Physicians Guide

South Asian heart disease epidemic

Four-fold higher risk of CAD in people from India, Pakistan, Nepal, Bangladesh, Sri Lanka

South Asian Heart Center
EL CAMINO HOSPITAL

Coronary Artery Disease in South Asians: The facts...

- The increased risk of CAD is largely due to a much higher burden of factors whose onset occurs at ages earlier than in non-South Asians.
- This higher risk in South Asians is irrespective of gender, religion, social class, immigration status, or country of residence.
- Clinical risk factors include increased incidence of insulin resistance, diabetes mellitus, impaired reverse cholesterol transport (HDL disorders), and elevated levels of lipoprotein(a).
- The risk is also explained in part by acquired and behavioral factors, including a strong cultural tendency to decreased physical activity and lack of regular exercise.
- Contributing nutritional factors include grain-rich diets rich in simple carbohydrates, trans and saturated fat while lacking in fruits, vegetables, and omega 3 fatty acids.

Severity of CAD in South Asians

- #1 leading cause of death in Indian males and females in South Asia
- 2 times more likely to experience a fatal heart attack
- 3 times more likely to suffer a heart attack
- 4 times higher risk for heart disease
- 50% of heart attacks occur before the age of 55
- 60% of global heart disease burden borne by South Asian Indians

Compared to many indigenous populations as reported in multiple scientific studies conducted worldwide; WHO

Screening recommendations for South Asians

- Test ATP-III panel (all 18+ y/o); note these guidelines may underestimate risk
- Evaluate HDL abnormalities, high Lp(a), and homocysteinemia
- Check insulin resistance, metabolic syndrome, & inflammation.
- Assess for type and degree of physical activity
- Assess for diets high in sugar, simple carbohydrates and saturated or trans-fats

Counsel on benefits of physical activity & "heart healthy" routine

- Encourage 40 minutes of daily vigorous physical activity
- Provide choices: climb stairs, stroll after meals, park farther away, take breaks from sitting, walk 10,000 steps, run a dog

Perform a dietary inquiry with attention to daily intake of:

- Vegetable servings (aim for 4+ servings: 2 fists or 2 cups)
- Fruit servings (aim for 3 servings or 1 1/2 cups)
- Liquid calories (juice, regular & diet sodas: aim to replace w/ water)
- Nuts (aim for 12 nuts – i.e. 8 almonds and 4 walnut halves)
- Omega-3 (aim for oily fish 2 times/week or 550 mg supplements)
- Differentiate between grain, dairy, and vegetable-based diets
- Suggest reducing carbohydrates to less than 50% of caloric intake
- Encourage use of whole-grain, non-processed cereals and grains

South Asian Heart Center, a non-profit prevention program invites health care providers to help fight against heart disease.

For nutrition & lifestyle coaching refer your South Asian patients to

www.southasianheartcenter.org/getscreened

Clinical Factors	Lower-Risk	Borderline	At-Risk
Personal History			
» Personal Hx of Hypertension	No HTN	120/80-130/85	>130/85
» Personal Hx of diagnosed CAD	No CAD	-	CAD
» Personal Hx of diagnosed Diabetes	No DM	-	DM
Family History (1st degree relatives only)			
» Family Hx of CAD (♂|♀)	No CAD	≥55 | ≥65	55 | <65
» Family Hx of Diabetes	No DM	-	DM
Advancing Age			
» Age	≤25 | ≤35	26-44 | 36-54	≥45 | ≥55
Use of Tobacco			
» Current Smoker	Quit >2 yrs	Quit <2 yrs	Current
Abdominal Obesity			
» Elevated BMI	≤23	23.1-26.9	≥27
» or Elevated waist circumference	<36 | <32	-	≥36 | ≥32

Metabolic Factors	Lower-Risk	Borderline	At-Risk
HDL: Disorders of Reverse Cholesterol Transport			
» Low HDL	≥40 | ≥50	-	<40 | <50
» High Total Cholesterol/HDL ratio	≤3.5	3.6-4.4	≥4.5
» Low HDL 2b	≥30%	20-29	<20%
LDL: Disorders of LDL Cholesterol (including ALP)			
» Elevated LDL with 0-1 FRF* / <10% TYR*	<100	100-129	≥130
or Elevated LDL w/ 2+ FRF* / ≤20% TYR*	<100	-	≥100
or Elevated LDL w/ CHD equiv. / ≥20% TYR*	<70	-	≥70
» Elevated Q-LDL IIIa+b	<32.1	-	≥32.1
or Elevated Q-LDL IVb	<11.2	-	≥11.2
» Disorders of Apo(B)	<60	60-119	120
Presence of Lp(a)			
» Elevated Lp(a)	<30	-	≥30
Disorders of Glucose/Insulin metabolism			
» Extended waist circumference	<36 | <32	-	≥36 | ≥32
» or Pre-diabetic: High blood glucose levels	<100	-	100-124
» or Diabetic: Impaired blood glucose levels		-	> 125

Metabolic Syndrome		Cut-Off
Any 3 of 5 abnormalities (AHA modified NCEP ATP III)		
» Abdominal obesity as measured by waist circumference		≥40 | ≥35
» Elevated Triglycerides		≥150
» Low HDL cholesterol	♂	<40 | <50
» Elevated blood pressure (or use of HTN Rx)		≥130/85
» Elevated fasting glucose		≥100

Other Risk Markers	Lower- Risk	Borderline	At-Risk
Metabolic/Inflammatory risk markers			
» Homocysteinemia	<10	10-13	≥14
» Insulinemia	<10	10-11	≥12
» Elevated Fibrinogen	<350	-	≥350
» Elevated CRP	<1	1-2	>2

Notes

♂|♀ indicates cutoffs that vary between male | female

* FRF - Framingham risk factors:
  Age, Gender, Total Cholestrol, HDL, Smoker, Systolic BP
* TYR - 10-year risk of having a heart-attack
* CHD equiv - MI, angina, DM, coronary calcification

Risk cut-off levels based on NCEP ATP III adjusted for South Asians.

The South Asian Heart Center clinical guidelines and lifestyles recommendations are based on a thorough review and synthesis of published scientific data and best practices, and with the consensus of its expert physician advisory members.

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