

## **Complex Terrible Triad Injury with a Concomitant Radial Shaft Fracture**

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### **Background:**

Terrible triad injuries of the elbow involve a combination of elbow dislocation, radial head fracture, and coronoid process fracture. These injuries are complex due to associated ligamentous disruption and instability in multiple planes. When accompanied by a radial shaft fracture, management becomes more challenging and is rarely reported in the literature.

### **Purpose:**

This video demonstrates a surgical approach for managing a complex terrible triad injury with an associated radial shaft fracture in a young adult patient.

### **Methods:**

We present the case of a 27-year-old right-hand dominant male involved in a motorcycle accident who sustained a terrible triad injury with a concomitant radial shaft fracture. Surgical treatment included radial head arthroplasty, coronoid suture fixation, lateral collateral ligament repair, and fixation of the proximal radial shaft. Postoperative rehabilitation focused on early range of motion (ROM) and prevention of stiffness.

### **Results:**

Postoperatively, the patient developed a partial posterior interosseous nerve (PIN) palsy but was otherwise neurovascularly intact and began early motion in a hinged brace. Radiographs showed interval healing with intact hardware and progressive heterotopic ossification. At final follow-up, he reported residual stiffness and persistent PIN symptoms, with elbow ROM improved to 110° of flexion, 40° of extension, and 60° pronation, and 60° of supination.

### **Conclusion:**

Surgical management of terrible triad injuries with associated radial shaft fractures can result in good functional outcomes when radial length is restored, instability is addressed in a stepwise fashion, and early motion is prioritized. Given the high complication rates associated with this injury, it is essential to discuss potential adverse outcomes such as stiffness and nerve palsy preoperatively.