UCSD MEDICAL CENTER

Division of Trauma

GUIDELINES

SUBJECT: Orthopedic Operative Procedures on Head Injured Patients

DEFINITION/PURPOSE: To facilitate the management by the Trauma, Orthopedic, and Neurosurgery Services in the care of multiply injured patients by establishing agreed upon guidelines.
GUIDELINE: Trauma patients with neurologic trauma requiring orthopedic procedures will have a carefully coordinated approach to management by the involved services. Criteria to be used as guidelines are established.
GENERAL INFORMATION: Trauma patients who have sustained multi-system injury often have many services involved in their treatment. The Trauma Service provides the coordination for decision making and priority setting for the multiple specialties. The patient who has sustained both orthopedic and neurologic injury requires a planned approach. All patients with open fractures, severe soft tissue injury, open joint lacerations, irreducible dislocations, progressive neurologic or vascular deficits, compartment syndromes, and pelvic fractures requiring fixation to assist in hemorrhagic shock management should be taken to the Operating Room within 6 to 8 hours. When it is not possible to achieve this timeframe, the reason should be documented. Every effort should be made to address the issue preventing that patient from going to the Operating Room. When the head injury evaluation determines that the patient is at risk for a secondary brain injury, anesthesia management must be continuously supervised by an attending anesthesiologist experienced in trauma anesthesia. The patient with head injury would benefit from having clear guidelines that are based on the severity of head injury, **Resuscitation Glasgow Coma Score**, intracranial pressure and radiologic exam.

GCS	CT RESULTS	NON-URGENT ORTHOPEDIC INJURIES	URGENT ORTHOPEDIC INJURIES
14-15 (Minor Head Injury)	Normal	Proceed with appropriate fixation	Proceed with appropriate fixation
11-13	Normal, but persistent ABNORMAL level of consciousness	Consider repeat CT scan in 12-24h **versus** Proceed with appropriate fixation after discussion of ICP placement for intra-operative monitoring. Requires discussion by the 3 surgery attendings & anesthesia	ICP placement for intra-operative monitoring
11-15	Abnormal, without evidence of increased ICP	Proceed with appropriate fixation after discussion re: time and potential EBL. Requires discussion by the 3 surgery attendings and anesthesia.	ICP placement for intra-operative monitoring.
11-15	Abnormal, with evidence of increased ICP	Wait 72 hours, then discuss operative procedure based on patient course. Requires discussion by the 3 surgery attendings & anesthesia.	ICP monitoring; attempt rapid I&D, reduction or fasciotomy, possible rapid Ex Fix or pinning. Requires discussion by the 3 surgery attendings & anesthesia.
3-10 (Severe Head Injury)		Case by case determination by discussion with 3 surgery attendings & anesthesia. (Possible Neurosurgical resident to go to O.R.)	ICP monitoring (Possible Neurosurgical resident to go to O.R.); minimum orthopedic procedures unless unable to tolerate or able to tolerate more intervention.

When a decision regarding operation is required, the merits and risks of ICP monitoring, the type and techniques of anesthesia, and the routes of fixation will be explored to accomplish the best combination of orthopedic stabilization while maintaining optimal overall patient care.

If the operative plans (procedure or approximate length of the surgery) change either preop or intraop, the Ortho Service should notify the Trauma Service Chief, Fellow, or Attending.

Signed:

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