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## Outcome of traumatic pneumonectomy in 42 patients from the NTDB, 2002-2012

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**Introduction:** Thoracic injuries are common in both blunt and penetrating trauma. While most of these injuries are managed non-operatively, approximately 7-20% undergo a thoracotomy and of these, 1-6% ultimately require pulmonary resection. Wedge resection and lobectomies are well-studied in the literature; however, there is a paucity of reports on total pneumonectomy in the setting of trauma injury. The objective of this study was to characterize injuries requiring a traumatic pneumonectomy in the National Trauma Data Bank (NTDB) from 2002 to 2012.

**Methods:** Using ICD-9 procedure codes 32.50 and 32.59, we identified 42 patients who underwent a traumatic pneumonectomy from the NTDB that occurred between 2002 and 2012. We collected data on gender, age, mechanism of injury, injury severity score (ISS), Glasgow Coma Scale (GCS), time to procedure, hospital length of stay, complications, and mortality. We used univariate statistical analysis with statistical significant set as  $p < 0.05$ .

**Results:** Forty-two patients (33 males, 10 females) underwent pneumonectomy for traumatic injuries over the 11-year period with an overall mortality rate of 81%. Twenty-six patients had an ISS greater than or equal to 25 and an associated 96% mortality rate. 23 patients (55%) had penetrating injuries and 19 (45%) had blunt with mortality rates of 74% and 89%, respectively. The most common mechanisms of injury were motor vehicle accident (MVA; 38%) and firearms (50%). MVAs had considerably higher mortality (94%) than firearm injuries (71%). Time to procedure was 3.6 hours in survivors and 6 hours in nonsurvivors.

**Conclusion:** In this study, we characterized 42 patients undergoing a traumatic pneumonectomy for blunt or penetrating injuries. Although total pneumonectomy in trauma is relatively rare, this procedure was associated with a very high mortality rate of 81%. The lethality of these injuries was related to several factors including ISS and mechanism of injury. The difference in time to procedure between survivors and nonsurvivors suggests that the decision to perform a traumatic pneumonectomy must be made rapidly and definitive treatment should not be delayed.

### Biography

Bradley J. Phillips is an Associate Professor of surgery, currently working as a vice chair for Surgery Surgical Research at Department of Surgery with Creighton University School of Medicine, USA. His area of expertise is in "Trauma-Burn-ICU Coverage, adult & pediatric injury". He did his education from Michigan State University College of Human Medicine, M.D., 1991-1995. Dr. Bradley published various articles in multiple journals.

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