Tracheobronchial Injuries
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Conservative
Right Upper Lobectomy
Sternotomy & Tracheal Repair

- Uncommon
- Blunt trauma
- 80% of ruptures occur within 2.5cm of the carina

Right main bronchus
Left main bronchus
Trachea
Carina

Right upper lobe
Left upper lobe

Radiographic images and CT scans are shown to illustrate the injuries.

CT scan images are displayed to show the extent of the injuries.
Day 22
Going home!

“A most beautiful illustration of the conservative power of nature was afforded me recently by the bronchus of a canvas back duck. Upon examination, it was evident that at some time previous remote period the left bronchus of the duck had been ruptured – yet in this bird, life and health had apparently existed with the injury for months and repair had made good progress until interrupted by the sportsman.”

Winslow WH: Rupture of bronchus from wild duck. Philadelphia Med Times, p255, April 15, 1871

Role of Conservative Medical Management of Tracheobronchial Injuries

- 33 patients
- 60% managed conservatively
- Membranous injuries more likely to be treated successfully with conservative management than cartilaginous injuries
Extracorporeal life support in trauma: Worth the risks? A systematic review of published series

Karuna Banerjee, MD, MS, Rahul Sathikala, MD, MS, and Edward Kelly, MD. Boston, Massachusetts

- 12 studies
- Survival 50-79%
- Bleeding related mortality 15%

• 36 patients
• 58% survival
Acute Injuries of the Trachea and Major Bronchi: Importance of Early Diagnosis
David C. Cormalas, MD, Mucken P. Mucykoha, MD, Mark P. Mosley, MD, Raymond A. Ekerin, Jr, MD, George F. Schuchtern, MD, and Sharon L. Enderson, MD
Department of Surgery, The University of Tennessee Medical Center at Knoxville, Knoxville, Tennessee

- 40 patients
- All patients had surgery
- Three patients had delayed diagnosis and treatment and they all had complications

Ann Thorac Surg
2000;69:1563-7

Surgical decision making in tracheobronchial injuries on the basis of clinical evidences and the injury's anatomical setting: A retrospective analysis
Sofía F. Soto, MD, Christian Prokof, MD, Nikolai Stavreva, MD, Ioannis Apostolakis, MD, Antonio Chamorro, MD, and Daniel D. Jans, MD
Department of Surgery, University Hospital, Santiago, Chile

- 25 patients
- 22 = surgery
- "surgical primary repair represents the treatment of choice"

Injury, 2012
Conclusions

1. Significant tracheobronchial injuries are rare
2. Non-operative treatment can be effective for small airway injuries, and injuries to the membranous portion of the trachea
3. Early bronchoscopy is important to diagnose these injuries
4. ECMO is an option in pediatric thoracic trauma
5. Early operation may avoid complications and mortality