

# Trauma Care: Expecting the Unexpected

Stephanie Crump  
BScN, MScN, RN, ENC(C)  
September 21, 2022

No disclosures.



\*POSITIVE

FAST\*

## Case #1: Skateboarder

Triage: BP 125/70 HR 90

1 hr later: SBP 100 HR 110

Episode of SBP 70 noted

# Bleeding Blunt Abdominal Trauma



## ED Management:

- ABCs → Control emergent bleeding  
C-spine protection
- Airway, Breathing, Circulation



Analgesia



IV TXA



Imaging | ?CT Scan



Blood Products/?MHP



Call TTL



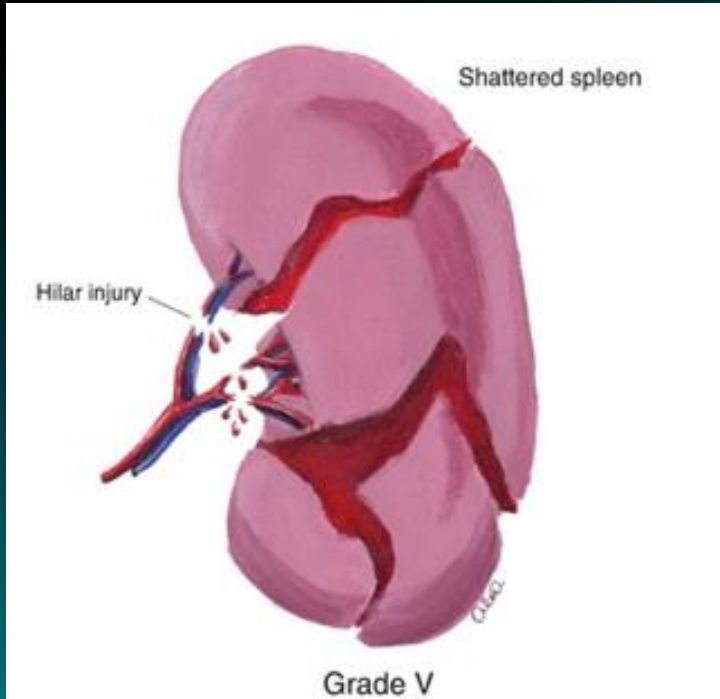
(Not always straight-forward. Call when in doubt)



Destination



# Case #1



(American Association for the Surgery of Trauma splenic injury grades, 2012)



IV Fentanyl; IV Ketamine (low dose)



2g IV TXA (in NS over 20 mins to prevent ↓ BP)



2 units PRBC started for transfer



T.C. CT: Grade 5 splenic lac + active blush



IR consult: Plan for embolization



Became Unstable in ICU



MHP → OR Splenectomy



Did well post-op



## Case #2: Geriatric Fall

Fall from standing: 01:00h

IA by RN: 05:30h

↳ VS: BP 165/82 HR 86

# Case #2

- 📞 ED MD called by primary RN
  - ↳ re: analgesia and FAST
- ↓ BP 82/50 + dizziness
- ❓ FAST inconclusive; SBP 105; Hb 105
- 📷 CXR & Pelvis XR done | CT Chest/Abdo/Pelvis ordered
- ↓ BP 85/52 + presyncope + N = MD notified stat
  - ↳ NS bolus
  - 4mg IV Zofran
- 📞 TTL called



# Case #2

 For STAT CT... but then pt recalls IV Contrast anaphylaxis

 Plain CT:

- \* Moderate volume hemoperitoneum
- \* Splenic parenchymal hemorrhage with perisplenic hematoma (11cm AP and 1.2cm in thickness)
- \* Acute-appearing L 6th, 9th, 10th rib fractures

 2 units PRBC + 2g IV TXA bolus infusing

 CT IV Contrast:  
(pre-medicated)

- \* AAST grade 5 splenic injury with active arterial bleeding into the peritoneum. Large perisplenic hematoma (12.5cm AP and 3.3cm). Suspected pseudoaneurysm at the site of active bleeding.
- \* Increased large perihemoperitoneum
- \* Increased moderate to large volume hemoperitoneum

 ICU → IR for splenic embolization → did well post-op



# Massive Hemorrhage Protocol (MHP)

Helman, A., Callum, J., Haas, B., & Petrosoniak, A. (2021). The 7 Ts of Massive Hemorrhage Protocols. EM Cases, Episode 152. Retrieved from <https://emergencymedicinecases.com/7-ts-massive-hemorrhage/#>  
<https://treatthebleed.org/topics/massive-hemorrhage-protocol.html>

- 1 Trigger plan 
- 2 Team 
- 3 Tranexamic acid 
- 4 Test hourly 
- 5 Transfuse to target 
- 6 Temperature management 
- 7 Terminate the code 

## Cast a Broad Net

Life-threatening blunt abdo traumas may present subtly

- \* Consider trauma in triage and primary assessments with the goal of identifying trauma patients early

## It Takes A Team

Diagnosis in blunt abdo traumas may not be straight-forward

- \* Reassess the patient frequently and involve other team members if you have concerns
- \* Q: What can you and your ED team do now to best prepare yourselves to care for a trauma patient? What delays or barriers do you foresee? How may they be mitigated?



## References:

# Thank you, again, Dr. Evelyn Dell

Criticall Ontario. (2019). Trauma Centre Consultation Guidelines. Retrieved from [https://criticalcareontario.ca/wp-content/uploads/2020/10/TraumaCentreConsultationGuidelines\\_2019-EN.pdf](https://criticalcareontario.ca/wp-content/uploads/2020/10/TraumaCentreConsultationGuidelines_2019-EN.pdf).

Demetriades, D. (2012). Spleen Injury Grading. In: Vincent, J.L., Hall, J.B. (eds) Encyclopedia of Intensive Care Medicine. Springer, Berlin, Heidelberg. Retrieved Aug. 31, 2022 from [https://doi.org/10.1007/978-3-642-00418-6\\_517](https://doi.org/10.1007/978-3-642-00418-6_517)

Helman, A., Booth, K., Hicks, C., & Petrosoniak, A. (2018). *Trauma – The First and Last 15 Minutes Part 1*. Emergency Medicine Cases, Episode 118. Retrieved from <https://emergencymedicinescases.com/trauma-first-last-15-minutes-part-1/>. Accessed Aug. 22, 2022.

Helman, A., Callum, J., Haas, B., & Petrosoniak, A. (2019). *The 7 Ts of Massive Hemorrhage Protocols*. Emergency Medicine Cases, Episode 152. Retrieved from <https://emergencymedicinescases.com/7-ts-massive-hemorrhage-protocols#>. Retrieved Aug. 2022.

Hicks, C. & Petrosoniak, A.. Pain in the Polytrauma Patient. In: Reuben Strayer, Sergey Motov, Lewis Nelson, editor(s). Management of Pain and Procedural Sedation in Acute Care. 1st. (United States); 2017. Available from: <http://painandpsa.org/pain-in-the-poly-trauma-patient/>.  
Co-Principal Author.

O'Connor, G., Ramiah, V., McInerney, J., et al. (2012). Splenic rupture visualised with focused assessment with sonography for trauma (FAST): heterogeneous echogenicity of acute haemorrhage following blunt trauma. *Case Reports*. Retrieved from <http://dx.doi.org/10.1136/bcr-2012-007336>

O'Rourke, M. C., Landis, R., & Burns B. (2022). Blunt Abdominal Trauma. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK431087/>

Treat the Bleed. 7 key parts (7 Ts) of the massive hemorrhage protocol. Retrieved from <https://treatthebleed.org/topics/massive-hemorrhage-protocol.html>