

# South Asian heart disease epidemic

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



## CAD in South Asians: What do we know?

- › This higher risk is irrespective of geography, gender, religion, or social class
- › Increased incidence is partially explained by clinical & behavioral risk factors
- › Clinical risk factors include increased incidence of insulin resistance, diabetes mellitus, impaired reverse cholesterol transport (HDL disorders), and elevated levels of lipoprotein(a)
- › Behavioral risk factors include decreased physical activity, and grain-based diets rich in simple carbohydrates, trans and saturated fats, while lacking in fruits, vegetables, and omega 3 fatty acids
- › There is ample scientific data underlying the South Asian Heart Center and American Heart Association lifestyle recommendations

## Severity of CAD in South Asians

- › #1 cause of mortality in males and females
- › 2 times more likely to suffer a fatal heart attack
- › 3 times more likely to suffer a secondary heart attack
- › 4 times higher risk for heart disease than any other ethnicity
- › 50% of heart attacks occur before the age of 50
- › 60% of the global heart disease burden is borne by South Asian Indians

## 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, and inflammatory markers
- › Appraise for sedentary levels of physical activity
- › Assess diets high in sugar, simple carbohydrate, saturated and trans-fat

## Define benefits of physical activity and regular 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 short 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, milk, 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-based, dairy-based, 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 community funded prevention program, invites health care providers to a partnership in its fight against heart disease.

Refer your South Asian patients to [southasianheartcenter.org/GetScreened](https://southasianheartcenter.org/GetScreened) for screening, nutrition counseling, and ongoing heart-health coaching.

Clinical Factors	Lower-Risk	Borderline	At-Risk
<b>Personal History</b>			
» Personal Hx of Hypertension	No HTN		HTN
» Personal Hx of diagnosed CAD	No CAD		CAD
» Personal Hx of diagnosed Diabetes	No DM		DM
<b>Family History (1st degree relatives only)</b>			
» Family Hx of CAD	No CAD	≥55   ≥65	<55   <65
» Family Hx of Diabetes	No DM	≥45   ≥55	<45   <55
<b>Advancing Age</b>			
» Age	20-25   20-35	26-44   36-54	≥45   ≥55
<b>Use of Tobacco</b>			
» Current Smoker	Quit >2 yrs	Quit <2 yrs	Current
<b>Abdominal Obesity</b>			
» Elevated BMI	≤23	23.1-26.9	≥27
» or Elevated waist circumference	<36   <32		≥36   ≥32
Metabolic Factors	Lower-Risk	Borderline	At-Risk
<b>HDL: Disorders of Reverse Cholesterol Transport</b>			
» Low HDL	≥40   ≥50		<40   <50
» High Total Cholesterol/HDL ratio	<3.5	3.5-4.5	>4.5
» Low HDL 2b	≥30%	20-30%	<20%
<b>LDL: Disorders of LDL Cholesterol (including ALP)</b>			
» Elevated LDL with 0-1 FRF* / <10% TYR*	<130	130-159	≥160
» or Elevated LDL w/ 2+ FRF* / ≤20% TYR*	<100	100-129	≥130
» or Elevated LDL w/ CHD equiv. / ≥20% TYR*	<70	70-100	≥100
» Elevated Q-LDL IIIa+b	<32.1		≥32.1
» or Elevated Q-LDL IVb	<11.2		≥11.2
» Disorders of Apo(B)	<60	60-120	>120
<b>Presence of Lp(a)</b>			
» Isolated High Lp(a) (no other risk factors)	<30		≥30
» High Lp(a) w/other risk factors (such as low HDL)	<30		≥30
<b>Disorders of Glucose/Insulin metabolism</b>			
» Extended waist circumference	<36   <32		≥36   ≥32
» or Pre-diabetic: High blood glucose levels	<100		≥100 & <125
» or Diabetic: Impaired blood glucose levels	<100		≥125
<b>Metabolic Syndrome</b>			<b>Cut-Off</b>
<b>Any 3 of 5 abnormalities (AHA modified NCEP ATP III)</b>			
» 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
<b>Metabolic/Inflammatory risk markers</b>			
» Homocysteinemia	<10	10-13	≥14
» Insulinemia	<10	10-11	≥12
» Elevated Fibrinogen	<350		≥350
» Elevated CRP	<1	1-2	>2
<b>Notes</b>			
♂ ♀ indicates varying cutoffs between sexes			
* FRF - Framingham risk factor			
* TYR - Ten year risk			
* CHD equiv - DM, MI, angina, coronary calcification			

