

Trauma Gone Wild

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Carilion Clinic Life Guard

Trauma Gone Wild
Case Studies

Case Study I

Burns/Trauma

Case Study

- On September 19, 2008 around 12 noon a linemen for a power company was completing work on a three phase poll working with 7200 volts.
- Lines are secured in with lag screws.
- The lineman was approximately 40 feet in the air, harnessed to a poll.
- Lag screw pulled out causing a power line to fall on his left shoulder area.

Scene



Scene



Scene



Case Study



Case Study



Case Study



Case Study



Case Study

- EMS called to scene, there was a delay to call EMS, cell service was poor, a co-worker left to get service and call. .
- Responsive when EMS arrived and in severe pain, and shortness of breath.

Case Study

- Evaluation of burns:
- 1°, 2°, 3° to left side face, neck and shoulder.
- 3° to right knee anterior & posterior.
- 3° to left calf area with exit of electricity.
- Burns around his airway.
- Total calculation 30% (1/3 body).
- Parkland formula calculation
 - $2\text{-}4\text{ml} \times 85\text{kg} \times 30\% =$
 - 1st 8 hours need 5100 ml (760ml/hr)
 - Next 16hours need 5100 ml (440ml/hr)

Case Study

- Dunlap Rescue dispatched 1228.
- En – route @ 1234.
- On scene 1240.
- Call for air service 1243 (LG time)
- Dunlap Rescue @ patients' side 1243
- Left scene en – route to LZ @ 1254
- Arrived LZ @ 1258

Case Study

- While awaiting Carilion Life - Guard
- IV 18g. X 2 established.
- IV #1 – running wide open
- IV #2 – TKO
- Morphine 5mg IV @ 1301
- NRB 15/ lpm



- LG received request @1245.
- En- route @ 1255
- Arrived LZ @ 1314
- Arrived @ patients' side @ 1316.

LZ



Case Study

- Upon arrival to pt. side, evaluated patient.
- Decision made to RSI on scene.
- One attempt @ intubation.
- Decision made to use LMA.
- Airway confirmed
- Followed up with Sedation/Pain med/ paralytic

Case Study

- Lifted for RMH.
- Unable to get to UVA due to weather.
- En – route to RMH.
- Received 100mcq fentanyl
- Received Versed 5mg
- Received total 1700ml NS IV
- BV – ETT ventilated during flight.



Case Study

- Arrived @ RMH 1403.
- Gold Alert.
- Arrived in trauma room @1405
- Decision made by trauma surgeon best chance of survival of left leg fasciotomy.



Case Study



LEG FASCIOTOMY

Case Study

- He was stabilized at RMH, transferred to VCU to the burn center.
- The fasciotomy was done as an attempt to save his left leg.
- Upon arrival at VCU, the pulse in his leg was absent, the decision was made to amputate.

Case Study



10/09/2008 03:53 am

Case Study



Case Study



10/13/2008

Case Study



Case Study



Case Study



Case Study



Case Study



Case Study



- Phil spent 34 days in MCV.
- Phil went through several skin grafts.
- Lost left leg above the knee.
- Concern he would loose right leg, had severe burn to right knee area.
- Severe pain during recovery.
- Types of pain – phantom pain, nerve pain, and muscle pain

Case Study



Case Study - Complications

- January 2009 developed a traumatic cataract in left eye. Small cataract in right.
- Cataract in left eye removed.
- Complication associated with surgery – increased risk of retinal detachment especially in traumatic cataracts.
- He has a new computerized prosthesis, adjusts to terrain.
- He is progressing well, he is young and has no previous medical conditions.

Case Study

- He went back to work February 1, 2009
- One day, he hopes to possibly climb again. He has the will and is a survivor.

Case Study

- On Sept. 19, 2009 he climbed again!



Video Clip

Case Study II
Trauma From
Animal Attack

Case Study II

- A 74 year old male with history of Alzheimer's in a rural area taking a walk on a sunny fall day.
- Man was attacked by 4 dogs (pit bulls), accident was not witnessed.
- Individual driving by found the man lying in a ditch.
- EMS notified.
- EMS arrived on scene to finds the following injuries.

Case Study II

- Dogs ripped off the entire scalp from forehead to back of his neck.
- Skull exposed to elements of ditch.
- Eyes and nose appeared to be missing.
- Injury to neck exposed carotid arteries.
- Lower jaw and tracheal area were intact.

Case Study II

- The following pictures give you an idea of patient after an airway was established.

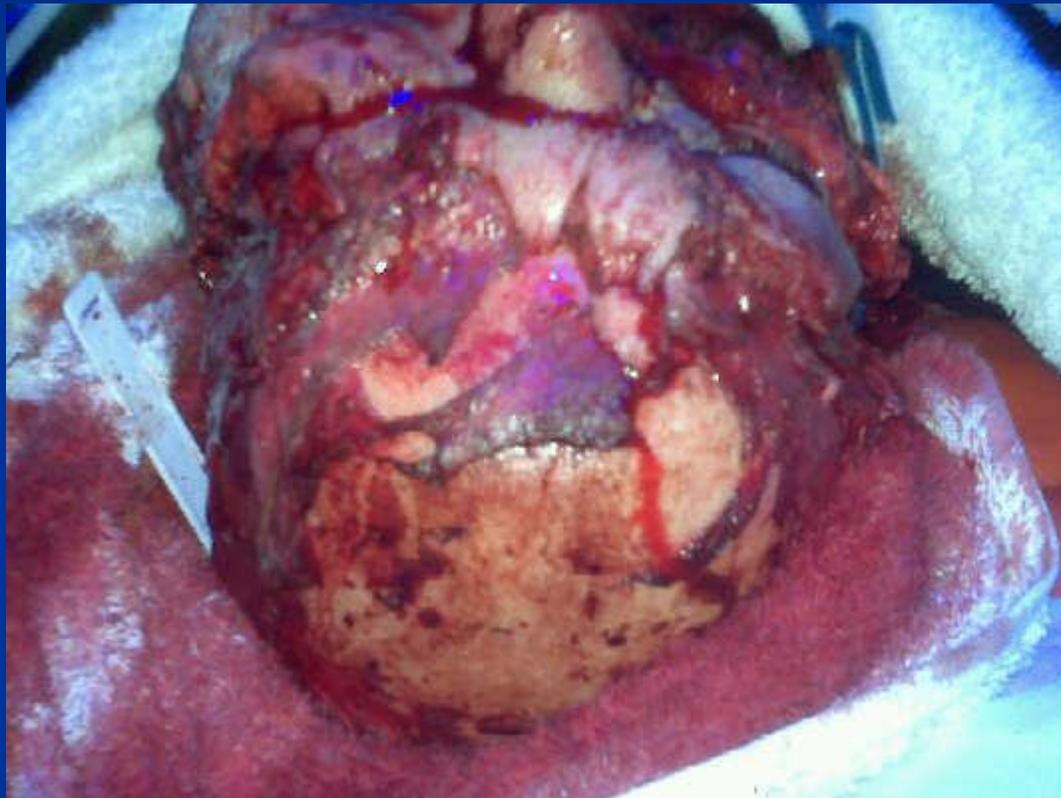
Case Study II



Case Study II



Case Study II



Case Study II



Case Study II

- So, Lets assume you just arrived on scene.
- How would you handle this patient.
- How will you control the ABC's

Case Study II

- Local EMS attempted to try to fly the patient from the scene (weather was an issue).
- Patient airway was secured at scene by an ALS provider that arrived after BLS unit.
- Patient was intubated on the first attempt.
- Looking at the pictures, was this luck or skill?

Case Study II

- Patient was taken to local hospital with secure airway.
- Hospital LZ was clear, the helicopter was able to fly.
- Upon arrival flight crew found patient intubated not sedated and now moving his extremities.
- Patient at that point received sedation and paralytics.

Case Study II

- Patient was flown to Level I trauma center.
- Remained stable during flight.
- Other injuries noted by crew: bite / puncture wounds to arms and legs with minor bleeding.
- Trauma primary to head/neck.

Case Study II

- Evaluated by plastics and trauma services.
- Plastic surgeon evaluated patient and discovered patient had no vascular system on head.
- Patient provided with supportive care and died within 48 hours.

Case Study III

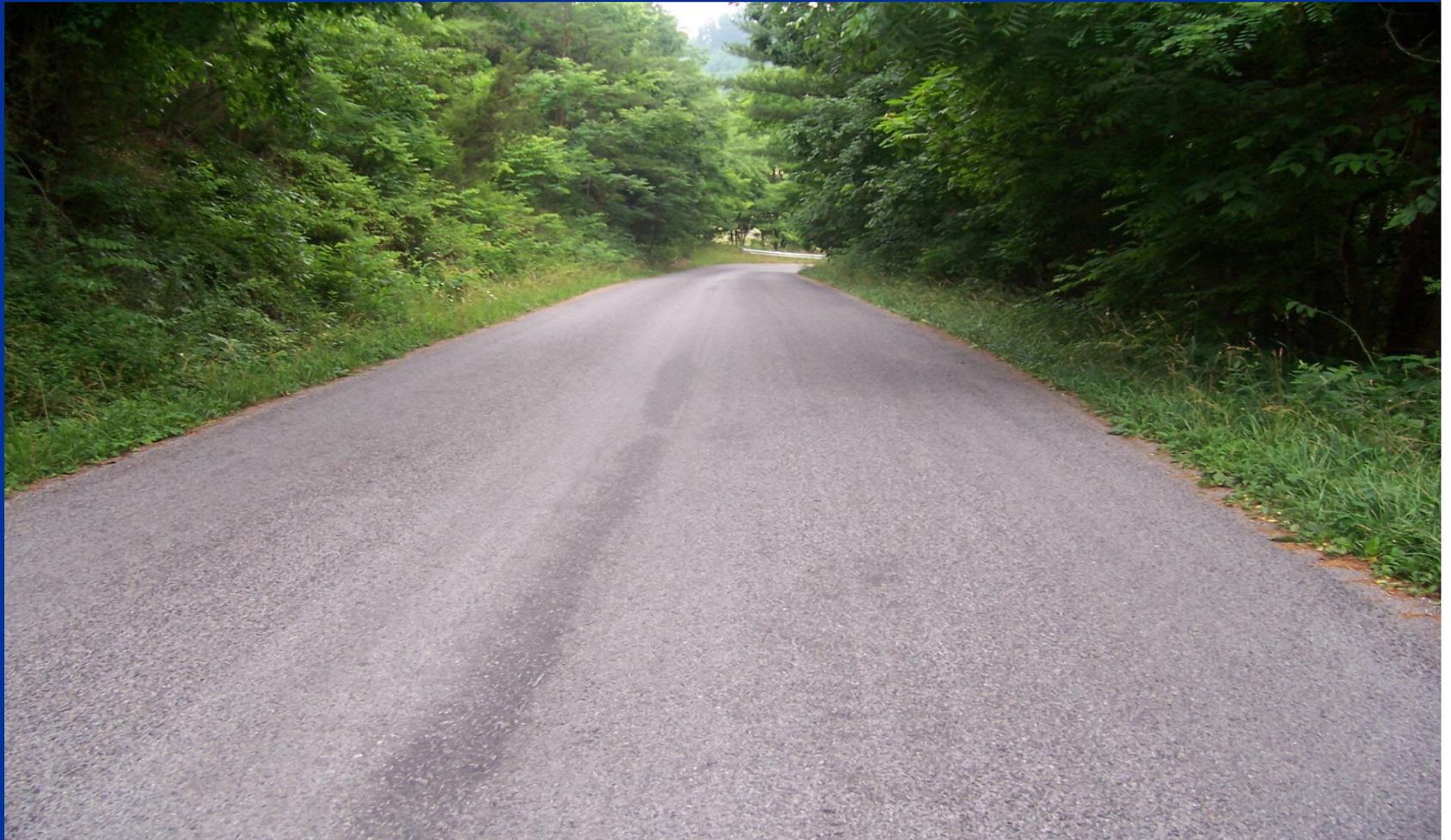
Chest Trauma

Case Study

- ❑ On 09/16/2006 at 18:15:
- ❑ 911 call from dispatch came out for an accident involving a bike (initially called as a motorcycle accident) with possible injury on Long Shop Rd. in McCoy, VA.
- ❑ Unit en – route at 1819, received further information from dispatch.

Case study

- Arrived at 18:23.



Case Study



Case Study



Case Study



Case Study

Who called 911?

Case Study

Scene Size – up

- ❑ Scene is safe.
- ❑ Three EMT-B's & one ALS Provider
- ❑ Fire Department had just arrived 30 seconds prior.
- ❑ Patient was lying on his back with knees bent & fellow biker was holding pt.'s hand.
- ❑ Pt. still had his helmet on.
- ❑ Pt. ran into the guardrail. Attempted to jump off bike. He was wearing the shoes that hook into the pedal.

Case Study

Patient Impression

- ❑ Pt. was A&O x4.
- ❑ Pt.'s biker clothes were saturated in blood.
- ❑ Pt. had no complaints except “this isn't right” & pointed to his upper left chest .
- ❑ Pt. had a twelve inch opening in his chest & his **HEART** was beating on the **OUTSIDE** of his chest; upper left corner of chest near collar bone.
- ❑ You could observe pt.'s lungs functioning through the 12 inch opening.

Case Study

History and Physical

- ❑ Pt. was a healthy, 27 year old male graduate student at VT.
- ❑ Riding along road lost control of his bike & ran into the guardrail.
- ❑ Few scratches on legs & opening in the chest.
- ❑ Sternum had been shattered.
- ❑ Pt. stated “only my chest hurts”

Case Study

18:25 vitals were taken:

- Pulse = 80 with good radial pulses
- RR = 16 with no difficulty in breathing
- BP = 80/P
- Pupils = equal round & reactive.
- Good PMS & 15 GCS

Case Study

Treatment on scene and en -route to Hospital

- ❑ C spine established & held
- ❑ NRB 15L O2
- ❑ Moist sterile dressing on exposed organ.
- ❑ Two IV's established: 16 & 14 gauge catheters
- ❑ Pt. secured to LB with spider straps from waste down.
- ❑ So, How would you cover this sucking chest wound?

Initial care in ED

- 1849 patient arrived in ED, patient still awake at this time. Patient requested that his \$300.00 shoes “not be cut”, explained to ED staff how to remove them.
- Anesthesia in ED, preparing patient for intubation. Patient received paralytics and sedatives for RSI. Intubated with 8.0 ETT 23cm at lip f/u with sedation and longer acting paralytic.
- 2 units un-crossed matched blood hung running wide open.
- ED physician placed bilateral 30 fr. Chest tube in open cavity, sutured in place along edge of open chest wound

Patient was Airlifted to Level I Trauma Center

- Sedation
- Continued with blood transfusions
- Blood transfusion & Volume
- Blood Transfusion & Volume
- Oh! And more blood and Volume.



Case Study

view of open injury



Case Study

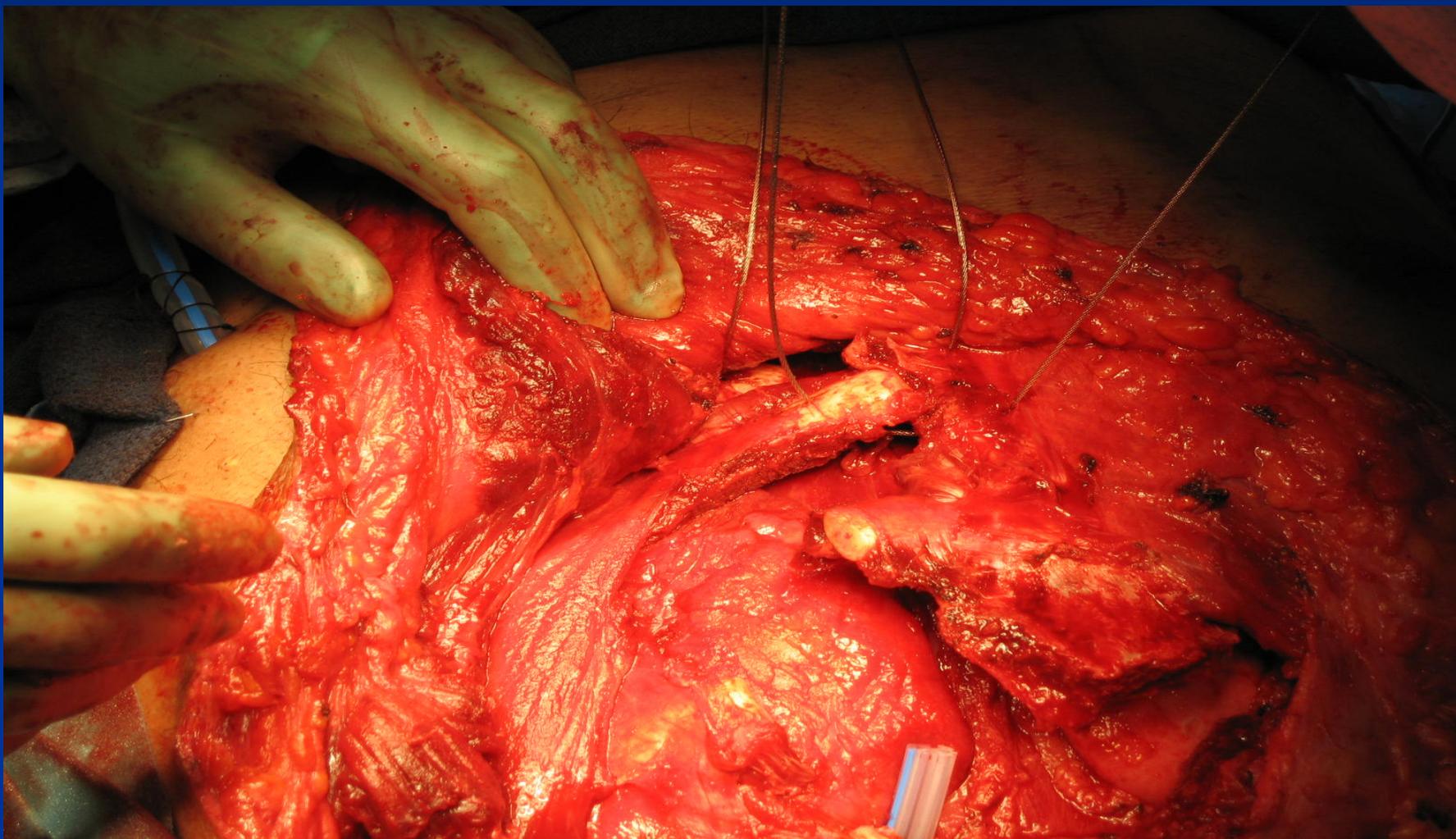
“The Pictures tell it all”



Case Study In OR



Case Study Repairs



Case Study

- Injuries
 - Laceration to left lower lobe of lung (removed)
 - Repair to sternum – wires, omentum, pectoris muscles stretched to cover, eventually grafting.

Case Study

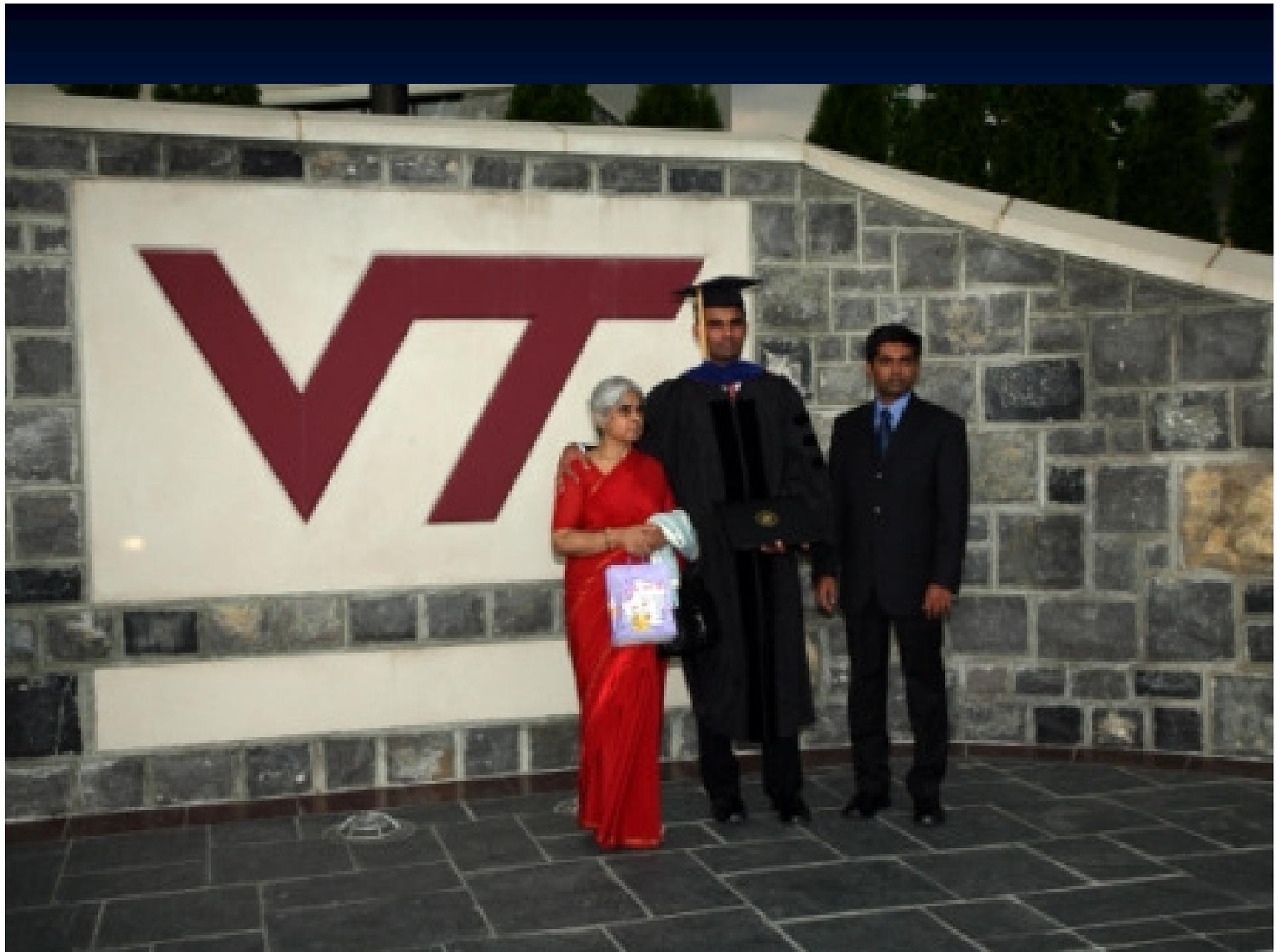
Hospital Stay

- ❑ Accident on 09/16/2006
 - ❑ Woke up in ICU on 09/28/2006
 - ❑ After regaining consciousness: “appeared the room was upside down, had nightmares 2-3 days post awakening”. Resolved did not return.
 - ❑ Discharged on 10/16/2006 to rehab., spent 11 days in rehab., then discharged home.

Case Study

Follow – up Photo





Case Study

“Where is he today?”

- ❑ He graduated from VT.
- ❑ Presently he is a professor at a University in Arizona.
- ❑ He has some residual soreness at times. He has returned to normal activity.

Sunder Today



Case Study IV

Police Arrest

Gone bad

Case Study IV

- Police arrive with an arrest warrant for a 40 year old male.
- When the police knocked on the door, they heard noises in the house.
- Immediately after that, they heard a single gun shot.

Case Study IV

- Upon entering the house, they found the 40 year old male lying on the floor with a single gun shot to his head.
- Warning the picture is very graphic!

Case Study IV



Case Study IV

Now what do you do?

Case study IV

- This is what was done:
- This man was awake, non – verbal (a given).
- He was maintaining his own airway.
- In order to maintain his airway, the decision was made to transport in the upright position.
- This man used a yankuer to suction his AIRWAY, yes his AIRWAY.

Case Study IV

What happened to him?

Case Study IV

- With a lot of engineering from plastic surgery he had multiple reconstructive surgeries and is alive today.
- The EMS crew was commended for protecting/maintaining his airway.

Case Study IV

- And yes he was arrested later for more charges other than the previous arrest warrant.

Take Home Message

- Utilize *your* assessment skills.
- Utilizes *your* gut feelings.
- Utilize *your* resources.
- Ground Transport vs. Air Transport.
- Always utilize *your* protocols!

Trauma Gone Wild

Can you
believe this?





















QUESTIONS