

BARTON'S FRACTURE



“The Opening of the Parliament of Australia on 9 May 1901, Melbourne”, oil on canvas, 1903, Tom Roberts.

Sir Edmund Barton (1849-1920) was born in Sydney. An ardent supporter of the case for Australian Federation, he ultimately became our first Prime Minister, and later a Justice of the High Court of Australia. Known to his schoolmates as Toby, and later to the Australian population as “Toby Tossport”, Barton was an outstanding student of the Classics at the University of Sydney in the 1860’s. While studying for the Bar, Barton took to umpiring intercolonial cricket matches. One match between New South Wales and an English XI ended in a riot - an interesting preparation for his future political career!

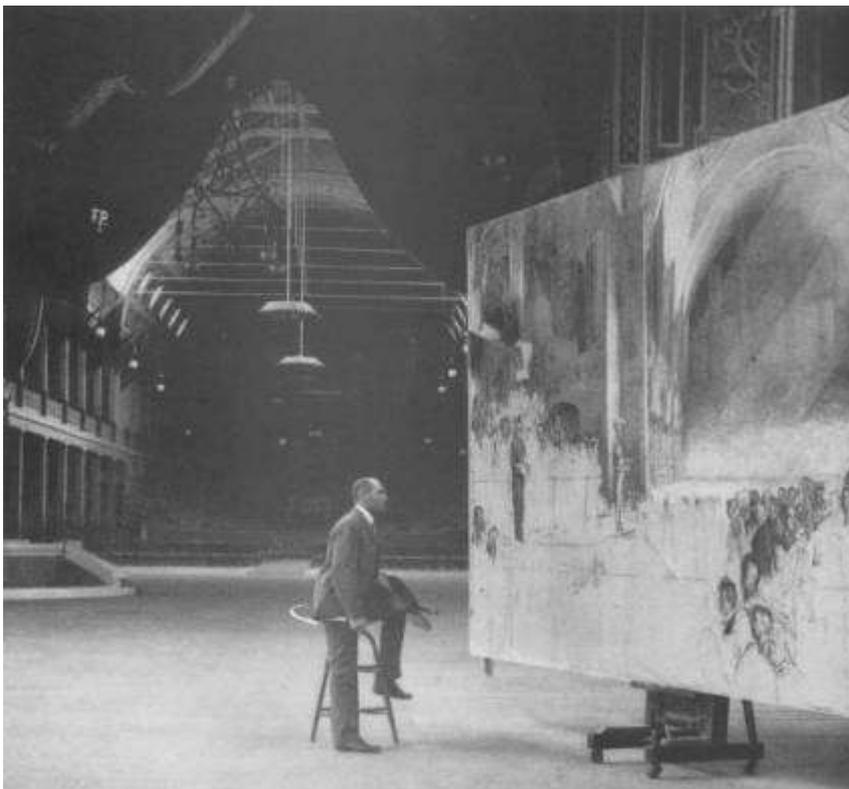
In 1879, Barton was elected to the New South Wales Parliament, becoming Speaker only four years later. Speaker Barton was compelled to use a great deal of tact, courtesy and firmness in dealing with the rowdy and abusive colonial chamber. It seems that parliamentary behaviour has changed very little in Macquarie Street over the subsequent 140 years! Barton was an ardent believer in Australia’s destiny as a single nation. He aligned himself with the “Father of Federation”, Sir Henry Parkes,

and worked tirelessly for federation of the colonies during the difficult years of the 1890's, when all of Australia was immersed in a deep economic depression. He was a prominent delegate to the Australasian Federal Convention in 1897, chairing the committee which drafted the Australian Constitution. His aspirations for universal suffrage (women did not have the vote at this time), and a desire to remove the British Privy Council as the final court of appeal for Australia, place him well ahead of his time!

After a serious miscalculation by the first Australian Governor General was averted, Barton was commissioned to form the first Australian Federal Government, and was sworn in as Prime Minister on 1 January 1901. With a precarious hold on the numbers in the House of Representatives, a Cabinet of very independent-minded former premiers, and a disgruntled parliamentary party, his government lasted just two years. He subsequently became a High Court Justice until his death in 1920, enjoying the somewhat less combative arena of constitutional law. The Australian Parliament in the first decade of the twentieth century was notoriously unstable. Varying levels of representation by the Free Traders, Protectionists and Labour (which changed its name to the Australian Labor Party in 1908) ensured that no party held a majority, and governments were short-lived. It is no irony that the first law passed in 1901 was one of the few issues upon which the politicians could all agree - the Immigration Restriction Act, which prevented non-whites from residing in Australia, and allowed draconian measures to enforce this law.

*Though Barton's Fracture was named after the American Surgeon John Rhea Barton (1794-1871), an interesting common denominator can be identified between the American Doctor and his Australian namesake. Both Bartons recognised the **intrinsic instability** of their respective creations - the latter in the Political arena - the former in the Orthopaedic arena!!*

Dr Stephen Parnis.



Tom Roberts at work on one of the most iconic Australian images in Art - The Opening of the Parliament of Australia on 9 May 1901 - the birth of a new Nation - from an uncertain and unstable start to the most desirable nation on the planet today.

BARTON'S FRACTURE

Introduction

Barton's Fractures are:

- Horizontal fractures of the distal rim of the radius

With

- *Intra-articular* involvement, into the radiocarpal joint
- And usually with some associated carpal subluxation or frank dislocation in the direction of the displaced segment.

The volar fractures are really a form of Smith's fracture, but only the **anterior** portion of the radius is involved.¹

They are relatively uncommon injuries.

History

John Rhea Barton (1794-1871) was an American surgeon.

He first described the Barton's fracture in 1838.

Classification



Volar and Dorsal type Barton's fractures, (www.radiologyassistant.nl)

- Barton fractures are classified as *dorsal or volar (i.e. palmar)* fractures of the distal rim fractures of the radius with *intra-articular* involvement, into the radiocarpal joint.

- There is also some associated carpal subluxation.
- The volar type injury is more common than the dorsal type injury.²

Mechanism

A high velocity impact occurring across the articular surface of the radiocarpal joint, with the wrist in either:

- Volar flexion (causing volar rim fracture)

Or

- Dorsiflexion (causing a dorsal rim fracture).

Complications

- Besides from the usual complications of any fracture, (non, mal and delayed union), these fractures are quite **unstable**.
 - ♥ Radiocarpal joint secondary arthritis with consequent chronic pain can result from suboptimal management.
- Associated carpal bone fracture or dislocation
- Neural injury:
 - ♥ Median nerve
 - ♥ Ulnar nerve
 - ♥ Radial nerve, (sensory branches)

Clinical assessment

- Pain is usually significant
- Point tenderness, swelling and deformity are usually obvious at the site of injury.

Investigations

Plain radiographs

The diagnosis is readily made on plain radiographs

Views taken usually include:

- A-P
- Lateral

- Oblique



Volar Barton's fracture, (with displaced pronator quadratus fat pad)

Management

1. Splint and elevate.
2. Analgesia, as required.
4. Conservative treatment:
 - Conservative treatment with plaster immobilization may be considered in older patients, but only if there is no displacement of the carpus.
 - There should still be specialist orthopaedic review of these.
5. ORIF:
 - Younger patients and those with fractures with any significant degree of displacement of the carpus are best treated by ORIF, as these fractures are often very unstable.

Disposition

These fractures are inherently unstable. All should be referred to the Orthopaedic unit for further evaluation.

References

1. McRae R, "Practical Fracture Management", 3rd ed 1994, p. 181
2. Barton's Fracture in Rosen's Emergency Medicine 5th ed 2002, p.544.
3. Barton's Fracture. Wheeless' Textbook of Orthopaedics, Website:
 - www.wheelessonline.com/

Dr J. Hayes

Dr Peter Papadopoulos.

Acknowledgements:

Dr Stephen Parnis

Reviewed December 2013