My experience with Reverse Shoulder Arthroplasty

W.Z. "BUZ" BURKHEAD JR. MD
THE CARRELL CLINIC
DALLAS, TEXAS

REDNECK INSTITUTE OF SHOULDEROLOGY KNOWLEDGE

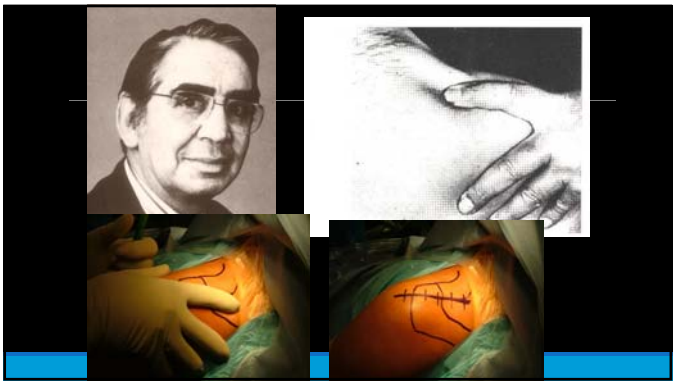
Initially tore rotator cuff in summer stock tour of the musical version of Deliverance

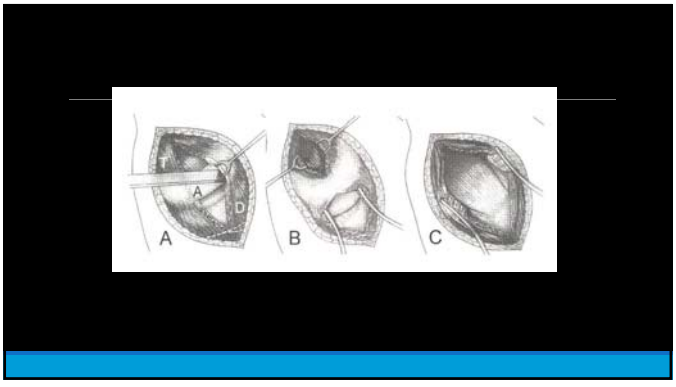
REDNECK OF THE YEAR

Conclusions

Different patients with difficult clinical and anatomical presentations require flexibility in Implant choice and surgical approach to the shoulder.

Kessel Prosthesis 1973
First TSA I saw. 1982 RNOH London





Mid 1980's experience was Revision of failed prostheses placed in the late 70's

Delta Reversed Prosthesis

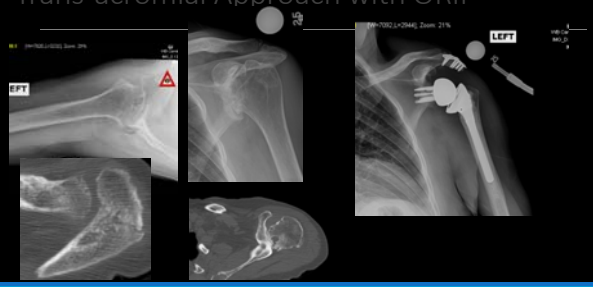
Delta 3 (1991)

1992 Paris I see my first presentation on Delta III Reverse prostheses. I stand up and state congratulations you've created an experimental model for Polyethylene wear disease in Humans

Frankle 2002 IDE

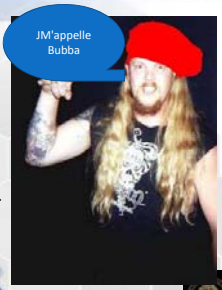
Lateralized Reverse Lowered neck shaft angle
Less notching better external rotation
Importance of Locking screws
Importance of Inferior tilt

Trans-acromial Approach with ORIF



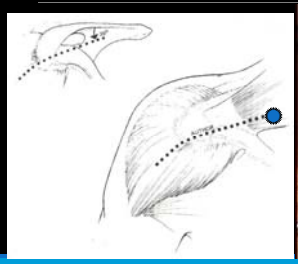
LE REDNECK INSTITUTE

2004 Gilles showed me how to implant Grammont style implant. Superior approach for all comers Never bought into 0 degrees of version for fear of anterior superior escape in case of revision to hemi. Used anatomic version based on Biceps distance. Inferior tilt with superior bone graft



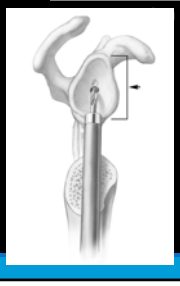
TORNIER
Surgical Leadership

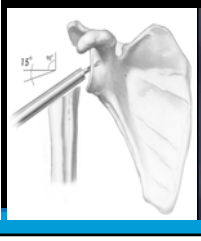
Modified Superior Deltotrapezial Fascial Approach



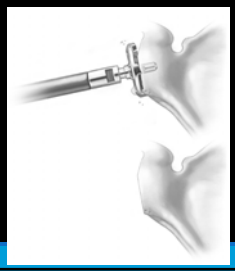
Inferior tilt

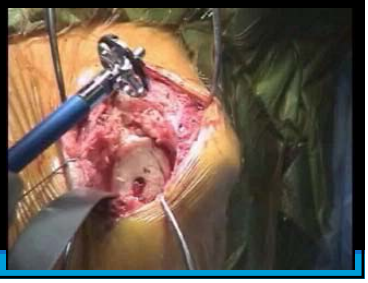
Inferior tilt and positioning is required: an increased humeral head resection, plus anterior or posterior of the head makes this possible



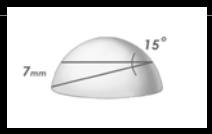


Glenoid exposure and understanding the appreciating the three dimensional morphology is much easier through the superior approach

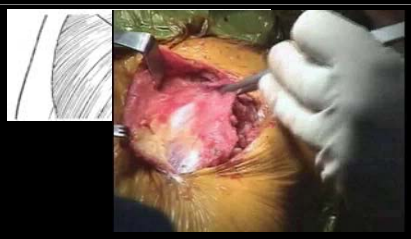




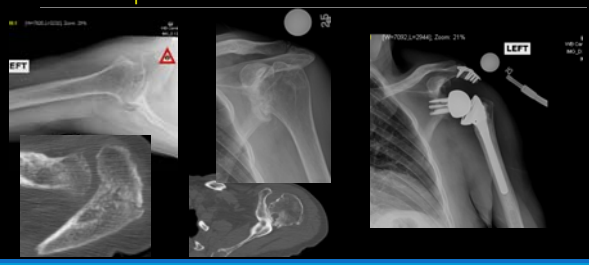
Wedge shaped graft



AVOIDING DELTOID DEHISCENCE



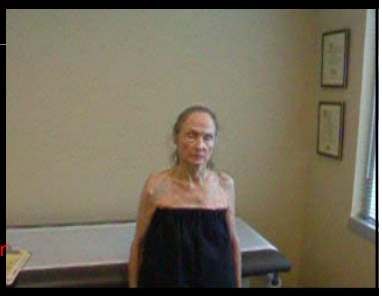
SuperiorTrans-acromial with ORIF. A plate allows you to build in acromial tilt and bone graft from the head Encore implant with narrow Central screw



Superior Approach allows repair of the infraspinatus with surprising return of external rotation power

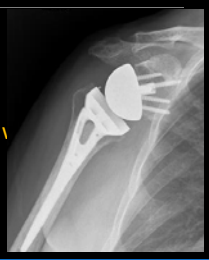
Which Approach

In thin female patients the cosmesis wasn't spectacular
Therefore about 10 years ago I started using Deltopectoral approach for women as well as for revision and those patients who need lat transfer



My Solution to Notching with Grammont Style Prosthesis

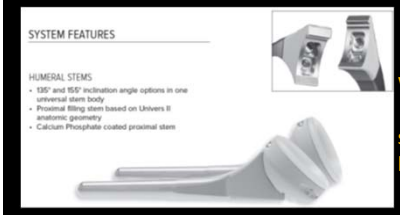
42mm glenosphere v
36mm
Metaphyseal



The French Surrender

Tom Norris designed

Arthrex Uverse Reverse unique in offering both options 2013 –current



Wide metaphyseal flare precludes use via the superior approach suture holes and coated humeral socket good for fractures

Design Rationale

Designed for both cemented and uncemented use

15 Humeral stem sizes

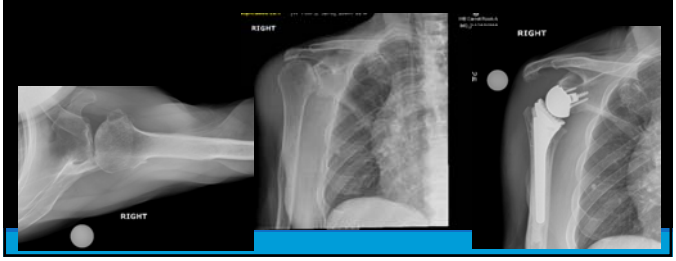
3 sizes of epiphyseal components with neutral and posterior offsets

Metal back Glenoid

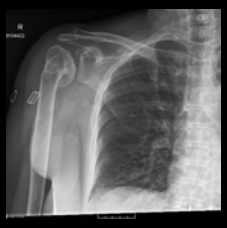
Neutral, Inferior (2 mm), and Lateralized (4mm) offset Glenospheres

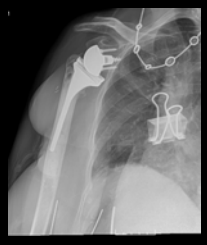
Shorter pegs make it not ideal for **BioRsa**

Male patient Robust bone stock Possible infection Pos histology Lateralized Glenosphere Avoids BioRSA leaving Dead infected Bone behind, Delto pectoral

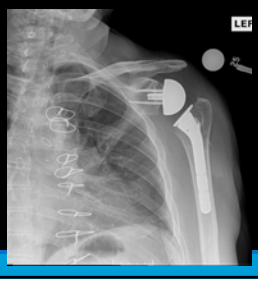


Implant not as good for fracture sequlae of the Proximal Humerus





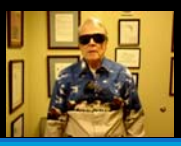
Implant with less metaphyseal /diaphyseal mismatch probably better



The Redneck institute we don't just fix your shoulder we change your life. The Reverse has been the biggest Game-changer in Shoulder Surgery in my career

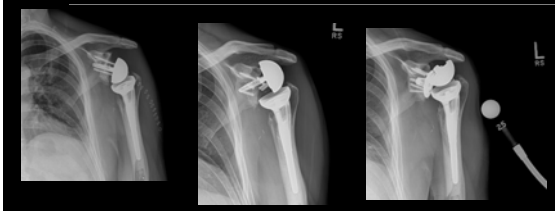
METHODIST MINISTER WITH 2 TIME FAILED CUFF REPAIR BILATERALLY

POST REVERSE A ROCK STAR



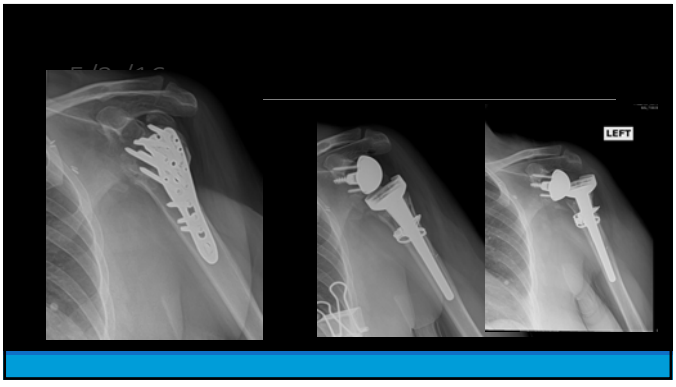
While Arthroscopy has advanced, there were still open operations that did the same thing. The reverse has solved heretofore Insoluble problems

But There are Complications and there may be a neuropathic component to some failures



14 months postop mild pain for a few weeks only

21 days post revision



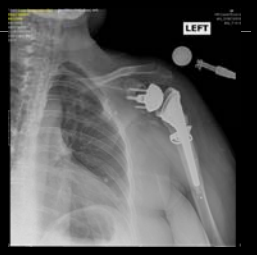
9/27

2 weeks post revision

Findings Grossly loose humeral component

Removal of HO converted to 135 with retentive cup to avoid impinging against residual scapula/ HO

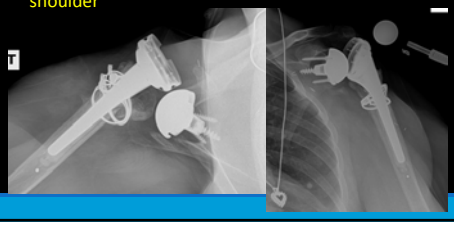
Stable on the table did not add soft tissue reconstruction with semi t or gracillis as it seemed very stable



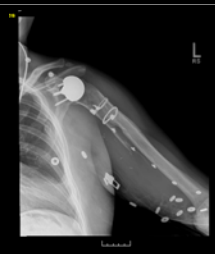
2 months Post revision

No known event noticed gradual change in appearance of shoulder

Anterior Deltoid doesn't fire
EMG incomplete axillary nerve palsy



Iatrogenic Complications
Trifecta Brachial artery vein and median nerve



A stemless reverse could have prevented this

Conclusions Which Approach ?

SUPERIOR	DELTO PECTORAL
Primary Rotator Cuff tear arthropathy with an unfused or fractured Acromion	Most Female Patients with Rotator Cuff Tear Arthropathy
Failed previous cuff repair with an incision that can be made extensile	All Revisions of Failed arthroplasty
Male patients with Cuff tear Arthropathy	All Patients with Need for Lat Transfer.
Patients with Pacemakers ports	Infections

Conclusions

- Treatment of the cuff deficient arthritic or fractured shoulder with a reverse prosthesis offers patients with virtually no motion a functional arc
- The complication rate for this procedure is higher and the complications more severe than with conventional TSA However most occur during revision or reverse for fracture sequela.
- The addition of BIO RSA ,eccentric Heads, and lower glenosphere position have decreased notching.
- However The longevity of the implant is such that in my opinion it should still be reserved except in rare occasions for patients in their late 60's

Thank you to all who have taught me and to all the patients who made me look like a much better surgeon than I really am