

Humelock for the management of Proximal Humeral fractures – A Get Out of Jail Free Card?

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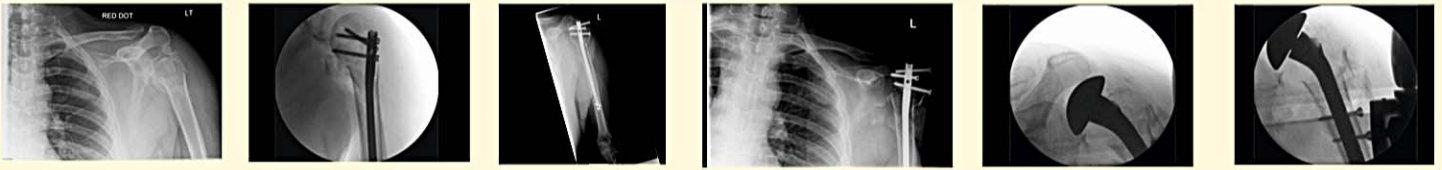
There has been an on-going debate with regards to conservative vs. operative intervention for proximal humeral fractures. There are failures associated with both methods of treatment and as such, these can often be a challenge to manage.

We present our experience (the first in the UK) with the Humelock proximal humeral hemiarthroplasty for both primary and failed management of proximal humeral fractures.

This implant offers a simple and novel form of treatment, which we believe will allow patients to be managed adequately in a district general hospital setting.

Case 1

A 53 year old male initially had a left proximal humerus fracture fixed with a proximal humeral T2 nail. The fracture failed to unite and after 3 months there was collapse and displacement of the humeral head. He subsequently underwent revision of the failed humeral nail to a Humelock hemiarthroplasty.



Intra-operative images

8 weeks later

12 weeks later

Intra-operative
(13 weeks Post injury)

Case 2

A 71-year-old lady sustained a proximal humeral fracture, which was initially managed conservatively. The fracture displaced and was subsequently treated with open reduction and internal fixation using a PHILOS plate. The plate cut out at 13 months post-operatively, this was revised to a Humelock hemiarthroplasty.



13 Months Post-op

12 Months Post-op

Case 3

A 69-year-old lady with a previous history of breast cancer and axillary node clearance sustained a fracture of the proximal humerus following a fall, which was initially managed non-operatively. She subsequently developed a non-union and a proximal humeral biopsy later ruled out any evidence of malignancy. She underwent a Humelock proximal humeral hemiarthroplasty.



8 Weeks later

16 Weeks later

16 Weeks Post-op

Humelock can also be used in the primary management of proximal humeral fractures as shown below.

Case 4

A 35-year-old lady sustained a left proximal humerus fracture and concomitant left neck of femur fracture following a mechanical fall. Her past medical history included type 1 diabetes, end stage renal failure requiring dialysis and osteoporosis. The proximal humeral fracture was treated with the Humelock hemiarthroplasty



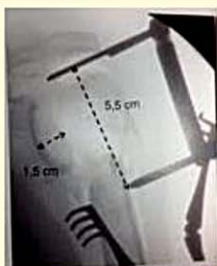
Intra-operativex-ray

Discussion

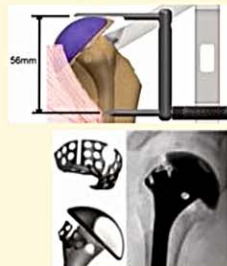
The main limiting factors in proximal humeral replacement surgery include obtaining the correct height and version of the prosthesis as well as addressing any associated rotator cuff pathology.

The Humelock hemiarthroplasty provides the capacity to overcome these factors. This implant offers a simple and novel form of replacement, which we believe will allow patients to be managed adequately in a district general hospital, thus reducing referrals to tertiary centres.

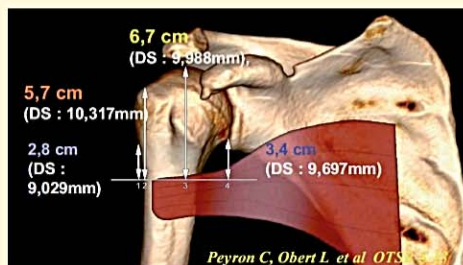
Long term fixation of tuberosities around a humeral implant depends mainly on the height of the stem, which can be positioned in an easily reproducible way by using pectoralis major as a marker.



Simple jig to ensure correct height



Offset Modular System (OMS) for correct Positioning and attachment of tuberosities



Functional results following a shoulder replacement in fracture cases are closely linked to height position of the implant. Anatomical studies have revealed that the distance between the Pectoralis major and the apex was 67mm, between Pectoralis major and trochanter was 57mm.

Though we do not have long term follow up our initial functional results are encouraging.