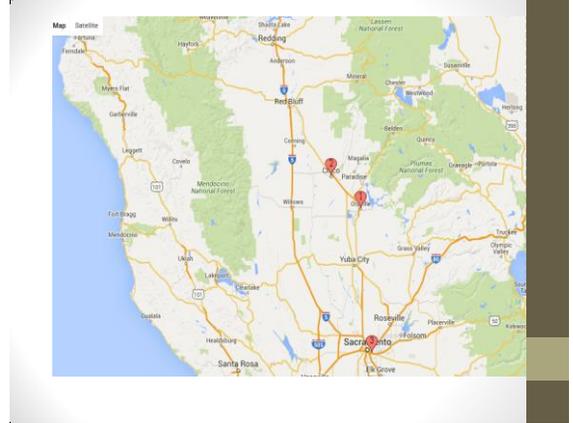


# Trauma Case Study



## Pre-Hospital Care

- 0939 Initial Dispatch
  - 44 year old male full-sized truck vs tree after swerving to avoid a dog
    - + engine compartment intrusion
    - + side curtain air-bags
    - No seat belt
- 15 minute scene time

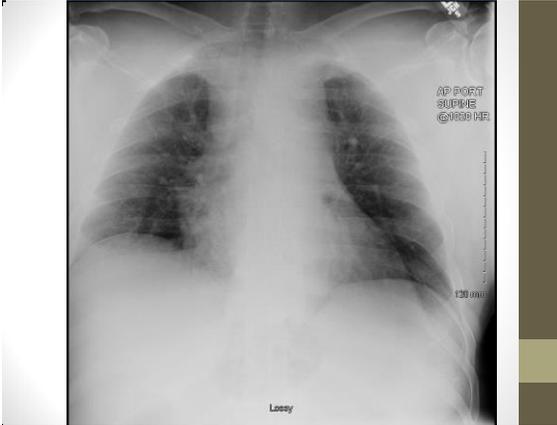
## Findings

- 190/P, 118, 20, 97% (RA)
- A&Ox3, ? LOC but restless
- Forehead laceration
- C/O back pain, refuses c-spine and unwilling to lay flat
- Mottling to chest charted in PCR but not relayed in radio report

- 0948 Transport to Level II Trauma Center (24 miles by ground)
  - After contact with nearest Base Hospital (Undesignated) 1 mile away
- 1020 Arrived at Level II Trauma Center
  - Initially a Limited TTA
  - Upon visualization made full TTA

## Emergency Department Course

- 161/101, 111, 22, 98%
- Remains restless, c/o abd and chest pain
- Mottled abd
- FAST Scan negative
- CXR shows widened mediastinum
- Lab work unremarkable
- 1030 TO CT



## Radiology Findings

- Tear of the aortic arch distal to the L subclavian
- Additional transverse aortic tear

## Treatments

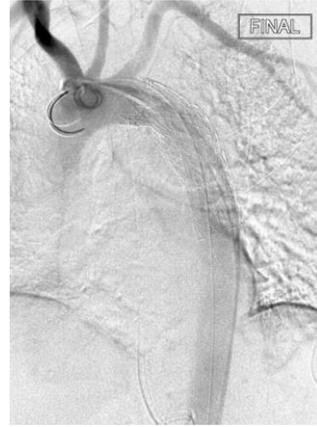
- Prepare for transport
- Medicated for pain
- Esmolol gtt titrated for B/P management
- Metoprolol IVP PRN
- 1150 Transport Crew at Bedside for transfer to UCD

## UC Davis Medical Center

- Arrived by air transport @ 1255
- 300 mcg/min esmolol  
0.2 mcg/min nitroprusside
- MAP 63, HR 80s
- Trauma/Vascular Surgery evaluation

## Procedure

- Hybrid OR
- Incision time 1714
- Arch aortogram – patent aortic arch, innominate, left carotid and left subclavian arteries with aortic pseudoaneurysm ~2 cm distal to left subclavian artery
- TEVAR (Gore TAG 31mm x 10 cm)
- Fluoroscopy time: 5.7 minutes
- Incision closed 1852 (1:38h)



- Next AM Vascular Surgery note:

- Plan:

- CXR today
- CTA prior to discharge
- Will follow up with Vascular Surgery in 3 months

- Postop day 2

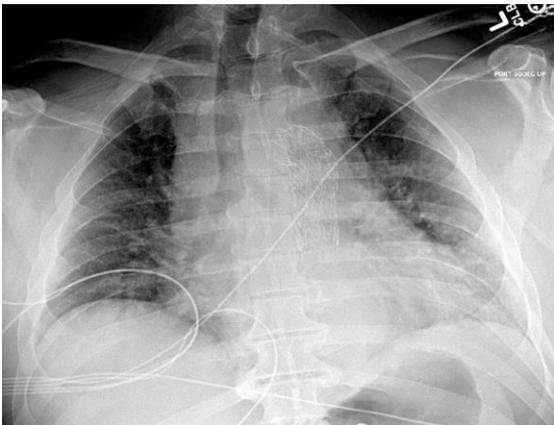
- Regular diet
- Incentive spirometry volumes 3,000 cc

- POD #3

- CTA

- POD #4

- Discharged home



## Traumatic aortic injuries at UCDMC

- Jan 2015 – March 2016
- 22 patients
- 13 transferred from outside hospitals (12 trauma centers)
- Average LOS 18 days (4 – 49 days)
- 6 Type 1 injuries – nonop
  - Average LOS 17 days

## Aortic Injury Grading System

- Type I: Intimal tear
- Type II: Intramural hematoma
- Type III: Pseudoaneurysm
- Type IV: Rupture (e.g. periaortic hematoma, free rupture)

## Aortic Injury Grading System

Absent External Contour Abnormality			Present External Contour Abnormality		
Type of Aortic Injury	Definition	Example	Type of Aortic Injury	Definition	Example
Intimal Tear	No aortic external contour abnormality; tear and/or associated thrombus $\leq$ 10mm		Pseudoaneurysm	Aortic external contour abnormality; contained	
Large Intimal Flap	No aortic external contour abnormality; tear and/or associated thrombus $\geq$ 10mm		Rupture	Aortic external contour abnormality; not contained; free rupture	

Starnes BW et al. J Vasc Surg 55(1), January 2012, 47-54.



## Notes

- Pt is a helicopter pilot
- Wife is a nurse anesthetist and on call at Oroville Hospital the day of injury