Summary

Although Spinal Cord Injuries (SCI) constitute less than 1% of total injuries, yet the associated high rate of death is a concern. As it has profound systemic effects on the body and patients are at risk of acute complications caused by improper management**.** This combination of biomechanical and neurological considerations provides a unique challenge to those dealing with the spinally injured patient. With this in mind, Proper assessment of the injuries remains the initial key step in determining appropriate management, and how such patients are managed in the initial stages of their injury is essential to the success of their recovery.

Prehospital management of acute SCI is of critical importance since the spinal cord damage may occur or be aggravated after the initial event, as mismanagement and inappropriate handling of unstable spinal column injuries may convert a simple bone injury into a spinal cord injury. The goal of the anaesthetist is to prevent secondary injury, primary prevention is the only means of improving the prevalence of acute spinal cord injury. Prehospital management includes: examination of the patient, spinal immobilization, careful airway management (intubation, if indicated, using Manual In-Line Stabilization (MILS) and cardiovascular support.

There is evidence that the use of early prehospital high dose steroids (Currently, Methylprednisolone Sodium Succinate (MPSS) may lead to an improved neurological outcome.

The definitive management of the spinal column injury may be operative or nonoperative. Satisfactory outcome relies on effective resuscitation, obtaining an airway, careful handling when moving or

intubating the patient, providing intensive and meaningful monitoring, maintenance of adequate cord perfusion and oxygen delivery, blood glucose levels within the normal range and attempts at neuroprotection with methylprednisolone. Moreover, A multitude of interventions now exist as therapeutic hypothermia and other pharmacological therapies are being developed to limit the extent of secondary injury. In the meantime, meticulous critical care practices are proven to decrease morbidity and mortality in SCI patients.

Patients with chronic spinal cord injury are surviving longer, therefore the possibility of presentation with the need for incidental surgery outside a spinal injury unit is increasing. With an understanding of the complex pathophysiology consequent to a cord injury particularly the cardiovascular, respiratory changes, and the relevance of spasticity, appropriate and practical considerations allow a planned approach to the safe administration of anaesthesia, the control of spasm and autonomic dysreflexia.

This essay begins with a brief review of the epidemiology and pathophysiology of spinal cord injuries. Next, preoperative evaluation and preparation of SCI patient is discussed, followed by intraoperative management and monitoring principles. Next, a brief survey of the most significant complications occurring intraoperative or immediately postoperative is mentioned. hoping that the anaesthetic principles outlined in this essay will provide a framework of knowledge that will improve the outcome for patients with these devastating injuries.