

Management of Upper Extremity Orthopaedic Injuries in Epileptic Patients

INTRODUCTION: There is currently a lack of standardized guidelines available for orthopaedic surgeons in diagnosing and planning perioperative care for upper extremity injuries sustained in seizures and status epilepticus. We aimed at identifying common upper extremity injuries in epileptic and seizure patients and appropriate surgical and non-surgical management of injuries in these patients.

METHOD: PubMed, EMBASE, Cochrane, Scopus and Web of Science databases were queried for studies using the predefined search terms: “Orthopaedic”, “Fracture”, “Fall”, “Injury”, “Dislocation”, “Periprosthetic”, “Spine”, “Vertebrae”, “Vertebral”, “Osteoporosis”, “Prosthetic dislocation of total joint”, OR “Arthroplasty”, AND “Status epilepticus”, “Seizure”, “Convulsion”, OR “Epilepsy”. Full-text publications and abstracts describing upper extremity injury resulting from seizure or prior history of epilepsy in at least one patient were selected for further analysis.

RESULTS: Of 108,825 articles initially identified, 112 were deemed eligible for qualitative synthesis and 33 for quantitative synthesis. Of the 59 patients included, all upper injuries were attributed to a seizure episode, with 36 (61.0%) involving a posterior shoulder dislocation. Associated fractures were observed in 34 (57.6%) cases with surgical intervention performed in 30 (50.8%) patients. 44 patients reported functional outcomes, with over half (23 of 44, [52.2%]) endorsing range of motion deficits.

DISCUSSION: This systemic review found several articles discussing common types of injuries, diagnostic steps and successful intraoperative techniques used to manage epileptic and seizure patients with upper extremity orthopedic injuries. Post-seizure patients may require unique consideration to accurately identify injuries and a standardized diagnostic protocol is necessary to ensure these injuries are diagnosed and managed accordingly, accommodating the nuances of their condition.