



Peripheral Artery Disease

Comments to MEDCAC

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*July 22, 2015*

# Financial Disclosure

Lifeline Vascular Access: Employee

No other financial disclosures

## About Lifeline Vascular Access

- Represents 24 freestanding centers providing PAD interventional care
- Focus is on outcomes
- Program goals are focus on renal patients to reduce amputations in the dialysis population
- System is accredited by The Joint Commission
- Member of CardioVascular Coalition

# Risk Factors in CKD & ESRD Population

- High Risk Patients *(2005 & 2011 ACC/AHA guidelines for PAD mgmt)*
  - $\geq 65$  years
  - $\geq 50$  years old w/ diabetes or history of smoking
  - Exertional leg symptoms
  - Slow or non-healing wounds
- Burden of amputation in ESRD Patients
  - Prevalence 6% *(Combe 2009, AJKD 54:680)*
    - *Half die within two (2) years of an amputation (Garimella & Hirsh (ACKD, 21:6)*
  - All pts should be evaluated for PAD at time of dialysis initiation *(KDOQI)*
  - Non-invasive testing rec'd for people at high risk for PAD *(KDIGO)*
  - Diabetic patients especially at risk

# Prognosis of Those Affected by PAD

## Claudicans

- 25% are deteriorating
- Almost half progress to CLI within 5 years

- Mortality
  - 30% within 5 years
  - 50% within 10 years
  - 70% within 15 years



## CLI

- 40% have amputation within 6 months
- Average inpatient costs = \$55,000 (*twice that of stroke*)

- Mortality
  - 30% within 1 year
  - 70% within 5 years

Early Detection is the Key to Success

# The Patient's Perspective:

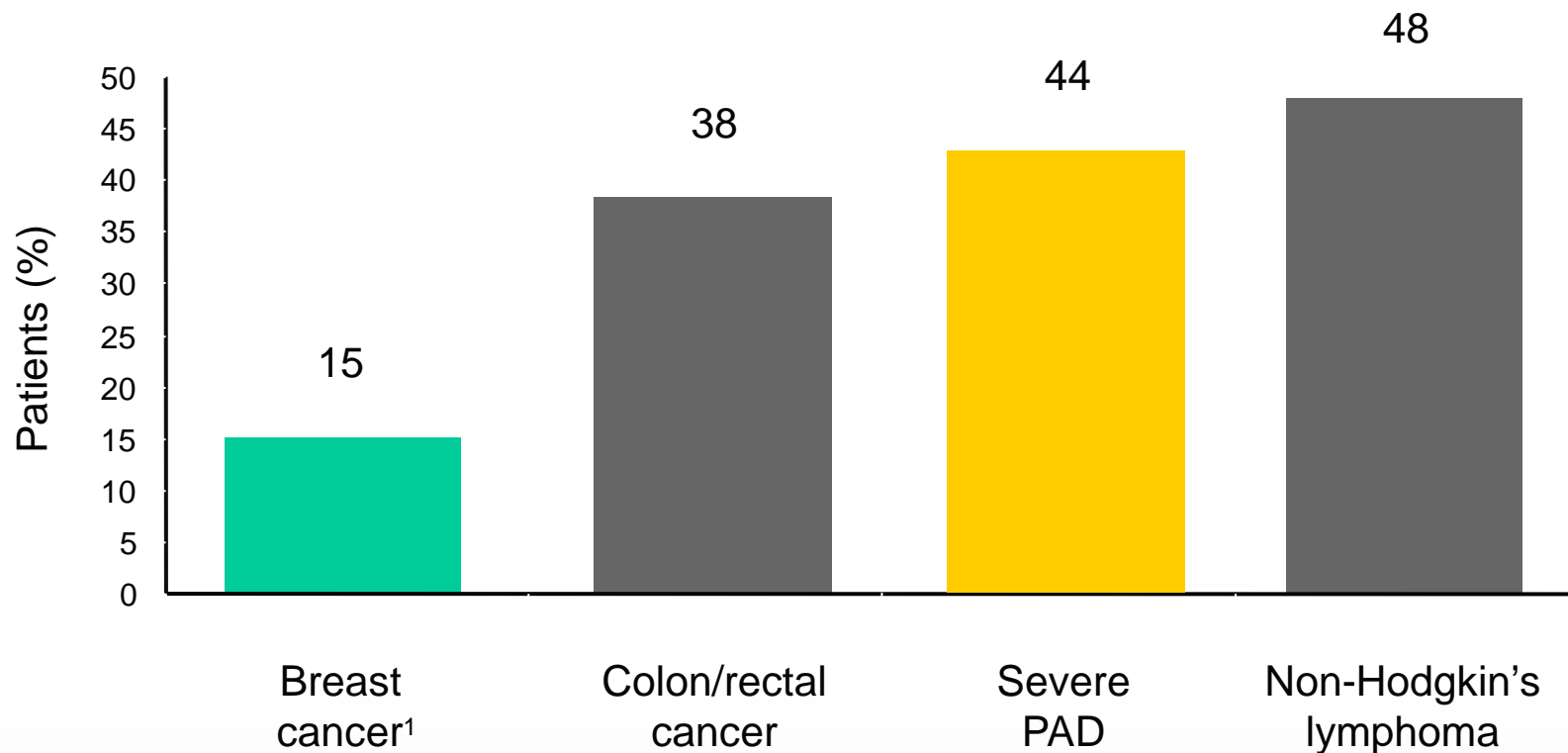
*... Why am I at risk, and why should I do anything about it?*

- Obesity has increased 4-fold since 1986 (BMI > 30%)
  - 35% of U.S. population is obese
- Diabetes has increased 2-fold since 1980
  - 60% of our ESRD population is diabetic
- 80% of our patients are at risk for PAD (even if only mild PAD)
  - 65 or older; 50 or older w/ diabetes or hx of smoking
- So...if I have PAD (even mild PAD)
  - I'm likely going to progress to CLI within 5 years
  - Then I'm at risk for amputation
  - Then my life expectancy is ~ 4 years

**Lifeline Experience: <5% of our ESRD patients are already being treated for PAD outside of our nephrologist's care**

# Mortality in Patients with Severe PAD

Relative 5-year mortality



Criqui 2001. *Vasc Med* 6 (suppl 1): 3.

McKenna M 1991. *Atherosclerosis* 87: 119.

Ries LAG et al. (eds). 2000. *SEER Cancer Statistics Review, 1973–1997*.

US: National Cancer Institute.

# Lifeline PAD Outcomes Success

- 98.8% technical success rate
- 0.87% total complication rate
  - Only 3 major complications
  - Most minor complications are closure device related

Patient Satisfaction 87.2% overall

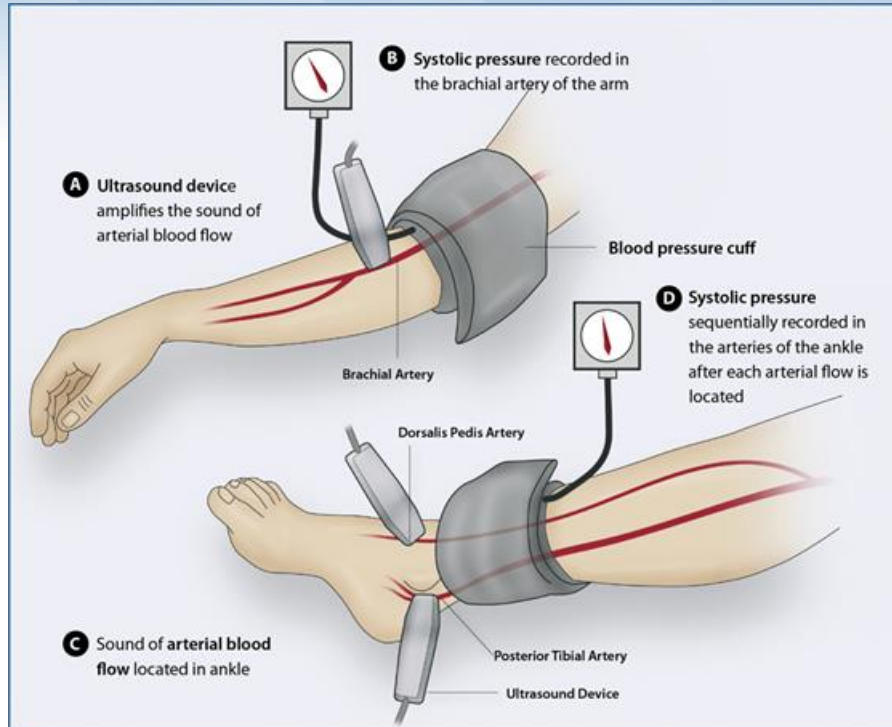
## Case Mix - Interventions

- |               |       |
|---------------|-------|
| • Atherectomy | 57.6% |
| • Angioplasty | 22.2% |
| • Stent       | 11.6% |
| • Angiogram   | 8.5%  |

**Lifeline model yields safe & effective PAD program**



# Ankle Brachial Index (ABI) test



**Positive  
for  
PAD?**

YES

*Next  
Step*

NO

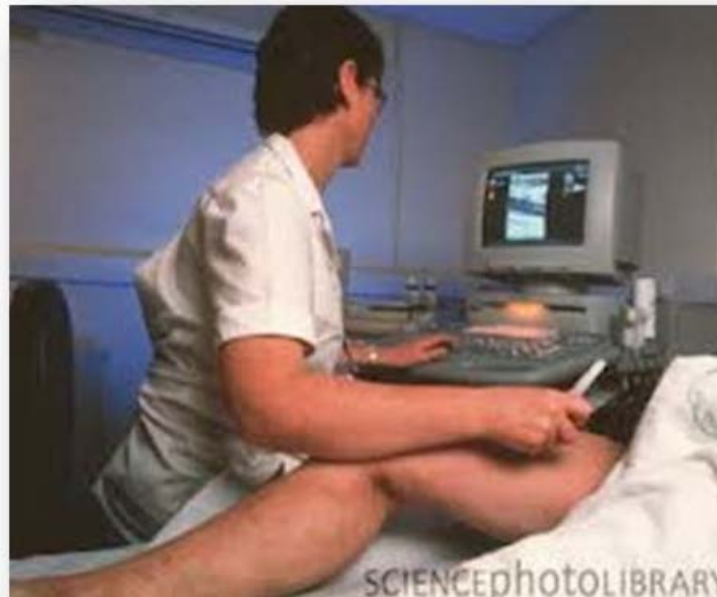
**Repeat  
annually**

## Toe Brachial Index (TBI) test

A Toe pressure is used when unable to get an Ankle blood pressure reading. Due to patient having calcified lower arteries...most often the case with a diabetic patient



# Duplex Ultrasound of the legs (from distal aorta to feet)



*Test  
result?*

## Extremity Arterial Duplex Report

Patient: [REDACTED] MRN: [REDACTED] Date of Service: 9/25/2012  
Referring Physician: Dr. Osmany D. Angelo, DO DOB: 3/5/1942  
Interpreting Physician: Dr. Osmany D. Angelo, DO Gender: F  
Sonographer: Sam Armfield, RVT, RDMS  
Indication: Patient presents with claudication after several minutes of walking. Rest for 3 to 5 minutes needed.  
Study Quality: Technically good.

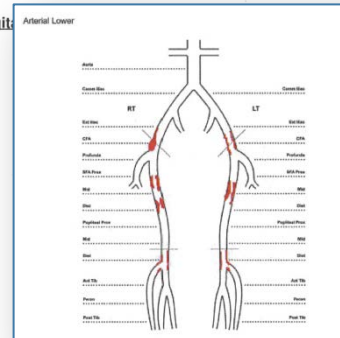
### Physician Review

**Conclusions:** 1. Moderate atherosclerotic plaque noted in the right lower extremity. Right ABI was .68 indicative of moderate to severe disease.  
2. Moderate atherosclerotic plaque noted in the left lower extremity. Right ABI was .76 indicative of moderate arterial disease..

### Findings

**Right:** Monophasic waveforms are noted in the right PTA and DPA. The Lower extremity Duplex scan is consistent with a greater than 75% stenosis in the right proximal and mid femoral artery.  
**Left:** Monophasic waveforms are noted in the left PTA and DPA. The Duplex scan of lower extremity is consistent with a greater than 50% stenosis in the left mid femoral artery.

### Digit:



# PAD Intervention as Deemed Appropriate

1. Minimal disease: annual evaluation and (often) medical management recommended.
2. Revascularization options as discussed and agreed upon by PAD interventionist and patient's nephrologist.



# K/DOQI Guideline 10: PAD

- 10.1.a At the time of dialysis initiation, all patients should be evaluated for the presence of PAD.
- 10.1.b Evaluation should include physical examination, including assessment of arterial pulse and skin integrity.
- 10.1.c Further specialized studies such as duplex ultrasound studies or invasive testing, should be undertaken if abnormalities are detected upon physical examination and interventions are considered.

## Conclusion

- CKD patients benefit from a comprehensive approach to PAD treatment
- Outcomes in freestanding centers demonstrate safety, efficacy and high levels of patient engagement
- Program goals include amputation reduction and improved quality of life