

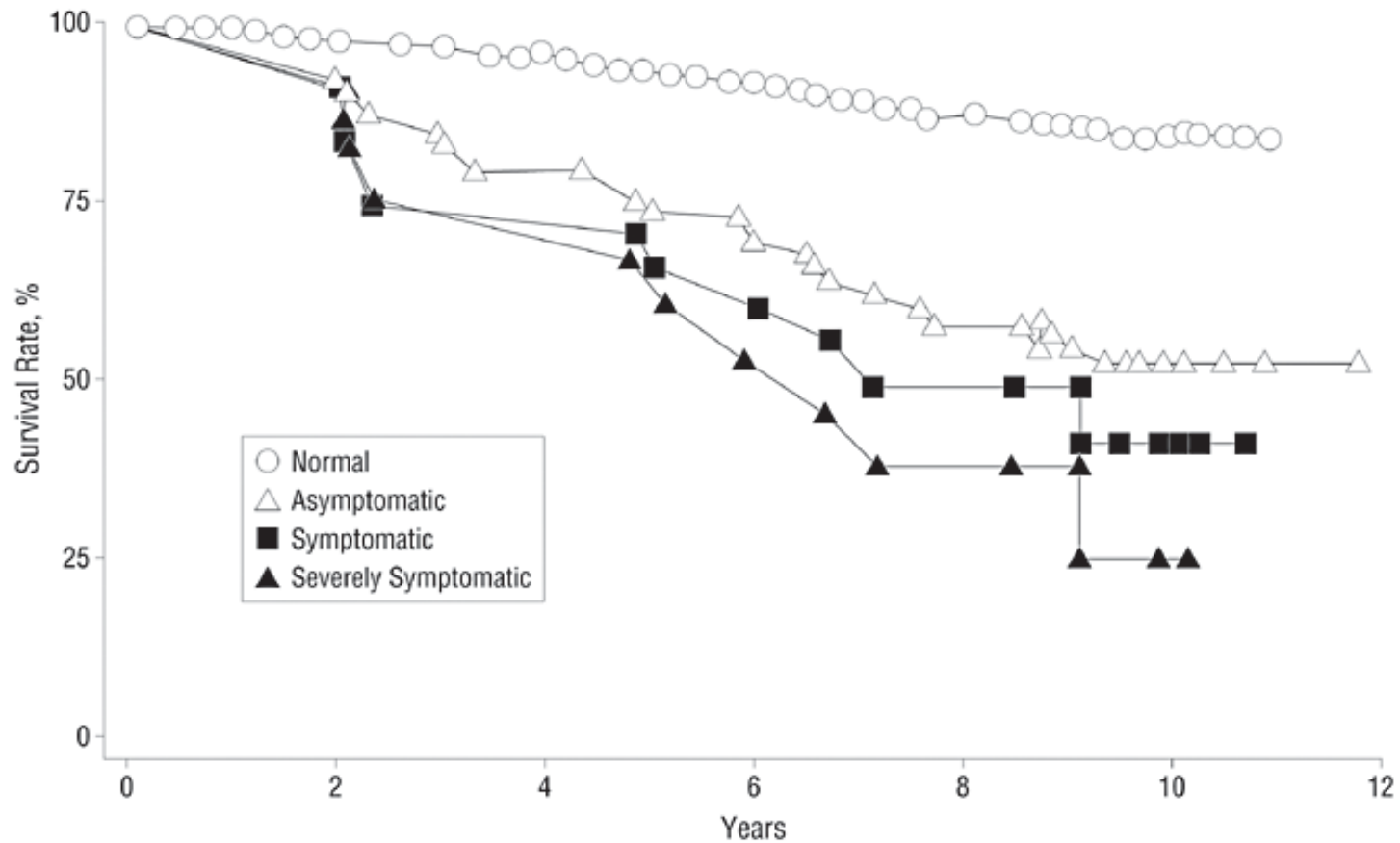
Vascular Disease: Who and How to Screen

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Importance

- Non-coronary atherosclerosis is associated with cardiovascular morbidity and mortality and end organ ischemia
 - Extracranial cerebral disease
 - TIA/CVA, subclavian steal
 - Visceral/Renal artery stenosis
 - Resistant HTN, CKD, CHF
 - Mesenteric ischemia
 - Lower extremity disease
 - Claudication, CLI
- Aneurysmal disease
 - Dissection, rupture, embolization

PAD and Prognosis



75% mortality attributed to cardiovascular causes

Internist Role Identification of Vascular Disease

- Screening history and physical in at risk individuals (under 50 with DM, over 50 with risk factors, over 70)
 - Assess visual and neurologic symptoms, walking impairment, claudication, ischemic rest pain, nonhealing wounds, post prandial abdominal pain, weight loss
 - Bilateral BP, comprehensive pulse examination, bruits, skin, foot inspection, retinal exam
- AAA risk (over 50)
 - Inquire FH first-order relative with AAA
 - Palpation of aorta and popliteal fossa

When is a carotid ultrasound indicated?

- Signs or symptoms
 - Suspected TIA/CVA
 - Vertebrobasilar symptoms
 - Syncope unclear cause
 - Hollenhorst plaque visualized on retinal examination
 - Pulsatile neck mass
 - Cervical bruit
 - Discordant upper extremity BP
- Screening*
 - No bruit
 - Known atherosclerosis
 - Neck irradiation >10 yrs
- Technical limitations or indeterminate findings
 - CTA/MRA

*Routine screening carotid disease not recommended by U.S. Preventive Services Task Force (USPSTF)

When is visceral US indicated?

- Suspected RAS
 - Creatinine Elevation and/or HTN
 - Malignant or resistant hypertension
 - Worsening blood pressure control in long-standing hypertensive patient
 - Hypertension in young person (age 35 years)
 - Unexplained size discrepancy between kidneys (1.5 cm; in longest dimension)
 - Unknown cause of azotemia (e.g., unexplained increase in creatinine)
 - Increased creatinine (50% baseline or above normal levels) after the administration of ACE/ARBs
 - Epigastric bruit
 - Refractory CHF, acute pulmonary edema
- Suspected Mesenteric Ischemia
 - Post prandial pain and weight loss (no GI cause)
- Not for routine screening
- Technically limited
 - Consider MRA/angiography

When is Aortic US Indicated?

- Signs or symptoms
 - Aneurysmal femoral or popliteal pulse
 - Pulsatile abdominal mass
 - Decreased or absent femoral pulse
 - Abdominal or femoral bruit
 - Evidence of atheroemboli in the lower extremities, including ischemic toes
 - Abnormal physiologic testing indicating aortoiliac occlusive disease
 - Abnormal abdominal x-ray suggestive of aneurysm
 - Presence of a lower extremity arterial aneurysm
 - Presence of a thoracic aortic aneurysm
- Screening AAA
 - Men and women >60 with a first degree relative with an abdominal aortic aneurysm
 - Men 65-75 current or former smoker*
 - Other groups consider risk-benefit of screening
 - Women 65-75 current or former smoker, Age >75

*U.S. Preventive Services Task Force (USPSTF), society recommendations may differ

Lower Extremity Artery Testing

(Multilevel Physiological Testing/DUS With ABI and PVR)

- Signs or symptoms
 - Lower extremity claudication
 - Femoral bruit, diminished/absence pulses
 - Leg/foot/toe pain at rest
 - Foot or toe ulcer or gangrene
 - Infection of leg/foot without palpable pulses
 - Suspected acute limb ischemia
 - Evidence of atheroemboli in the lower extremities
- ABI only*
 - Age >50 with DM or smoking
 - Age >70

*Not recommended by U.S. Preventive Services Task Force (USPSTF), endorsed by ACC/AHA/ADA

Steps After Disease Detection

- Treatment to reduce risk of disease progression and CV events
 - Smoking cessation
 - Control of cardiovascular risk factors
 - Antiplatelet therapy
 - Statins
 - ACS/ARB in certain populations
 - Unilateral RAS
 - LE PAD
 - Beta-blockers
 - AAA reduce expansion
- Symptomatic individuals
 - Chronicity and short term risk assessment
 - Initiation of specific therapy (i.e. cilostazol for IC) or urgent referral to vascular specialist (TIA with carotid DUS stenosis >70%)

Follow-up Testing

- Surveillance Carotid Artery Stenosis
 - Moderate stenosis (50-69%), yearly follow-up
 - Severe stenosis (>70%), 6-8 months, then every 6-12 months
- Surveillance AAA
 - 3.0-3.9cm, 9-12 months, then every 12-24 months
 - 4.0-5.4cm, 6-12 months, then every 12 months
 - >5.4cm, 3-8 months, every 6 months
- Surveillance known lower extremity PAD
 - New or worsening symptoms
 - No change in clinical status
 - Mild to moderate disease (ABI >0.4), every 24 months
 - Severe disease (ABI ≤0.4), every 12 months
- Recommendations post revascularization differ*