



The Hebrew University of Jerusalem

Syllabus

VASCULAR SURGERY- Elective - 96855

Last update 15-10-2023

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: Medicine

Academic year: 0

Semester:

Teaching Languages: Hebrew

Campus: Ein Karem

Course/Module Coordinator: Eyal Avraham, MD

Coordinator Email: eyalav@hadassah.org.il

Coordinator Office Hours: By Appointment

Teaching Staff:

Dr. Avraham Simon,
Dr. Ron Karmeli,
Dr. Eyal Avraham,
Dr. Sagi Levental,
Ariela Felix,
Jakob Nowotny,
Ido Weinberg,
Jonathan Lorber

Course/Module description:

The module reviews and demonstrates the basic principles of the surgical care, including endovascular interventions, for arterial and venous disorders. We focus on arterial occlusive disease including peripheral and extracranial, aneurysmal diseases, venous disease and vascular trauma. Previous knowledge and skills acquired in general surgery and medicine clerkships is applied.

Course/Module aims:

1. Understanding the principles of diagnosis, care and follow-up of patients with arterial and venous disorders.
2. Exposure to basic and advanced open and endovascular surgical interventions.
3. Implementation of critical evaluation of patients, disease processes and treatment alternatives.

Learning outcomes - On successful completion of this module, students should be able to:

1. Describe and understand the main arterial and venous pathologies.
2. Describe the scope of treatments.
3. Obtain relevant history, perform focused physical examination and formulate an initial diagnostic and/or therapeutic plan.
4. Understand the role of hospitalization within the care plan.
5. Characterize the vascular patient populations.
6. Understand the role of the vascular lab.

Attendance requirements(%):

80

Teaching arrangement and method of instruction: Joining the house staff on rounds, patient care and conferences.

Scrubbing on open and endovascular cases.

Rotation through the vascular lab with exposure to arterial and venous studies.

Course/Module Content:

I. Aorta

i. Aneurysmal Disease

Diagnosis

Risk of Rupture

Screening and Surveillance

Treatment

ii. Aortoiliac Occlusive Disease

Presentation and Evaluation

Treatment

iii. Aortic Dissection

II. Peripheral Arterial Occlusive Disease

i. Basic Principles

Epidemiology

Basic Science of Vascular Disease

Vascular Wall Microanatomy

Atherosclerosis

ii. Evaluating And Treating The Patient With Peripheral Arterial Disease

History and Physical Examination

iii. Chronic Arterial Insufficiency

Physiologic Testing and Imaging

Treatment

iv. Other Causes Of Acute And Chronic Limb Ischemia

Nonatherosclerotic Arteriopathies

Buerger's Disease

Vasculitis

Heritable Arteriopathies

Congenital Conditions Affecting the Arteries

v. Peripheral Artery Aneurysms

vi. Evaluating the Success of Revascularization Procedures

vii. Renal Artery Disease

Diagnosis

Treatment

viii. Splanchnic Aneurysms: Splenic, Mesenteric, and Renal Artery Aneurysms

III. Carotid Artery Disease

Pathophysiology

Clinical Presentation

Diagnosis

Treatment

IV. Dialysis Access

Dialysis Outcomes Quality Initiative (DOQI) Guidelines

Dialysis Outcome Quality Initiative Guidelines

Nomenclature

Superficial Venous System of the Upper Extremity

Initial Evaluation for New Access

Central Venous Catheters

Types of Venous Transpositions

Techniques of Venous Transposition

Patients With Failing or Failed Access

Secondary Interventions in Autogenous Fistulas

Complex Access

V. Vascular Trauma

i. General Approach To Vascular Trauma

Mechanism of Injury

Clinical Presentation

Diagnosis

Treatment

Common Errors and Pitfalls

ii. Specific Injuries

Head, Neck, and Thoracic Outlet

Intrathoracic Great Vessel Injuries

Abdominal Vascular Injury

Upper Extremity

Lower Extremity

Operative Techniques For Extremity Fasciotomy

iii. Postoperative Management

Outcomes And Follow-Up

VI. Venous Disease

i. Anatomy and Physiology

Anatomy

Superficial Venous System

Deep Venous System

Perforating Venous System

Normal Venous Histology and Function

ii. Venous Insufficiency

Primary Venous Insufficiency

Secondary Venous Insufficiency

iii. Deep Venous Thrombosis

Lower Extremity Deep Venous Thrombosis

Upper Extremity Deep Venous Thrombosis

Required Reading:

Townsend CM, Sabiston DC. Sabiston textbook of surgery. The biological basis of modern surgical practice. 19th edition, Elsevier 2012. ISBN: 9781437715606.

<http://hufind.huji.ac.il/Record/HUJ001742786>

Additional Reading Material:

Abdominal Aortic Aneurysms:

SVS practice guidelines for the care of patients with an abdominal aortic aneurysm: executive summary.

Chaikof EL, Brewster DC, Dalman RL, Makaroun MS, Illig KA, Sicard GA, Timaran CH, Upchurch GR Jr, Veith FJ.

J Vasc Surg. 2009 Oct;50(4):880-96. doi: 10.1016/j.jvs.2009.07.001.

<http://www.ncbi.nlm.nih.gov/pubmed/19786241>

Peripheral Arterial Disease:

Inter-Society Consensus for the Management of Peripheral Arterial Disease (TASC II).

L. Norgren,^a W.R. Hiatt,^b J.A. Dormandy, M.R. Nehler, K.A. Harris, and F.G.R. Fowkes on behalf of the TASC II Working Group.

<http://vascular.stanford.edu/endovasc/documents/PIIS0741521406022968.pdf>

Extracranial Cerebrovascular Occlusive Disease:

2011 ASA/ACCF/AHA/AANN/AANS/ACR/ASNR/CNS/SAIP/SCAI/SIR/SNIS/SVM/SVS guideline on the management of patients with extracranial carotid and vertebral artery disease. A report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines, and the American Stroke Association, American Association of Neuroscience Nurses, American Association of Neurological Surgeons, American College of Radiology, American Society of Neuroradiology, Congress of Neurological Surgeons, Society of Atherosclerosis Imaging and Prevention, Society for Cardiovascular Angiography and Interventions, Society of Interventional Radiology, Society of NeuroInterventional Surgery, Society for Vascular Medicine, and Society for Vascular Surgery.

Brott TG, Halperin JL, Abbara S, Bacharach JM, Barr JD, Bush RL, Cates CU, Creager MA, Fowler SB, Friday G, Hertzberg VS, McIlff EB, Moore WS, Panagos PD, Riles TS, Rosenwasser RH, Taylor AJ; American College of Cardiology; American Stroke Association; American Association of Neurological Surgeons; American College of Radiology; American American College of Radiology; Society of NeuroInterventional Surgery; Society for Vascular Medicine; Society for Vascular Surgery.

Circulation. 2011 Jul 26;124(4):e54-130. doi: 10.1161/CIR.0b013e31820d8c98. Epub 2011 Jan 31.

<http://www.ncbi.nlm.nih.gov/pubmed/21282504>

Pre-operative Care:

ACC/AHA 2007 guidelines on perioperative cardiovascular evaluation and care for noncardiac surgery: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 2002 Guidelines on Perioperative Cardiovascular Evaluation for Noncardiac Surgery): developed in collaboration with the American Society of

Echocardiography, American Society of Nuclear Cardiology, Heart Rhythm Society, Society of Cardiovascular Anesthesiologists, Society for Cardiovascular Angiography

and Interventions, Society for Vascular Medicine and Biology, and Society for Vascular Surgery.

Fleisher LA, Beckman JA, Brown KA, Calkins H, Chaikof E, Fleischmann KE, Freeman WK, Froehlich JB, Kasper EK, Kersten JR, Riegel B, Robb JF, Smith SC Jr, Jacobs AK, Adams CD, Anderson JL, Antman EM, Buller CE, Creager MA, Ettinger SM, Faxon DP, Fuster V, Halperin JL, Hiratzka LF, Hunt SA, Lytle BW, Nishimura R, Ornato JP, Page RL, Tarkington LG, Yancy CW; American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 2002 Guidelines on Perioperative Cardiovascular Evaluation for Noncardiac Surgery); American Society of Echocardiography; American Society of Nuclear Cardiology; Heart Rhythm Society; Society of Cardiovascular Anesthesiologists; Society for Cardiovascular Angiography and Interventions; Society for Vascular Medicine and Biology; Society for Vascular Surgery.
Circulation. 2007 Oct 23;116(17):e418-99. Epub 2007 Sep 27.
<http://www.ncbi.nlm.nih.gov/pubmed/17901357>

New developments in the preoperative evaluation and perioperative management of coronary artery disease in patients undergoing vascular surgery.

Bauer SM, Cayne NS, Veith FJ.

J Vasc Surg. 2010 Jan;51(1):242-51. doi: 10.1016/j.jvs.2009.08.087. Epub 2009 Dec 2.

<http://www.ncbi.nlm.nih.gov/pubmed/19954922>

Varicose Veins:

The care of patients with varicose veins and associated chronic venous diseases: clinical practice guidelines of the Society for Vascular Surgery and the American Venous Forum.

Gloviczki P, Comerota AJ, Dalsing MC, Eklof BG, Gillespie DL, Gloviczki ML, Lohr JM, McLafferty RB, Meissner MH, Murad MH, Padberg FT, Pappas PJ, Passman MA, Raffetto JD, Vasquez MA, Wakefield TW; Society for Vascular Surgery; American Venous Forum.

J Vasc Surg. 2011 May;53(5 Suppl):2S-48S. doi: 10.1016/j.jvs.2011.01.079.

<http://www.ncbi.nlm.nih.gov/pubmed/21536172>

Grading Scheme:

Additional information: