

## 1. Neurogenic Shock (Spinal Shock)

- i. Traumatic spinal cord injury can lead to disruption of the autonomic pathways which control blood pressure. Typically, these patients present with relative hypotension but due to lack of the normal autonomic reflexes, they are unable to increase cardiac output to compensate for the decreased tone within the peripheral vasculature. Consequently, if there is not a concomitant condition causing hypovolemia, these patients do not respond to fluid boluses. The appropriate treatment in this case is pharmacologic, i.e., the use of pressors to restore sympathetic tone to the peripheral vasculature and increase cardiac output. In the trauma patient, care should be taken to rule out the presence of hypovolemic shock in the presence of neurogenic shock. Resuscitation of patients with both disorders requires treatment of the decreased sympathetic tone and volume replacement.
- ii. Hypotension has been associated with poor outcome in traumatic brain and spinal cord injury and should be treated quickly and aggressively.

## 2. Management of blood pressure

- a. Any patient with a suspected SCI with or without signs of spinal shock a mean arterial pressure (MAP) > 80mm Hg should be maintained at all times.
  - i. Patients will require central venous access and arterial monitoring.
  - ii. Dopamine is the agent of choice followed by Levophed, avoid Neo
    1. Neo should be avoided because of the potential for reflex bradycardia
  - iii. Drugs that can raise ICP or lower cerebral blood flow (e.g., sodium nitroprusside, nitroglycerin, ganglionic blockers) will be avoided
    - i. Patients receiving antihypertensive treatment will have BP monitored frequently