



Handwritten mathematical expressions on a black background, including "ABC", "3.14", "1.50", "483.8c", and "18".

# Leading Causes of Death

- Where do you think heart disease falls?
- 1st place
- 2nd place
- 3rd place
- 4th place
- 5th place

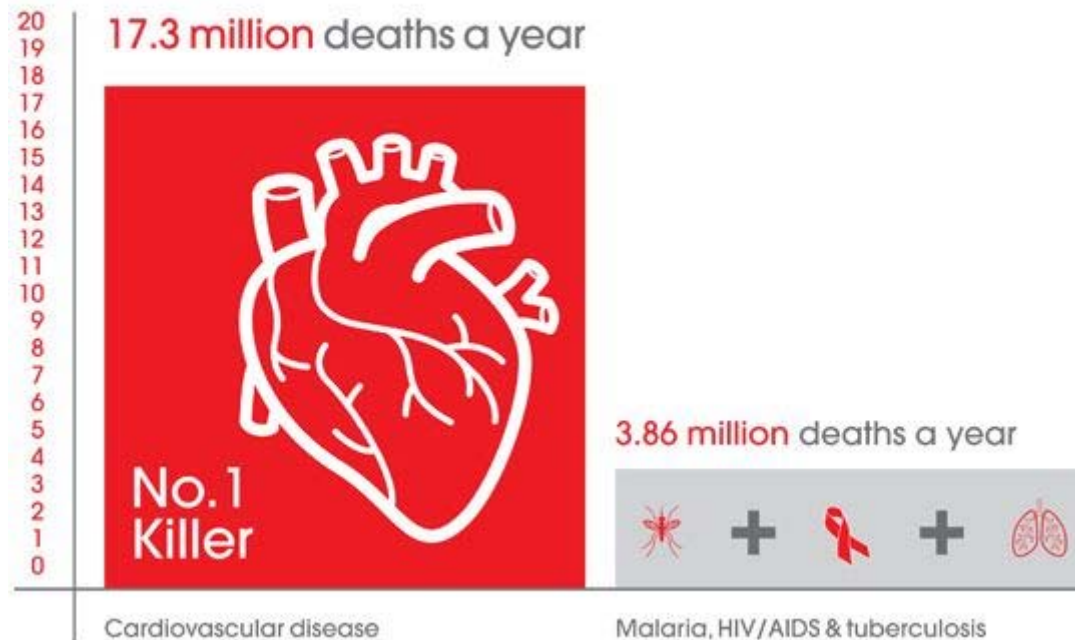


# Leading Causes of Death

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## The burden of cardiovascular disease



Handwritten mathematical notes on a blackboard background, including the numbers 11.50, 3.86, and 18, along with some symbols and the letters ABC.

**#1 CAUSE OF DEATH IN U.S.**

**MORE PEOPLE DIE OF CARDIOVASCULAR DISEASE THAN OF ALL CANCERS COMBINED**

# HEART DISEASE FACTS

More than

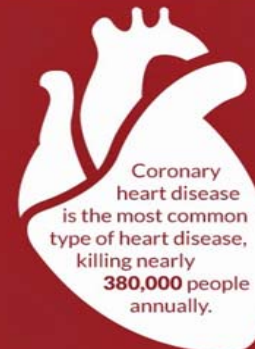
**600,000**

Americans die of heart disease each year. That's one in every four deaths.

**60%**

of adults don't know their blood pressure or cholesterol numbers.

An estimated  
**80 million** Americans have  
one or more types of  
heart disease.



Coronary heart disease is the most common type of heart disease, killing nearly **380,000** people annually.

High blood pressure, high LDL cholesterol and smoking are key risk factors for heart disease.



**49%**

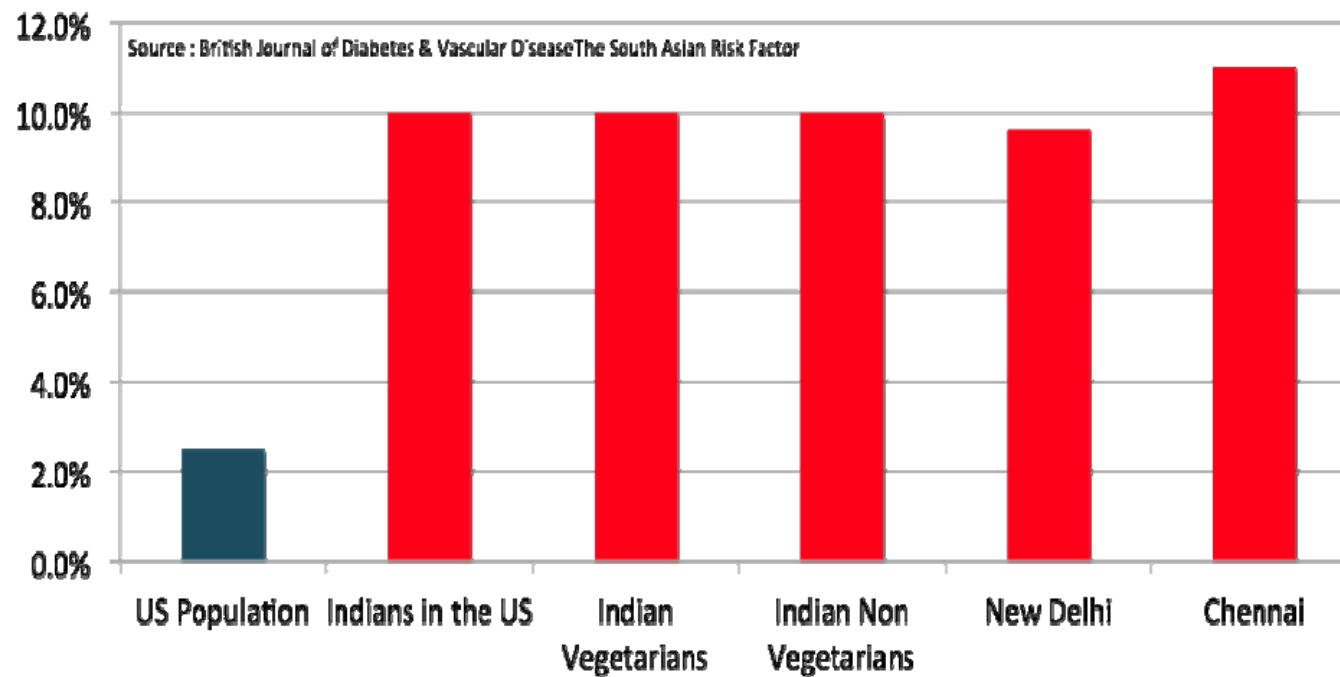
of Americans have at least one of these risk factors.

**[froedtert.com/heart](http://froedtert.com/heart)**

Source: American Heart Association, Centers for Disease Control



### Prevalence of Heart Disease



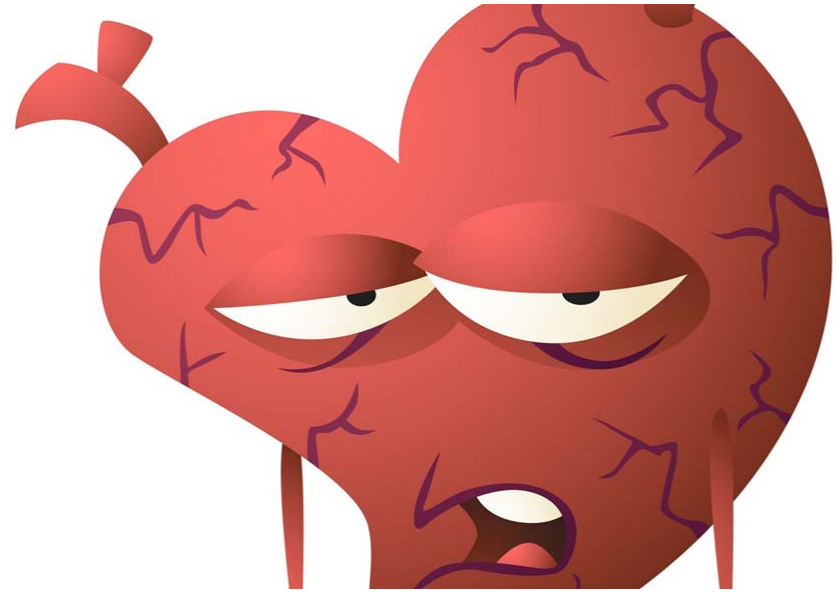
Did you know that **54** percent of women  
recognize that heart disease is their **No. 1** killer,  
but only **13** percent believe heart disease  
is their greatest personal health risk?

Source: American Heart Association





Handwritten text on a black background, including the words "ABC", "3.10", "1.50", "3.80", and a large stylized "X".



**A STITCH IN TIME  
SAVES NINE**



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# Prevention is better than cure

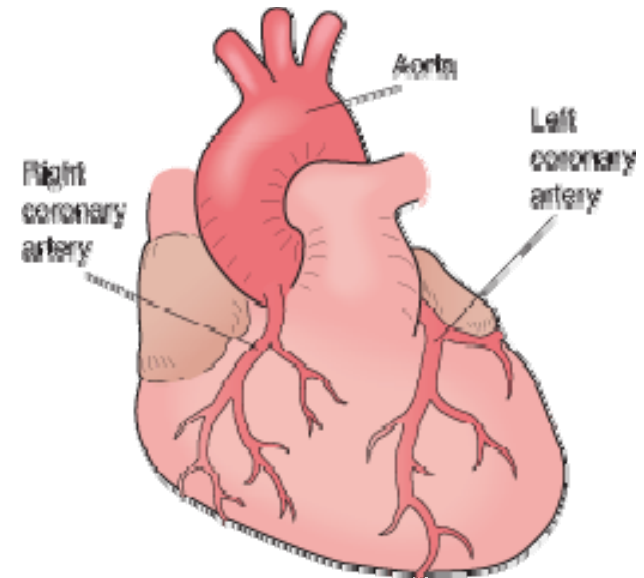
## Heart diseases

Dr. Rehan Riaz

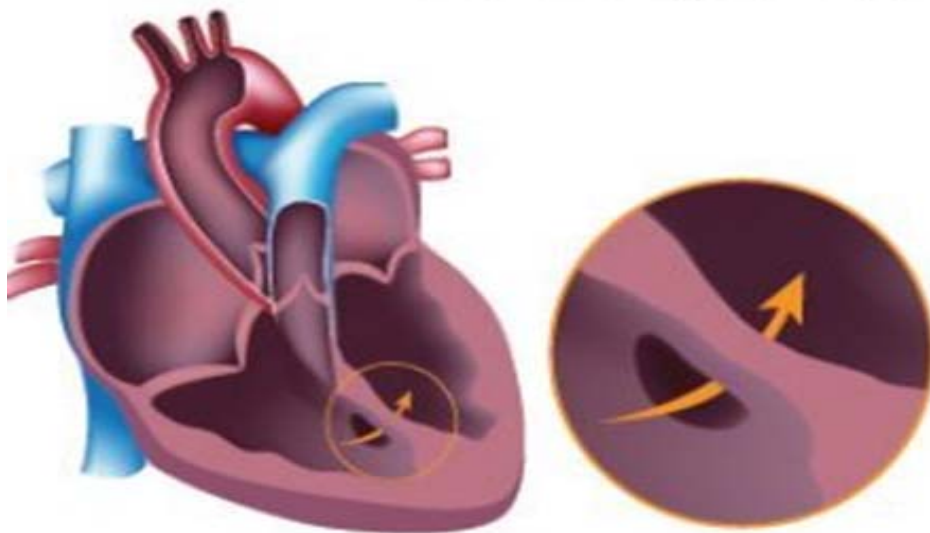


AB 1.50 3.10 11.50 18 3.80 18

- **Heart** : The most hard-working muscle of our body – pumps 4-5 liters of blood every minute during rest
- Supplies nutrients and oxygen rich blood to all body parts, including *itself*
- **Coronary arteries** surrounding the heart keep it nourished with blood



Congenital heart disease  
***Ventricular septal defect***



# VALVULAR DISEASES

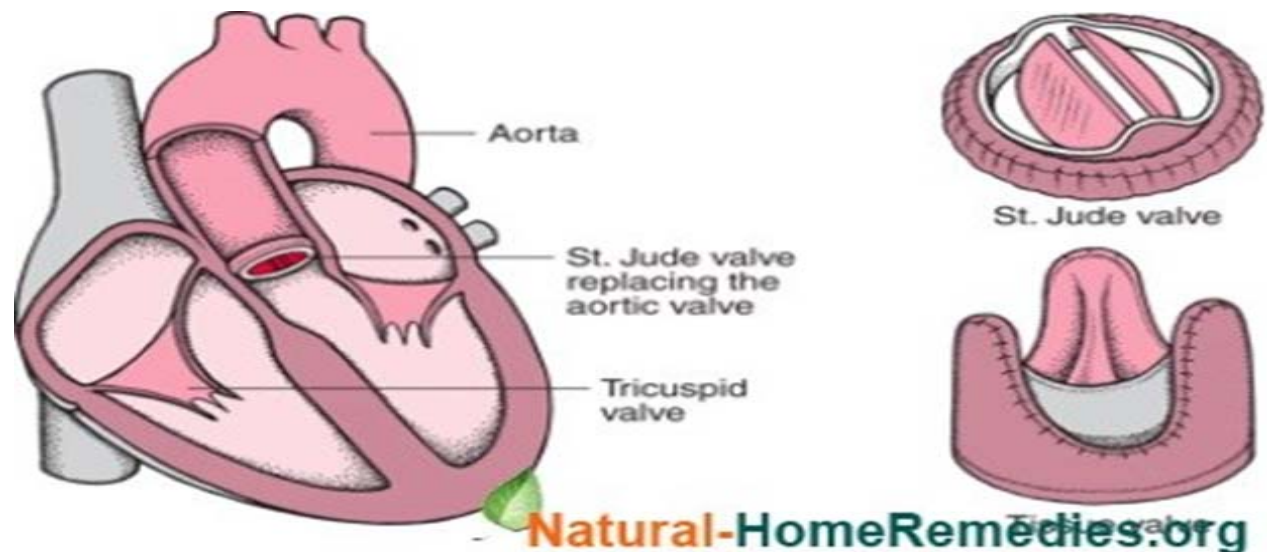
Strep Throat



Rheumatic  
Fever



Rheumatic  
Heart Disease

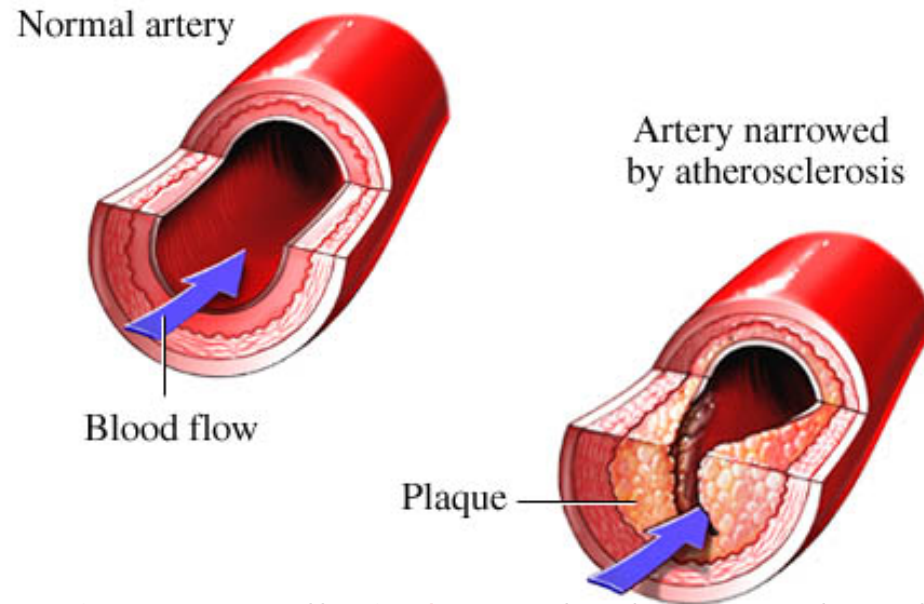


**Rheumatic heart disease affect the heart valves and joints**



# What is Atherosclerosis

## what is coronary artery disease?



- Over time, fatty deposits called **plaque** build up within the artery walls. The artery becomes narrow. This is **atherosclerosis**
- When this occurs in the coronary arteries, heart does not get sufficient blood, the condition is called **coronary artery disease**, or **coronary heart disease**



# Myth : fat deposits at old age!

## It starts from 2 years of age

Foam  
Cells

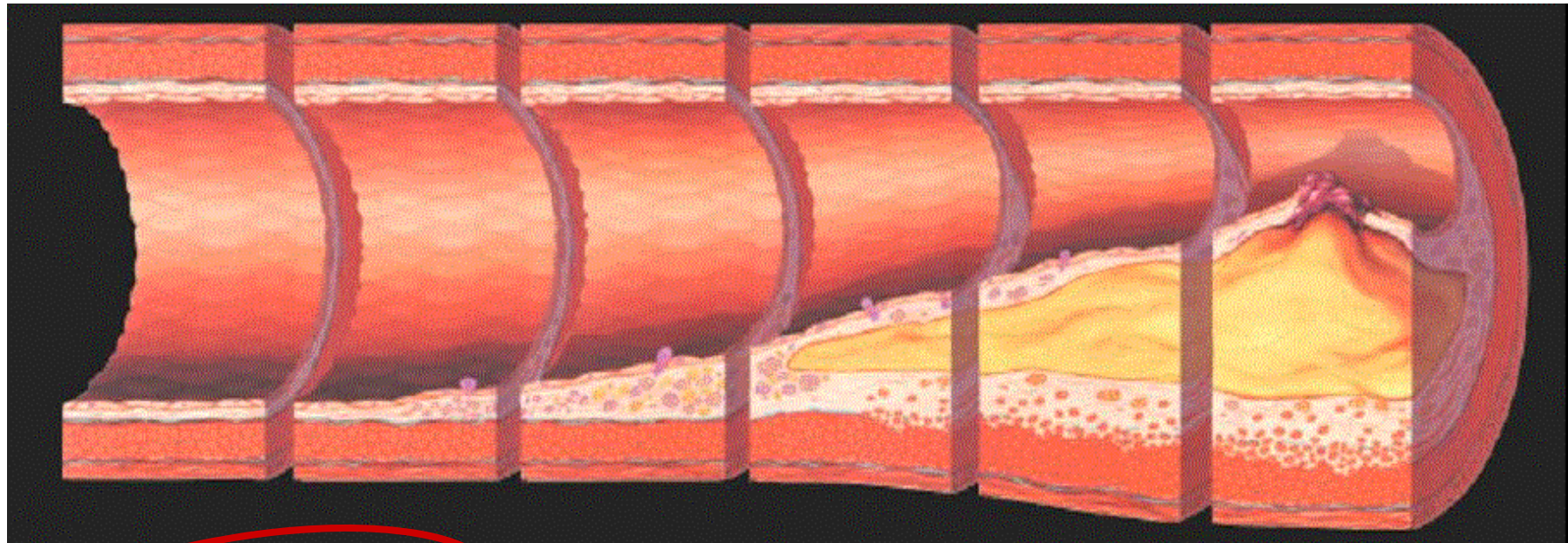
Fatty  
Streak

Intermediate  
Lesion

Atheroma

Fibrous  
Plaque

Complicated  
Lesion/  
Rupture



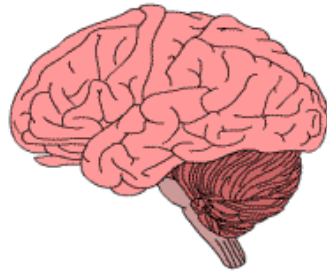
From First  
Decade

From Third  
Decade

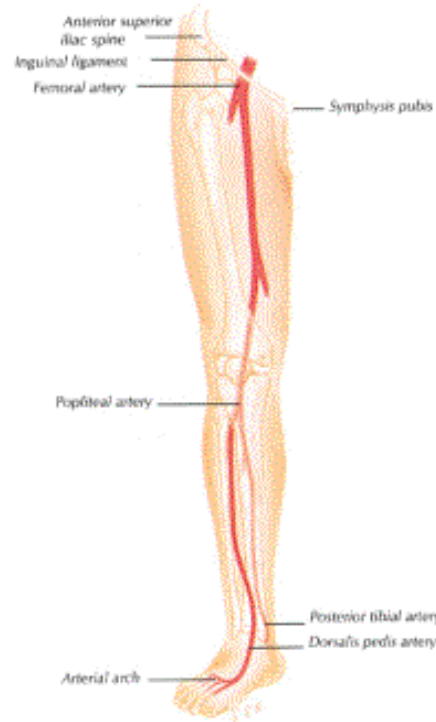
From Fourth  
Decade



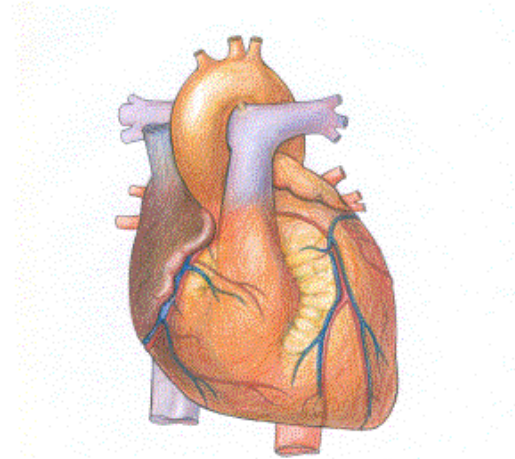
# Are Other organs Affected?



Ischemic Stroke



Peripheral Vascular Disease



Coronary Heart Disease

- Angina
- MI (Heart Attack)
- Sudden Cardiac Death



# What are the symptoms of Coronary artery disease?

- No symptoms for long period
- Chest pain for short period on exertion also known as Angina or minor heart attack
- Myocardial Infarction or major heart attack-Severe chest pain, death of heart muscle, heart failure, irregular heart beats
- Sudden Death



# Why Me ?

- Genetic predisposition
- Poor handling of fats and metabolic syndrome
  - Diabetes, obesity, high BP, Coronary artery disease



## Environmental insults

- Urbanization
- Sudden change in lifestyle



# What Increases Risk?

## You can't help it !

- Age:  
Men  $\geq 45$ ;  
Women  $\geq 55$
- Sex
- Race
- Family History

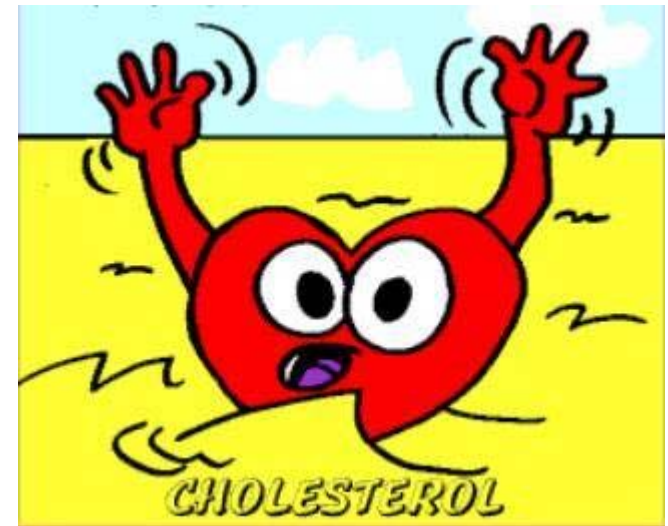
## You can !!

- High Cholesterol
- Smoking
- High Blood Pressure
- Diabetes
- Obesity
- Alcohol
- Physical Inactivity



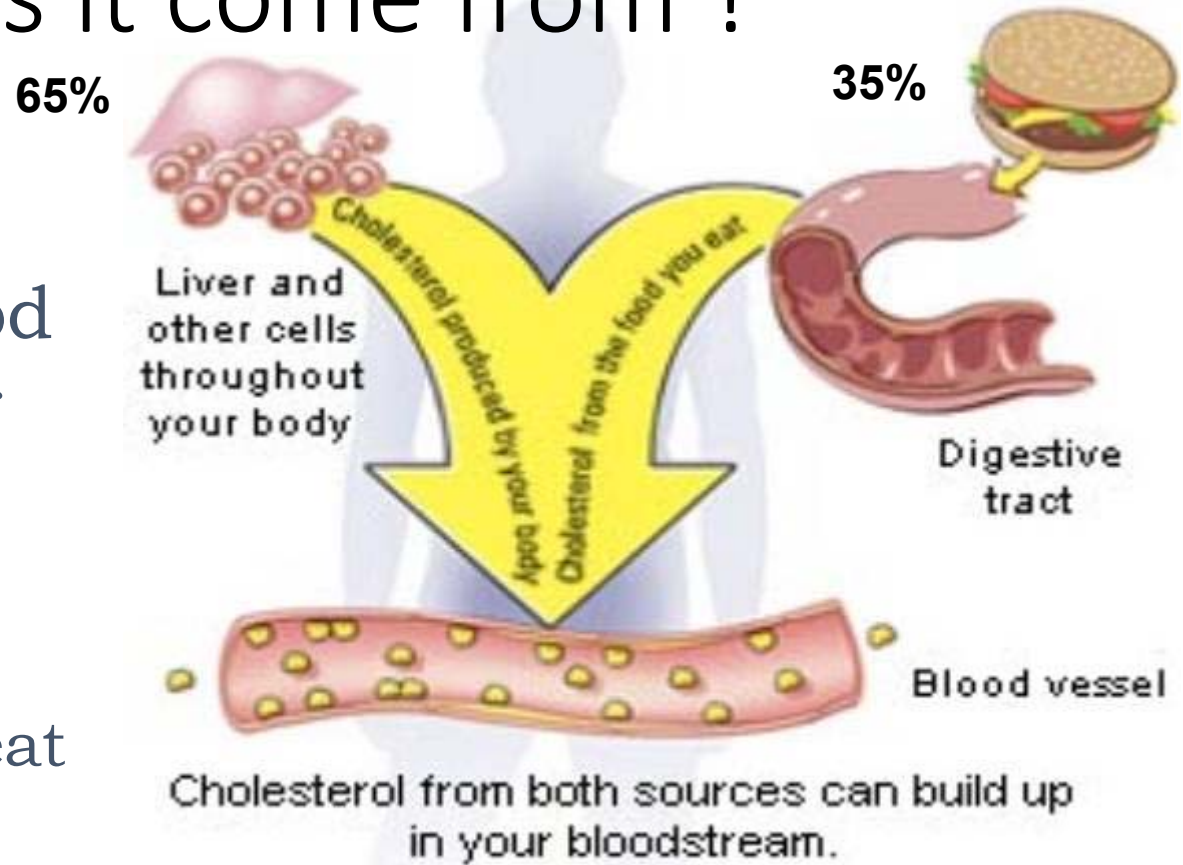
# Cholesterol ( A type of fat)

- Everybody needs cholesterol, it serves a vital function in the body.
- It circulates in the blood.
- Too much cholesterol can deposit in the arteries in the form of plaque and block them
- No symptoms till heart attack



# Where does it come from ?

- Two sources of cholesterol: Food & made in your body
- Food sources: All foods containing animal fat and meat products



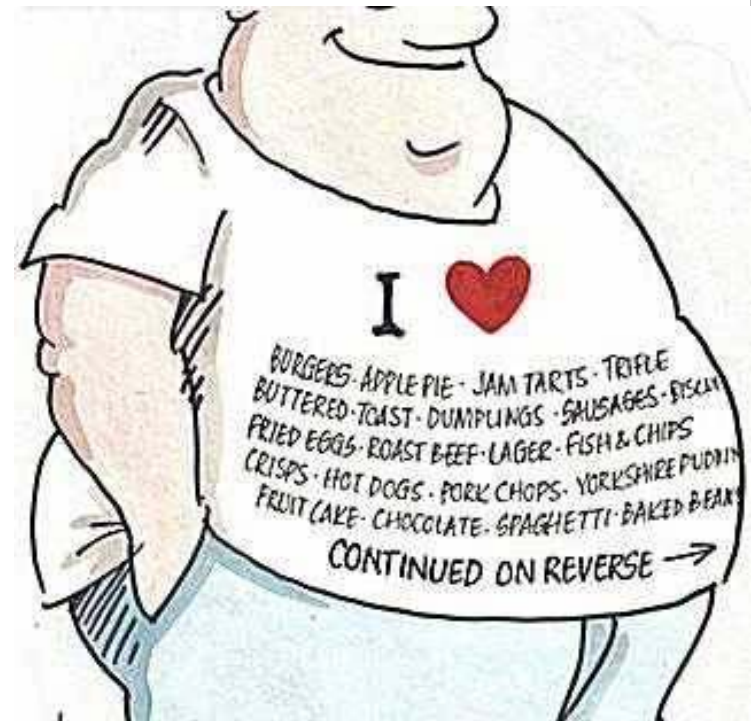
# Good vs. BAD Cholesterol

- **LDL cholesterol** is known as bad cholesterol. It has a tendency to increase risk of heart disease
- LDL cholesterol is a major component of the plaque that clogs arteries
- **HDL cholesterol** is known as the good cholesterol. Higher in women, increases with exercise
- HDL cholesterol helps carry some of the bad cholesterol out of arteries.



# Obesity

- People who are overweight (10-30 % more than their normal body weight)
- Obese have 2 to 6 times the risk of developing heart disease
- Normal Waist-Hip Ratio
  - < 0.85 for women;
  - < 0.95 for men
- Pears or apples?



# Pears and Apples

**Apple- shaped are at a higher risk**

**Pear-shaped paunch** store fat on the hips and thighs, just below the surface of the skin.

**Apple-shaped paunch** store body fat around the abdomen and chest, surrounding internal organs



# Physical Inactivity



**Every morning my brain  
tells me to exercise...**

**..... and my body  
laughs at the idea**



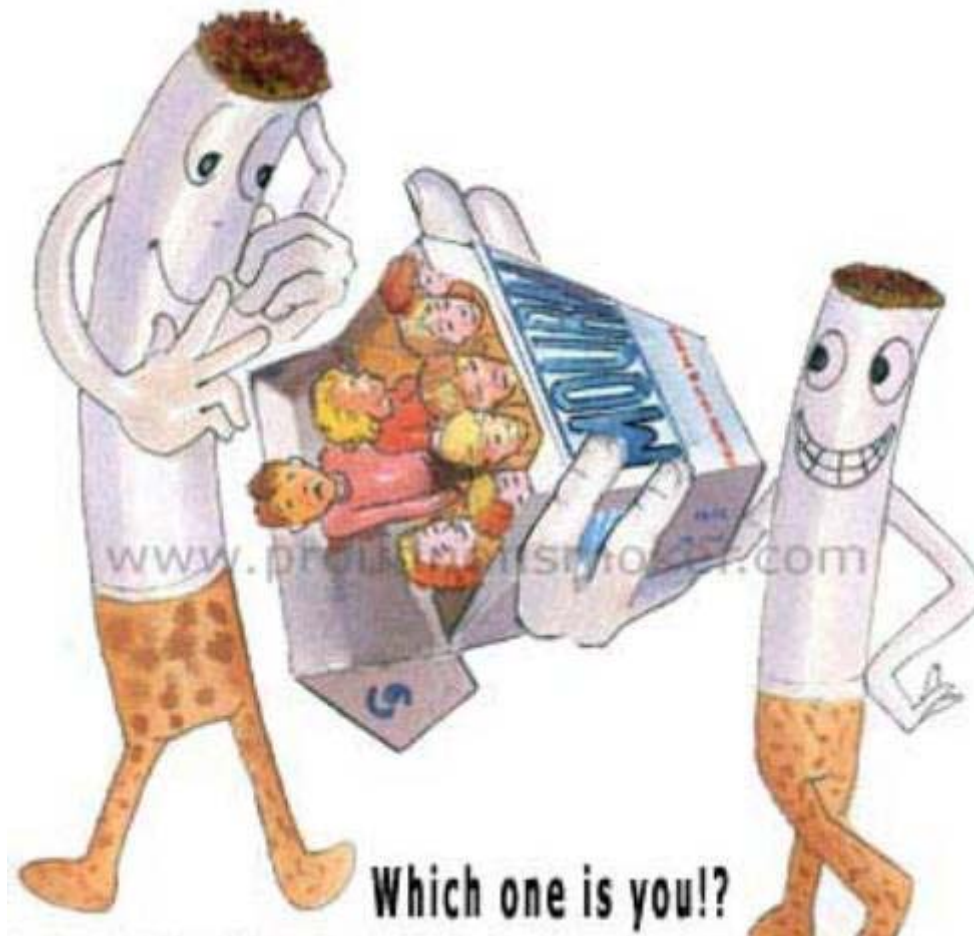
# Cigarette Smoking

- Increases blood pressure
- Decreases HDL
- Damages arteries and blood cells
- Increases heart attacks
- Cigarette smoke contains more than 4,000 chemicals, and 200 of these chemicals are poisonous



# Cigarette Smoking

**If you think YOU are smoking the cigarette, you are mistaken...  
It's the other way round !**



# Alcohol Consumption

- In small amounts it is beneficial: 1-2 drinks
- In large amounts it adds fat and calories & raises BP!
- 4 drinks per day. You end up with gastroenterologist instead of cardiologist
- This is a very fine line! Finer for women as they are at higher risk



# Diabetes

- At any given cholesterol level, diabetic persons have a 2 or 3 x higher risk of heart attack or stroke
- A diabetic is more likely to die of a heart attack than a non-diabetic
- ~80% Diabetics die from heart disease
- Risk of sudden death from a heart attack for a diabetic is the same as that of someone who has already had a heart attack.



# Interactions of Risk Factors

- Risk operates across a continuum - no clear-cut line  
(Blood Pressure; Cholesterol; overweight; Smoking)
- The risk is multiplicative when many risk factors co-exist; risk factors often cluster together
- Majority of events arise in individuals with modest elevations of many risk factors than from marked elevation of a single risk factor



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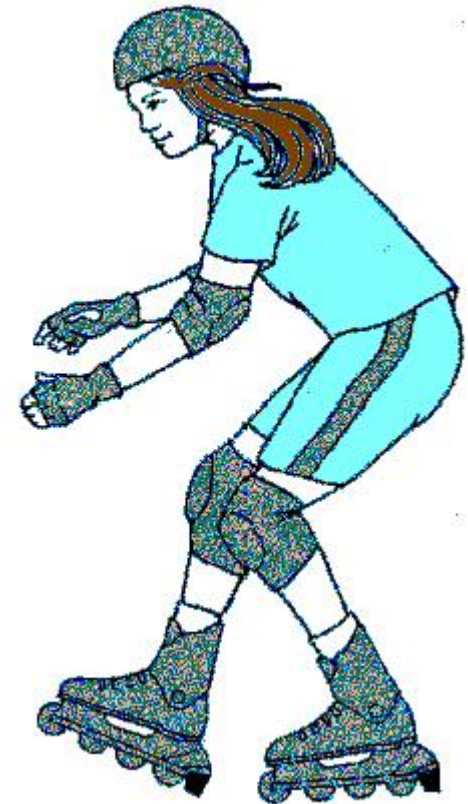
Misfortunes always come in by a door  
that has been left open for them.

Wise proverb



Everyday you make **choices** to try to help **protect yourself and your family**. In fact, protecting yourself has become second nature—you just do it.

But **do you know what you can do to help protect yourself** from this number 1 cause of death- Heart Disease?



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For my car, I want the best mechanic.

**But for my own body, I follow hearsay and  
advice from friends, kitty party, local  
quacks....**

**Just anyone  
And decide for the worst**



# Creative strategies do not work !

- Never had a test or retest
- Never been to Doctor !  
I hate them
- Never take medicines!
- My BP is normal, so stopped meds!
- Miracle men and Miracle Medicines! So many of them
- I am my own doctor! No fees too



# Preventing Heart Disease

## Rule #2 Exercise

- Maintain a level of physical activity that keeps you fit and matches the calories you eat
- Serves several functions in preventing and treating those at high risk
- Reduces incidence of obesity
- Increases HDL
- Lowers LDL and total cholesterol
- Helps control diabetes and hypertension



# Exercise, Exercise, Exercise

- Mortality is halved in retired men who walk more than two miles every day
- Regular exercise can halve the risk of heart disease, particularly in men who walk briskly
- Someone who is inactive has as great a risk of having heart disease as someone who smokes, has high blood pressure or has high cholesterol
- Exercise significantly reduces the chances of diabetes and stroke
- With regular exercise, blood pressure in those with hypertension is reduced by as much as 20mms Hg



# Exercise and Heart Disease

**Moderate to intense physical activity for 30-45 minutes on most days of the week is recommended**



**“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”**



# Walking for a healthy heart

- Complicated exercise machines or sweating it out in the gym not essential

**JUST WALK!**



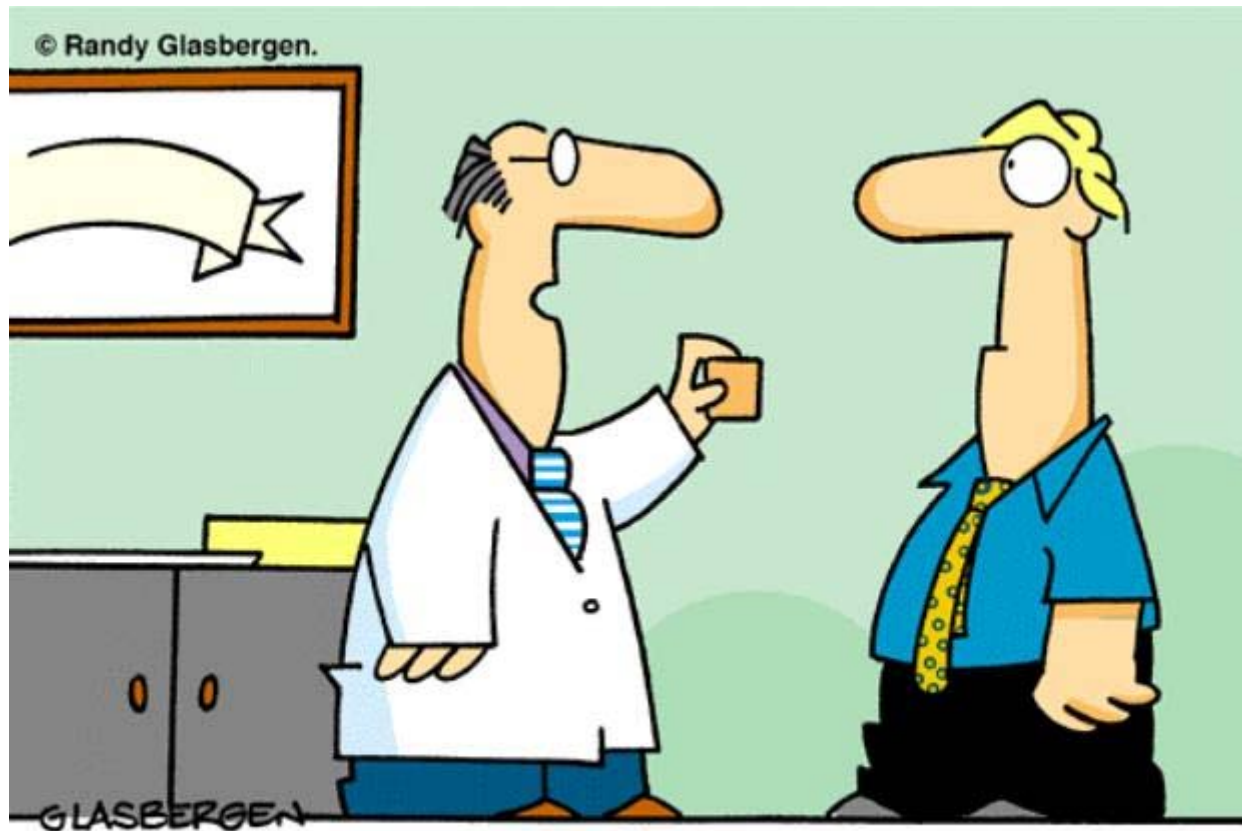
## Rule # 3 Stop Smoking NOW!



- The risk of heart attack starts decreasing within 24 hours of quitting smoking, within 1 year of quitting, CHD risk decreases significantly, within 2 years it reaches the level of a nonsmoker
- Smell and taste improve within days
- Within three months of quitting, the smokers' cough disappears in most people



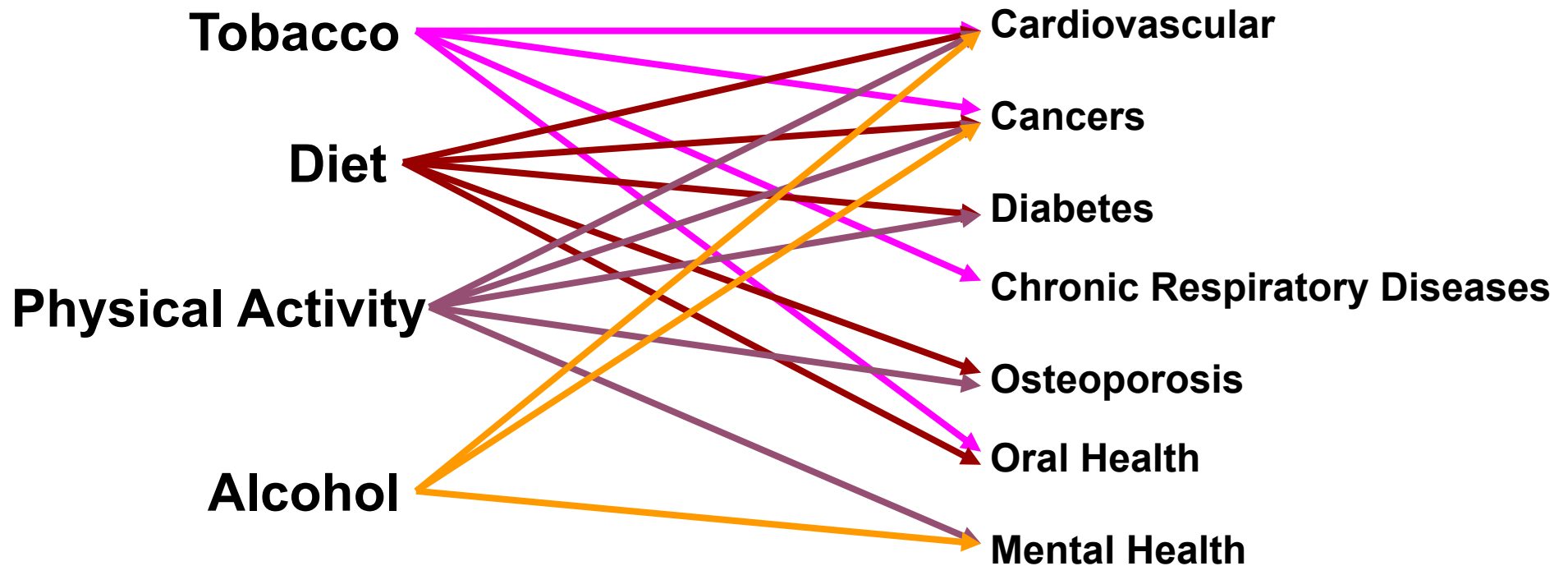
# Rule # 3 Stop Smoking NOW!



**"I'm prescribing a patch to help you quit smoking. Wear it over your mouth."**



# Benefits much beyond Heart Disease



# Rule # 4 Know your Number!

*And that's not your Mobile Number!*

## **Desirable numbers**

- Total cholesterol < 200;
  - LDL < 100
  - HDL > 40
  - triglycerides < 200
- 
- *Get the levels tested routinely and keep them under control*
  - *The only thing worse than finding out that you have one of these conditions is.....NOT finding out that you have it!!*



# Benefits of reducing cholesterol

**10% reduction of blood cholesterol produces 20-30% decline in CHD deaths**

**All Adults >20 yrs must get tested- if normal test again after 5 years, if elevated, work towards normalizing the levels with lifestyle modification and drugs as needed**



# Controlling Blood Pressure

- Adults should have their blood pressure checked at least once every two years, as there are no symptoms to tell if you have high blood pressure
- Optimal levels : 120 /80 mm Hg
- If high
  - Modify your lifestyle – Diet, Weight, Exercise, Salt restriction
  - Adhere to the prescribed medication without fail, to decrease chances of getting heart disease – *Do not stop your medicines without consulting your doctor, even if the blood pressure becomes normal*



# Controlling Blood Sugar

- All adults should have their blood sugar checked regularly, as there are no early symptoms of diabetes
- Normal blood sugar:
- Fasting  $< 100$ ; post meals  $< 140$
- If high
  - Modify your lifestyle – Diet, Weight, Exercise
  - Adhere to the prescribed medication without fail, to decrease chances of getting heart disease – *Do not stop your medicines without consulting your doctor, even if the blood sugar becomes normal*



If you or someone in your family already diagnosed with heart disease

- Don't get disheartened – science has made significant progress
- Just monitor risk factors much more aggressively
  - Eat healthy
  - Walk regularly
  - Watch your weight
  - Quit smoking immediately
  - Keep your weight under control
  - *In addition to improving your heart – health these measures are sure to enhance your appearance !!*
- Adhere to you **medicines** & listen to your doctor



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Don't wait for a heart attack to take an action !

**Don't wait for a second life we  
are not cats!**



Heart disease is often avoidable. Following a heart-healthy lifestyle doesn't have to be complicated, and it doesn't mean you need to live a life of self-deprivation. Instead, find ways to incorporate heart-healthy habits into your lifestyle — and you may well enjoy a healthier life for years to come.





THANKS

