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Erectile Dysfunction:

A strong risk enhancer that deserves further risk evaluation and counseling

Case Example

- 47-year-old man presents to a Urologist/Men's Health Specialist complaining of ED. He does not have a primary care doctor, and he had not seen a clinician for over 10 years.
- BMI 32, BP 134/82
- hsCRP 2.7, TG 221, non-HDL 171
- Does report a family history of CAD in his father (age 63)



Risk Enhancing Factors

Table 1: ASCVD Risk Enhancers
<ul style="list-style-type: none">• Family history of premature ASCVD• Primary hypercholesterolemia• Chronic kidney disease• Metabolic syndrome• Conditions specific to women (e.g. preeclampsia, premature menopause)• Chronic inflammatory conditions (especially rheumatoid arthritis, psoriasis, HIV)• Ethnicity (e.g. south Asian ancestry)
Lipid/Biomarkers:
<ul style="list-style-type: none">• Persistently elevated triglycerides (≥ 175 mg/dL)
<i>In selected individuals if measured:</i>
<ul style="list-style-type: none">• hsCRP ≥ 2 mg/L• Lp(a) levels ≥ 50 mg/dL or ≥ 125 nmol/L• ApoB levels ≥ 130 mg/dL• Ankle-brachial index < 0.9

What about men?

Vasculogenic ED vs. Psychogenic ED

Table 1 Distinguishing predominantly organic (medical/vasculogenic) erectile dysfunction from predominantly psychogenic erectile dysfunction

Factors consistent with vasculogenic ED:

- Gradual onset
- Global context
- Persistent course
- Weak noncoital erection
- Inconsistent early morning erections
- Anxiety/stress/fear manifest after ED onset
- Partner/relationship problems after ED onset
- Presence of medical risk factors
 - Age >40
 - Waist circumference >40 in
 - Metabolic syndrome/components
 - Testosterone deficiency

Factors consistent with psychogenic ED:

- Acute onset
- Situational context
- Intermittent course
- Rigid noncoital erection
- Normal nocturnal erections
- Normal early morning erections
- Anxiety/stress/fear present before ED onset
- Partner/relationship problems present before ED onset
- Absence of medical risk factors

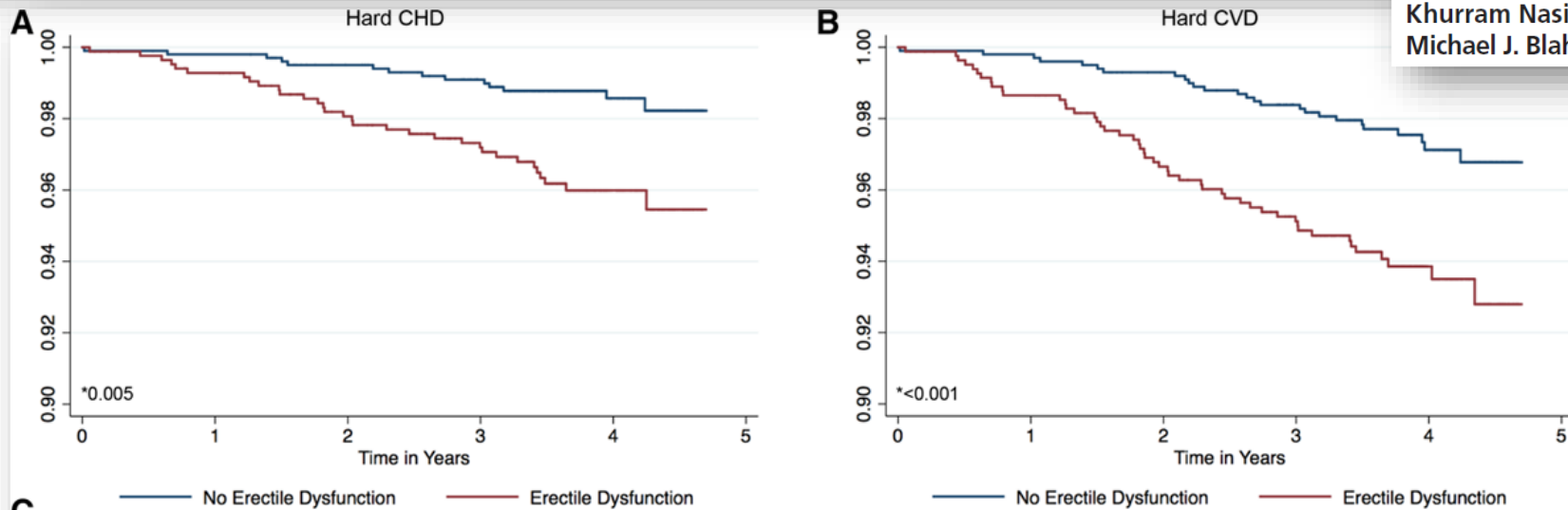
Based on individual symptoms, patients thought to have primarily vasculogenic ED should be evaluated per the algorithm in Fig. 1

RESEARCH LETTER

Erectile Dysfunction as an Independent Predictor of Future Cardiovascular Events

The Multi-Ethnic Study of Atherosclerosis

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 Miguel Cainzos-Achirica, MD, MPH
 Andrew P. DeFilippis, MD, MSc
 Philip Greenland, MD
 Ron Blankstein, MD
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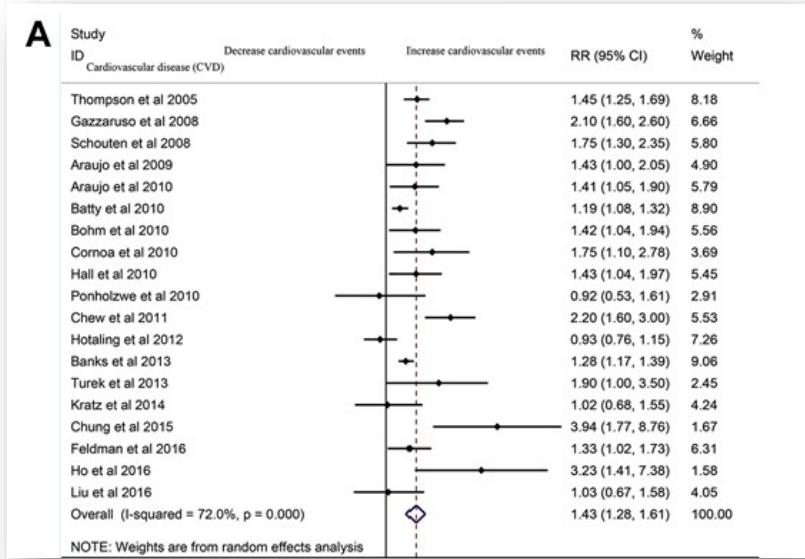


	Events, N (%)	Unadjusted HR (95% CI)	Model 1 HR (95% CI) †	Model 2 HR (95% CI) ‡	Model 3 HR (95% CI) §
Hard CHD	40 (2.3%)	2.5 (1.3 – 4.8)	1.7 (0.8 – 3.6)	1.6 (0.8 – 3.4)	1.8 (0.8 – 4.0)
Hard CVD	75 (4.3%)	2.6 (1.6 – 4.1)	1.7 (1.0 – 2.9)	1.8 (1.0 – 3.2)	1.9 (1.1 – 3.4)

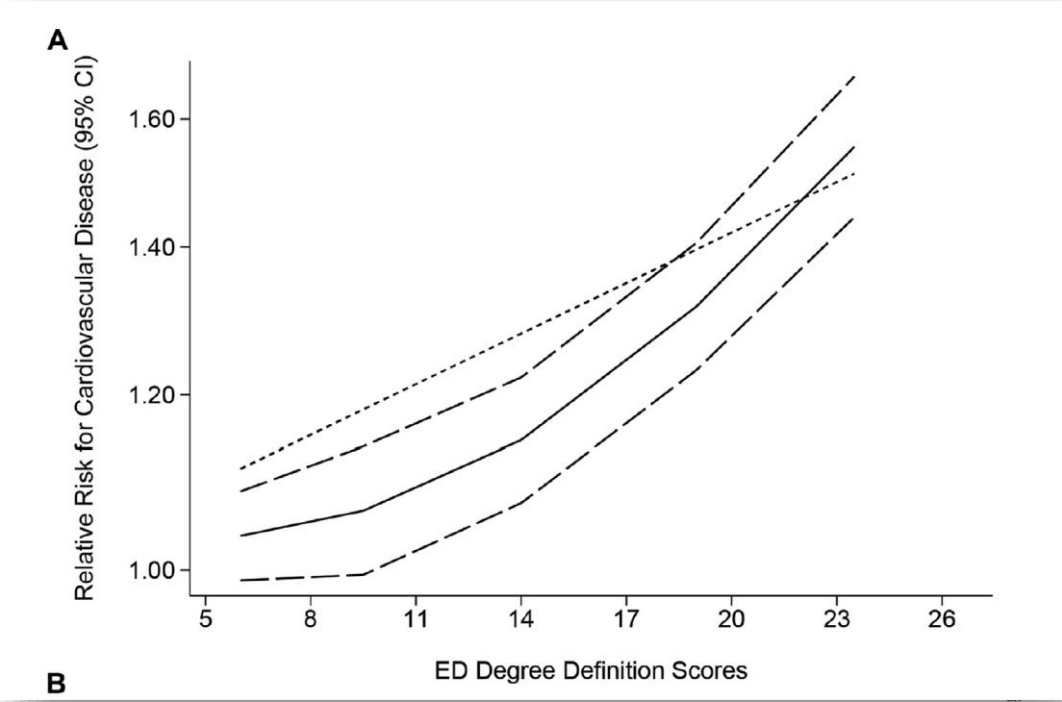
Erectile Dysfunction Predicts Cardiovascular Events as an Independent Risk Factor: A Systematic Review and Meta-Analysis

Check for updates

Binghao Zhao, MD, PhD,^{1,2} Zhengdong Hong, MD,³ Yiping Wei, MD,³ Dongliang Yu, MD,¹ Jianjun Xu, MD,¹ and Wenxiong Zhang, MD¹



CV risk baseline ⁵⁵	n	RR (95% CI)
Low ^{9,19,20,23}	4	1.19 (0.90–1.56)
Intermediate ^{12,13,15,16,18,21,28,31,32}	9	1.65 (1.34–2.02)
High ^{10,17,24,26,27,33}	6	1.40 (1.12–1.76)



Meta-Analysis: ED and Subclinical Disease

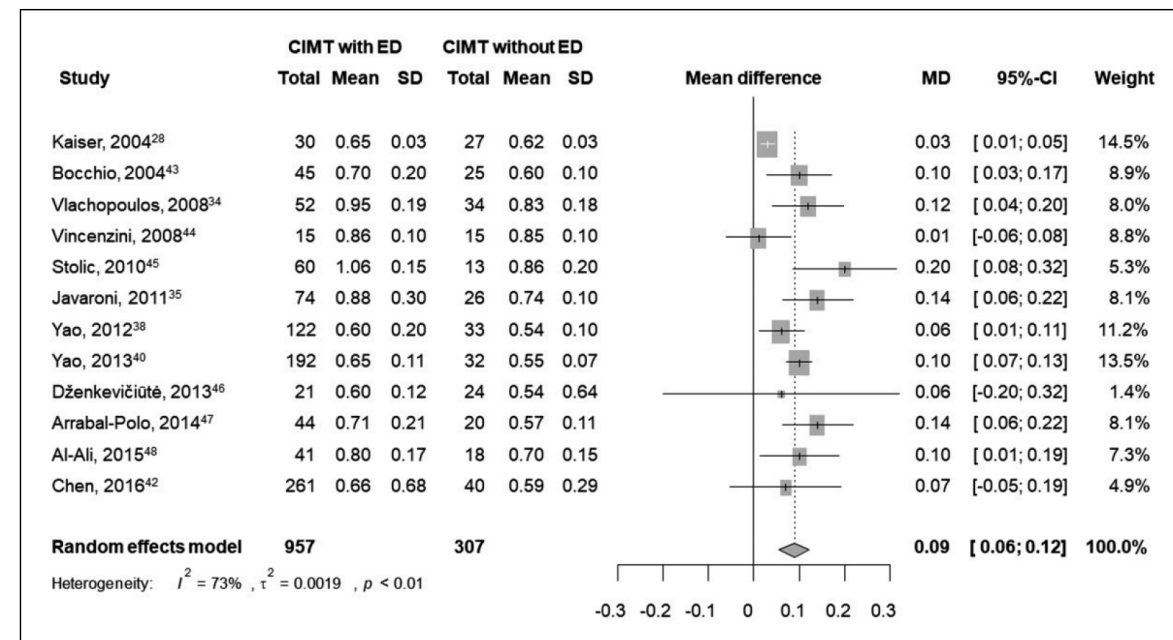
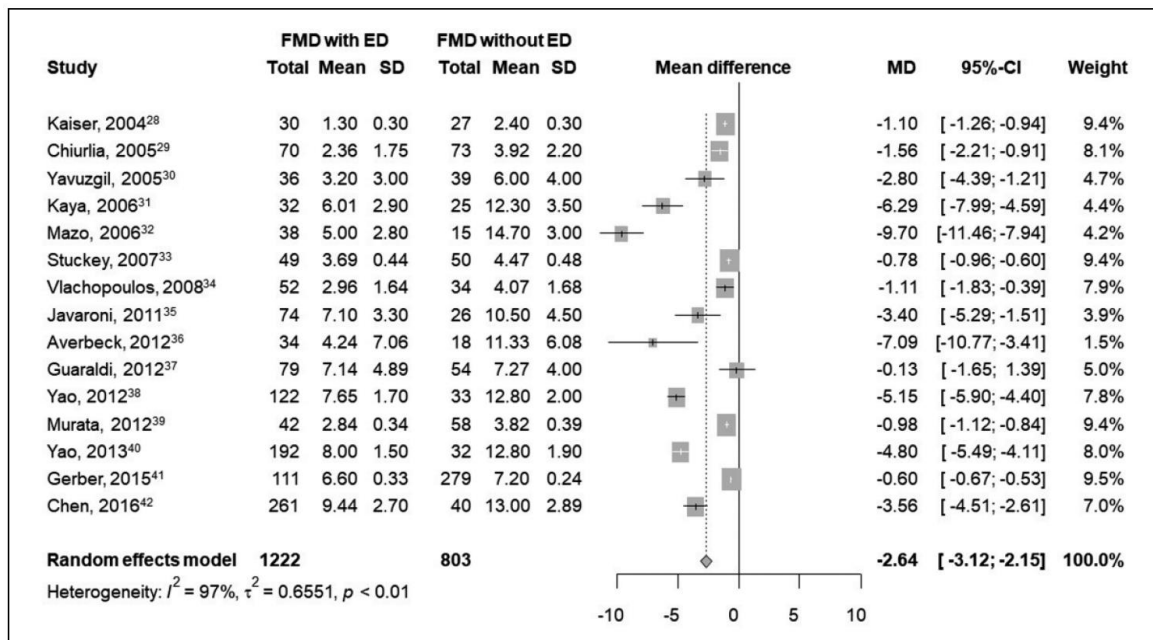


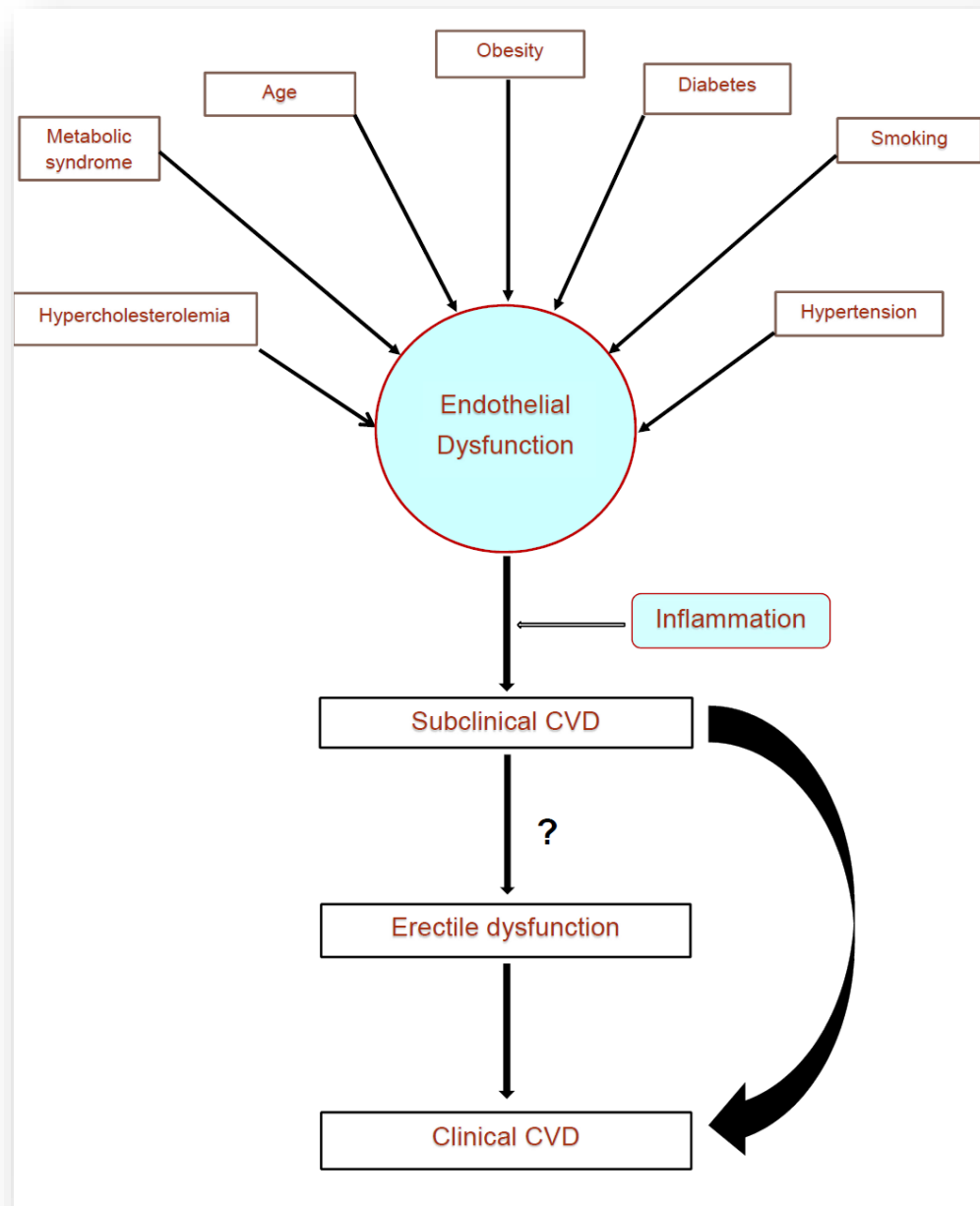
Figure 2. Meta-analysis of studies on the relationship between erectile dysfunction (ED) and flow-mediated dilatation (FMD). Results are shown as differences in percentage change between ED and non-ED groups and their pooled mean difference (MD).

Figure 3. Meta-analysis of studies on the relationship between erectile dysfunction (ED) and carotid intima-media thickness (cIMT). Results are shown as differences in mean cIMT (in mm) between ED and non-ED groups and their pooled mean difference (MD).

FMD

cIMT

Conceptual Model of ED and CVD



Orimoloye et al, *Trends in Cardiovascular Medicine*, 2019

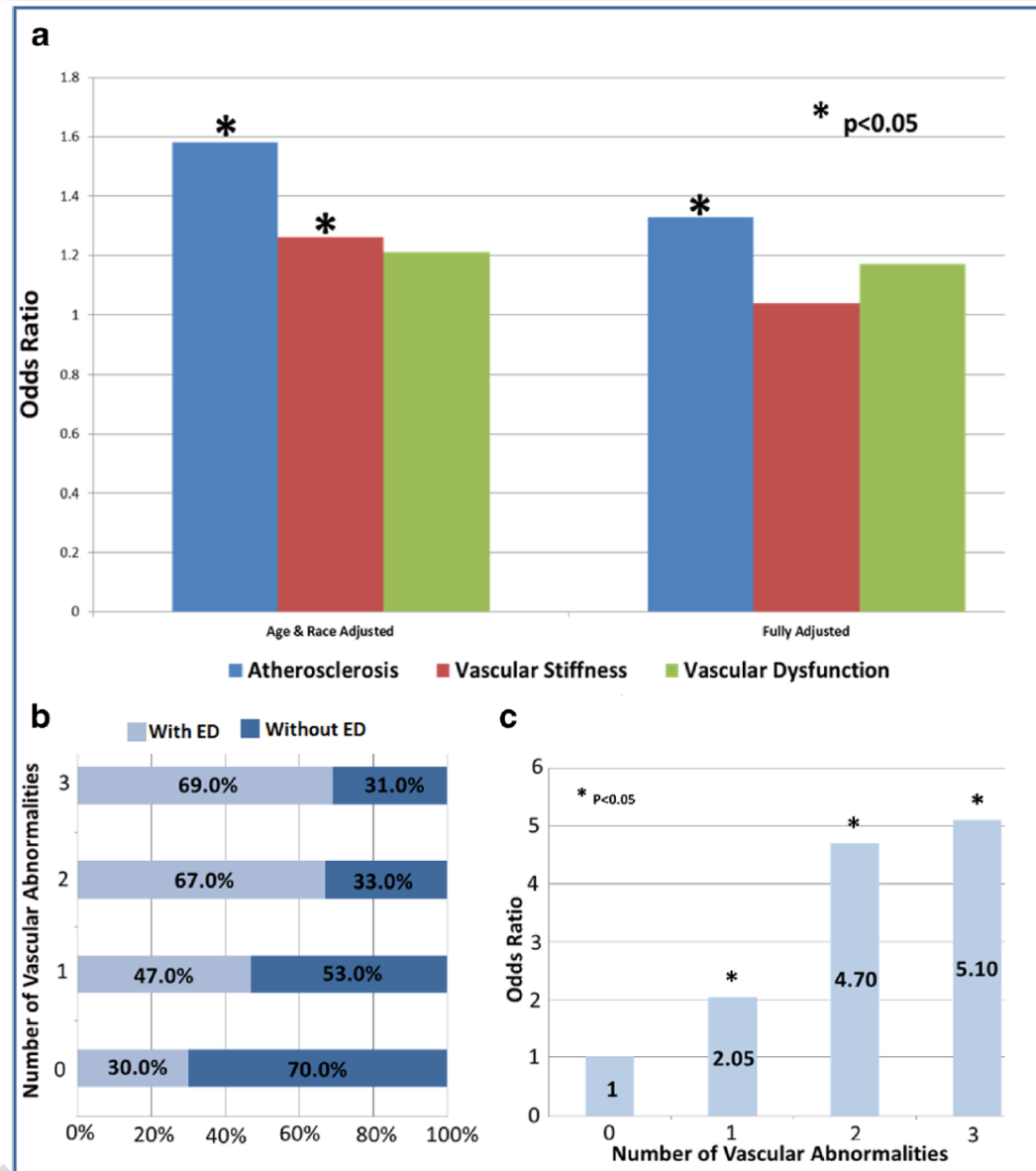
Subclinical Atherosclerosis - Most linked with ED

Clinical Investigations

Subclinical Vascular Disease and Subsequent Erectile Dysfunction: The Multiethnic Study of Atherosclerosis (MESA)

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 Baltimore, MD 21287
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Feldman et al, *Clinical Cardiology* 2016



Case Example (continued)

- 47-year-old man presents to a Urologist complaining of ED. He does not have a primary care doctor, and he had not seen a clinician for over 10 years.
- BMI 32, BP 134/82
- hsCRP 2.7, TG 221, HDL 40, non-HDL 171
- Does report a family history of CAD in his father (age 63)
- **Given Viagra, return to clinic in a few months**



Case Example (continued)

- 47-year-old man presents to a Urologist complaining of ED. He does not have a primary care doctor, and he had not seen a clinician for over 10 years.
- BMI 32, BP 134/82
- hsCRP 2.7, TG 221, HDL 40, non-HDL 171
- Does report a family history of CAD in his father (age 63)
- **Testosterone testing, given Viagra, return to clinic in a few months as well as advice to see a PCP**



Case Example (continued)

- 47-year-old man presents to a Urologist complaining of ED. He does not have a primary care doctor, and he had not seen a clinician for over 10 years.
- BMI 32, BP 134/82
- hsCRP 2.7, TG 221, HDL 40, non-HDL 171
- Does report a family history of CAD in his father (age 63)
- **Testosterone testing, ED treatment, integration into a comprehensive Men's Health Clinic, CVD risk assessment**



QRISK3

55 YEAR OLD MAN

Never-smoker

Non-diabetic

Positive family history of CHD

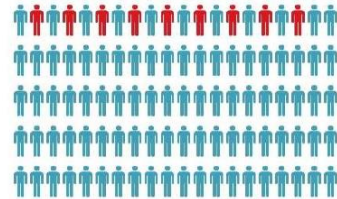
Systolic Blood pressure: 130 mmHg

Cholesterol/HDL ratio: 4.0

Height: 170 cm

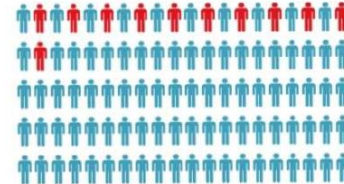
Weight: 100 kg

**ERECTILE
DYSFUNCTION
ABSENT**



10-year QRISK 3 score = 9.2%

**ERECTILE
DYSFUNCTION
PRESENT**



10-year QRISK 3 score = 11.1 %

10-Year ASCVD Risk

4.9% calculated risk

1.5% risk with optimal risk factors ⓘ

Lifetime ASCVD Risk

50% calculated risk

5% risk with optimal risk factors ⓘ

ASCVD Risk Estimator

Reset All

Intended for patients with LDL-C < 190 mg/dL (4.92 mmol/L), without ASCVD, not on LDL-C lowering therapy

Demographics

Sex

Male Female

Age

47

Age must be between 20-79

Race

White African American Other

Labs

Unit Type

Total Cholesterol (mg/dL)

245

Value must be between 130 - 320

HDL-Cholesterol (mg/dL)

40

Value must be between 20 - 100

Systolic Blood Pressure (mm Hg)

134

Value must be between 90-200

Personal History

Diabetic

Yes No

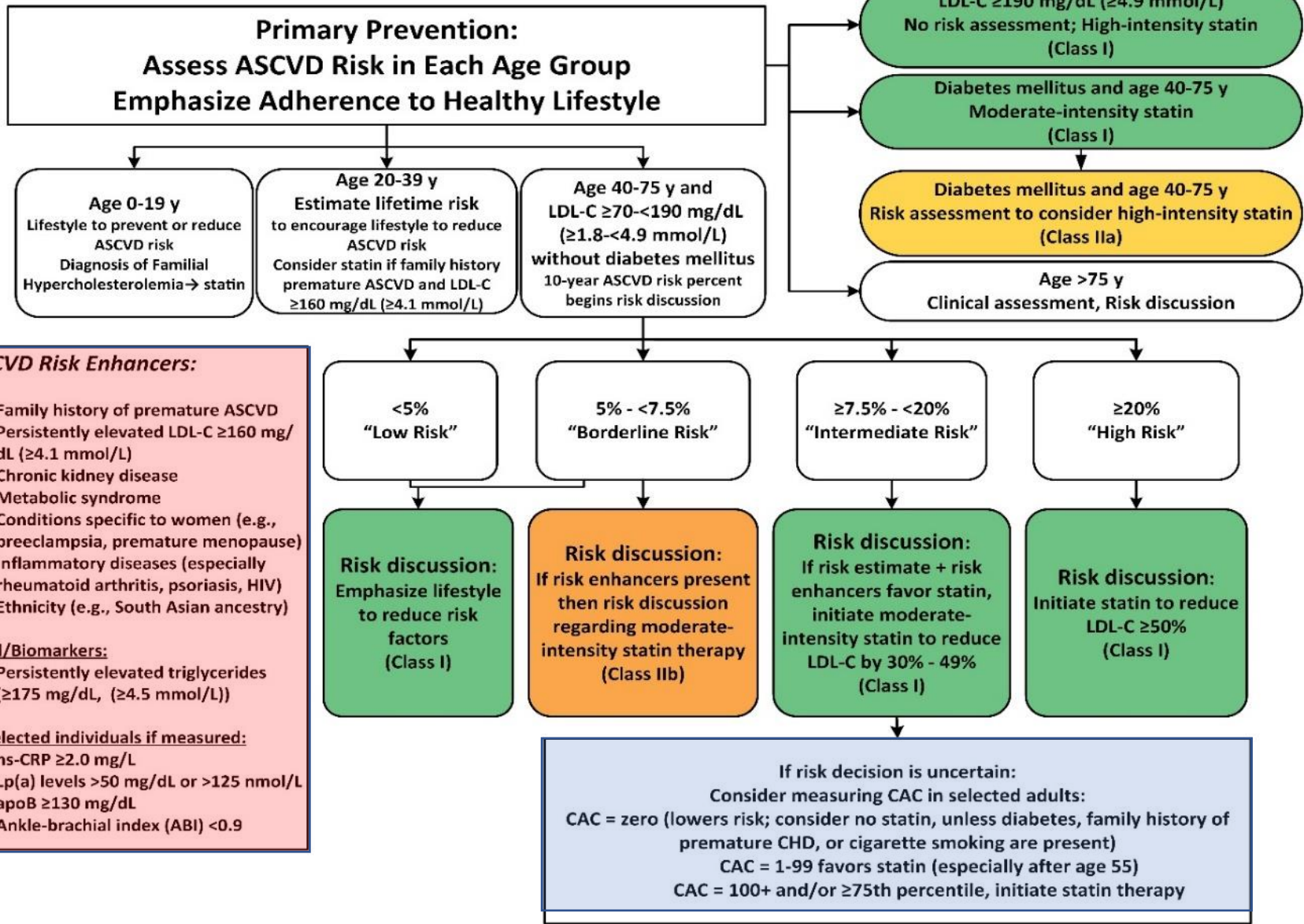
Smoker

Yes No

Treatment for Hypertension

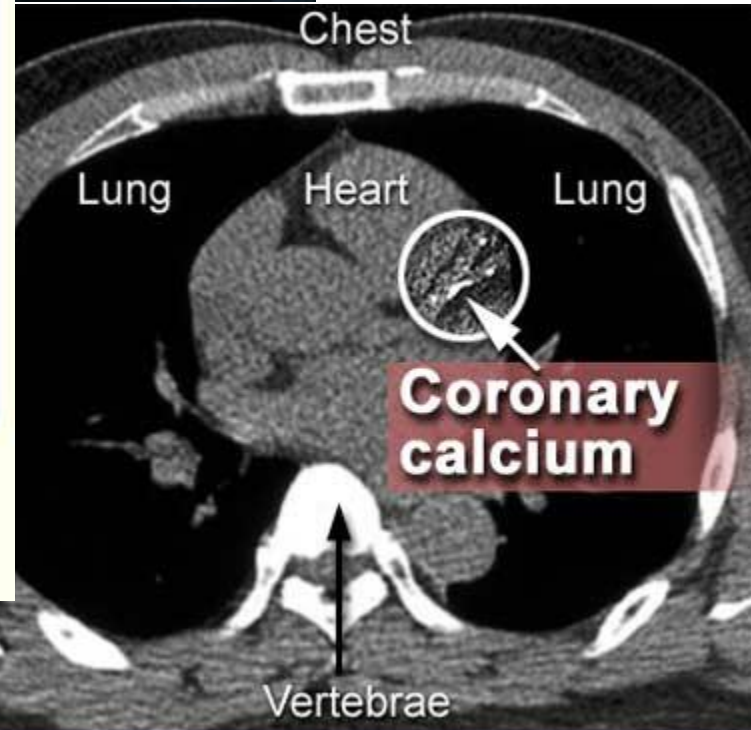
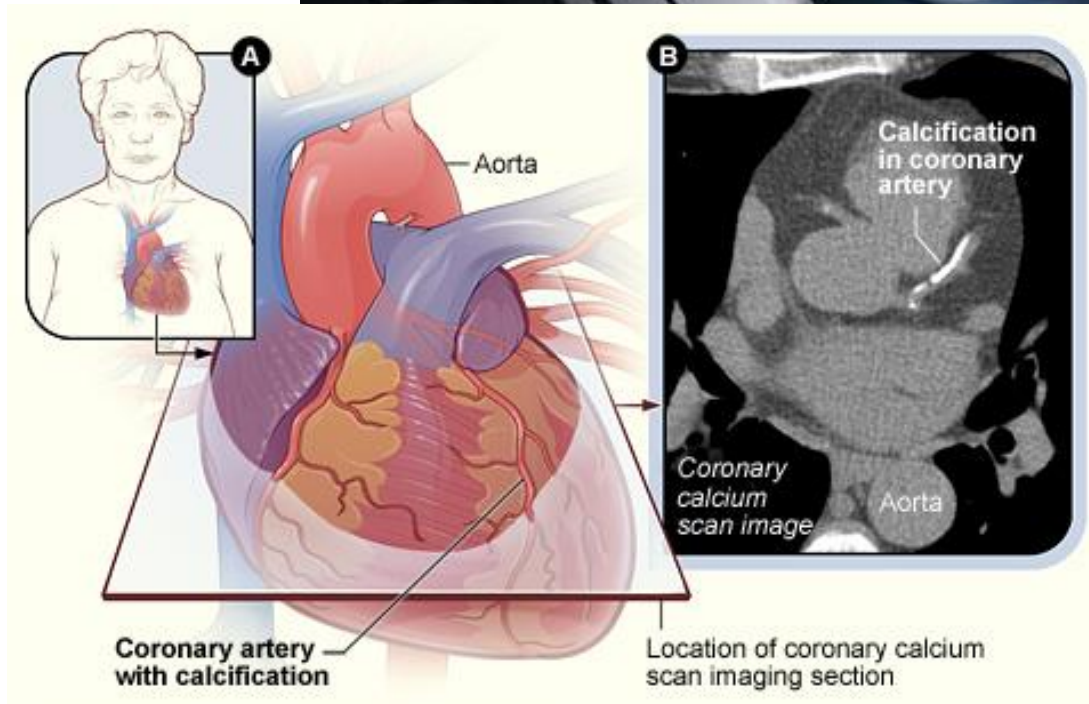
Yes No

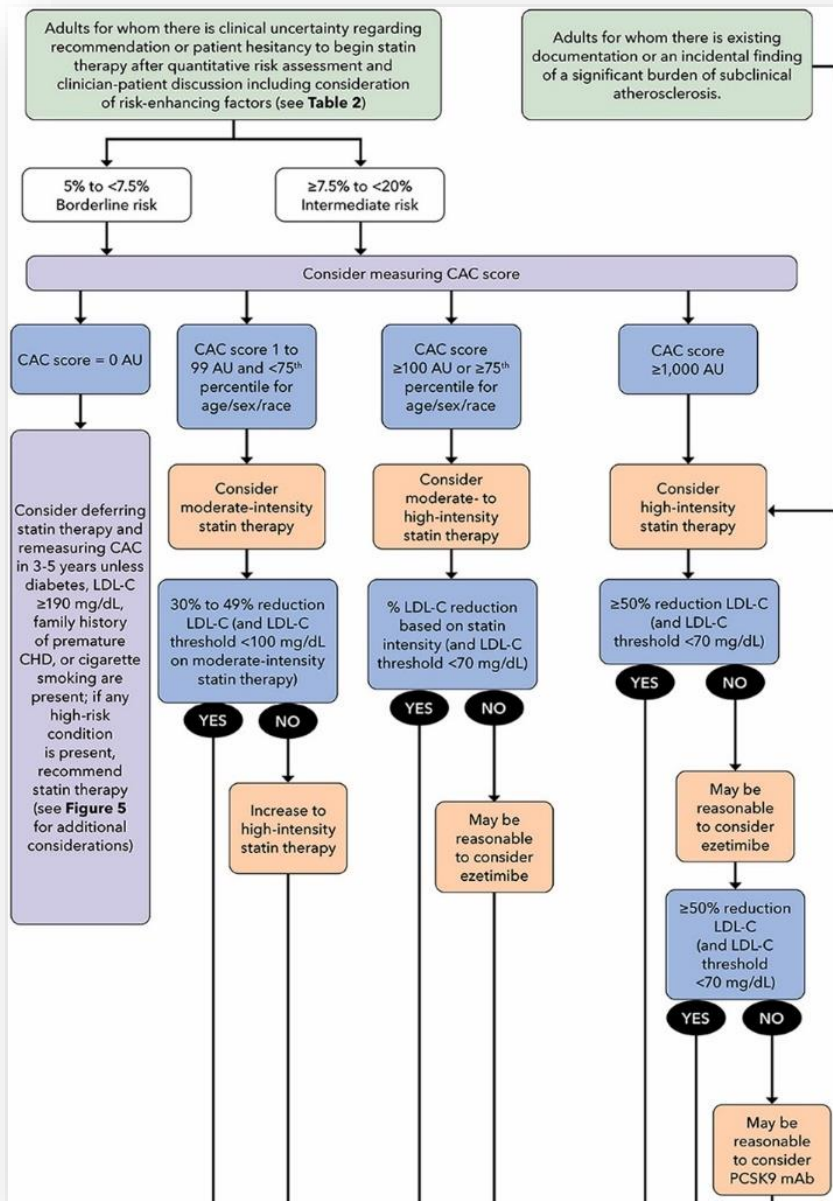






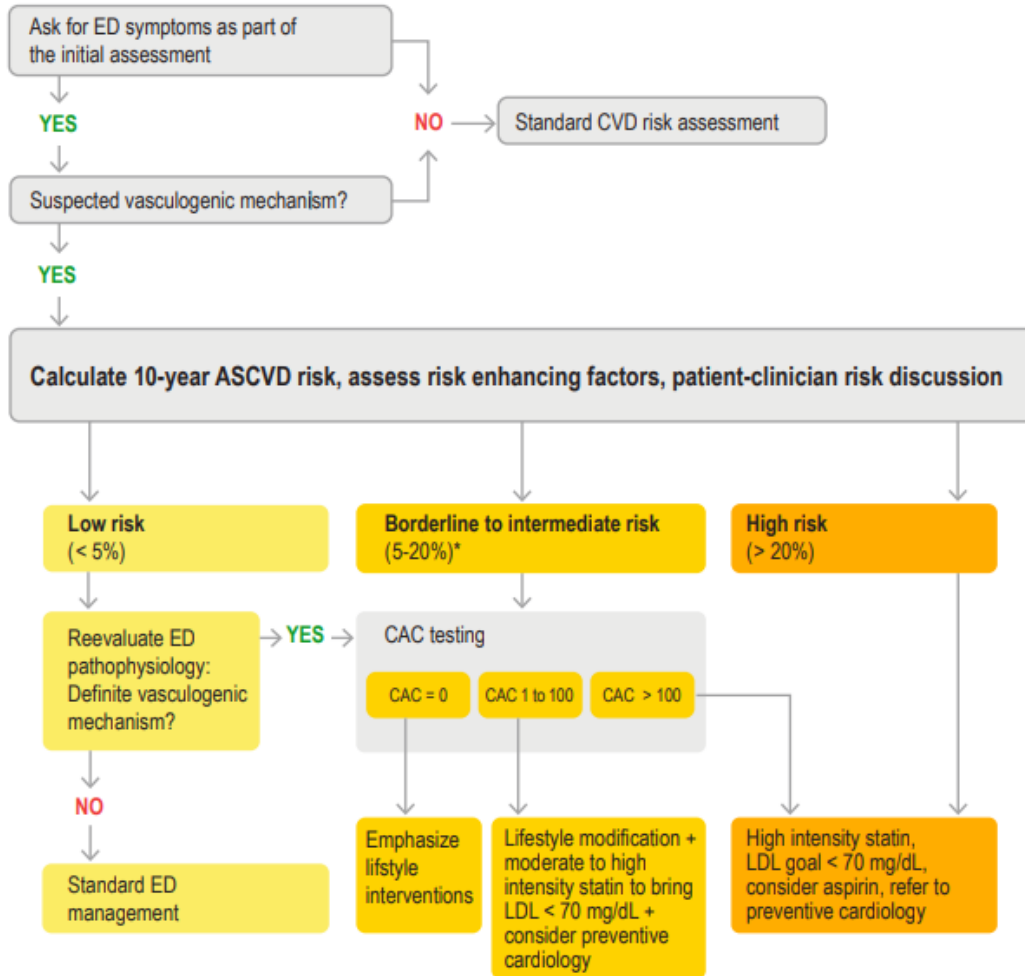
~1 mSv





2022 ACC Expert Consensus Decision Pathway on Non-Statin Use

Cardiovascular Work-Up of Men with Vasculogenic ED



ASPC
The American Society for Preventive Cardiology

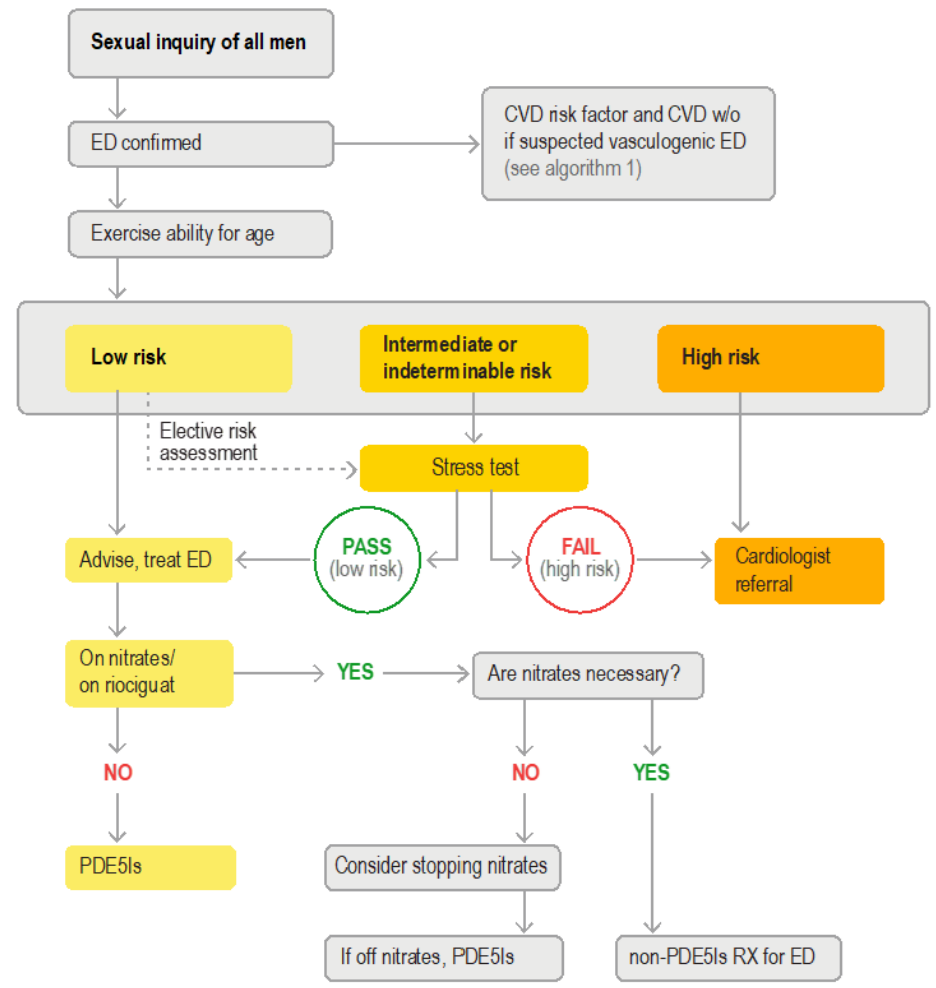


ASPC

The American Society for Preventive Cardiology




Management of ED in men with CV Disease



Concluding Remarks

- Cardiologists - Urologists may be seeing higher risk primary prevention patients than you are!
- Vasculogenic ED should be considered a risk enhancing factor
- You definitely can save lives by conducting advanced risk assessment and focused prevention in men with ED
- Most patients with ED and elevated CVD risk are still safe for sex and PDE5 inhibitors
- Only those patients with exercise intolerance or other potentially cardiovascular symptoms require functional testing (i.e. stress testing)
- Most patients with stable CAD do not require frequent nitrates

A portrait of Kevin Billups MD, a man with short dark hair and a mustache, wearing a dark suit jacket, a light blue shirt, and a dark tie. He is smiling and looking towards the camera. The background is a light blue gradient.

The Case for a Comprehensive Approach to ED

- Vascular ED is a vascular disease
- Men commonly present first with ED, and not to a cardiologist.
- Urologist may be seeing higher risk primary prevention patients than you are!
- ED should be considered a risk enhancing factor
- You definitely can save lives by conducting advanced risk assessment and focused prevention in men with ED

Kevin Billups MD, Meharry, Nashville, TN

A decorative graphic at the bottom right of the slide, featuring overlapping red and blue circular shapes with a textured, layered appearance.