**Case Report Abstract**

**TITLE**: DIAPHRAGMATIC RUPTURE SECONDARY TO BLUNT THORACIC TRAUMA

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**Introduction**: Diaphragmatic rupture is a relatively rare injury with a reported incidence of 1 to 7% of all patients following significant blunt trauma. The pathophysiology in blunt trauma is due to the abrupt change in intra-abdominal pressure as the suspected cause of most injuries, although shearing and/or avulsion can also occur especially following lateral trauma.2

**Case Presentation**: The patient is a 7-year-old African American male who was involved in a high-speed motor vehicle collision as an unrestrained back seat passenger. He was transferred from a local hospital to a Level-1 trauma center 5 hours after the injury. His chief complaint was left anterior chest wall pain. On primary survey, his airway was patent, respiratory rate was 22 breaths per minute with an oxygen saturation of 98% on 2 liters oxygen via nasal cannula. Decreased breath sounds as well as bowel sounds were auscultated in the left thorax. Heart rate was 76 beats per minute with a blood pressure of 130/84 mm Hg. Clinically, the patient appeared calm and hemodynamically stable; neurologically, he was non-focal without any deficits. Secondary survey was grossly unremarkable aside from left anterior chest wall tenderness to palpation. Trauma bay chest X-ray demonstrated significant injuries to the left thorax including multiple rib fractures, hemothorax, and diaphragmatic rupture with herniation of bowel loops into the chest cavity. Upon insertion of a nasogastric tube, repeat chest X-ray demonstrated the nasogastric tube to be in the left upper abdomen coursing upwards into the left thorax and terminating at the level of the left third rib. The patient underwent emergency laparotomy for repair of the diaphragmatic defect. A splenic laceration of the inferior pole was identified with significant intra-operative bleeding. Successful repair of the diaphragmatic injury as well as splenectomy was achieved without incident.

**Conclusion:** This case illustrates the prompt and accurate diagnosis of diaphragmatic rupture after significant trauma. Early diagnosis facilitates proper treatment and optimal patient outcome.