IAI (Intra-abdominal Injury) Study:
ED Data Collection Form #1__

Complete this form:
- **Prior to reviewing CT (if obtained)**

Data Source: faculty or fellow physician or NP, PA, or resident physician with faculty/fellow oversight

Patient Stamp Here:

If No Patient Stamp:

PATIENT NAME:_____

MR #:_____ Date: _____

Name of faculty or fellow physician responsible for this patient

_____

Please complete data sheet prior to reviewing CT (if obtained)

I . Enrollment

A. Inclusion Criteria

Enroll patient (<18 years of age) if

- Symptoms, signs and/or physical examination is suggestive of IAI following blunt torso (chest/abdomen/back/pelvis) trauma of any mechanism (minor or severe).

OR if <18 years of age and <u>ANY ONE</u> of the following criteria are met:

☐ Patient to undergo diagnostic testing/screening for blunt torso trauma (eg. abdominal CT scan to evaluate for IAI, or laboratory testing to screen for IAI or chest and pelvic radiographs for trauma being obtained)

☐ Decreased level of consciousness (GCS score < 15 or below age-appropriate behavior) with blunt torso trauma.

☐ Blunt traumatic event with either of the following (regardless of the mechanism):
- Extremity paralysis or,
- Multiple non-adjacent long bone fractures (ex: tibia fracture and ulna fracture)

☐ Blunt torso trauma due to any of the following significant mechanisms of injury:
- Motor vehicle collision: high speed (≥ 40mph), ejection, or rollover
- Automobile versus pedestrian/bicycle: automobile moderate to high speed (≥5 MPH)
- Falls ≥ 20 feet in height
- Crush injury to the torso
- Physical assault involving the abdomen

B. Exclusion Criteria

If you answer "YES" to any of these exclusion questions, the patient is excluded, otherwise complete form.

1. Patient has sustained a traumatic mechanism but does not meet any inclusion criteria. ……	☐ Yes	☐ No	**If yes,** Patient Excluded/Stop
2. Age ≥ 18 years……....	☐ Yes	☐ No	**If yes**, Patient Excluded/Stop
3. > 24 hours since the traumatic event …….	☐ Yes	☐ No	**If yes**, Patient Excluded/Stop
4. Penetrating abdominal trauma (must be a gunshot or stab wound)	☐ Yes	☐ No	**If yes**, Patient Excluded/Stop
5. Pre-existing Neurological disease impacting mental status or abdominal exam (e.g. CP w/ developmental delay) ……	☐ Yes	☐ No	**If yes**, Patient Excluded/Stop
6. Patient transferred to ED from another facility with abdominal CT or Diagnostic Peritoneal Lavage (DPL) already performed ……..…	☐ Yes	☐ No	**If yes,** Patient Excluded/Stop
7. Patient is pregnant ……..……	☐ Yes	☐ No	**If yes,** Patient Excluded/Stop
8. Patient has a documented IAI < 30 days prior to ED presentation …..	☐ Yes	☐ No	**If yes,** Patient Excluded/Stop

If the patient meets an exclusion criterion, please check the appropriate exclusion criterion box and deposit this form in the locked data collection box.

<u>Please complete data sheet prior to reviewing abdominal CT (if CT is obtained)</u>

PLEASE PLACE COMPLETED FORMS IN THE LOCKED DATA COLLECTION BOX

REMEMBER TO PROVIDE GUARDIAN WITH INFORMATION SHEET.

☐ Check this box if patient's *guardian refuses telephone follow-up call.*

Version 05/14/07

Patient Study ID Number:

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GENERAL INFORMATION

Number/Pager to Reach Guardian/Parent	Alternate Number/Pager for Guardian/Parent
(_____) _____ -- _____	(_____) _____ -- _____

Guardian/Parent principal language:

☐ English ☐ Russian

☐ Spanish ☐ Hmong

☐ Chinese ☐ Other_____

Date of Injury	Estimated Time of Injury (24 hour clock, midnight = 00:00)
_____/_____/_____ (mm) (dd) (yyyy)	_____:_____ (hh) (mm) ☐ Unknown

Date of ED Triage	Approximate Time of ED Triage (24 hour clock)
_____/_____/_____ (mm) (dd) (yyyy)	_____:_____ (hh) (mm) ☐ Unknown

Date of Birth	Gender
_____/_____/_____ (mm) (dd) (yyyy)	☐ Male ☐ Female

Race (if not stated, give best assessment)
☐ American Indian or Alaskan Native
☐ Asian
☐ Black or African American
☐ Native Hawaiian or Other Pacific Islander
☐ White
☐ Stated as Unknown
☐ Other _____

Ethnicity
☐ Hispanic or Latino
☐ Non-Hispanic and Non-Latino
☐ Unknown

Approximate Weight	
Approximate weight of the patient _____ kilograms	
☐ Actual weight	☐ Broselow weight
☐ Parent estimate	☐ Clinician estimate

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I. History

1. Injury Mechanism: (**select <u>only one</u> mechanism and answer all appropriate sub questions**)

☐ **Occupant in motor vehicle collision (MVC)** → *answer 1a-1d below*					
1a. If in MVC (√ all that apply).	☐ Ejected from auto	☐ Rollover	☐ Death in same collision	☐ None of These	☐ Unknown
1b. Speed of the MVC (patient's vehicle):	☐ Speed <20 mph	☐ Speed 20 - 40 mph	☐ Speed >40 mph	☐ Speed unknown	
1c. Was the patient restrained?	☐ Yes → *answer 1d*	☐ No	☐ Unknown		
1d. Type of restraint system:	☐ Lap and shoulder harness	☐ Lap belt only	☐ Shoulder harness only		
	☐ Infant car seat	☐ Booster car seat	☐ Unknown restraint system		
☐ **Fall from an elevation** → Estimate height in feet:	☐ <3ft	☐ 3-10 ft	☐ > 10 ft	☐ Unknown	
☐ **Fall down stairs** → Estimate number of stairs:	☐ 5 or less	☐ 6-15	☐ > 15	☐ Unknown	
☐ **Pedestrian or bicyclist struck by moving vehicle** → *answer 1e and 1f below*					
1e. Speed of moving vehicle:	☐ < 5 mph (patient bumped)	☐ 5 - 20 mph	☐ >20 mph	☐ Speed Unknown	
1f. Was patient run-over by moving vehicle:	☐ Yes	☐ No	☐ Unknown		
☐ **Bike collision or fall from bike while riding** → *answer 1g below*					
1g. Did handlebars strike the abdomen?	☐ Yes	☐ No	☐ Unknown		
☐ **Driver or passenger in motorcycle/ATV/motorized scooter collision**					
☐ **Object struck abdomen**	☐ Intentional (Assault)	☐ Accidental	☐ Unknown intentionality		
☐ **Unknown** mechanism					
☐ **Other** mechanism (describe):_____					

II. Historical examination (i.e. complaints and symptoms)

1. Is the patient preverbal (unable to communicate because of limited verbal skills, e.g. young age)?	☐ Yes	☐ No		
2. Does patient complain of **abdominal pain**?	☐ Yes→ *answer 2a and 2b*	☐ No	☐ Unable to assess	
2a. Severity of abdominal pain by history:	☐ Mild (1 – 3)	☐ Moderate (4 – 6)	☐ Severe (7 - 10)	☐ Unknown
2b. Location of abdominal pain by history:	☐ Diffuse	☐ Localized	☐ Unknown	
3. **Vomiting/retching** (at any time after injury)?	☐ Yes	☐ No	☐ Unknown	
4. Does patient complain of **shortness of breath/difficulty breathing?**	☐ Yes	☐ No	☐ Unable to assess	
5. Does the patient have a **distracting painful injury?** (injury causing significant pain that distracts the patient from having a reliable abdominal exam; ex: femur fracture, dislocated joint, large laceration, etc.)	☐ Yes	☐ No	☐ Unable to assess	

III. Mental Status

1. During your patient assessment was the patient ***intubated***?	☐ Yes	☐ No
2. During your patient assessment was the patient pharmacologically ***paralyzed***?	☐ Yes	☐ No
3. During your patient assessment was the patient pharmacologically ***sedated***?	☐ Yes	☐ No
4. Is there a clinical suspicion for ***alcohol or drug intoxication*** (not by laboratory testing)?	☐ Yes	☐ No

5. **Glasgow Coma Score at the time of your evaluation**: *Check one number in each column. For infants ≤2 years use the description in parentheses.*

Eye		Verbal		Motor	
☐ 4	Spontaneous	☐ 5	Oriented (coos/babbles)	☐ 6	Follow commands (spontaneous movement)
☐ 3	Verbal	☐ 4	Confused (irritable/cries)	☐ 5	Localizes pain (withdraws to touch)
☐ 2	Pain	☐ 3	Inappropriate words (cries to pain)	☐ 4	Withdraws to pain
☐ 1	None	☐ 2	Incomprehensible sounds (moans)	☐ 3	Abnormal flexure posturing
		☐ 1	None	☐ 2	Abnormal extension posturing
				☐ 1	None

5a. ***Aggregate GCS Score:*** _____

IV. Physical Examination

1. What was the ***initial*** **systolic blood pressure** recorded in the Emergency Department?	_____ /mmHG		☐ Unknown
2. What was the ***initial*** **respiratory rate** recorded in the Emergency Department?	_____ /min	☐ Intubated/BVM	☐ Unknown
3. What was the ***initial*** **heart rate** recorded in the Emergency Department? _____beats/minute			☐ Unknown

Thoracic Examination- (includes anterior or posterior portions of chest, including back)

4. Evidence of thoracic trauma	☐ Yes→*answer 4a*	☐ No			
4a. Select all abnormalities: ☐ Erythema	☐ Abrasion	☐ Ecchymoses	☐ Subcutaneous air	☐ Laceration	☐ Other
4b. Were abnormalities primarily:	☐ Anterior chest		☐ Posterior chest	☐ Both	
5. Thoracic tenderness	☐ Yes	☐ No	☐ Unable to assess		
6. Left costal margin tenderness (consists of tenderness to any of the ribs 7 - 12)	☐ Yes	☐ No	☐ Unable to assess		
7. Right costal margin tenderness (consists of tenderness to any of the ribs 7 - 12)	☐ Yes	☐ No	☐ Unable to assess		
8. Does the patient have **absent/decreased breath sounds**?	☐ Yes	☐ No	☐ Unknown		
9. Does the patient have any **abnormal chest auscultation findings** (rhonchi, crackles, etc)?	☐ Yes	☐ No	☐ Unknown		

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Abdominal Examination

10. Evidence of **abdominal wall trauma** (on visual inspection)?			☐ Yes → *answer 10a*	☐ No	☐ Unknown
10a. Select all abnormalities:	☐ Erythema	☐ Abrasion	☐ Ecchymosis	☐ Laceration	☐ Other
11. Is a **seat belt sign** present? *(continuous area of erythema, contusion, or abrasion across the abdomen secondary to a lap belt restraint)*			☐ Yes	☐ No	
12. Does the patient have **abdominal distention**?	☐ Yes		☐ No	☐ Unknown	
13. Are **bowel sounds absent?**	☐ Yes	☐ No	☐ Did not listen for bowel sounds		
14. Does the patient have **abdominal tenderness on palpation**?	☐ Yes→ *answer 14a & 14b*		☐ No	☐ Unable to assess	
14a. Degree of abdominal tenderness: *If using 1 – 10 scale, use correlating numbers:*	☐ Mild (1 – 3)	☐ Moderate (4 – 6)	☐ Severe (7 - 10)		
14b. Location of abdominal tenderness *(check* the **most appropriate** box*):*	☐ Diffuse		☐ Above the umbilicus		
	☐ Below the umbilicus		☐ Peri-umbilical	☐ Unknown	
15. Does the patient have **peritoneal irritation** (rebound or cough tenderness)?	☐ Yes	☐ No	☐ Unable to assess		
16. Did the patient have **blood (gross or hemoccult +) on rectal examination?**	☐ Yes	☐ No	☐ Rectal exam not performed		

Flank & Pelvic Examination

(Flank is defined as the area from the mid-axillary line to the spine and from the lower ribs to the pelvis)

17. Does the patient have **flank tenderness?**	☐ Yes	☐ No	☐ Unable to assess	
18. Does the patient have **pelvic bone tenderness on palpation?**	☐ Yes→ *answer 18a*	☐ No	☐ Unable to assess	
*18a. Check **all locations** that are tender:*	☐ Anterior superior iliac crests		☐ Superior pubis	
	☐ Inferior pubis	☐ SI joints	☐ Unknown	
19. Is the **pelvis *unstable* to lateral or vertical compression?**	☐ Yes	☐ No	☐ Unknown	

Other Exam Findings

20. Do you think that the patient has **an injury that will require non-abdominal surgery (orthopedic fracture, complex laceration repair, repair of facial fracture, etc.)** within the next 24 hours?	☐ Yes	☐ No	☐ Unsure	
21. Was a urine dipstick obtained:	☐ Yes	☐ No		
21a. Results of dipstick:	☐ Positive for blood	☐ Negative for blood	☐ Results unknown	

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Suspicion of Intra-abdominal Injury (IAI) (Regardless whether or not *CT obtained)*

22. Clinical suspicion for the presence of IAI identified on CT (regardless of whether a CT scan is obtained):	☐ <1%	☐ 1-5%	☐ 6-10%	☐ 11-50%	☐ >50%
23. Clinical suspicion for IAI in need of acute intervention* (regardless of whether a CT scan is obtained):	☐ <1%	☐ 1-5%	☐ 6-10%	☐ 11-50%	☐ >50%
**Acute intervention defined by: laparotomy, angiographic embolization of bleeding organ or other vascular structure, blood transfusion for abdominal hemorrhage, need for 2 or more nights of IV fluid hydration due to pancreatic or duodenal injury).*					
24. Were you aware of any lab results at the time you recorded your suspicion? *(hemoglobin, hematocrit, AST, ALT, lipase, amylase, OR urinalysis)*				☐ Yes	☐ No

Abdominal Imaging - Ultrasound

25. Was an **abdominal ultrasound obtained?**	☐ Yes → *answer 25a & b*	☐ No	☐ Unknown
25a. Was the data sheet completed before knowledge of abdominal ultrasound (ex. FAST) results?		☐ Yes	☐ No
25b. Was hemoperitoneum (fluid) seen on ultrasonography?	☐ Yes	☐ No	☐ Results unclear

Abdominal Imaging – CT scan

26. Was an abdominal CT obtained?	☐ Yes → *answer 26a*	☐ No	☐ Unknown
26a. If abdominal CT was obtained, was this data sheet completed before knowledge of the CT results?		☐ Yes	☐ No

27. What **factors were used in making the decision to obtain an abdominal CT? → check all that apply**

☐ Young age	☐ Abdominal clearance prior to non-abdominal surgery
☐ Severe mechanism of injury	☐ Low hematocrit
☐ Lower rib injury	☐ Declining/drop in serial hematocrit measurements
☐ Hemodynamic instability	☐ Elevated AST or ALT
☐ Decreased Mental status	☐ Elevated amylase/lipase
☐ Flank tenderness	☐ Microscopic hematuria
☐ Femur fracture	☐ Gross hematuria
☐ Abnormal abdominal examination	☐ Other abnormal lab value (describe) _____
☐ Trauma Surgery Request	☐ Other (describe) _____

28. Was the patient **Hospitalized** (ICU, OR, ward, etc.)**?**	☐ Yes	☐ No	☐ Unknown

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