Arrival at UW

- Report form MedFlight about head on collision with a milk truck
- GCS 4
- Intubated
- Pelvic fracture without instability
- RUE deformity
- Left knee tissue avulsion
- VS: HR 110, BP 60-70 Systolic
- Two units PRBCs
- 1 gram TXA
Level I Trauma Team Activation
Primary Survey

- Airway/Breathing: Intubated with decreased breath sounds on the right
- Circulation: Pale, cool, pulses diminished
  - radial,
  - dorsalis pedis
  - posterior tibial
- Disability: Chemically paralyzed and sedated
- Exposure

- FAST: Negative
FAST

- Focused
- Assessment
- Sonography
- Trauma
Secondary Survey:
• Head: 2-3 cm lac above right eye, 1.5 cm nasal lac, PERRLA
• Neck: C-collar in place, no step offs, swelling,
• Chest: Decreased breath sounds right, left clear
    Heart-regular, tachycardia
• Abdomen: Nondistended
• Back: Bruise right posterior shoulder
• Rectal: normal tone
• Pelvis: Stable, bilateral anterior bruising, red tinged urine in foley bag
• Genitalia: Ecchymosis base of penis
• Extremity:
  • RUE unstable with closed deformity, hand laceration, left wrist instability
  • LE: bruising & edema over right knee, 4 cm avulsion left medial knee
UW Trauma Team - Emergency Department

X-ray:

- Diffuse patchy opacity right upper lobe
- Pelvis: Comminutes fracture right superior pubic ramus and superior left pubic body with extension into pubic symphysis. No diastasis
UW Trauma Team-Emergency Department

Vital Signs:
0811: HR140, RR Vent BP 102/71 Temp 36.2 (97.1)
0817: HR148, RR vent, BP 70/51
0820: BP 142/88
UW Trauma Team-Emergency Department

Interventions:

• Transfusion of Trauma Pack: 3 units PRBCs, 1 FPP
• Placement of bilateral chest tubes
• Massive Transfusion Protocol initiated
• TXA bolus initiated

• VS: HR 138, RR vent, BP 107/58
UW Trauma Team-Emergency Department

Labs

- WBC 29.0
- Hbg 15.5
- Hct 44
- PTT 36.7
- INR 1.4
- K 3.1
- ABG: pH 7.20, PCO₂ 56, PO₂ 125
- Bicarb 21.1
- Base excess -7.7
Patient to CT scan

• **Head**
  - Grade 2 Diffuse axonal injury
  - Subarachnoid Hemorrhage
  - Contusions right frontal lobe
  - Subdural hematoma right parietal
  - Nasofrontoethmoidal fracture

• **C-spine**: no injury

• **Chest/abdomen/pelvis**: Bilateral small pneumothoraces, extensive right lung intraparenchymal hemorrhage, midsternal fx
  - Pelvis: Hemorrhage between peritoneal space and pelvis, bilateral pubis, right sacral, right ileal fx,
Additional X-rays:
Bilat Knee: Negative fx
Left Tib/fib: Fibula fx
Right Tib/Fib: Tibial Diaphysis fx
Bilat Femur: Left distal femur fx
Bilat elbow: Right Monteggia fx/dislocation
Bilat Hand: Negative Fx
Bilat Humerus: Negative fx
Bilat wrist: Right ulna fx
Injuries

- TBI: SAH, SDH, DAI, IVH
- Facial laceration- repaired in ED
- Facial fxs
- Lung contusion
- Bilateral pneumothoraces
- Sternal fx
- Penile hematoma
- Bilateral knee lacerations
- Right comminuted ulna fx, Right radial head dislocation
- Right tibia fx
- Right sacral, iliac fxs, bilateral pubis fxs
Plan

Consult Plastics
Consult Neurosurgery
Consult Orthopedics
Consult Urology
Consult Surgical Critical Care
Consult Vascular to r/o Subclavian Artery Injury
Admit Trauma Life Center (TLC)
TLC

Neuro Surgery

• Placement ICP
• Keppra
• Mannitol
• 3% NS
Diffuse Axonal Injury
Diffuse Axonal Injury

NORMAL AXON

SHEARING OF AXON

POST-TRAUMA CONDITION

Myelin sheath

Axon

Cell body

Nucleus in cell body

Forces applied to brain cause axons to twist and tear

Neuronal (brain cell) death results
TLC- Neuro Surgery

Mannitol vs. N3% NS
• CT scan reveals kidneys intact
• Cystogram: Prostatic urethral injury
• Retrograde Urethrogram: No active extravasation
• Treatment: Foley
RELEVANT ANATOMY

1. Preprostatic part of urethra
2. Prostatic part of urethra
3. Membranous part of urethra
4. Spongy part of urethra

Bladder
Prostate
External urethral sphincter (skeletal muscle)
Internal urethral sphincter (smooth muscle)
Bulbourethral gland and duct
Deep perineal pouch
Perineal membrane
2nd bend when penis is flaccid
1st bend
Penis
Navicular fossa
External urethral orifice
Urethral injuries

- Posterior urethral injuries mostly result from pelvic fractures
- The injury can range from stretch or contusion to complete disruption
- More common in men than women
- Signs & symptoms:
  - Blood at the meatus
  - Inability to urinate
  - Pelvic hematoma
  - Superior placed prostate
TLC- Orthopedic Surgery

- Hold on any repair due to critical injuries
- NWB RUE, splint, will need surgery in future
- NWB RLE, splint, monitor compartment syndrome, will need surgery in future
- NWB LLE, Knee immobilizer
- Radial head dislocation
- Pelvic injuries- nonoperative management
Closed treatment of pelvic injury
Closed treatment of left fibula head injury
ORIF right distal tibia fracture
ORIF ulna and ligament reconstruction
Day 11

- CT Chest $\rightarrow$ PE
- Anticoagulation?
Hospital Course

TLC LOS: 25 days
Vent LOS: 24 days

F4/4: 26 days

Day 52- Transfer Skilled nursing facility: Clearview
Hospital Course

Day 1: Admit TLC
Days 1-15: Unstable ICPs
Day 4: Ventilator Assisted Pneumonia- treat antibiotics
Day 16: ICP Dcd
Day 18: Patient awake and following commands
Day 19: Or for Orthopedic Surgery Repair
Day 25: Extubated
Day 26 Transfer to Trauma Surgical Unit F4/4
Day 28: Swallow study. Feeding tube removed. Advance to general diet
Day 32: Chest tube removed
Thank you