VITAL SIGNS: PEDIATRIC SYSTOLIC BP = 70 + (2 x age in yrs.); DIASTOLIC BP = 2/3 SYSTOLIC BP

TRAUMA LABS: CBC, PT/PTT, type + screen, ER 1, ER2, amylase, lipase, urinalysis with micro, pregnancy test in all females ≥ 10 yrs. of age

PLAIN FILMS: See c-spine clearance protocol for necessary c-spine views, chest, pelvis.

C-SPINE IMAGING: If unable to obtain adequate plain films—after 2 attempts—obtain CT scan for precise level of concern, e.g. C1-2, C6-7 + T1.

C-SPINE CLEARANCE: C-spine will be cleared by the pediatric neurosurgery service unless the following criteria are met in which case pediatric trauma service can clear c-spine:
1. > 5 yrs. of age
2. No alteration in mental status (GCS=15)
3. No neck pain
4. No distracting injuries
5. Normal radiographic studies based on pediatric c-spine clearance protocol. If radiographic abnormalities are present on the plain films, pediatric neurosurgery will be consulted to clear the c-spine.

FAST EXAMS obtained after secondary survey is completed, if warranted

BLUNT HEAD TRAUMA:
(All patients with amnesia for the event should be considered to have sustained a loss of consciousness.)

Indications for neurosurgical consultation:
1. GCS<15 at any time (during transport or in trauma suite)
2. History of loss of consciousness or amnesia for the event
3. If patient is admitted for 23 hr. observation and not ready to go home because of persistent headache, altered mental status, sleepiness, etc.
4. Patients admitted for significant mechanism for traumatic brain injury (e.g. fall > 3 body lengths) with GCS=15 and normal head CT.
5. All multisystem trauma patients going to the operating room for non-neurosurgical procedures.
All patients being admitted with a mechanism for traumatic brain injury will receive normal saline, be NPO and repeat serum electrolytes and CBC the next morning.

Mannitol 0.25-1 grams/kg IV – start with 0.25mg/kg

PENETRATING NECK TRAUMA:
Zone 2 injuries are managed based on clinical examination. Hemodynamically unstable patients require immediate operative exploration. Stable patients with obvious vascular injury or aerodigestive injury should undergo immediate operative exploration. Stable patients without hard signs of vascular or aerodigestive injuries should be evaluated with arteriography (4-vessel), esophagoscopy, bronchoscopy, and esophagram.

BLUNT ABDOMINAL TRAUMA:
CT scans of the abdomen + pelvis will be performed with intravenous contrast only. (Oral contrast will be administered per the discretion of the trauma attending.)

Indications for CT scan: Suspicion of significant abdominal injury, multisystem injury, hematuria, elevated SGOT/SGPT, significant intial fluid resuscitation without an obvious source of blood loss.
If mechanism is not significant, there are no distracting injuries, no altered mental status, normal labs, and equivocal abdominal exam observe in Pediatric ED for 8hr.
If above labs are abnl, SGOT > 200, SGPT > 100 or urinalysis has > 5 rbc/hpf -- obtain abd/pelvis CT. If urinalysis has 3-5 rbc/hpf, repeat urinalysis; for < 3 rbc/hpf no further studies necessary.

Indications for exploratory laparotomy: Continued unstable vital signs despite adequate fluid resuscitation, requirement for ≤ child’s blood volume or more during resuscitation, massive abdominal distention with associated hypotension, peritonitis, pneumoperitoneum, intraperitoneal bladder rupture.
PENETRATING ABDOMINAL TRAUMA:
Indications for laparotomy:
Shock, peritonitis, path of missile, evisceration, retained stabbing implement, free air.

If concern for bladder injury: one-shot IVP. Clamp Foley catheter, administer 2 ml/kg Omnipaque (180mg/ml) (vial in CT), wait 3 minutes and then shoot KUB.
Thoracoabdominal/flank/back: upright CXR/AXR, Lateral, & Triple contrast CT (PO, IV, Rectal)

All rectal exams by Trauma Attending or Trauma Fellow only, when indicated.

MASSIVE TRANSFUSION PROTOCOL
Contact the blood bank (x26827) to activate the protocol and designate where to send the blood products (Comer ED, Comer OR, CCD OR, PICU, etc). Request “continuous” or “single” activation

Activation of the protocol will result in the preparation for >40kg: 6 units PRBC, 4 units FFP, and 1pheresis pack (6-pack of platelets). Pack amounts differ per wt. of pt.
Once no longer needed, call the blood bank and discontinue MTP

CRITERIA FOR DETERMINING MEDICAL PERSONNEL NEEDED DURING TRANSPORT OF THE PEDIATRIC TRAUMA PATIENT:
When the patient is ready to leave the Trauma Suite for his/her destination, the Sr. Surgical resident will determine who will accompany the patient to this destination using the following criteria:

1. Patients going to OR/ICU
2. Patients who are intubated
3. Any child < 3 yrs. of age who has been sedated or received analgesia
4. Patients with GCS < 15
5. If Trauma Nurse #1 feels uncomfortable taking the patient alone during transport, or Senior Surgical Resident feels that M.D. accompaniment is necessary
6. Patients who have been hemodynamically unstable in the prehospital setting or during the trauma resuscitation

Patients not falling under the above criteria may be transported by a nurse without a physician accompaniment to another area.

If the nurse accompanying the patient without a physician requires immediate assistance, he/she should then contact the Comer ED charge nurse phone, x57685.

NOTE: All intubated patients receive a dose of a Paralytic prior to leaving the trauma bay. Additional doses should be brought for transport

NOTE: On all patients that go to the O.R. please write patient’s MR # (and name if available) on board in the O.R.

NOTE: For 8-hr. observation patients, the Pediatric ED may perform the tertiary survey and discharge the patient after they have contacted the trauma service to review pending radiology + lab data.

NOTE: All patients admitted will need documented tertiary survey after 24hr.

G. Mak # 3496 T.Lee #5820
D. Loeff # 6597
A. Lo # 9453
M. Slidell # 4582
J. Kandel #1510
N. Chokshi # 7875

Michele Harris-Rosado, RN, Pediatric Trauma Coordinator # 7115 Trauma room x 23297, x 23294, x 23304
Comer ED charge nurse x 57685 ED Attending x 57696
CT x 23225, PICU x 26494