

THE PERIPHERAL VASCULAR SYSTEM

ANATOMY	A prerequisite for the understanding of peripheral vascular disease examination is a practical knowledge of the major named arteries and veins of the head and neck upper and lower extremities, and the abdominal cavity. This knowledge includes topographical anatomy of the vessels and an understanding of "silent vessels" in the physical examination.	
PHYSIOLOGY	Arterial exam - $\text{Flow} = \text{Pressure}/\text{Resistance}$ - Resting and exercise Arterial exam - Valvular incompetence	
PATHOLOGY	Atherosclerosis, although a generalized metabolic disorder, tends to build up at bifurcations of major vessels (i.e., carotid bifurcation, aortic bifurcation). In the lower extremity, the superficial femoral artery becomes occluded at the adductor hiatus. Diabetics tend to have femoral-tibial occlusions whereas non-diabetics tend to have iliac-femoral occlusions. Aneurysms of the abdominal aorta are associated with distal peripheral aneurysm.	
	A knowledge of this pathology allows for "directed" physical examination.	
	Effect of valvular incompetence in the venous system.	
HISTORY	<u>EXTREMITIES</u> Intermittent Claudication Ischemic Rest Pain Gangrene	<u>NEURO</u> TIA RIND Stroke
	An understanding of acute vs. chronic presentations of arterial and venous disease and effect on physical findings.	
PHYSICAL EXAM	Head to toe approach when exam directed at vascular tree. Includes observations, palpation and auscultation and occasionally includes repeat exams after exercise.	
	Pulse	
	Gradations	
	4 Normal	2
	3 Slightly Diminished	
	2 About Half	1
	1 Barely Palpable	
	0 Absent	0
	Widened Pulse – Aneurysm	

Bruits - description

Charting	ST	C	SC	B	R	U
L						
R						
	A	F	P	PT	DP	
L						
R						

Further examination of the extremities includes:

- Description of skin and lesions
- Elevation and dependency of the lower extremities
- Allen's test - intact palmar arch
- and to evaluate small vessel disease

Venous Exam - Upper and lower extremity

- Varicosities, sequelae of venous stasis or acute thrombosis
- Superficial or deep system (deep system requires Doppler)

Emphasis is on a precise anatomic diagnosis to expeditiously direct work-up and treatment.