

1. A brief history of vascular injury – training, diagnosis and management

- a. Trauma – David Feliciano, University of Maryland
- b. Vascular / Endovascular – Joe DuBose, University of Maryland

2. Contemporary diagnosis of vascular injury

- a. Vascular / Trauma – David Kauvar – Brooke Army Medical Center
- b. Zach Authors – SAMMC Vascular

i. Specifics

- 1. Physical exam (Hard / Soft signs, ABI)
- 2. CTA (sensitivity / specificity / limitations)
- 3. Traditional angiography
- 4. Ultrasound (Duplex / IVUS)
- 5. MRA

3. General Open Vascular Repair for Trauma – Principles, Tools and Techniques

- a. Trauma – Elizabeth Benjamin – Emory University
- b. Vascular – Ravi Rajani – Emory University
 - i. Specifics of Techniques

- 1. Basic principles of open vascular operations
- 2. Basic tools
 - a. Clamps
 - b. Fogarty thrombectomy catheters (selection)
 - c. Suture selection
 - d. Pledget reinforcement
- 3. Selection for and conduct of specific techniques
 - a. Primary repair
 - b. Patch angioplasty
 - c. rSVG interposition

- d. Synthetic interposition

4. Basics of Endovascular Trauma Management

- a. Trauma / Vascular – Megan Brenner - Riverside
- b. Endovascular – Yosuke Mastumura / Junichi – Chiba University Hospital, Japan
- c. Vascular – Derek Roberts – Ontario Canada

- i. Techniques for access

- 1. Anatomic landmarks at various sites
 - 2. Ultrasound techniques
 - 3. Fluoroscopy guided

- ii. Sheath types

- iii. Wire Options

- iv. Catheter Options

- v. Access site closure

- 1. Manual compression
 - 2. Percutaneous closure devices
 - 3. Open closure techniques

5. Endovascular Tools and Techniques for Trauma Applications

- a. Trauma / Vascular – Jonny Morrison – University of Maryland
- b. Vascular / Vascular – Rishi Kundi – University of Maryland

- i. Occlusive Balloons

- 1. REBOA

- ii. Embolic agents and devices

- iii. Stents and stent grafts

- iv. Basic inventory table

6. Vascular Damage Control

- a. Trauma – Matt Bradley – Walter Reed Medical Center

- b. Vascular – Joe White – Walter Reed Medical Center
- c. Vascular – Todd Rasmussen – Walter Reed Medical Center

- i. Specifics

- 1. Principles – When? Why? – in what situations
 - 2. What? – Open (ligation / shunt) and Endovascular (Balloon occlusion / embolization / temporary stent graft)
 - a. Shunt types
 - 3. How? - technique description for above

SPECIFIC VASCULAR INJURIES – Section Editor – Joe DuBose

7. Cervical Vascular Injury

- a. Trauma – Eugene Moore / Clay Burlew – Denver General Hospital
- b. Vascular – Melanie Hoehn – Denver General

8. Upper extremity injury (Brachial, radial, ulnar)

- a. Trauma – Mark Bowyer, USUHS
- b. Vascular / Trauma – Sundeep Gilani, University of New Mexico

9. Axillo-Subclavian Injuries

- a. Trauma – Tom Scalea – University of Maryland
 - i. Richard Betzold, MD – University of Maryland
- b. Vascular – Joe DuBose, MD – University of Maryland
 - i. Anna Romagnoli, MD – Massachusetts General Hospital

10. Thoracic Arch and Proximal Great Vessels

- a. Trauma / Cardiothoracic – Jim O’Connor – University of Maryland
- b. Vascular / Endovascular – KJ Nagarsheth – University of Maryland

11. Descending Thoracic Aortic Injury

- a. Trauma – Demetrios Demetriades – USC / LA County
- b. Vascular – Greg Magee, MD

12. Abdominal Aortic and Iliac artery injuries

- a. Trauma – Rob Todd – Emory University
- b. Vascular – Christopher Ramos – Emory University

13. Mesenteric and Renal artery injuries

- a. Trauma – Dave Feliciano, University of Maryland
- b. Vascular – Mike Hall, University of Maryland

14. Femoropopliteal artery injuries

- a. Trauma – Matt Martin
- b. Vascular / Trauma – Mike Sise

15. Arterial injuries below the knee

- a. Trauma – Chad Wilson, Baylor
- b. Vascular – Joseph Mills / Ramyar Gilani – Baylor College of Medicine

16. Major Truncal venous Injuries

- a. Trauma: Joe Galante, UC Davis
- b. Vascular: Matt Mell, UC Davis

17. Peripheral Venous Injuries

- a. Trauma – Elliott Jessie, Walter Reed
- b. Vascular – Brandon Propper, Walter Reed

SPECIAL TOPICS IN VASCULAR INJURY CARE – Section Editor – Pedro Teixeira

18. Complications of vascular injury management

- a. Trauma – Carlos Brown – UT Austin
- b. Vascular – Lucas Ferrer – UT Austin
 - i. Notes – identification and management of
 - 1. Infection – imaging, tagged WBC scan utility
 - 2. Access complications / pseudoaneurysms
 - 3. Endoleaks – Types and management in trauma setting

4. Thrombosis – extremity ischemia
5. Disruptions / blowouts (brief key ones) – arterial – enteric fistulas, etc.

19. General principles of post-operative management and surveillance

- a. Trauma – Kenji Inaba – University of Southern California
 - b. Vascular – Brian Knipp – University of Southern California
 - i. Antiplatelet and Anticoagulation options and choices
 - ii. Follow-up imaging
1. Ultrasound
 2. Contrast enhanced

20. Compartment syndrome in the setting of vascular injury

- a. Trauma – Jan Jansen – University of Alabama Birmingham
- b. Vascular – Benjamin Pearce – University of Alabama Birmingham

21. Solid organ embolization for management of traumatic injury

- a. Trauma – Melike Harfouche, University of Maryland
- b. Vascular – Joe DuBose, University of Maryland

22. Pelvic fracture related hemorrhage

- a. Trauma – Viktor Reva, Russia
- b. Vascular – Chuck Fox, University of Maryland

23. Intercostal vessel hemorrhage management

- a. Trauma – Deb Stein, San Francisco General Hospital
- b. Vascular – Jonny Morrison, University of Maryland

24. Pediatric Vascular Trauma

- a. Pedro Teixeira – UT Austin
- b. Vincent Rowe – LA County

25. Hybrid Trauma Care Environments and Vascular Trauma Teams

- a. Trauma – Juan Duchesne – New Orleans
- b. Vascular - David McGreevy / Tal Horer – Orebro Sweden