The term “Pulmonary Complications” is often utilized in the literature as a catch-all phrase encompassing respiratory failure and complications associated with mechanical ventilation. However, specialty specific literature places varying degrees of importance on each individual complication and uses the term differently. Generally, pulmonary complications refer to pneumonia, acute lung injury, acute respiratory distress syndrome, worsening of COPD, and bronchospasm. In the Trauma ICU setting, mechanically ventilated patients who have hypoxia and/or fever present some diagnostic dilemmas. Blossoming pulmonary contusions, rib fractures, and traumatic brain injury may all confound the traditional diagnosis of pulmonary complications. In this talk, we will review the variety of pulmonary contusions and recent literature discussing diagnosis and treatment as well as examine the complex interplay of pulmonary pathology in the setting of trauma.