

# *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: Yearly*

*Teaching Languages: Hebrew*

*Campus: Ein Karem*

*Course/Module Coordinator: Eyal Avraham, MD*

*Coordinator Email: [eyalav@hadassah.org.il](mailto:eyalav@hadassah.org.il)*

*Coordinator Office Hours: By Appointment*

*Teaching Staff:*

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Dr. EYAL Avraham,  
Dr. nir Gabriel,  
Dr. ron Karmeli,  
JAKOB NOWOTNY,  
JONATHAN LORBER,  
Dr. Sagi Levental,  
Dr. ARIELA FELIX,  
Dr. Avraham Simon

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.

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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*

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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>

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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,<sup>a</sup> W.R. Hiatt,<sup>b</sup> 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*

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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:

Other 100 %

#### Additional information: