

Maine Medical Center Trauma Clinical Practice Guideline (MMCT-CPG)		
<p>Abdominal Stab Wounds</p> <p>(MMC-CPG ID: 2019-03)</p>		
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Guidelines translate best evidence into best practice. A well-crafted guideline promotes quality by reducing healthcare variations, improving diagnostic accuracy, promoting effective therapy, and discouraging ineffective – or potentially harmful – interventions.		

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PURPOSE

These guidelines are not intended to supplement physician/APP judgement. Rather, these guidelines are intended to provide a basic framework for the assessment and management of abdominal stab wounds, with three clinical pathways based on patient presentation

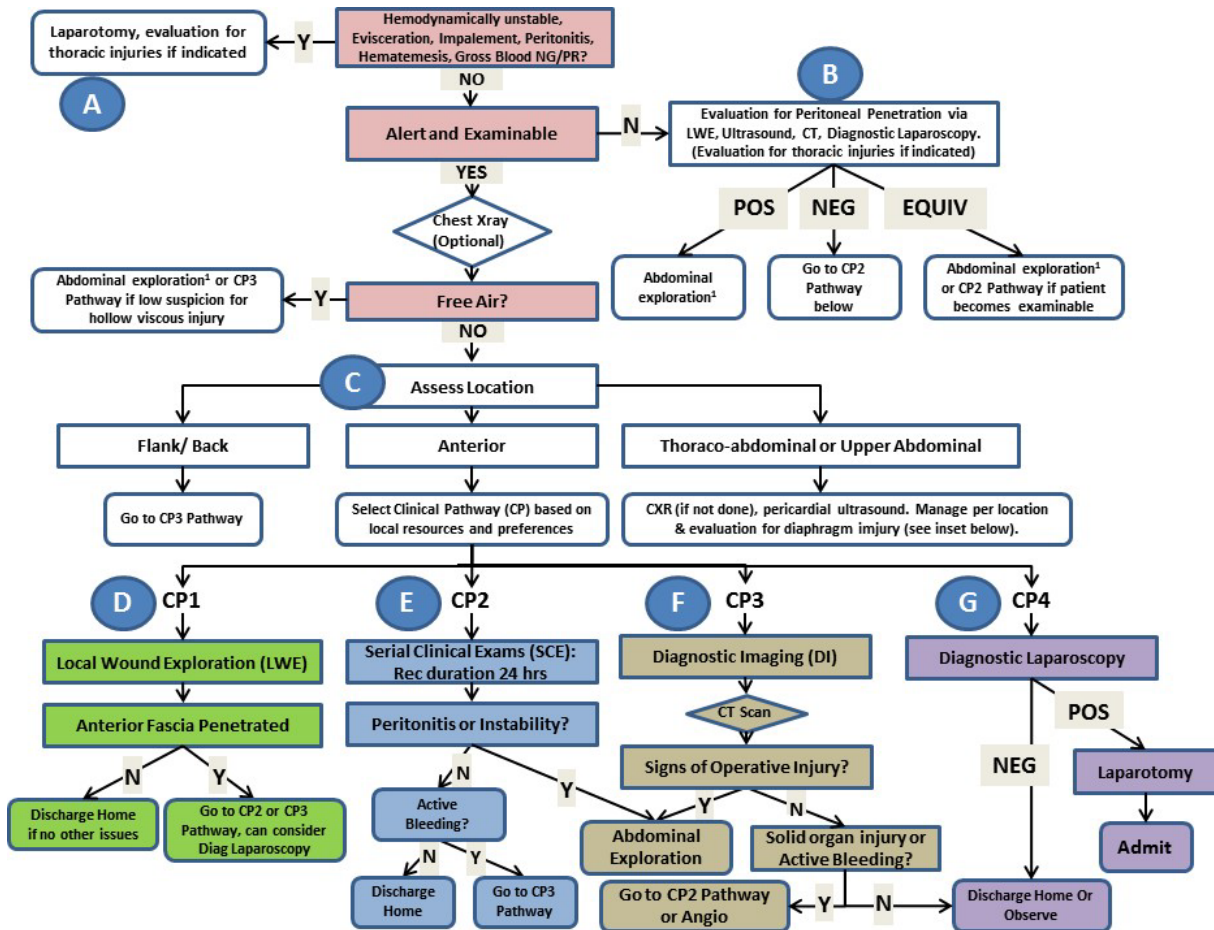
BACKGROUND

- Incidence of penetrating trauma is decreasing nationally, now less than 10%. 50% of penetrating trauma is from stab wounds.
- There is a trend in the literature away from liberal laparotomy toward selective non-operative management. Indications for surgery generally relate to instability/hemorrhage, hollow viscus injury, blood PO or PR, or evisceration.
- Our definitions include
 - Anterior abdomen – costal margin to groin crease and to anterior axillary lines laterally
 - Thoracoabdominal – nipple line to costal margin
 - Back/flank – grouped together from iliac crest superior to anterior axillary lines (potential for retroperitoneal injury or delayed presentation).

INITIAL MANAGEMENT

Review algorithm below. Based on team discretion there are 3 clinical pathways that can be used: local wound exploration, serial clinical exam, or diagnostic imaging (CT scan).

1. Local wound exploration
 - a. Do not use for small puncture wounds (ice pick), long tangential tracks, significant obesity or multiple wounds.
 - b. Generally done with local anesthesia and instruments, not a blind cotton swab.
 - c. A positive test has penetration of the anterior fascia – these patients do not generally need surgery then can have SCE or CT scan.
2. Serial Clinical Exam (SCE)
 - a. There is normally sufficient resources with residents and APP's to allow a documented Q4-6 exam for 24 hours.
3. Diagnostic Imaging (CT Scan w/ IV contrast)
 - a. If there is concern about retroperitoneal colon injury a discussion can be had with radiology about adding rectal contrast especially for left sided injuries.
 - b. CT scan has a false negative rate up to 8%, any evidence of peritoneal violation should be admitted and use judgement when discharging other patients – they should be reliable. (ref 54)
 - c. No role for FAST exam in penetrating trauma. The pericardium still needs imaging as appropriate.
 - d. See section G in the algorithm below for evaluation of diaphragmatic injuries.



**Decision to discharge in CP3 should be individualized based on patient's clinical evaluation, imaging results and the reliability of the patient. Note that CT scan can have false negatives for hollow viscus injury, particularly when performed shortly after the initial stab injury.

Diaphragmatic Injury Evaluation

All thoracoabdominal stab wounds (SW), or any SW with associated pneumo or pneumothorax, are presumed to have a diaphragmatic injury (DI). The risk is higher on the left side. If another indication for operation is present, then examine/repair the diaphragm at that time. If no immediate operation is indicated, then a laparoscopic diaphragm evaluation is indicated. This should be delayed (>8-12 hrs) to allow serial exams and ensure no hollow viscus or other operative injury is present. Thoracoscopy is an acceptable alternative and is the procedure of choice if co-existing retained hemothorax is present.

There is some data now that high resolution CT scan may provide adequate imaging to rule out a DI. A focused fine cut CT should be performed, and repeat delayed imaging to ensure no DI should be considered.

PERFORMANCE IMPROVEMENT MONITORING

Intent / Expected Outcomes

Performance / Adherence Measures

1. Will assess adherence and if this new CPG should be modified at morning report and refer through the PIPS process as needed

Data Source

Morning report and patient record

SYSTEM REPORTING & FREQUENCY

The above constitutes the minimum criteria for PI monitoring of the MMCT-CPG. System reporting will be performed annually; additional PI monitoring and system reporting may be performed as needed.

The system review and data analysis will be performed by the MMC Trauma Service under the direction and responsibility of the MMC Trauma Medical Directory and MMC Trauma Medical Program Manager.

RESPONSIBILITIES

It is the Trauma Medical Director's responsibility to ensure familiarity, appropriate compliance, and PI monitoring with this MMCT-CPG.

REFERENCES

1. Martin M. J. et al. Evaluation and Management of Abdominal Stab Wounds: A Western Trauma Association Critical Decisions Algorithm. *J. Trauma Acute Surg.* 2018; 85:1007-105.
2. Baron BJ, Benabbas R et al. Accuracy of computed tomography in diagnosis of intra-abdominal injury in stable patients with anterior stab wounds: A systemic review and meta-analysis. *Acad Emerg Med* 2018 doi 10. 1111/acem. 13380 [epubmed ahead of print].