

Taking Care of Your 80%: Who Can Stay and Who Can Go?

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Objectives

- To review several trauma scenarios presenting to urgent care or community ED settings
- To discuss the priorities in caring for these injured children
- To discuss which scenarios required immediate transfer to a trauma center and which can be evaluated and managed in the urgent care or community ED setting

Case 1

14 year old boy is brought in by his mother after he “wrecked” on his skateboard 4 hours earlier. He complains of abdominal pain.



**What are you
thinking about?**

Triage Information

- VS: T37.1, HR 85, RR 16, BP 115/72, pox 100%, 55kg

Physical Exam

- General: Alert, talkative, no acute distress
- HEENT: unremarkable
- Neck: full ROM, no tenderness
- CV: RRR, no murmur, good pulses
- Resp: CTAB
- Abd: soft, nondistended, mildly tender LUQ and epigastric area, no rebound, no guarding
- Skin: no bruising, no abrasions
- Neuro: GCS 15

What type of evaluation
does he need?

Does he need to be
transferred?

What If...

Triage Information

- VS: T 37.1, HR 145, RR 20, BP 75/38, pox 100%, 55kg

Physical Exam

- Gen: Uncomfortable, pale, diaphoretic
- HEENT: unremarkable
- Neck: full ROM, no tenderness
- CV: tachycardic, no murmur, decreased radial pulses
- Resp: CTAB
- Abd: firm, exquisitely tender LUQ, involuntary guarding, positive rebound
- Skin: large bruise over upper abdomen on left
- Neuro: GCS 15

Now What?

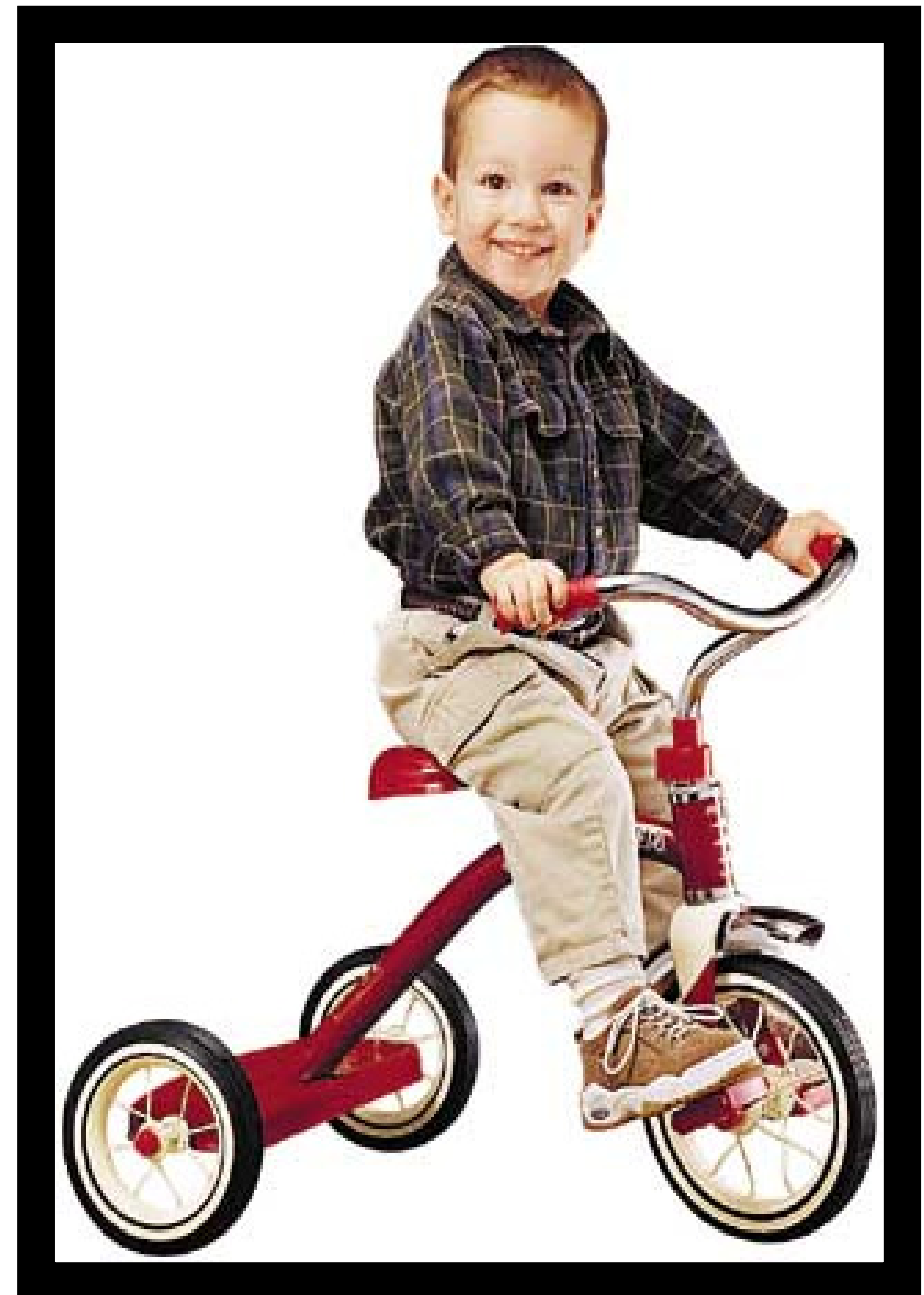
Priorities

- Arrange for immediate transfer
- Place IV
- 1 liter NS bolus infused rapidly, repeat if patient is still tachycardic or hypotensive
- Can obtain baseline labs
- Do not delay transfer for labs or imaging

Ultimate Diagnosis: Grade 4 splenic laceration

Case 2

3 year old fell off tricycle and hit head on driveway. No history of LOC. Mom brings in to be “checked out”



**What are you
thinking about?**

Triage Information

- VS: T 36.8, HR 110, RR 22, BP 90/54, pox 100%, wt 18kg

Physical Exam

- General: Alert, running around room, playing with garbage can
- HEENT: 3cm contusion left forehead, no laceration, PERRL, bilateral TM clear, nares clear, MMM, o/p clear, teeth intact
- Neck: full ROM, no tenderness
- CV: RRR, no murmur, good pulses
- Resp: CTAB
- Abd: soft, nontender, nondistended
- Skin: abrasion left forearm, contusion on forehead
- Neuro: GCS 15, no focal deficits

What type of evaluation
does he need?

Does he need to be
transferred?

What If...

Triage Information

- VS: T36.8, HR 130, RR 22, BP 88/52, pox 100%, wt 18kg

Physical Exam

- General: Quiet in mom's arms, eyes closed
- HEENT: 3cm contusion left temporal/parietal area, boggy to palpation, PERRL, bilateral TM clear, nares clear, MMM, o/p clear, teeth intact
- Neck: unable to assess
- CV: RRR, no murmur, good pulses
- Resp: CTAB
- Abd: soft, nontender, nondistended
- Skin: abrasion left shoulder, left forearm
- Neuro: GCS 12 (eye opening 3, verbal, 4, motor 5), no obvious focal deficits

Now What?

Priorities

- Arrange for immediate transfer
- Immobilize cervical spine
- Place IV
- Can obtain baseline labs
- Ultimately needs head CT but do not delay transfer for CT

Ultimate Diagnosis:

Parietal skull fracture with small intraparenchymal hemorrhage

Case 3

9 mo brought in fussy,
decreased po intact,
mild abdominal pain,
emesis x 2 in the past 2
days, mild cough



What are you thinking about?

Triage Information

- VS: T 38.4, HR 155, RR 30, BP 85/55, pox 96%, wt 9kg

Physical Exam

- Gen: Alert, fussy, consoles with mom, congested
- HEENT: AFOSF, congested, bilateral TM dull, no pus, MMM, o/p clear
- Neck: supple
- CV: RRR, no murmur, good pulses,
- Chest: Coarse breath sounds, no distress
- Abd: soft, mildly tender epigastric area, no rebound, no guarding
- Skin: no rashes
- Neuro: alert, no focal deficits

You obtain a
chest x-ray...



What type of evaluation
does he need?

Does he need to be
transferred?

What if...

Triage Information

- VS: T 37.8, HR 155, RR 30, BP 85/55, pox 96%, wt 9kg

Physical Exam

- Gen: Alert, fussy, consoles with mom, congested
- HEENT: AFOSF, congested, bilateral TM dull, no pus, MMM, o/p clear
- Neck: supple
- CV: RRR, no murmur, good pulses,
- Chest: Coarse breath sounds, no distress
- Abd: soft, mildly tender epigastric area, no rebound, no guarding
- Skin: no rashes
- Neuro: alert, no focal deficits

You obtain a
chest x-ray...



Now What?

Priorities

- Arrange for immediate transfer
- Contact 696-KIDS
- Infant will need further imaging...do not delay transfer to obtain these
- What if mom tries to leave with infant?

Ultimate Diagnosis: Child Abuse

Case 4

15 year old comes into triage in a wheelchair stating “I’ve been shot”



Triage Information

- VS: T36.5, HR 155, RR 20, BP 93/78, pox 100%, 55kg

Physical Exam

- Gen: alert but uncomfortable, pale, diaphoretic
- Neck: supple
- CV: Tachycardic, no murmur
- Chest: CTAB
- Abd: Benign
- Extremities: Entrance wound, lateral upper right thigh with gunpowder residue, exit wound medial middle thigh. Pulsatile bleeding from exit wound site. Diminished pulses right lower extremity. Full ROM foot

Now What?



Priorities

- Hold pressure over exit wound and right inguinal area
- Arrange for immediate transfer
- Place 2 large bore IVs
- Bolus in each IV, on pressure bag if available

Ultimate Diagnosis: Transection of femoral artery and vein

Case 5

8 year old backseat passenger
MVC

Cleared by EMS at the scene

Mom being evaluated in ED

Increasing abdominal pain while
waiting with mom

Registered to be “checked out”



What are you thinking about?

Triage Information

- VS: T 36.2, HR 110, RR 22, BP 98/58, pox 100%, weight 30kg

Physical Exam

- General: alert, mildly uncomfortable, nontoxic
- HEENT: unremarkable
- Neck: supple, nontender, full ROM
- CV: RRR, no murmur
- Chest: Lungs CTAB
- Abd: Soft, mild distension, mild diffuse tenderness, no rebound, mild voluntary guarding
- Extremities: full ROM, nontender
- Neuro: alert, GCS 15

What type of evaluation
does he need?

Does he need to be
transferred?

What if...



Triage Information

- VS: T 36.2, HR 150, RR 22, BP 85/55, pox 100%, weight 30kg

Physical Exam

- General: alert, mildly uncomfortable, nontoxic
- HEENT: unremarkable
- Neck: supple, nontender, full ROM
- CV: RRR, no murmur
- Chest: Lungs CTAB
- Abd: Soft, mild distension, mild diffuse tenderness, no rebound, mild voluntary guarding, bruising across lower abdomen
- Extremities: full ROM, nontender
- Neuro: alert, GCS 15

Abdominal Exam

Figure 1. Lap Belt Ecchymosis



Image courtesy of Dr. Antonio Muñiz.

Now What?



Priorities

- Arrange for immediate transfer
- Immobilize spine
- Place IV
- 20cc/kg NS bolus, repeat if HR and BP don't improve
- Can obtain baseline labs
- Ultimately needs head CT but do not delay transfer for CT

Ultimate Diagnosis: Small bowel perforation

Case 6

11 year old boy

Doing jumps on a
bike ramp

Flips over handlebars

Lands on pavement

No LOC



What are you thinking about?

Triage Information

- T 37, HR 78, RR 16, BP 110/55, wt 45kg

Physical Exam

- Gen: alert
- Neck: supple, full ROM, no midline tenderness
- CV: RRR, no murmur
- Chest: CTAB
- Abd: Soft, nontender, nondistended
- Extremities: Full ROM, no bony tenderness
- Skin: abrasions over knees and elbows, 2 cm laceration right shin, no active bleeding

What type of evaluation
does he need?

Does he need to be
transferred?

What if...



Triage Information

- T 37, HR 110, RR 20, BP 88/60, wt 45kg

Physical Exam

- Gen: alert
- Neck: supple, full ROM, no midline tenderness
- CV: tachycardic, no murmur, strong peripheral pulses
- Chest: CTAB
- Abd: Soft, tender epigastric region, mildly distended, involuntary guarding, no rebound
- Extremities: Full ROM, no bony tenderness
- Skin: abrasions over knees and elbows, 2 cm laceration right shin, no active bleeding

Now What?

Priorities

- Arrange for immediate transfer
- Place IV
- 1 liter NS bolus infused rapidly, repeat if patient is still tachycardic or hypotensive
- Can obtain baseline labs
- Will ultimately need abdominal CT
- Do not delay transfer for labs or imaging

Ultimate Diagnosis: Duodenal hematoma

Case 7

15 year old boy

Doing pull ups on a bar

Bar brakes and lands on neck



What are you thinking about?

Triage Information

- T 36.8, HR 70, RR 16, BP 120/60, wt 65kg

Physical Exam

- Gen: Alert, talkative
- HEENT: unremarkable
- Neck: Mild tenderness over C6-C7, no stepoffs
- CV: RRR, no murmur
- Lungs: CTAB
- Abd: soft, NT, ND
- Extremities: Full ROM
- Neuro: GCS 15, symmetrical strength and sensation, 2+/= reflexes throughout

What type of evaluation
does he need?

Does he need to be
transferred?

What if...



Triage Information

- T 36.8, HR 70, RR 16, BP 120/60, wt 65kg

Physical Exam

- Gen: awake, alert
- Neck: tender C6-C7
- Chest: RRR, no murmur
- Lungs: CTAB
- Abd: soft, nontender, nondistended
- GU: priapism noted
- Neuro: no sensation below chest, weak sensation in arms, able to mildly flex arms, no movement in legs, no rectal tone

Now What?

Priorities

- Arrange for immediate transfer
- Immobilize CTLS spine
- Place IV
- Do not delay transfer for imaging
- +/- IV steroids (can discuss with accepting trauma surgeon)

Ultimate Diagnosis:

C6 fracture with severe encroachment upon central canal and cord flattening

Case 8

13 year old female

MVC – head on collision

Mother and brother dead at scene



Physical Exam

- Moaning
- Not maintaining airway
- Pupils sluggish
- Abdomen distended with seatbelt sign
- Multiple lacerations right hip
- Bruising to all extremities

Priorities

- Establish airway
- Immobilize spine
- Obtain vascular access
- Fluid resuscitate
- Arrange for immediate transfer

What Really Happened

- Prior to arrival at Rainbow:
 - Intubated
 - 18 gauge IV right hand
 - Triple lumen right femoral vein
 - 6 units PRBC
 - 3 units FFP
 - Foley placed

Ultimate Diagnosis:

- Mesenteric lacerations
- Jejunal perforation
- Large intestine trauma
- Comminuted open right iliac wing fracture
- Vertebral fractures
- Rib fracture
- Traumatic brain injury
- Renal laceration
- Hepatic laceration

Questions?



Thank you!

