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### Traumatic spinal cord injuries (SCI): Prognostic indicators of neurological recovery – Contribution of early clinical and radiological findings

The management of traumatic spinal cord injury (TSCI) has remained controversial since the early 19<sup>th</sup> century. Better understanding of the Biomechanical Instability (BI), the development of CT and MRI; improving instrumentation & increased safety of anaesthetic resulted in a change of practice from Active Physiological Conservative Management (APCM) of the spinal injury and all its effects to a focused surgical management of the spine often with little attention to the multi-system physiological impairment and malfunction and the non-medical effects of cord damage. Surgical stabilisation is undoubtedly beneficial to patients with injury of the bony spine with intact neurology. Although these patients can be treated with APCM of their spinal injury, Surgery will expedite their discharge from hospital ie the patient can be discharged home within a few days of surgery. The short, medium and long term outcomes in terms of pain and range of movement of the affected region of injury are however unknown following surgery. A TSCI results in a multi-system impairment and malfunction, paralysis, sensory loss and a potential wide range of medical and non-medical complications. The injured spinal cord is Physiologically Unstable and can be further damaged by non-mechanical complications. Hypoxia, hypertension, hypotension, sepsis, hypothermia, fluid overload can easily occur causing more neurological damage. Patients require scrupulous simultaneous attention of all effects of paralysis to ensure: maximum neurological recovery, prevent complications including pain, maximum range of movement of the spine and independence to minimise cost of support in the community, safe and convenient functioning of all body systems, long term maintenance of health to minimise readmission with complications and enable patient to contribute to the society. The prognostic indications of neurological recovery following APCM have been repeatedly documented in the last seven decades. Although there are some claims that early surgery may yield better outcomes than late surgery; there has been no attempt to compare the outcomes of surgery with those of APCM. The early prognostic indicators of neurological recovery during the first 48-72 hours of injury, the value of any initial neurological sparing however little and in particular the value of pin prick sensory sparing down to the second sacral segmental distribution of the spinal cord will be demonstrated. The insignificance of the BI, Canal encroachment and Traumatic Cord Compression as prognostic indicators of recovery provided the patient is adequately treated with APCM and the possible advantages, disadvantages, complications of Surgical Stabilisation, Surgical Decompression and APCM will be discussed.

#### Biography

Wagih El Masri WEM trained in the speciality of spinal injuries at Stoke Mandeville, Oxford, Guys Hospitals & the USA between 1971 and 1983. To date he personally treated 10,000 Patients with traumatic Spinal Injuries acute, sub-acute, rehabilitation phases as well as in the Long term. He is the author of the concept of "Physiological Instability of the Injured Spinal Cord "and an advocate for the evidence based Active Physiological Conservative Management of the patient.

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