Fax: (818) 885-0372 or Email: kathy.jeschke@chw.edu
Kathy Jeschke, Library Assistant Phone: (818) 885-8500 ext. 4610

Interlibrary Loan Request Form

Request No.: Date: NOV 14 2007 Need before: Notes: Balfour
Call No.:

(Borrowing Address Here)

NORTHRIDGE HOSPITAL
ARCHERLEY LIBRARY
18300 ROSCOE BOULEVARD
NORTHRIDGE, CA 91328

TYPE OF REQUEST:
[ ] LOAN; WILL PAY FEE _____
[X] PHOTOCOPY; MAX COSTS 20.00
[ ]

LENDING LIBRARY REPORT: Date
Date shipped: _____ via _____
Insured for $ _____ Charges $ _____

Houston Academy of Medicine-Texas Medical Center Library

Balfour GW
Diagnosis of oblique fractures of the distal ulna using an extended pronated view of the wrist.
Orthopedics 1990 Feb ;13(2):247-50
PMID:2308884

The article cited above is available in the **Print Collection of Houston Academy of Medicine-Texas Medical Center Library.**

Journal Name: *Orthopedics*

Library Holdings Volume (Year)	1- (1978-)
Location	1133 John Freeman Blvd, Houston, Texas

HAWL

[ ] Estimate Cost of Loan: $ _____
Photocopy $ _____ Microfilm/fiche $ _____
[ ] Prepayment required

BORROWING LIBRARY REPORT:
Date received _____ Date returned _____
Returned via _____ Insured for $ _____
Payment provided $ _____

RENEWALS:
Date requested _____
New due date _____
Renewal denied _____

Request complies with
[ ] 108(g) (2) Guidelines (CCG)
[ ] other provision of copyright law (CCL)

Authorization: _____
Telephone: _____

*** Please email to. . .**
kathy.jeschke@chw.edu
*** email status, thank you.**

CASE REPORTS

Diagnosis of Oblique Fractures of the Distal Ulna Using an Extended Pronated View of the Wrist

George W. Balfour, MD

Pain about the distal ulna at the wrist is a common complaint and can be caused by a variety of disorders.[1-5] I report three patients with painful wrists in whom identification and diagnosis of a fracture of the distal ulna were best made by use of an extended pronated roentgenographic view of the wrist. Standard AP and lateral views either failed to reveal the pathology or poorly demonstrated the fracture. A variety of other roentgenographic views, including different oblique views, were tried; however, only on an extended pronated view of the wrist did the oblique fracture of the distal ulnar head become apparent.

The extended pronated view is obtained by placing the forearm flat on the x-ray plate and pronating it until the thumbnail bed is flat on the plate. This brings the patient's shoulder well forward and medial to the forearm. The wrist is then brought up into maximal dorsiflexion (Fig 1). In this position, if the x-ray tube is oriented vertical to the x-ray plate, a well-defined oblique view of the distal ulnar head styloid is obtained. The extended pronated view reliably demonstrated the oblique fracture of the distal ulnar head described in the following three patients.

Fig 1(Balfour): Case 1: standard AP view, no fracture is identified (A); lateral view, no fracture is identified (B); extended pronated view, fracture of distal ulna is identified (C).

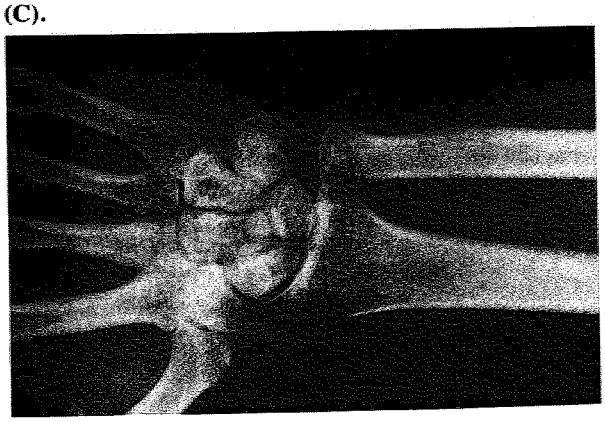

Fig. 1A.

Fig. 1B.

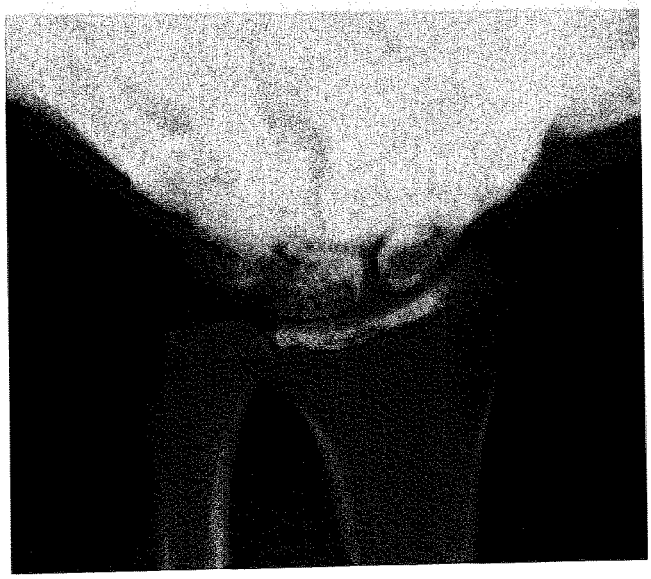

Fig. 1C.

Case Reports

Case 1. A 27-year-old man injured his extended left wrist and shoulder when he fell into a pothole. The patient was treated conservatively with an elastic bandage, heat, and local injection of corticosteroids, with no relief.

I first saw the patient 2 months after the injury. He had persistent left wrist pain. On examination, the pain was on the ulnar side of the wrist, over the ulnar styloid and

Fig 2(Balfour): Case 2: standard AP view, fracture is not well seen (A); oblique view, fracture seen only a little more clearly (B); extended pronated view, fracture seen more clearly (C).

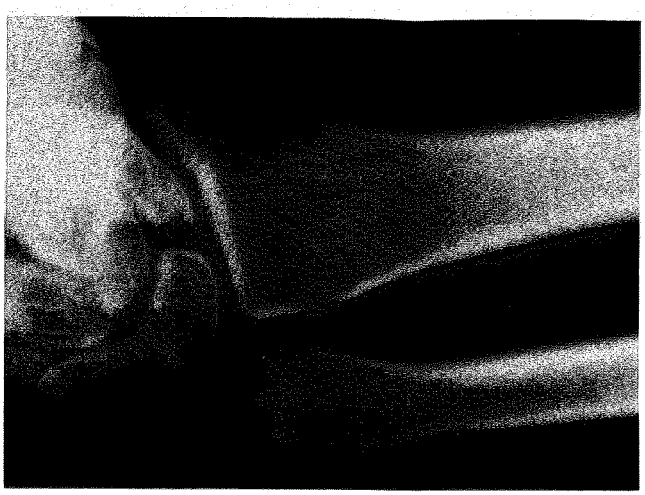

Fig 2A.

Fig 2B.

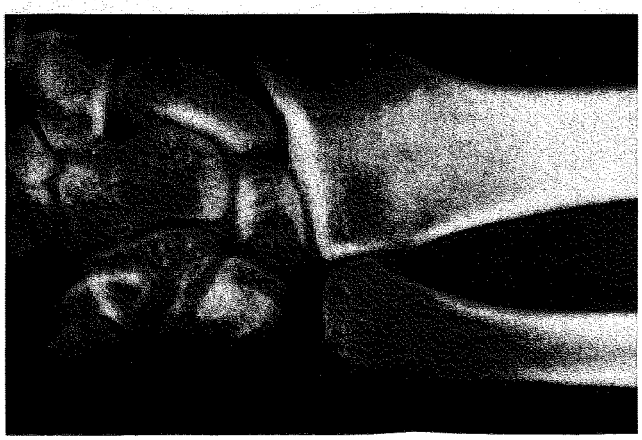

Fig 2C.

distal ulnar head. He had 1.5 cm of forearm atrophy. Standard AP and lateral views did not reveal any bony abnormalities. Multiple special views, including clenched fist views, supinated and pronated deviation views, and carpal tunnel views, were obtained in an effort to establish a diagnosis. Again, no fracture was noted. The extended pronated view demonstrated a fracture of the distal ulna (delayed union). The fracture was spiral and extended from the distal ulna, 2 mm radially from the origin of the styloid, obliquely to the medial cortex. This fracture was significantly larger than the typical tip-of-the-styloid fracture seen in a Colles' fracture. The patient was placed in a short-arm cast and remained in that cast for 5 1/2 months until the fracture showed radiologic evidence of union (Fig 2).

Case 2. A 25-year-old female physician injured her right wrist in a fall. Radiologic examination failed to reveal any fracture. The diagnosis of a wrist sprain was made, and the wrist was immobilized. Eight months previously, she had fractured the same distal radius and ulna and been treated with immobilization. That fracture had healed uneventfully.

The patient was examined 5 weeks after the second fracture. She complained of persistent pain in her wrist. The cast was removed, and there was tenderness about the distal ulna. AP and lateral radiographs of the wrist were repeated and, again, no fracture was identified. As with the patient in case 1, multiple special views failed to demonstrate the fracture. Only on an extended pronated view and oblique wrist views was the oblique fracture of the distal ulna readily apparent. The fracture extended from the distal end of the ulna (slightly radial to the origin of the styloid), obliquely to the medial cortex. Again, this fracture was larger than the usual small avulsion of the tip of the ulnar styloid seen in Colles' fractures. The patient's wrist was, again, immobilized in a cast. The patient was lost to follow up (Fig 3).

Case 3. A 37-year-old woman fell while getting out of a swimming pool, sustaining a blow to the side of her left wrist. Physical examination revealed exquisite tenderness over the area of the distal ulna. AP, oblique, and lateral views of her wrist failed to demonstrate a fracture. An extended pronated view was obtained, revealing a fine, nondisplaced fracture of the distal ulna, essentially the same as the ones described in the first two cases. The left upper extremity was immobilized in a short-arm cast for 4 weeks. After 4 weeks, physical examination revealed no tenderness and radiographs showed consolidation and union of the fracture. The patient had no further problem with the wrist (Fig 4).

Discussion

Review of the medical literature failed to reveal specific mention of the oblique fracture of the distal ulna