

- **Abstract**

- Shock is one of the most complex conditions encountered in the critically ill patients , the underlying cause can be evident as in hemorrhagic shock or occult as in severe sepsis due to infection¹ . Delayed shock resuscitation is associated with significant morbidity and mortality and therapy should be initiated even before all clinical information and diagnostic studies are available , although the mortality remains high, the increasing application of early goal-directed therapy (EGD²) to achieve defined physiologic endpoints has significantly improved patient outcome^(1,2,3) .
- Alfred Blalock⁽⁴⁾ found that the hypotensive state and high mortality rate of shock were reversible by crystalloid infusion to replace lost intravascular and interstitial fluid and that simple reinfusion of lost blood was not sufficient , So shock was identified as systemic disorder caused by increased the vascular permeability , interstitial edema and intravascular volume depletion with the classic sign of hypotension , decreased urinary output and multiple organ failure.
- The challenges to the intensivist are to identify the hypoperfused state , diagnosing its cause and rapidly restoring the cellular perfusion.
- Shubin and Weil's⁽⁵⁾ classic paper distinguished the various forms of shock with respect to cardiovascular parameters : **Hypovolemic** (such as dehydration , diarrhea and hemorrhage , the most common form of shock following major trauma) . **Distributive shock** (such a septic shock , the most common cause of shock in late recovery phase or after major surgery or major trauma) . **Cardiogenic** (such as from massive myocardial infarction , arrhythmia) . **Obstructive** (such as tension pneumothorax , pulmonary embolus , or pericardial tamponade) .
- The intensivist must understand the various therapeutic options for each of the shock states , shock resuscitation intent to optimize the patient's end –organ perfusion and cellular oxygenation . In addition, the etiology of the shock state should be investigated to treat or correct the underlying cause which may be either simple as needle decompression for tension pneumothorax, or complex as in the treatment of sepsis⁽⁶⁾

Resuscitation of the critically ill patients who develop one of the shock states is an ongoing process and requires a constant assessment of the patient response to resuscitative therapy , and to guide this dynamic resuscitation , “ Resuscitation adequacy “ endpoints can be employed⁽⁷⁾ , since over resuscitation with intravenous fluids should be avoided and can cause acute lung injury , Intra abdominal hypertension and abdominal compartment syndrome , Although some authors have suggested the use of colloid-based resuscitation to avoid such complications, large-scale clinical trials and meta-analyses have failed to demonstrate a survival advantage of such approach

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