89 year old male with a history of HTN, BPH, HLD brought in by EMS after sustaining severe facial trauma during a fall in the subway. Patient was hemodynamically stable in the ED and had nasal packing done and suturing of multiple facial lacerations. CT Face showed Le Fort type 1 and type 2 fracture patterns involving the bilateral mandibular, orbital and nasal bones.

**PHYSICAL EXAM**

Height and weight: 5â€™7â€• 70 kg  
VS: afebrile, HR 60-70s, BP 180/70, SaO2 100 % on RA  
GEN: Elderly male with extensive facial ecchymosis/swelling  
HEENT: Bilateral peri-orbital ecchymosis, nasal packing in place, extensive mandibular and lower lip ecchymosis and laceration, no tracheal deviation  
CV: RRR  
PULM: CTAB  
ABD: soft nontender  
EXT: no peripheral edema  

**CARDIAC ARREST**

While in the ED, patient suddenly went into PEA Cardiac Arrest. Cardiac arrest alert was called and ACLS was started. Upon, the anesthesia team arrival, patient was being bag masked and receiving continuous chest compressions. His skin appeared extremely pale blue and he was observed to not have passive ventilation from chest compressions. The anesthesia team immediately performed direct laryngoscopy and suctioned the patient with a Yankauer. He was found to have massive blood clots obstructing his posterior oropharynx and vocal cords. The Yankauer was placed through his vocal cords to relieve the obstruction. With relief of the airway obstruction, patient had immediate ROSC after 5 minutes of arrest and an ETT was immediately placed successfully. Patient had an eventual full recovery with no neurological deficits.

A recent study titled “Association Between Tracheal Intubation During Adult In-Hospital Cardiac Arrest and Survival” published in JAMA in January 2017 suggests against early tracheal intubation for adult in-hospital cardiac arrest (1). The study retrospectively analyzed 86,628 adult patients with in-hospital cardiac arrest using a time-based propensity matched cohort and found that among adult patients with in-hospital cardiac arrest, initiation of tracheal intubation within any given
minute during the first 15 minutes of resuscitation, compared with no intubation during that minute, was associated with decreased survival to hospital discharge (1). Intubation was also associated with a 2% absolute and 16% relative reduction in survival to hospital discharge. And a 3% absolute and 22% relative reduction in good functional outcome at hospital discharge (1).

Should clinicians then conclude, contrary to conventional wisdom, that early intubation is harmful, or at least, ineffective and unnecessary? An alternative explanation is that patients who were intubated had greater illness severity to begin with, and efforts to adjust for severity of illness may fail to account for residual bias (2). Confounding by indication is the major limitation to the use of observational data for estimation of treatment effects (2). Furthermore, the study data may not have captured the time of intubation consistently, for intubation takes several minutes (2). In the study, control patients are patients who are not intubated during the same minute that a case was intubated, however, controls may become cases in subsequent minutes because the comparison is of those intubated vs those who either were never intubated or not intubated yet (2). A more ideal design would be to compare outcomes of all patients for whom the decision is made to intubate “now” vs those in the “maybe later” group, however, the intent to intubate is not captured in the data (2). Data sets often lack critical nuance, such as what the clinicians were thinking or wanting to do. An intubation by a skilled provider should not directly cause death or injury, however, hyperventilation, hyperoxia, delaying chest compressions, defibrillation or epinephrine and failed intubation leading to inadequate ventilation/oxygenation are all known to lead to worse outcomes. Big data despite its size, detail and sophistication does not exclude residual confounding. Nevertheless, lack of demonstrable benefit of intubation does challenge conventional wisdom.

Intubation may or may not be harmful, though clear demonstration of benefit is lacking. Tracheal intubation was associated much more strongly with decreased survival among patients with an initial shockable rhythm (32% relative decrease) compared with those with an initial non-shockable rhythm (9% relative decrease) (2). We do not believe the data proves that intubation is unindicated for non-shockable rhythms. Thus, we would like to suggest that clearly knowing the patient and circumstances preceding or during the arrest, help to determine the best course of action, and the decision of when to intubate may be guided by the rhythm. When there is a shockable rhythm, absolute priority should be given to avoiding delay of defibrillation and epinephrine administration. In shockable rhythm, it is most important to maintain a patent airway to permit passive ventilation with CPR. Clearing the airway may be more important than tracheal intubation. In the case of an obstructed airway, a shockable rhythm may convert to unshockable due to airway obstruction and hypoxemia. However, when there is a non-shockable rhythm, as our case highlights, there is a paramount importance to maintain an unobstructed and clear airway, which in certain circumstances may mandate tracheal intubation. A more nuanced approach is needed, for avoiding early intubation all together, may lead to less critical evaluation of patients’ clinical presentation and may result in worse outcomes for patients whose etiology of arrest is hypoxia or airway obstruction.