Background: Glenoid fractures typically result from instability or blunt trauma. Ballistic mechanisms introduce unique complexities, including unpredictable morphology, thermal damage, retained fragments, and neurovascular injury. This study identifies patient demographics and the natural history of this injury in a civilian setting which has not previously been described.

Methods: Patients who sustained ballistic glenoid fractures between January 1, 2018, and June 30, 2025, at a single Level I trauma center were identified through department consult records. Socioeconomic status was assessed with the Area Deprivation Index (ADI). Radiographs and computed tomography images were reviewed to characterize the fracture and percentage of glenoid involvement.

Results: Thirty patients were identified (median age 28; 87% male) from 6,550 ballistic trauma activations. Most had Medicaid insurance; the median ADI was 72. Median glenoid involvement was 13%. Nerve injuries occurred in 13%, and 77% sustained additional ballistic injuries.

Twenty patients (67%) had follow-up in this system or confirmed through the Care Everywhere Network. Twelve were initially managed nonoperatively. Nearly all were noted to have good to excellent recovery. One patient had a retained projectile removed at a different institution.

Five of the 8 recommended for surgery received operative intervention though one was for hemiarthroplasty due to severe humeral head comminution. Each glenoid fracture had at least 30% involvement with greater than 4mm articular step-off or gapping. One developed symptomatic post-traumatic arthritis requiring subsequent debridement and hardware removal. The remainder achieved near-full range of motion and controlled pain at final follow-up.

Conclusion: Patients with ballistic glenoid fractures mirror the demographics of other civilian ballistic injuries, and follow-up remains a challenge. Operative intervention is warranted with greater than 30% glenoid involvement or 4mm articular step-off. Both operative and nonoperative management within these indications yield good outcomes, though longitudinal patient-reported outcomes are needed to further characterize this injury.