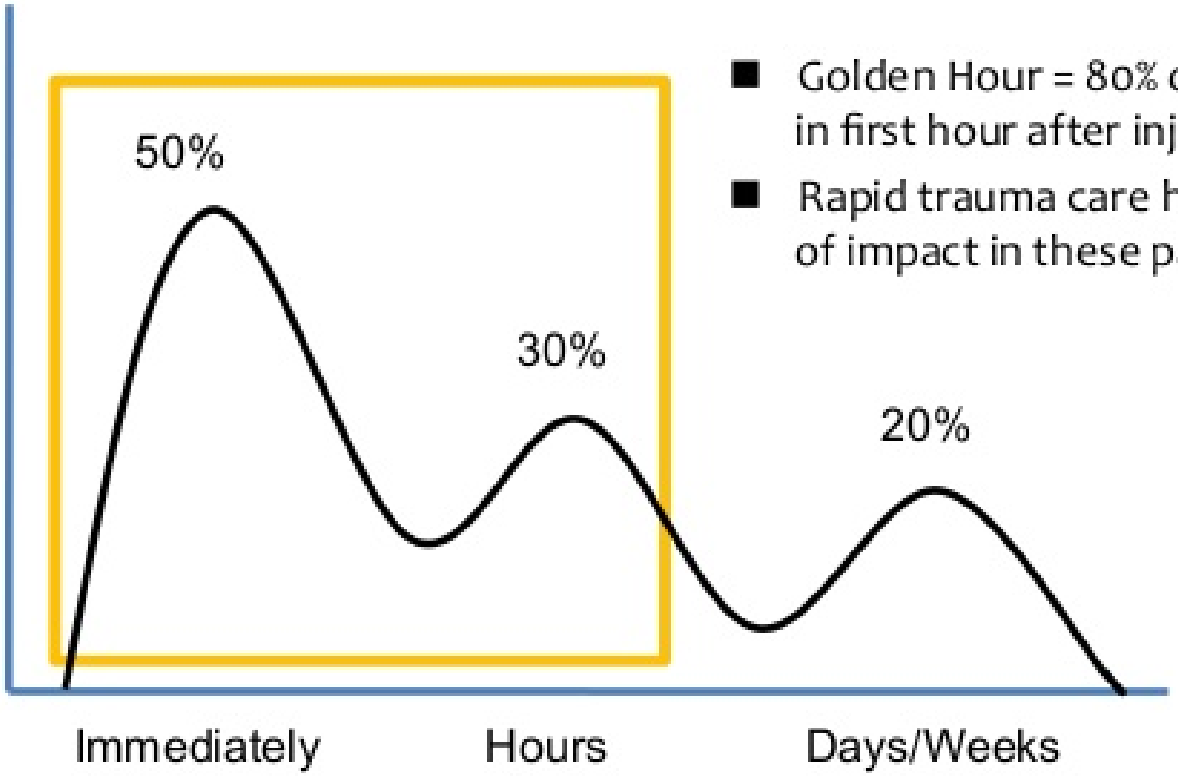
Trimodal Death Distribution

- First described in 1982, the trimodal distribution of deaths implies that death due to injury occurs in one of three periods, or peaks.

Trimodal Distribution of Trauma Deaths



- Golden Hour = 80% of trauma deaths in first hour after injury
- Rapid trauma care has greatest level of impact in these patients

The First Peak

- Occurs within seconds to minutes of injury.
- During this early period, deaths generally result from apnea due to severe brain or high spinal cord injury or rupture of the heart, aorta, or other large blood vessels.
- Very few of these patients can be saved because of the severity of their injuries.
- Only prevention can significantly reduce this peak of trauma-related deaths.

The Second Peak

- Occurs within minutes to several hours following injury.
- Deaths that occur during this period are usually due to subdural and epidural hematomas, hemopneumothorax, ruptured spleen, lacerations of the liver, pelvic fractures, and/or multiple other injuries associated with significant blood loss.
- **The golden hour of care after injury** is characterized by the need for rapid assessment and resuscitation, which are the fundamental principles of Advanced Trauma Life Support.

The Third Peak

- Occurs several days to weeks after the initial injury, is most often due to sepsis and multiple organ system dysfunctions.
- Care provided during each of the preceding periods affects outcomes during this stage.
- The first and every subsequent person to care for the injured patient has a direct effect on long-term outcome.

- The temporal distribution of deaths reflects local advances and capabilities of trauma systems.
- The development of standardized trauma training, better prehospital care, and trauma centers with dedicated trauma teams and established protocols to care for injured patients has altered the picture.