Sports-related laryngeal trauma is uncommon, but such injuries can be life-threatening and can result in significant morbidity. Most often, blunt trauma to the larynx occurs in the setting of "clothesline" injuries sustained in high velocity sports such as cycling, motorcycle racing, and hockey. The primary goals of management of acute laryngeal injury include protection of the airway and preservation of voice. In this series, we report three cases of sports-related blunt trauma to the neck resulting in significant laryngeal injury, and we review the diagnosis, treatment, management, and outcome of each case. Given the potentially serious sequelae of laryngeal injury, we recommend the use of neck protective gear for high-risk sports as a preventive measure.

**CASE 1**

An otherwise healthy 19-year-old female collegiate field hockey player presented to a local hospital emergency room after being struck in the anterior neck with a field hockey ball. She presented approximately one hour after the injury occurred with severe neck pain, dysphonia, odynophagia, hemoptysis and dyspnea. She underwent an emergent tracheostomy, underwent a CT scan of the neck which demonstrated a fracture of the thyroid cartilage, and was transferred to a tertiary medical center for further management. On examination, the patient demonstrated significant tenderness to palpation over the thyroid cartilage. Flexible fiberoptic laryngoscopy demonstrated an immobile left true vocal fold, and mucosal disruption over the left arytenoid cartilage. The patient was then taken to the operating room for a direct laryngoscopy, which showed partial avulsion of the left arytenoid with exposed cartilage. Surgical exploration of the neck demonstrated a fracture length of the thyroid cartilage. A midline thyrotomy approach through the fracture line was used to reapproximate the left arytenoid mucosa and to reconstruct the anterior commissure. A finger cot stent and nasogastric feeding tube were placed, and open reduction and internal fixation of the thyroid cartilage with nonabsorbable sutures was performed. Within two weeks, the finger cot, feeding tube, and tracheostomy tube were removed. Four months after surgery, the patient demonstrated complete left vocal fold immobility. Her severe dysphonia significantly improved after a contralateral right vocal fold augmentation with collagen injection. At one year after surgery, the patient demonstrated return of left vocal fold mobility. She reported no issues with dyspnea, and has returned to playing field hockey with a neck guard.

**CASE 2**

A previously healthy 21-year-old male lacrosse player presented to the emergency room immediately after sustaining a clothesline injury to the neck with a lacrosse stick during a game. Due to the patient’s significant dysphonia, dysphagia, and stridor, he underwent nasal fiberoptic intubation. Palpation of the neck revealed step-off over the cricoid cartilage, with significant crepitus. CT scan of the larynx revealed bilateral fractures of the cricoid cartilage, with posterior collapse of the anterior fragment narrowing the airway. Direct laryngoscopy demonstrated triangular collapse in the anterior subglottic region, with no mucosal disruption. Open reduction and internal fixation of the cricoid cartilage was performed with a resorbable miniplate. The patient received a short course of steroids and was extubated on post-operative day 1, and he was advanced to a regular diet after being cleared by the speech pathologist. At four months after the surgery, the patient reported good swallowing function and no dyspnea. He had continued dysphonia, however, and demonstrated reduced cricothyroid muscle function, possibly as a result of scarring. He has resumed playing lacrosse, with recommendations to wear a neck guard.

**CASE 3**

An otherwise healthy 47-year-old female teacher presented to the Otorhinolaryngology clinic three days after being hit in the anterior neck with a softball during a game. Her symptoms included moderate throat pain and dysphonia without dyspnea or dysphagia. On examination, her anterior neck was tender to palpation, with no obvious step-off deformity. Fiberoptic laryngoscopy showed full vocal cord mobility and intact mucosa, with a small area of hemorrhage on the right vocal cord. A CT scan of the neck demonstrated a comminuted, mildly depressed fracture of the left thyroid cartilage. The patient was brought to the operating room, and surgical exploration revealed extensive comminuted fractures of the left aspect of the thyroid cartilage. After unsuccessful attempts to reconstruct with plates and sutures, open reduction and internal fixation of the multiple fragments was performed with a large mesh across the entire length of the thyroid lamina. The patient reported immediate and significant improvement in her voice. At the time of her last visit, two years after her surgery, she had continued to do well with excellent voice quality and a normal laryngoscopic exam.

**REFERENCES**