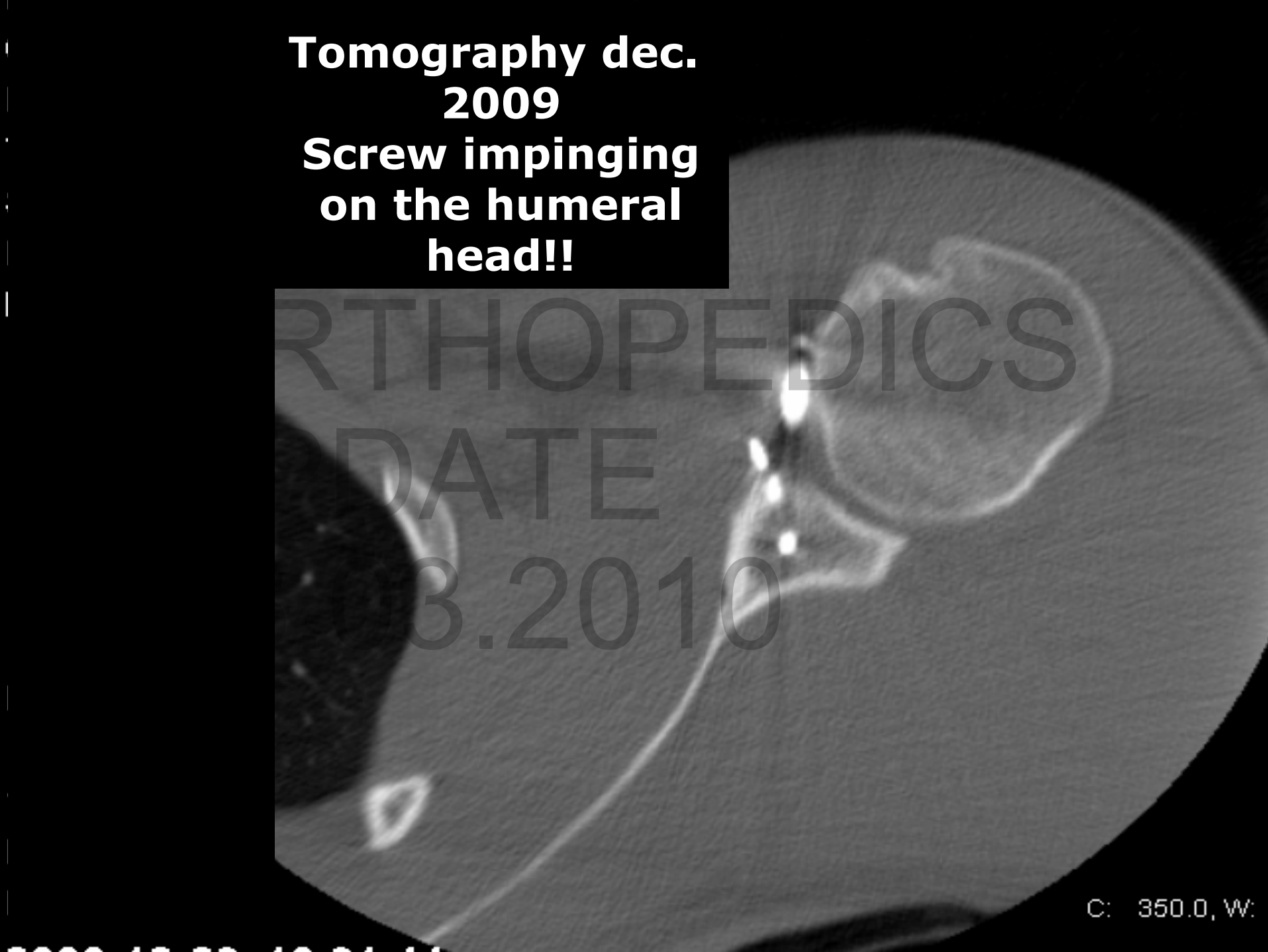
***Revision surgery, Glenoid rim fractures,***
***indication for this repair***

***In Gävle it is our primary repair!***

# ”Bad surgery – bad method”

# Hockey-player with a Bristow-Latarjet repair in July 2009 after 2 previous failed operations


**This 1;st x-ray performeded 6 months after surgery ”patient disabled”**


Tomography dec. 2009
Screw impinging on the humeral head!!
RTHOPEDICS
DATE
3.2010
C: 350.0, W:


Screw in the joint!
Screw removed in Dec 2009 and the patient is presently playing hockey!
ORTHOPEDIC
UPDATE
18.03.2010

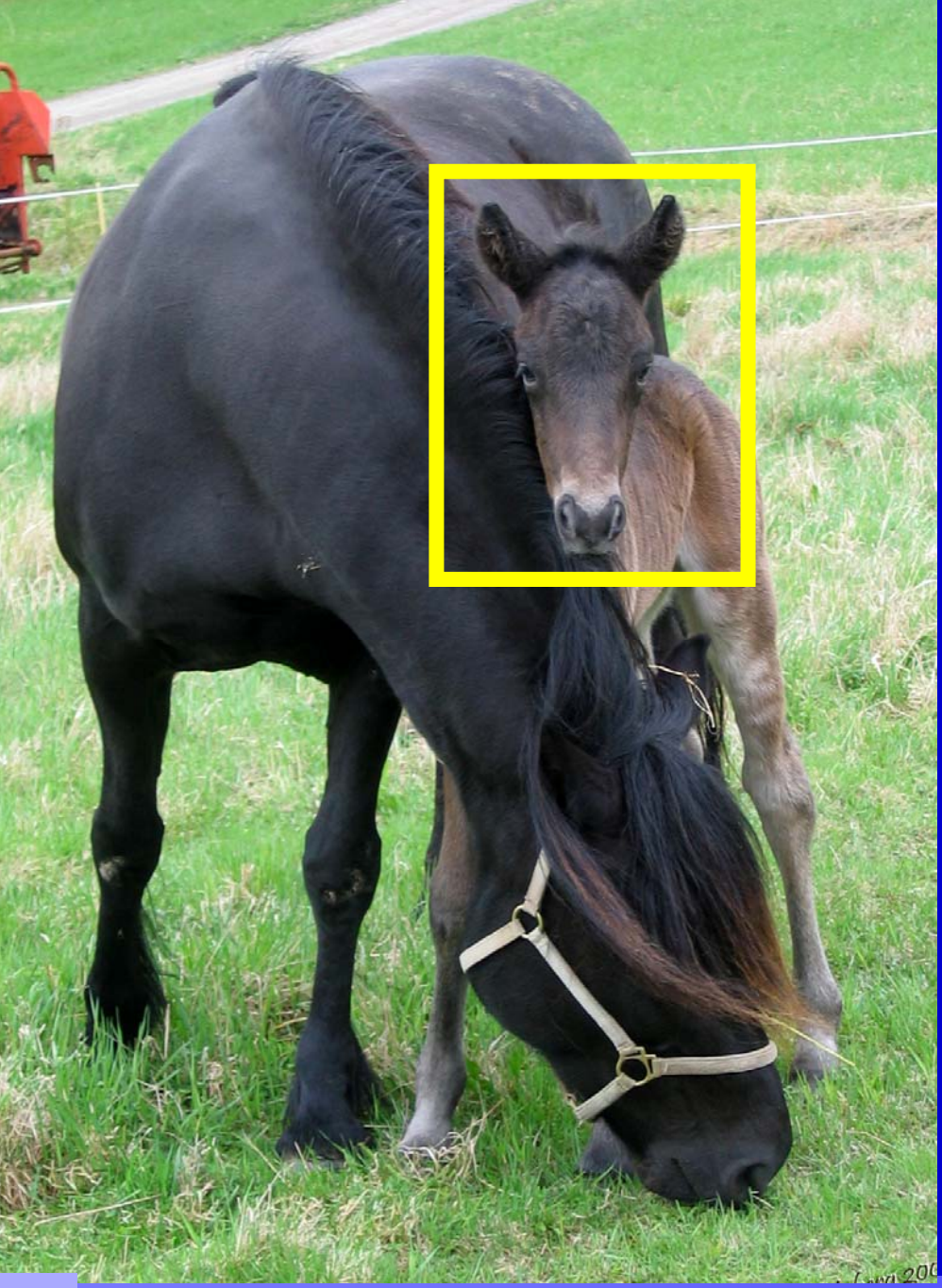
**Reports from collegues,**
**”transplant-fractures””transplant migration”**
**2 screws (”Latarjet”) better????**

***Not in my opinion!***
***Handle the transplant ”like a baby”***

***Be very careful when tightening the screw!***

***You need good assistence!!***
***”not one just interested in going to lunch”***

***Take Your time for surgery!***
***Make haste slowly!!***



***When I started the follow-up of Series 2 and 3***

**This guy was young**

# During the years of performance he has grown up

# We compared 88 modified Bankart repairs and 97 Bristow-L repairs performed in 2 Swedish hospitals 1988-95

| | Bristow-Latarjet | Bankart |
|---|---|---|
| Follow-up | • 17.2 years | • 16.6 years |
| Revision-rec | • 1 (1%) | • 5 (6%) |
| Redislocation(s) | • 4 (4% **P=0.017** | • 3 (4%) |
| Subluxation(s) | • 8 (9%) | • 17 (22%) |
| WOSI **P=0.002** | • 88 | • 79 |
| SSV **P=0.007** | • 84 | • 75 |
| Loss of ext.rotation | • 11 $^{o}$ **P=0.012** | • 18$^{o}$ |

**10/87 Bankart repairs performed with bony tunnels, (”original Rowe”) hade less recurrences and subluxations than those done with anchors (P=0.048)**

# Surgery during Follow-up

| | |
|---|---|
| Revisions (recurrences) | 3 |
| Arthroplasty(arthropathy) | 1 |
| Removal Mitech-anchor | 1 |
| Open acromeoplasty, tendon repair | 2 |
| Arthroscopy | 1 |
| Screw removed | 5 |