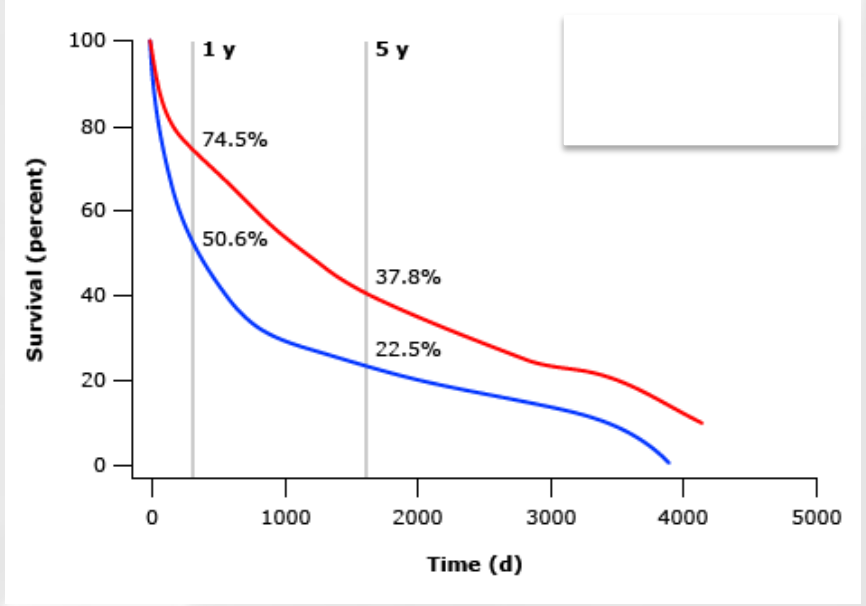
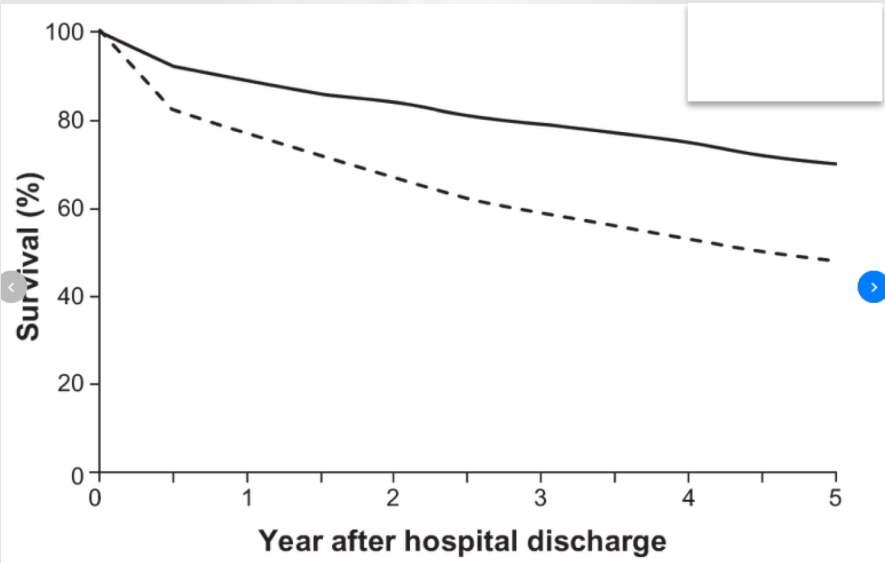


A Comprehensive Treatment Approach to PAD

Save a Limb, Save a Life!

Manuela Schuksz, MD PhD
Sentara Vascular Specialists
May 3rd, 2019

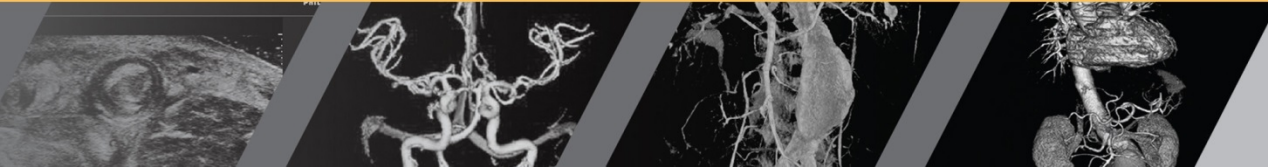




Peripheral Arterial Disease



Asymptomatic



Definitions

Critical Limb Ischemia

- Rest pain (usually in the forefoot)
- Tissue loss (ulcer, gangrene)
- Pain worse with elevation, improved with dependency

*Disease progression leads to limb loss
and death*



Prevalence

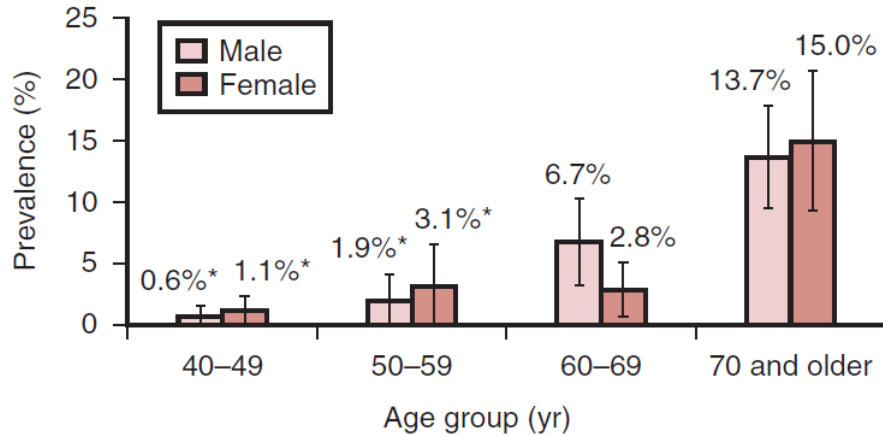


Figure 103-2 Prevalence of peripheral arterial disease by age and gender in adults 40 years and older, United States, 1999–2000 (n = 2174). (Redrawn from Selvin E, Erlinger TP. Prevalence of and risk factors for peripheral arterial disease in the United States: results from the National Health and Nutrition Examination Survey, 1999–2000. *Circulation*. 2004;110:738–43.)

- National Health and Nutrition Examination Survey (NHANES)
- 9000 participants, >40yo ABIs recorded for 2381
- Affects ~ 10 million, >100,000/year undergo revascularization

Estimated 10% of population over 55

Location	Adults 55-64	65+
United States ¹	41,648,400	49,485,600



Prevalence of CAD

- 2018 AHA heart disease and stroke statistics update:

16.5 million in the US have coronary disease



Risk Factors

- Age >70, male gender
- Smoking
- DM
- HTN
- HLD
- Known atherosclerosis at other sites (coronary, carotid, renal)



Natural History

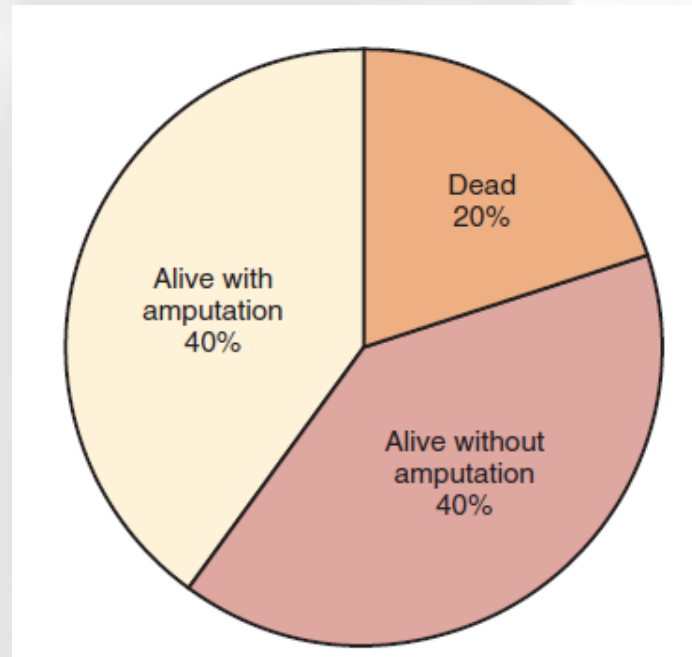
Claudication

- Slow progression to shorter walking distances
- Rarely limb threatening
- 5yr rate of amputation: <5%
- Clinical deterioration: 25%
- **BUT:**
 - 1) profound impact on quality of life
 - 2) high risk of death – marker for systemic atherosclerosis-- 42%, 65% mortality at 5, 10yrs



Natural History

Critical Limb Ischemia



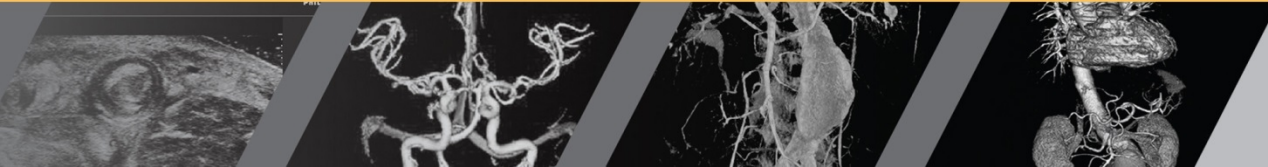
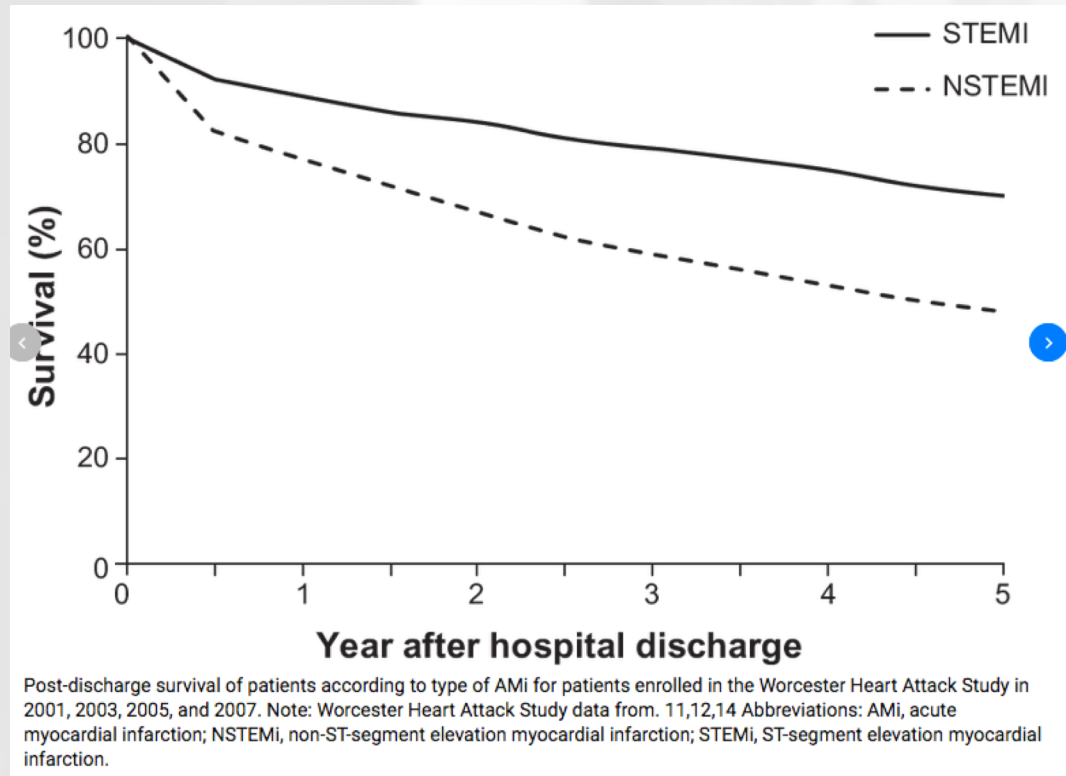
At 6 months after diagnosis



Natural History

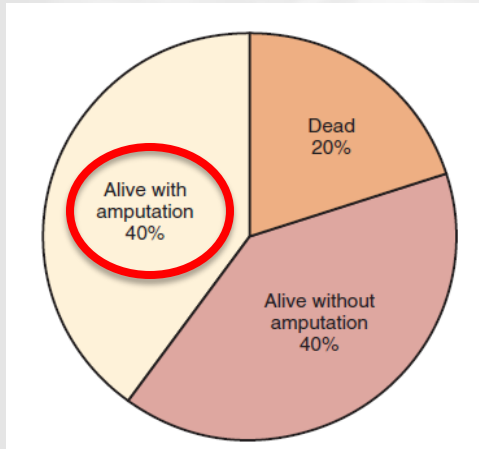
STEMI

- 21-28% mortality at 5 years
- Steadily improved in past 30 years
- WHY?

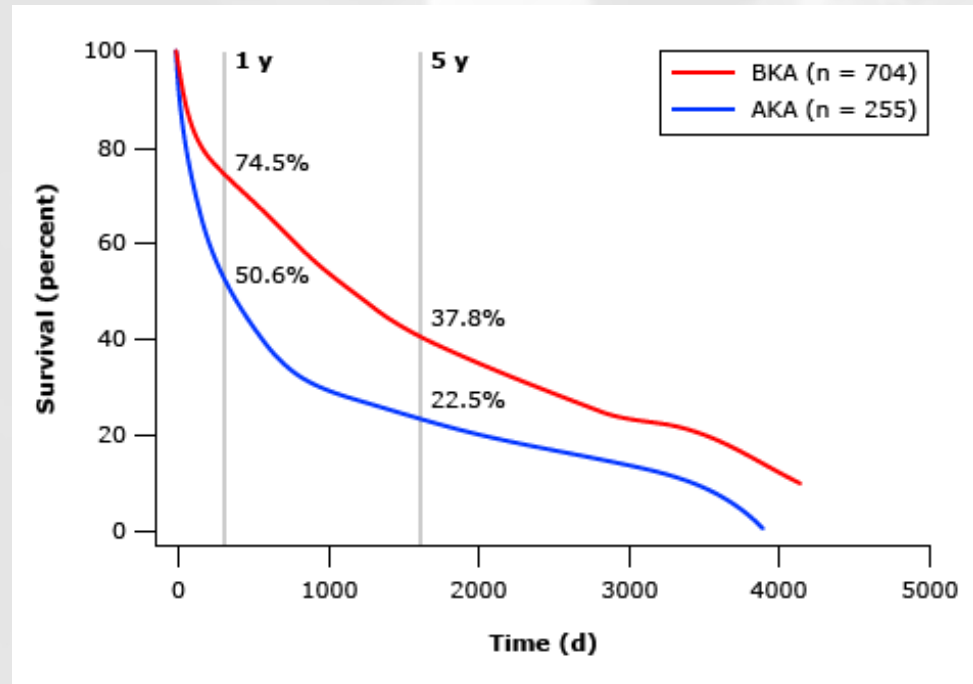


Natural History

Critical Limb Ischemia/Amputation



- Amputation is a death sentence

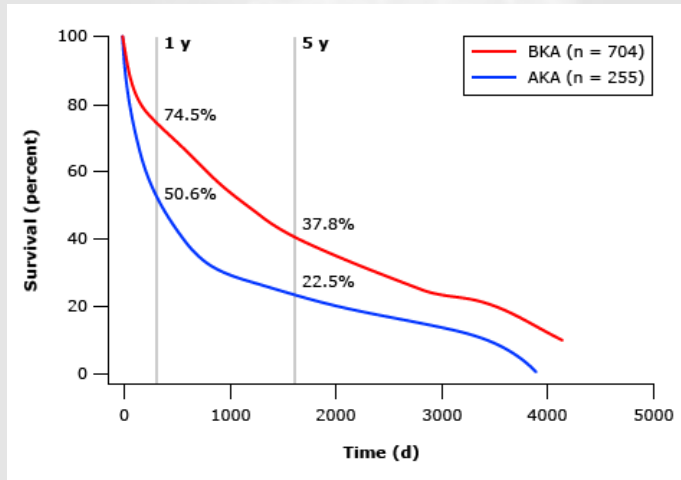


So far, no trend towards improving these statistics!



Natural History

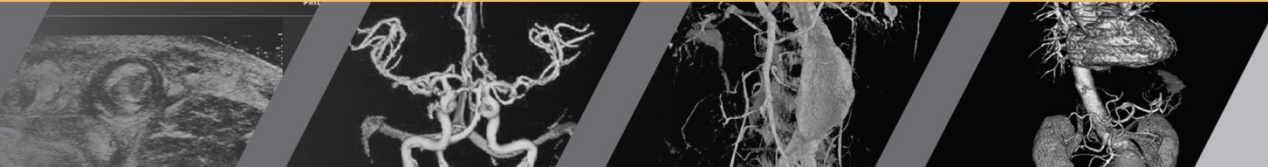
Critical Limb Ischemia/Amputation



In fact, prevalence of untreated PAD is rising

- Up 29% in low and middle income regions
- Up 13% in high income regions

2000-2010, compared to previous decade



Why? And What Can We Do About It?

Risk Factors

- Age >70, male gender
- Smoking
- **DM**
- HTN
- HLD
- Known atherosclerosis at other sites (coronary, carotid, renal)

Diabetic Foot Ulcers

Affect 25% of diabetics over their lifetime

One of the major sources of hospitalizations and amputations

Grim survival prognosis

Ulcer: 28% 3-yr mortality rate

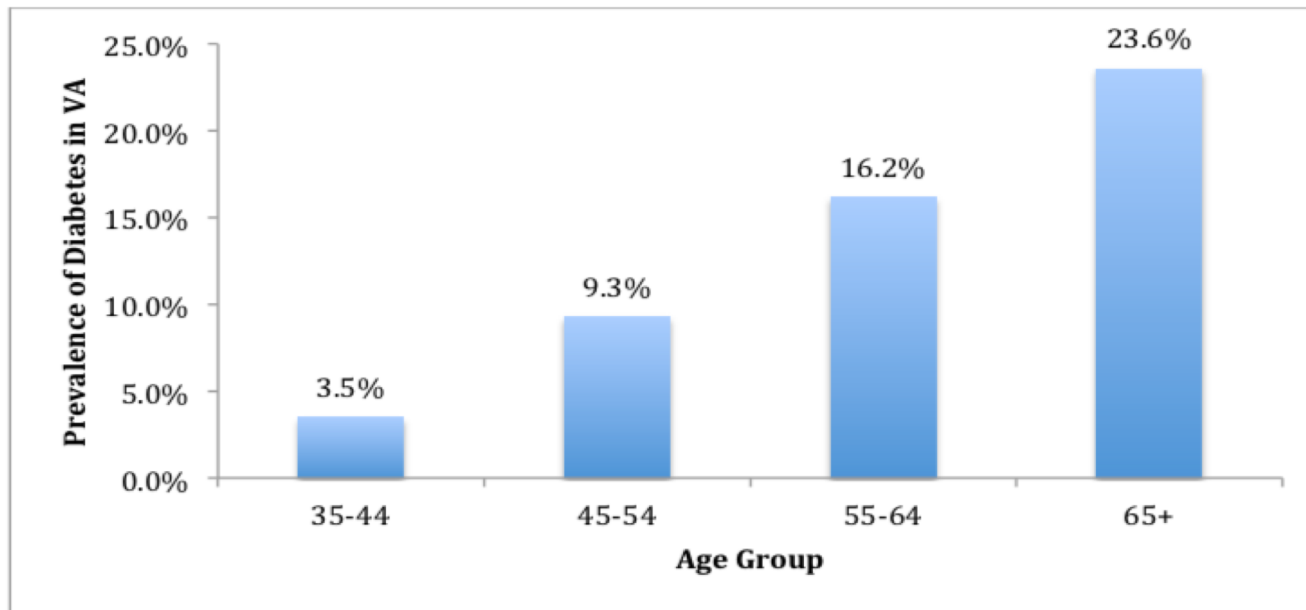
Amp: 50% 3-yr mortality rate

\$9-13 BILLION in additional annual national health care cost



Diabetes in VA

Figure 5. Prevalence of Diabetes in Virginia by Age Group

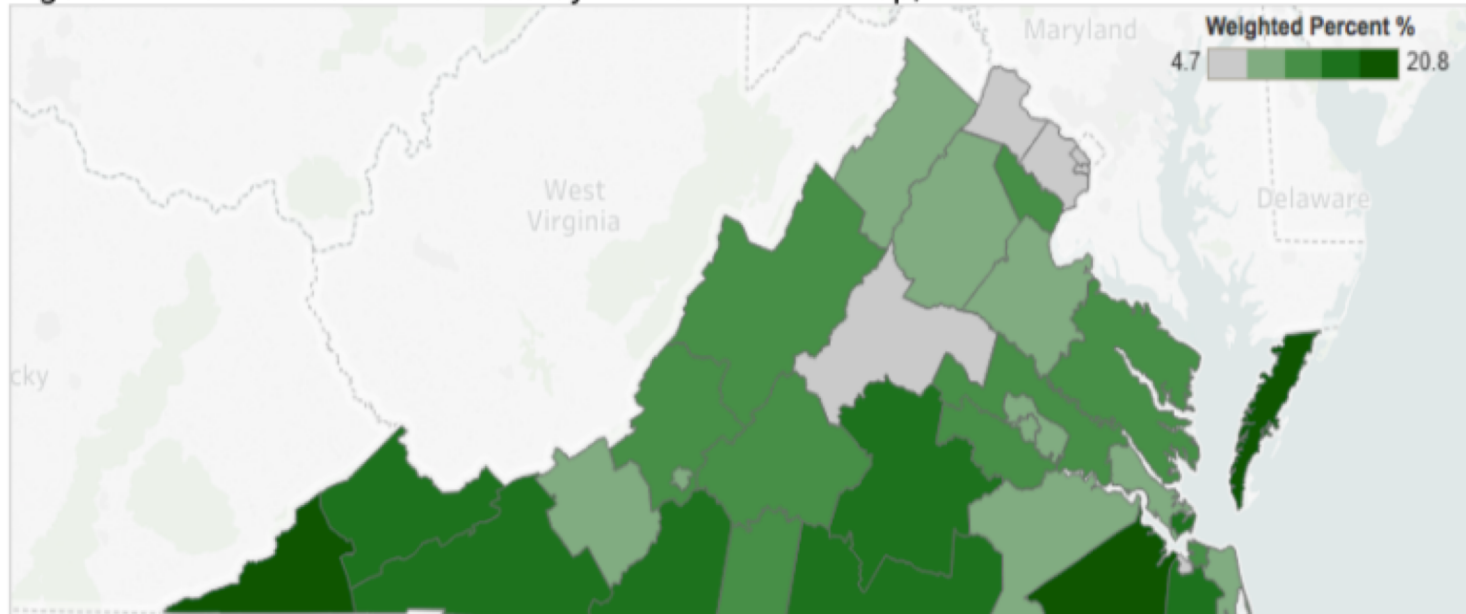


Virginia Department of Health, Annual Diabetes Burden Report 2017-2018

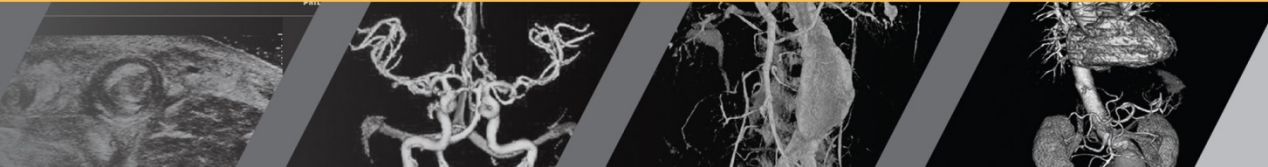


Regional Prevalence

Figure 7. Prevalence of Diabetes by Health District Map, 2015



Source: VDH, Data Portal. Chronic Disease. Chronic Disease Prevalence, Diabetes, 2015



DM and amputations in VA

Table 8. Hospitalizations for Diabetes-Associated Conditions* in Adults with Diabetes, Virginia, 2014

Condition	Age-Adjusted Rate (per 1000)	Total Events	Estimated Cases attributable to Diabetes
Myocardial Infarction	6.1	5,857	1,580
Stroke	7.0	7,084	NA
Congestive Heart Failure	1.05	10,663	4,870
Diabetic Ketoacidosis	16.1	4,260	NA
Hyperosmolar Hyperglycemic Nonketotic Syndrome	1.6	768	NA
Hypoglycemia	2.2	1,573	NA
Lower Extremity Amputations	3.8	3,001	2,540

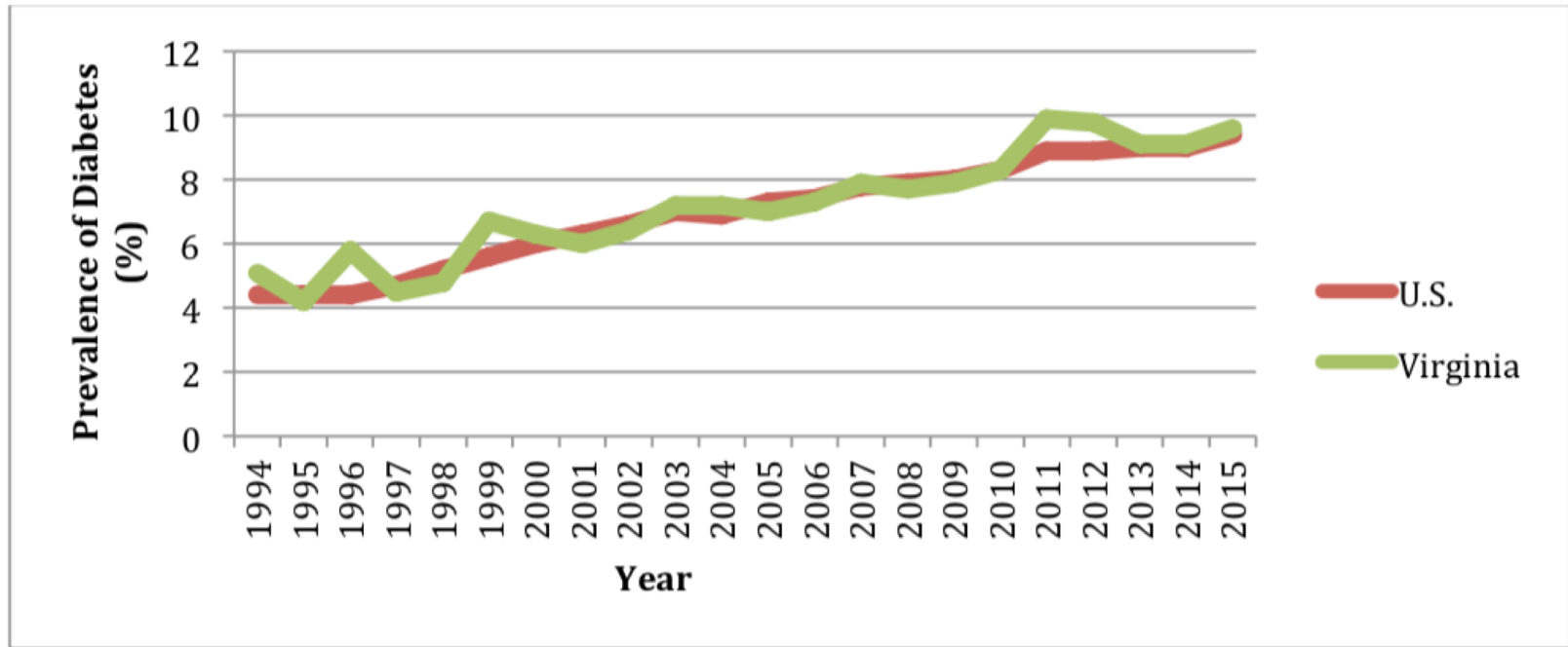
* First listed diagnosis

Source: [CDC, Diabetes State Burden Toolkit](#). Data source: Healthcare Cost and Utilization Project, Inpatient Database, 2014



Comparison to National DM Prevalence

Figure 1. Prevalence of Diagnosed Diabetes in the United States and Virginia, 1994-2015



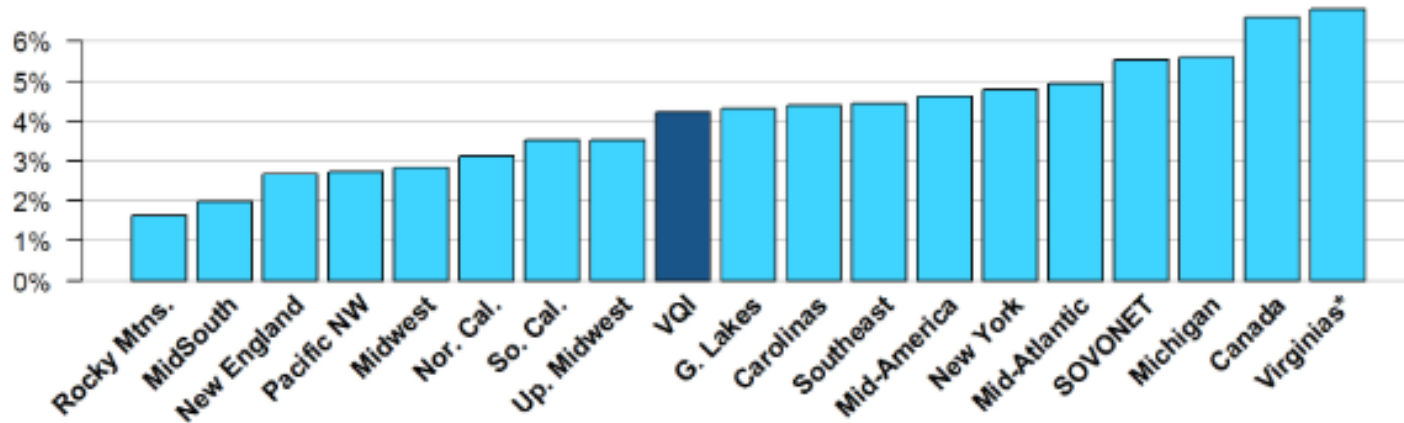
Source: Centers for Disease Control and Prevention. National Center for Health Statistics; Division of Health Interview Statistics; Data from the National Health Interview Survey. Accessed at CDC on May 11, 2017.

*In 2011 there was a major change in survey methods.



VA's Population Has Worse Outcomes...

Rate of Major Complications After INFRA by Region Across VQI (June 2017-May 2018)

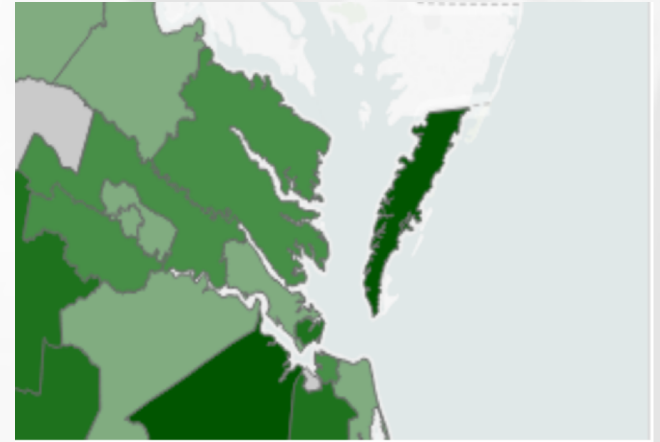


"Others" indicates centers that do not belong to a regional group. "*" indicates region's rate differs significantly from the VQI rate.



PAD on the Peninsula

- PAD is not a sexy vascular problem
 - Challenging patient population
 - Substandard access to care
 - Noncompliance and lack of means
- Peninsula is lacking a comprehensive approach for patients with PAD
 - Paucity of specialists, esp. endocrinology
 - Three competing health care systems lead to fragmentation of care
 - Lack of communication

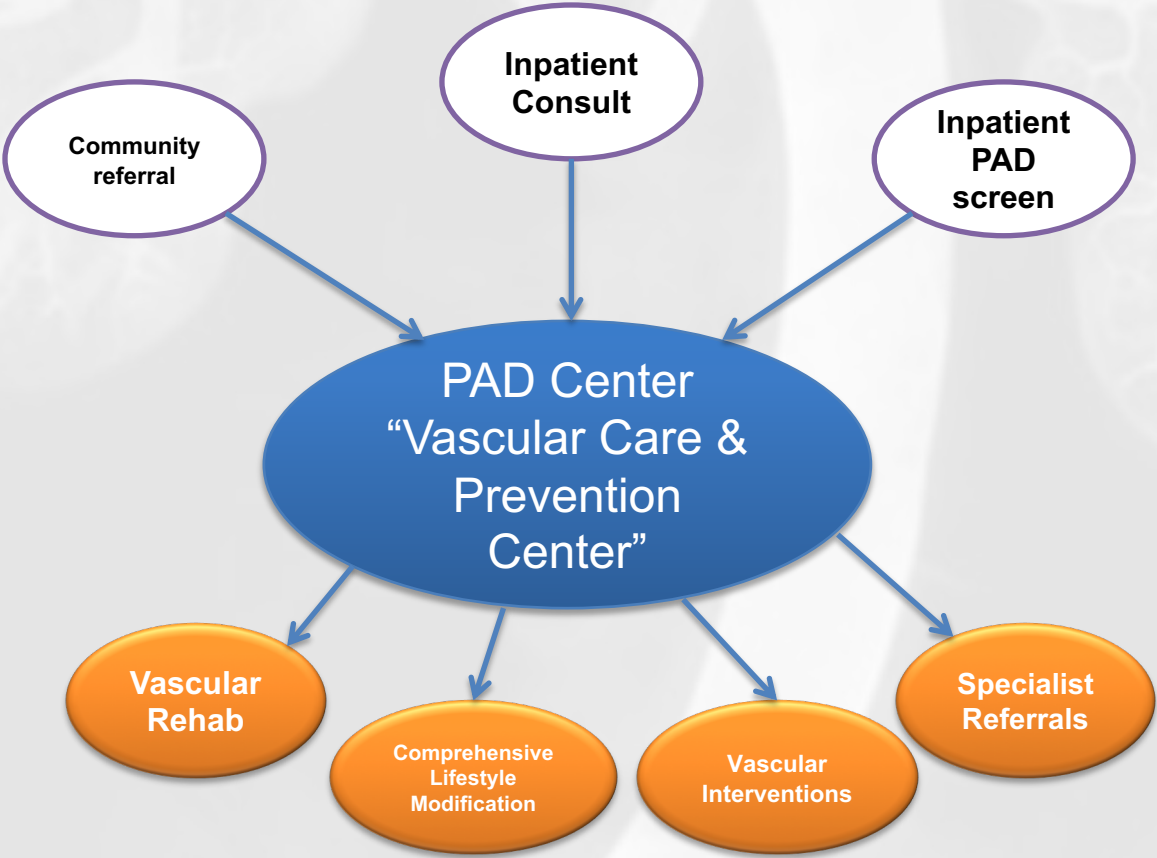


Limb Salvage Center

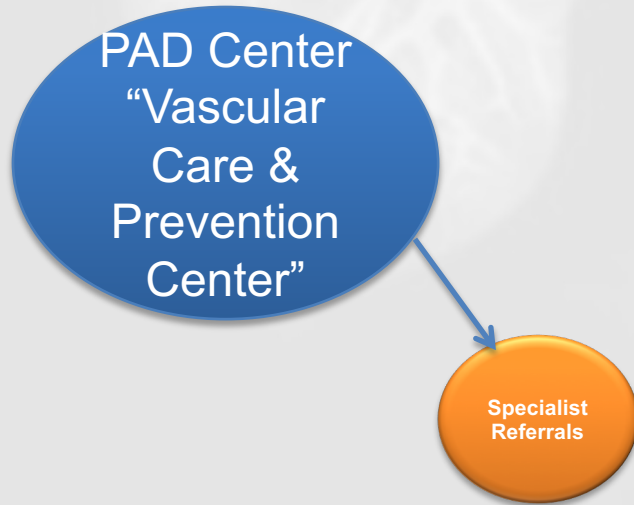
- Multidisciplinary approach to reduce amputation rate and maintain functional limbs
- Raise awareness and improve education
 - Patients
 - Physicians
 - Administration
- Single referral leading to comprehensive, streamlined and effective care for a complex patient population



Sentara Vascular Care and Prevention Center for PAD



Sentara Vascular Care and Prevention Center for PAD



- Affiliated specialists committed to limb salvage
 - Willing to prioritize patients into busy schedules (outpatient)
 - Maintain communication
- Podiatry
 - comfortable with complex podiatric surgeries
- Endocrinology
 - Strict glycemic control
- Infectious disease
 - Abx management of osteomyelitis
- Wound Care
 - Williamsburg wound center
 - Lower peninsula Port Warwick wound center
- Amputee Support and Prosthetics

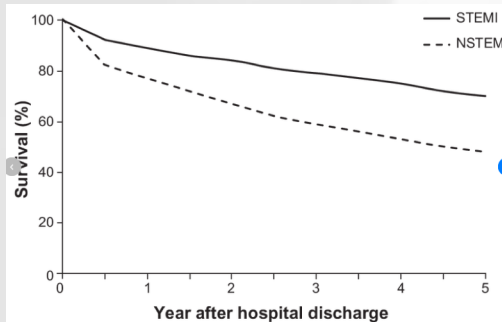


Sentara Vascular Care and Prevention Center for PAD

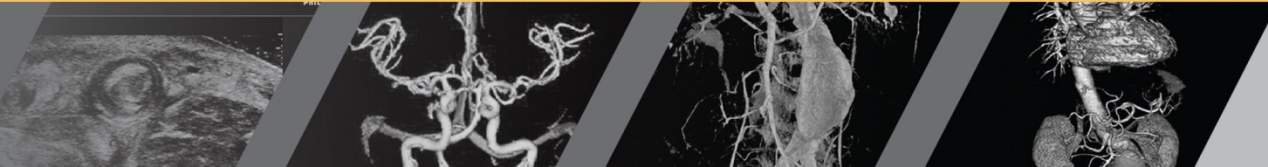
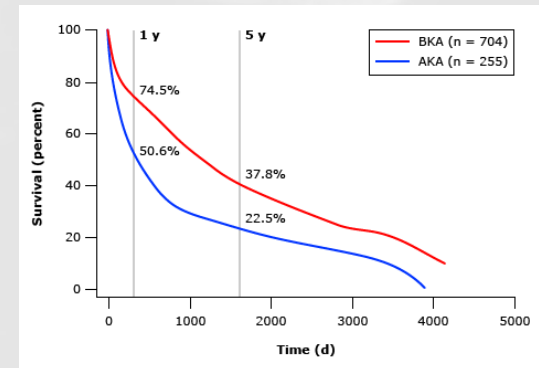
- THIS IS ON US!!
- Limb salvage procedures are difficult, long and frustrating
- **They are just as important as STEMI**

PAD Center
"Vascular Care &
Prevention
Center"

Vascular
Interventions

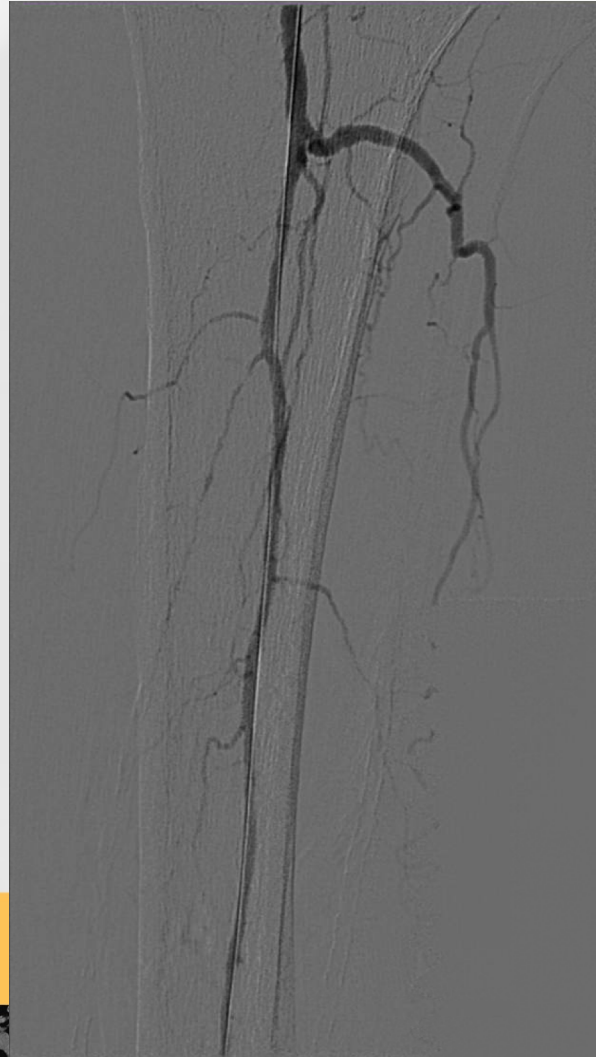


Post-discharge survival of patients according to type of AMI for patients enrolled in the Worcester Heart Attack Study in 2001, 2003, 2005, and 2007. Note: Worcester Heart Attack Study data from: 11,12,14 Abbreviations: AMI, acute myocardial infarction; NSTEMI, non-ST-segment elevation myocardial infarction; STEMI, ST-segment elevation myocardial infarction.



Why is this important?

- 92 yo woman with L foot wound



- Atherectomy of peroneal artery
- Wound healed
- Patient is alive with both legs 1.5 years later
- Pain free
- ABIs have been stable

- 80 yo man with LLE wounds and severe rest pain

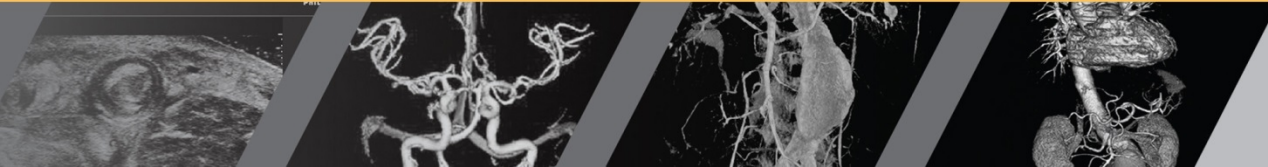


- Extensive hybrid procedure with femoral and iliac interventions

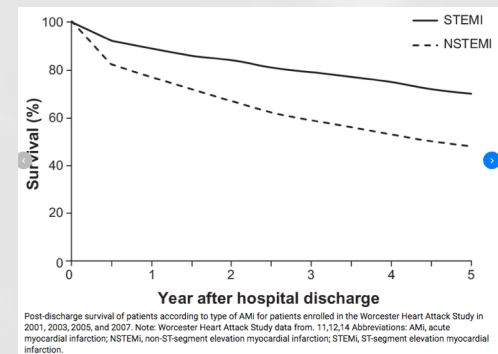
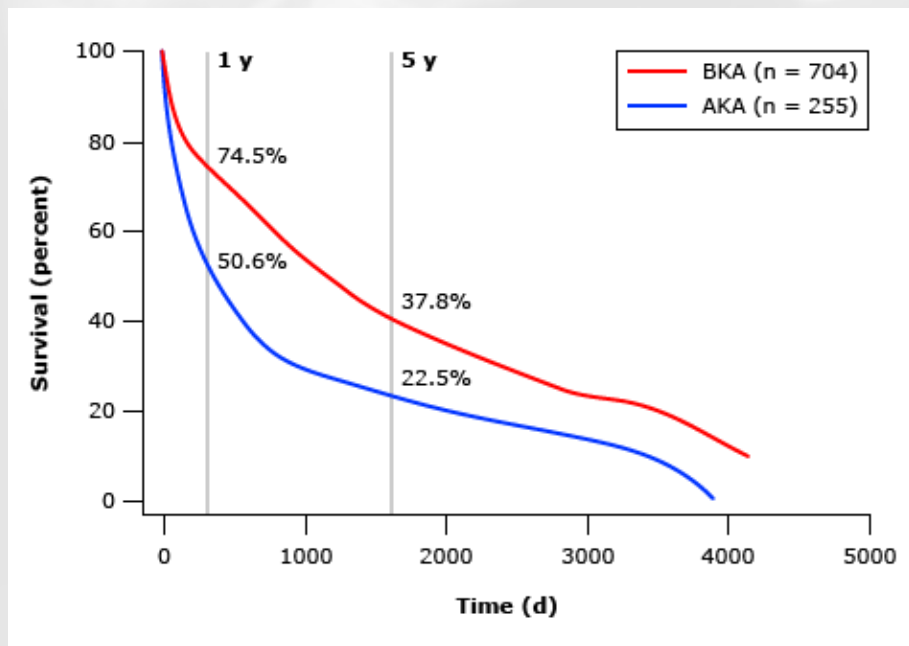




- Wounds healed
- Rest pain resolved



Save a Limb, Save a Life!



*Thank you for your
attention*

