

Vascular Surgery Syllabus

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Section 1: Vascular Biology and Basics

1. Epidemiology of vascular disease
2. Embryology of arterial and venous system
3. Atherosclerosis and vascular biology
4. Anatomy and pathophysiology of venous diseases
5. Perioperative management in vascular surgery
6. Principles of anticoagulation and thrombolysis, hypercoagulable states and coagulopathy

Section 2: Vascular Imaging

1. Principles of vascular imaging
 - CT, MRI, ultrasound, angiography
2. Vascular laboratory basics
 - Non-invasive arterial and venous assessment
3. Radiation safety
4. Vascular imaging in the operating room environment

Section 3: Diseases of the Aorta

1. Aneurysmal disease
 - Etiology, epidemiology, and natural history
2. Aorto-iliac Aneurysms
 - Open surgical approaches, technique and treatment
 - Endovascular treatment, planning, follow up and secondary interventions
3. Ruptured aortoiliac aneurysms
 - Decision making, open and endovascular surgical approaches, technique and treatment
4. Thoracic and thoracoabdominal aortic aneurysms
 - Open surgical approaches, technique and treatment Endovascular treatment approaches, technique and treatment
 - Complex endovascular procedures, including fenestrated and branched endovascular treatment of juxtarenal, paravisceral, thoracoabdominal, and aortic arch aneurysms
5. Aortic Dissection, intramural hematoma, and penetrating aortic ulcers
 - Epidemiology, pathophysiology, clinical presentation, medical, surgical and endovascular management
6. Principles of extracorporeal circulatory support, hypothermia, spinal protection
7. Aortic dissection
 - Open surgical approaches, technique and treatment Endovascular treatment, complications and follow up
8. Peripheral aneurysms
9. Visceral aneurysms

Section 4: Lower Extremity Arterial Disease

1. Acute limb ischemia
 - Epidemiology, decision making and management Open and endovascular interventions
2. Compartment syndrome and reperfusion syndrome
3. Chronic lower extremity arterial occlusive disease
 - Epidemiology, evaluation, and medical management
4. Aortoiliac arterial occlusive disease
 - Endovascular treatment and surgical bypass (in-situ and extra-anatomical)
5. Infrainguinal arterial occlusive disease
 - Endovascular treatment, endarterectomy and surgical bypass
6. Lower extremity amputation
 - Epidemiology, operative technique and rehabilitation
7. Diabetic foot
8. General principles of chronic wound management

Section 5: Extracranial Cerebrovascular Disease

1. Extracranial cerebrovascular disease
 - Epidemiology, evaluation and medical management Carotid endarterectomy and carotid artery stenting
2. Carotid artery dissection and aneurysms
3. Carotid body tumor
4. Vertebral artery dissection and occlusion

Section 6: Miscellaneous Arteriopathies

1. Chronic upper extremity arterial occlusive disease
2. Thoracic outlet syndrome, pathophysiology and management
3. Renovascular disease
 - Pathophysiology, open and endovascular intervention
4. Mesenteric arterial disease
 - Acute and chronic, pathophysiology, open and endovascular intervention
5. Raynaud's phenomenon and vasculitis
6. Connective tissue disorder and Marfan's syndrome
7. Congenital vascular malformations
 - Evaluation, surgical and endovascular management
8. Vascular trauma, including iatrogenic complications
9. Current Role of Sympathectomy (cervical and lumbar)
10. Vascular tumors
 - Evaluation and surgical management
11. Vascular reconstruction in oncologic surgery

Section 7: Diseases of Veins and Lymphatics

1. Venous thromboembolic disease
 - Deep vein thrombosis and pulmonary embolism, thrombolytic therapy, surgical intervention and mechanical thrombectomy, prophylaxis and caval interruption
2. Venous stenting for venous obstruction
3. Varicose vein and chronic venous insufficiency
 - Pathophysiology, non-surgical management, open and endovenous therapy
4. Chronic venous obstruction
 - Evaluation, surgical and endovascular management
5. Superior vena cava occlusion
 - Evaluation, surgical and endovascular management
6. Lymphedema
 - Evaluation, investigations, non-operative management and surgical treatment

Section 8: Vascular Access

1. Haemodialysis vascular access
 - General principles, assessment and preoperative planning Dialysis catheters
 - Assessment of maturity
 - Salvage of failing and thrombosed access, surgical and endovascular management Strategies for central venous obstruction
 - Prevention, diagnosis and management of dialysis access steal syndrome Haemodialysis access is desperate situation