

Attrition or Rupture of Digital Extensor Tendons Due to Carpal Boss: Report of 2 Cases

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We present 2 cases that demonstrate the potential for tendon involvement in the presence of a carpal boss. In the first, a patient presented with tendon rupture without antecedent pain. In the second, pain and tendon irritation prompted magnetic resonance imaging that revealed tendon fraying, which was confirmed at surgery. These cases illustrate the potential for tendinous sequelae of a carpal boss. Advanced imaging may be considered when tendon irritation is clinically suspected. Attention to the possibility of tendon rupture in the setting of an otherwise asymptomatic carpal boss is advised. (*J Hand Surg Am.* 2014;39(5):919–922. Copyright © 2014 by the American Society for Surgery of the Hand. All rights reserved.)

Key words Carpal boss, tendon rupture, tendon irritation, wrist.

CARPAL BOSS IS A BONY prominence at the contiguous joints between the trapezoid, capitate, and index and middle finger metacarpals. Fiolle¹ in 1931 described the finding in his own wrist and named it *carpe bossu*. The incidence of carpal boss is unknown. Sex predilection has been reported for both males and females, which has led to a belief that the sexes may be equally affected.^{2–5} Symptomatic carpal boss is more common in the dominant hand.^{2–4} Pain is often attributed to degenerative changes in the affected carpometacarpal joint. Tendon snapping has been reported as a source of discomfort in symptomatic patients.^{2,6,7} To our knowledge, tendon rupture has been previously described in 1 case.⁸ We report a case of tendon rupture and a case of tendon fraying, and in doing so aim to raise awareness of attritional tendon rupture as a potential complication of a symptomatic carpal boss. The potential for tendon irritation in association with this condition should not be ignored and may represent an indication for excision of symptomatic carpal boss.

CASE REPORTS

Case 1

A 68-year-old, right-handed man presented with sudden and atraumatic loss of right index finger extension associated with sharp pain. He recalled having a bony prominence at the back of the hand for many years but denied antecedent pain or tendon snapping.

On examination, the patient was unable to extend the right index finger at the metacarpophalangeal joint. Wrist tenodesis examination also revealed no extension of the index finger with passive wrist flexion. The patient had a prominent bony mass at the base of the index and middle metacarpals that was mildly tender. The distal stumps of the index finger extensor tendons were palpable just distal to the bony protuberance. Plain radiographs of the hand revealed a dorsal prominence at the index and middle finger carpometacarpal joints consistent with carpal boss (Fig. 1).

At surgery, the ruptured ends of the extensor digitorum communis to index and extensor indicis tendons were just distal to a large bony excrescence involving the shared joint between the trapezoid, capitate, and index and middle metacarpals (Fig. 2). The carpal boss was excised to a level equal to the surrounding bone. The ruptured index finger extensor tendons, which were scarred together at the rupture site, were repaired as a single unit in a side-to-side manner to the extensor digitorum communis to middle finger tendon.

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FIGURE 1: Preoperative lateral radiograph of the hand of patient 1 demonstrates a carpal boss.

At last follow-up, the patient had no pain and was able to demonstrate near full active extension of the index finger metacarpophalangeal joint.

Case 2

A 62-year-old, right-handed woman presented with a prominence over the dorsum of the left wrist. The patient reported constant discomfort made worse by gripping objects. She also noted a gradual increase in the size of the prominence. The patient reported having an excision of a similar mass on the dorsum of the affected wrist approximately 40 years previously. Examination showed slight limitation of wrist extension and normal flexion. There was a well-healed transverse incision on the dorsum of the hand overlying a firm, mildly tender mass, which was approximately 2.5 cm in diameter.

Radiographs demonstrated a prominent carpal boss (Fig. 3). A magnetic resonance imaging study was obtained because of pain with resisted index and middle finger extension suggestive of extensor tendon irritation. This study showed a bony prominence at the index and middle carpometacarpal joints and attritional changes in the overlying extensor tendons (Fig. 4). Because of the discomfort and magnetic resonance



FIGURE 2: Intraoperative photograph reveals a large carpal boss and distal stump of the ruptured index finger extensor tendons. The wrist is to the right of the image.



FIGURE 3: Preoperative lateral x-ray of patient 2 showing a carpal boss.

imaging findings of tendon attrition, surgical resection of the carpal boss was recommended.

Intraoperative examination revealed fraying of the index and middle finger extensor tendons overlying the carpal boss, but both tendons were greater than 50% intact. No sharp or rough edges to the carpal boss were palpable. The carpal boss was excised. A tenosynovectomy was performed, but repair was not deemed necessary. Six weeks after excision, the patient

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