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LIFE'S ON 

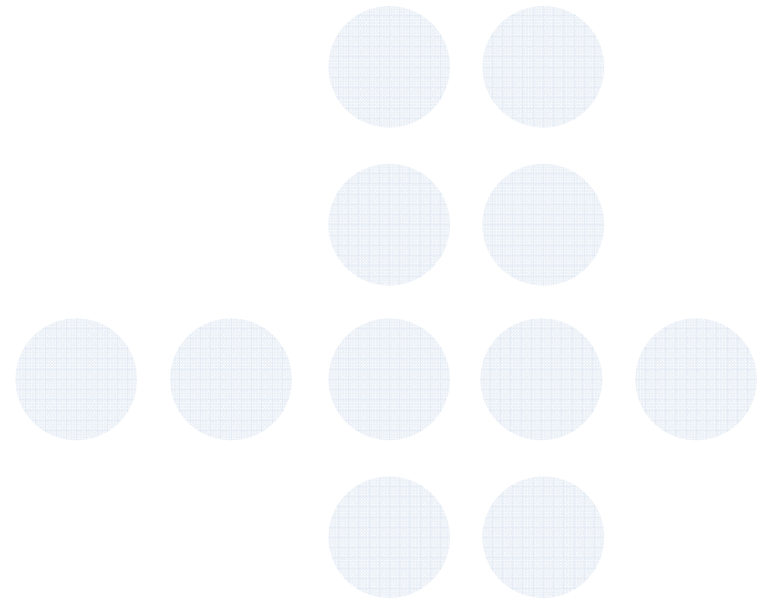
Prevention of Heart Diseases

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Diseases of Heart

- Congenital (Birth defects)
- Valve diseases
- Coronary Artery Diseases



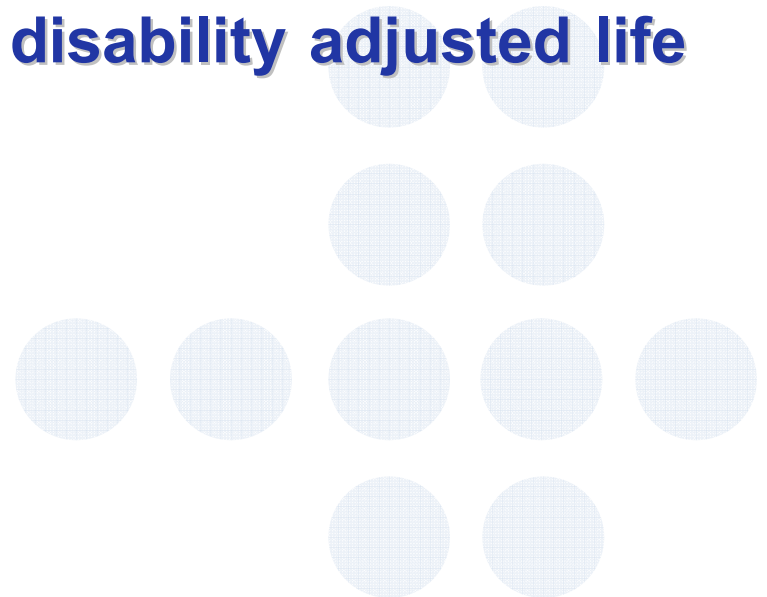
- **The Prevalence of Coronary Heart Disease (CHD) “HEART ATTACK” is rapidly increasing in India**

- **It has become an “ EPIDEMIC”.**

- **It is a major contributor for mortality and morbidity.**



In the year 1990 cardiovascular disease was responsible for 2.39 million deaths and the Nation incurred a loss of 28.59 million disability adjusted life years.

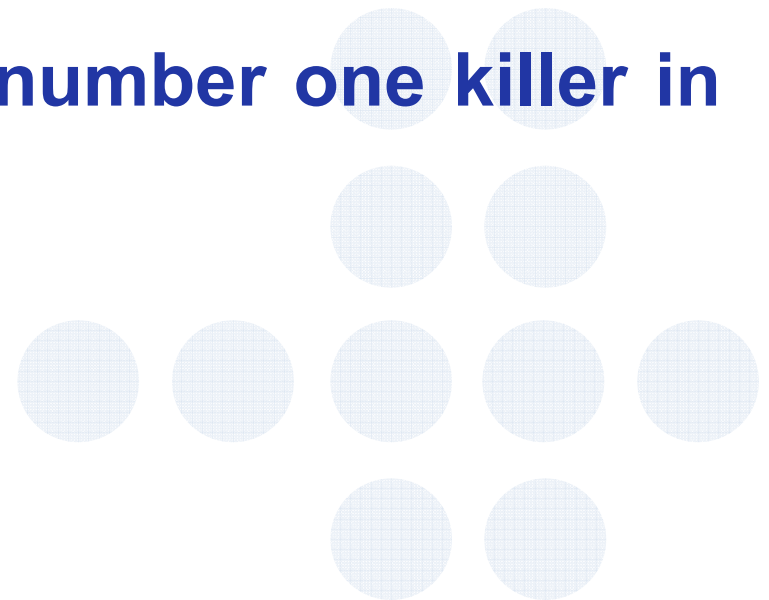


How Big is the Problem ?

- No. 1 killer disease worldwide
 - 12 Million deaths annually
- During last 30 years large declines in developed countries - rising health awareness and government programmes
- Alarming increase in developing countries especially India



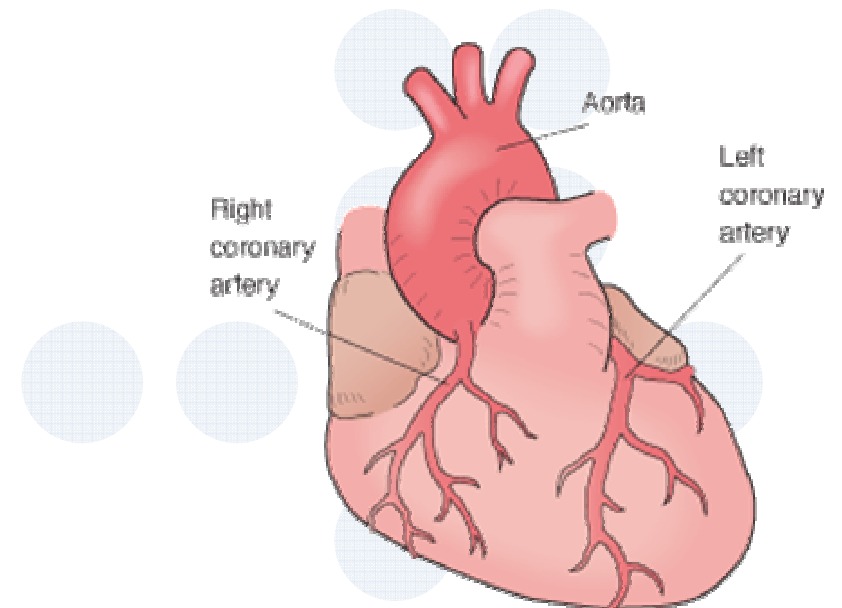
Cardiovascular disease will account for 33.5% of total deaths by the year 2015, would replace infectious diseases, as the number one killer in the Indian Population.



Why Should I (Indian) be Worried ?

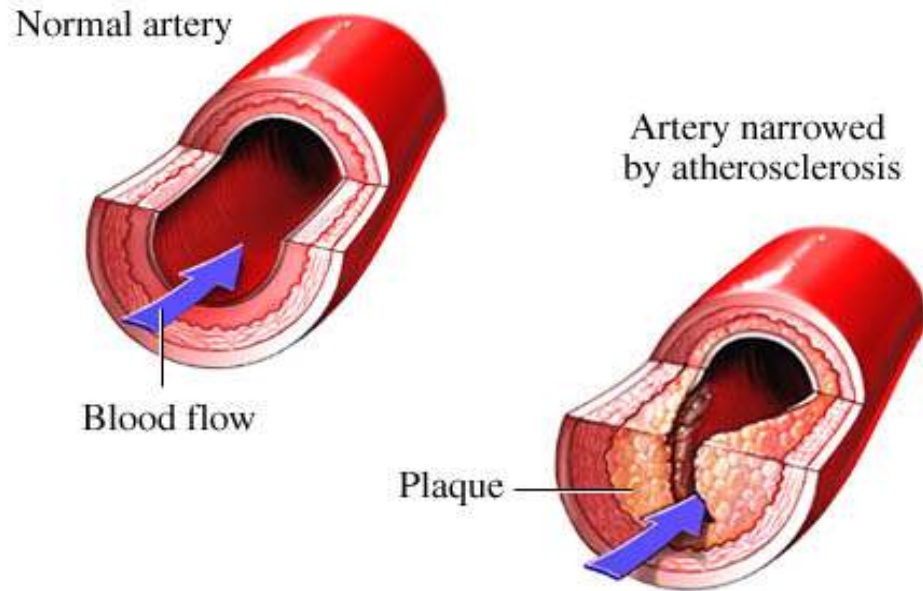
- **Indians More susceptible than any other ethnic group**
 - 3.4 times more than Americans
 - 6 times more than Chinese
 - 20 times more than Japanese
 - Occurs at lower cholesterol
- **Get the disease at much younger age**
 - 5-10 years earlier than other communities
- **Disease follows more severe and malignant course**
 - 3 times higher rate of second heart attack and two times higher mortality than whites

-
- **Heart** : The most hard-working muscle of our body – pumps 4-5 litres 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



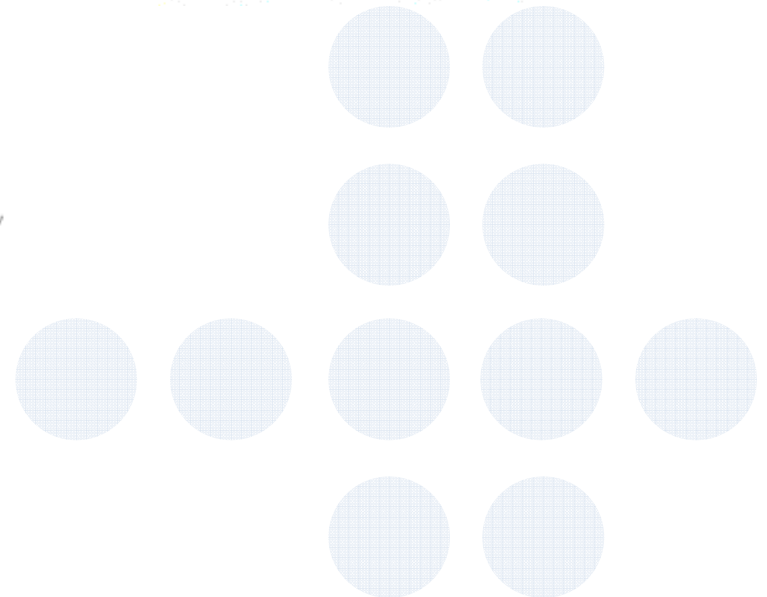
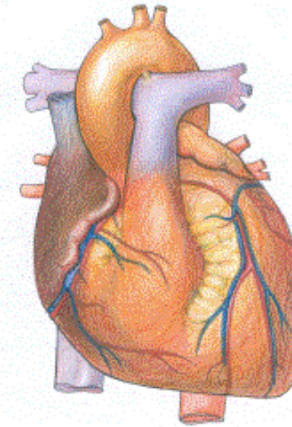
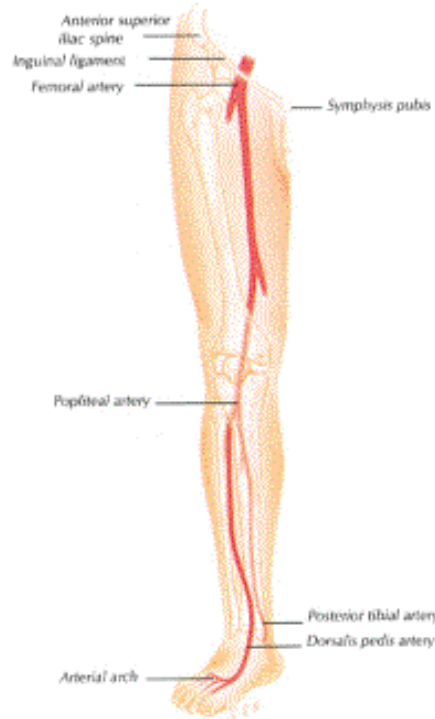
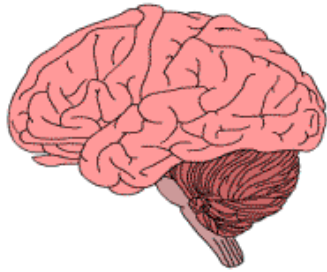
What is Atherosclerosis?

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**

Are Other organs Affected?



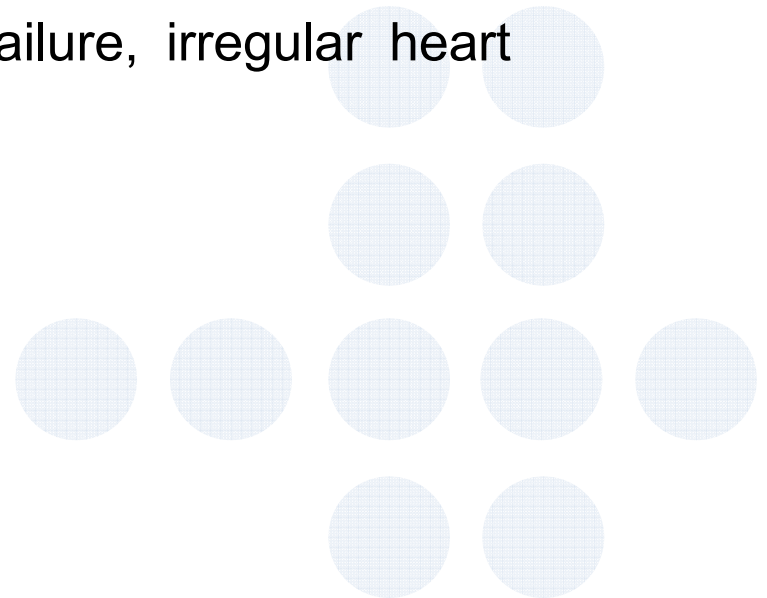
Cause of CAD

- Atherosclerosis
- Smoking
- Obesity
- Diabetes
- Sedentary life style
- Stress



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



Myocardial Infarction or Heart Attack

Symptoms:

Uncomfortable pressure

Fullness

Squeezing pain

Pain spreading to the shoulders

Neck and arms

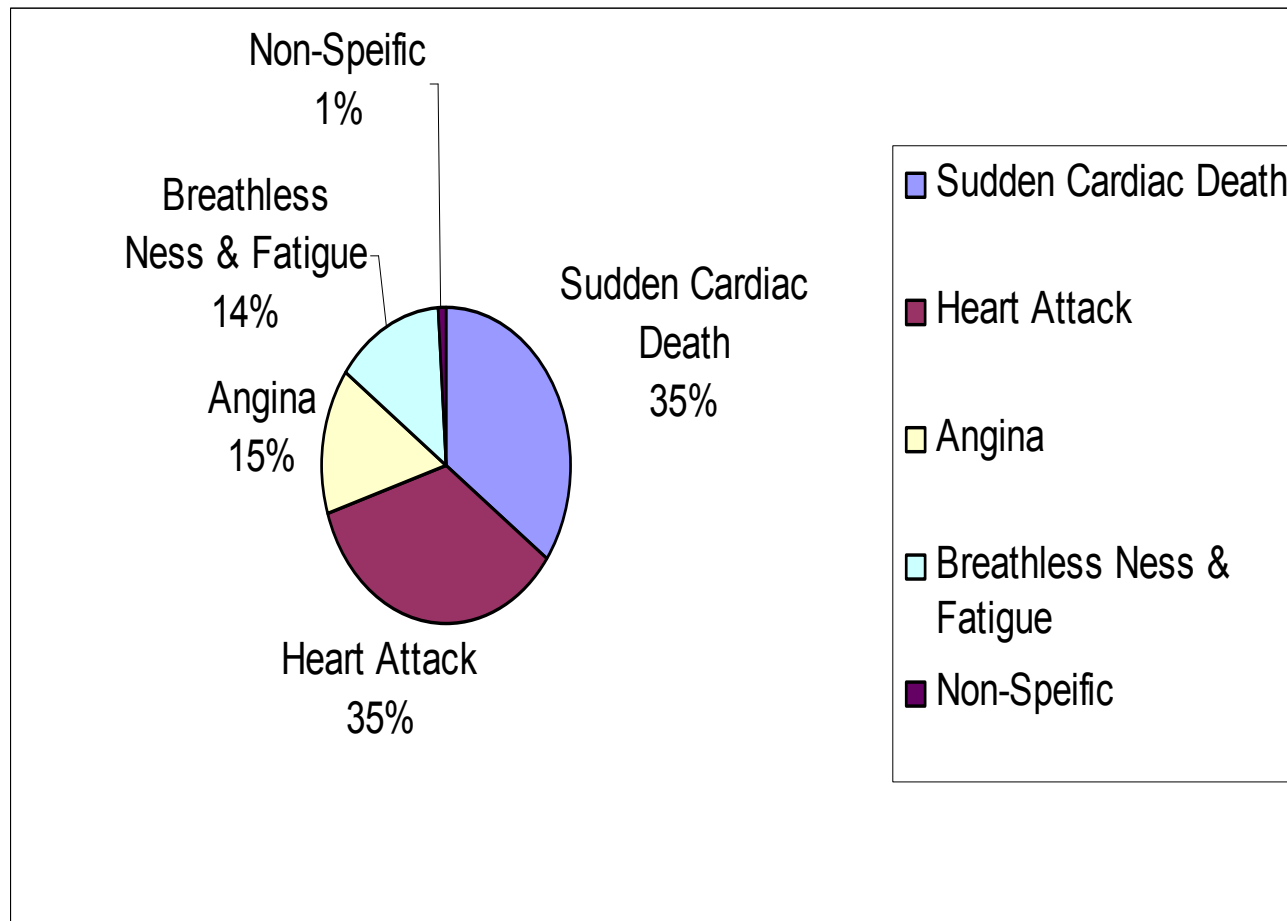
Chest discomfort and light headedness

Anxiety / nervousness

sweating

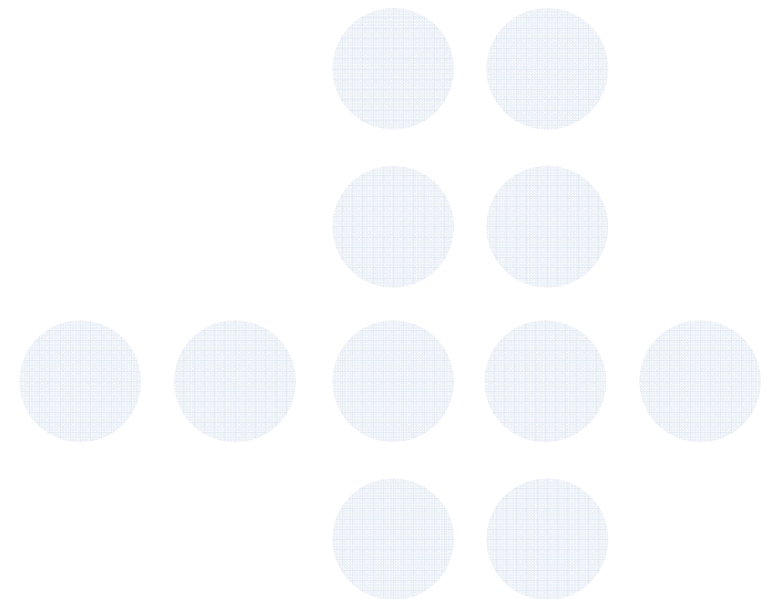


Result of heart disease



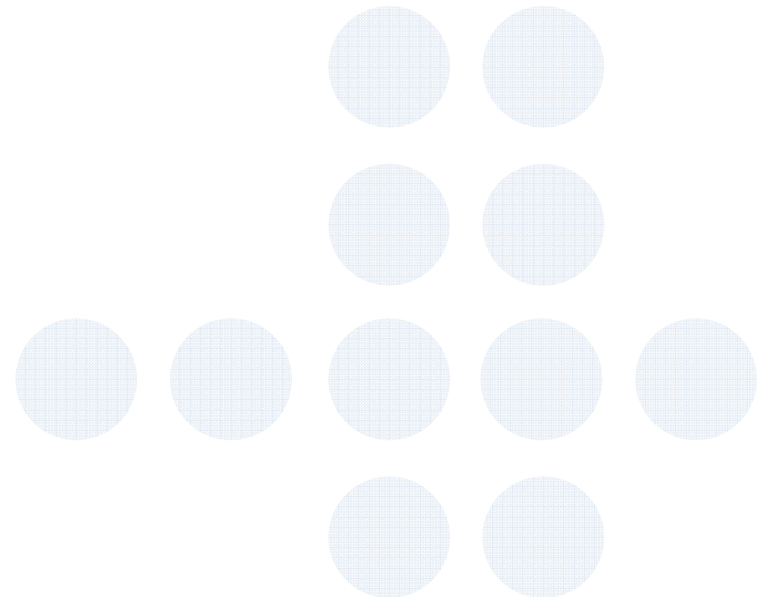
WHY IS CHD INCREASING IN INDIANS ?

1. Urbanization
2. Life Style Changes
3. Smoking
4. Higher Prevalence of Hypertension
5. Diabetes Mellitus
6. 6. Hyper Cholesterolemia
7. 7. Obesity – Truncal
8. 8. High fat Intake
9. 9. Lack of Physical activity
10. 10. Stress



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 !

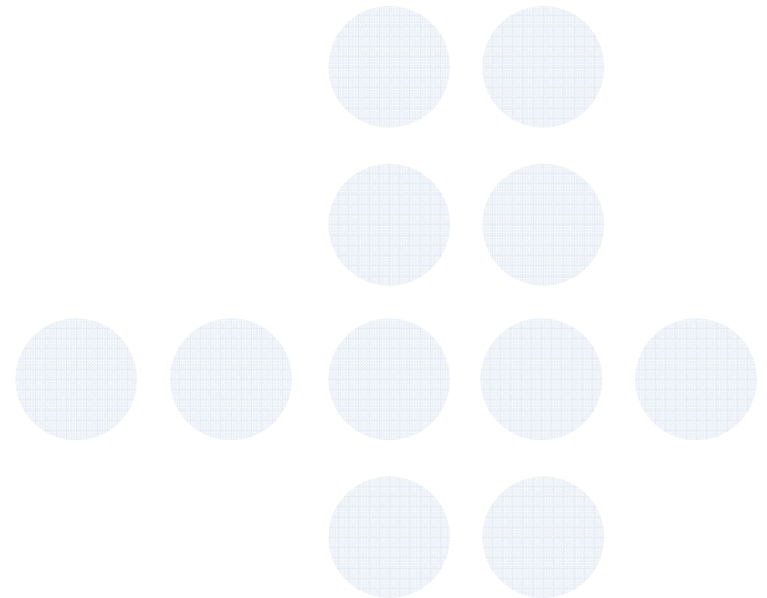
- Age:
Men \geq 45;
Women \geq 55
- Sex
- Race
- Family History

You can !!

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

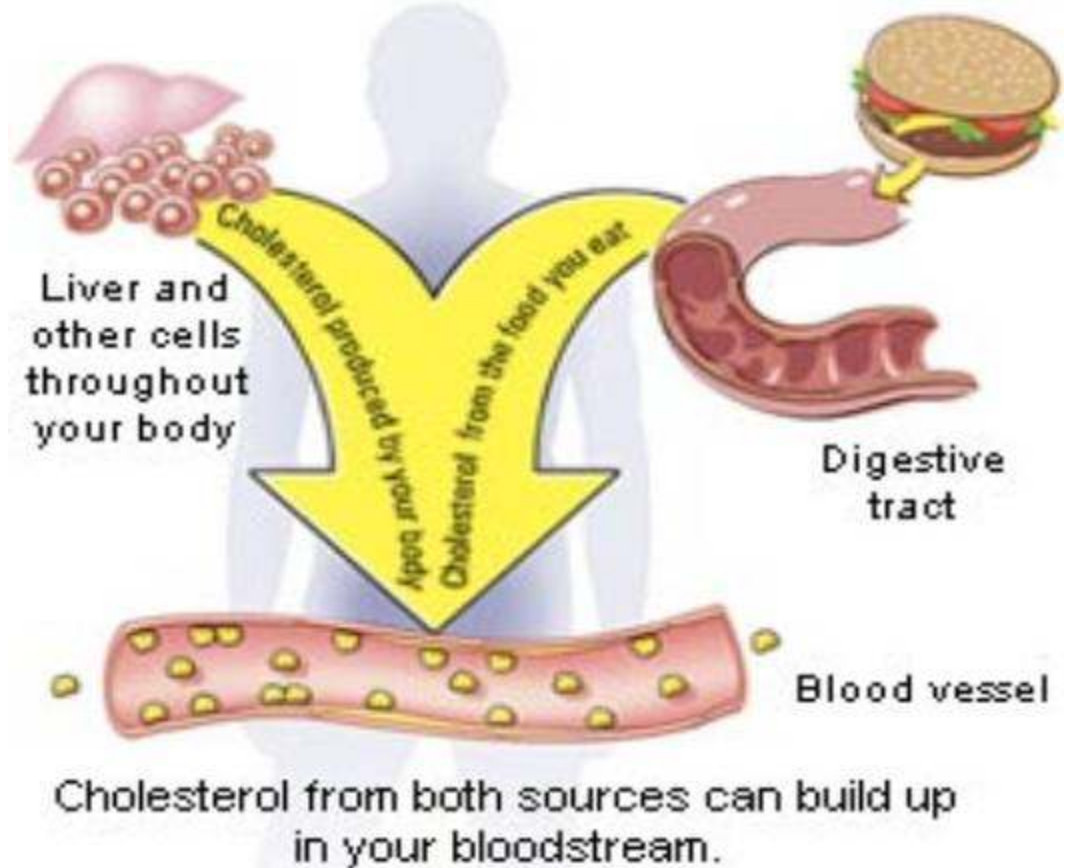
Cholesterol (A type of fat)

- 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

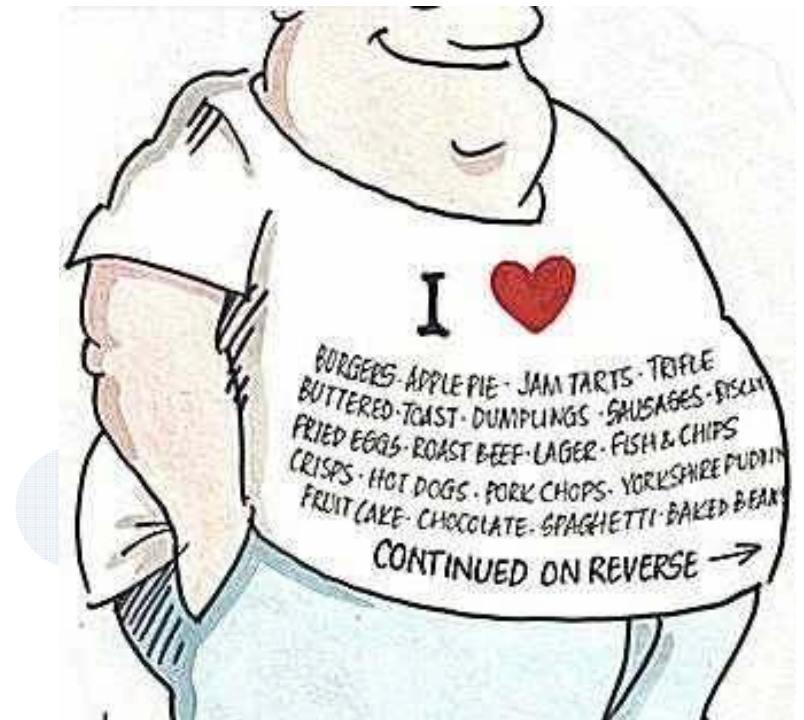


Good vs. BAD Cholesterol

- 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?



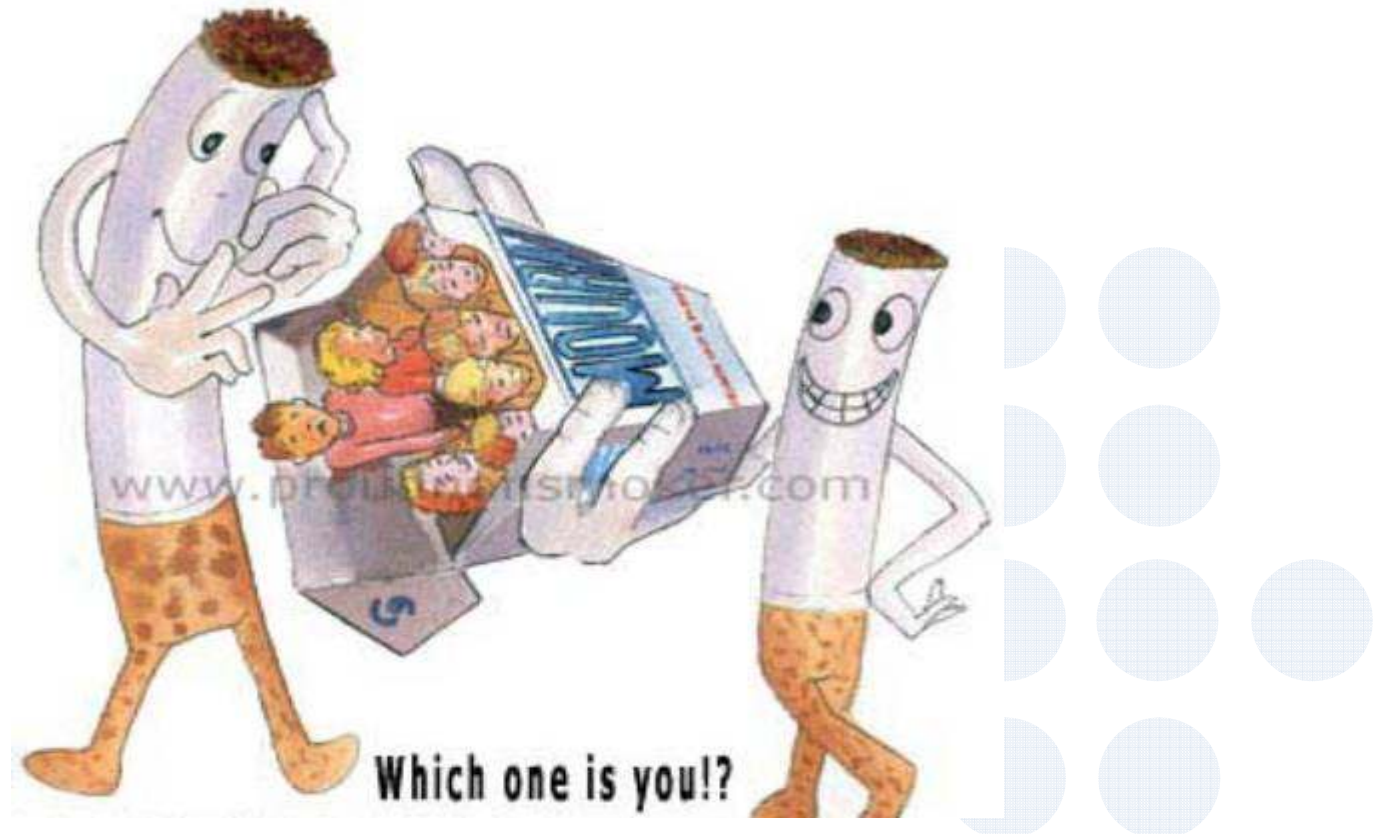
Cigarette Smoking

- 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



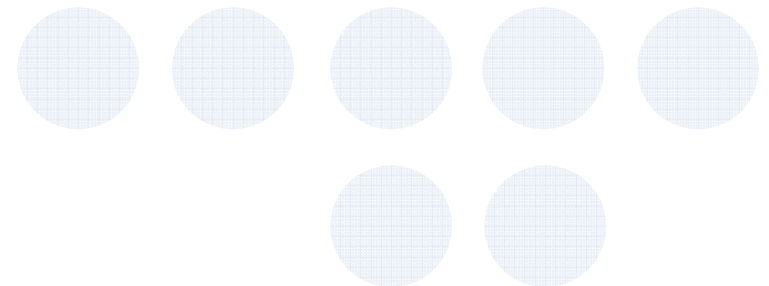
Cigarette Smoking

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.

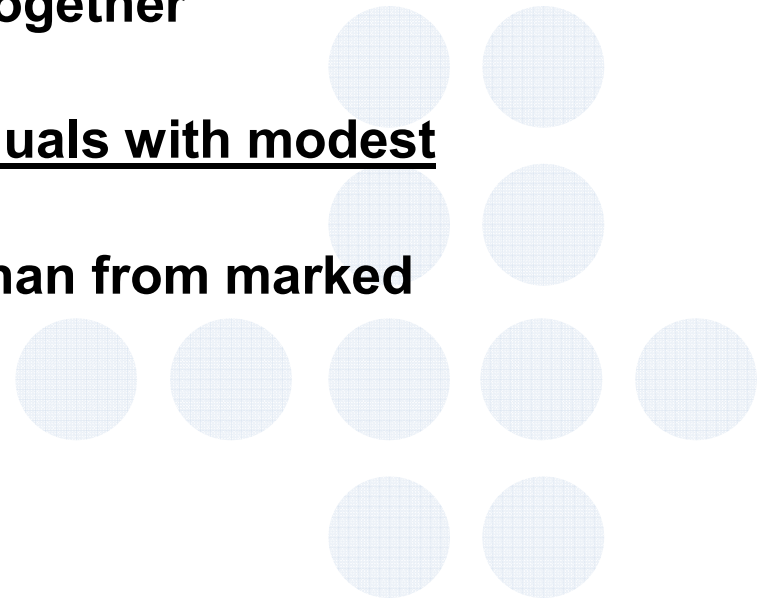
Interactions of Risk Factors

- **Risk operates across a continuum - no clearcut 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**



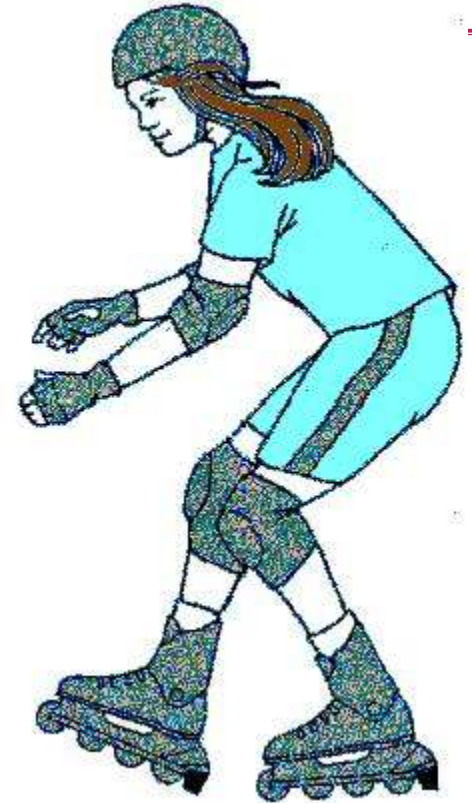
**Misfortunes always come in by a door
that has been left open for them.**

Czechoslovakian 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?



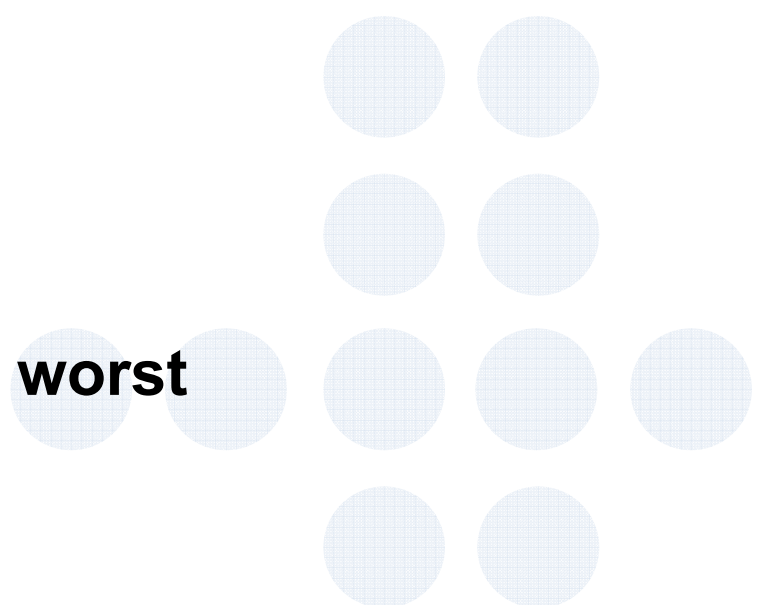
For my car, I want the best mechanic

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

quacks....

Just anyone

And decide for the worst

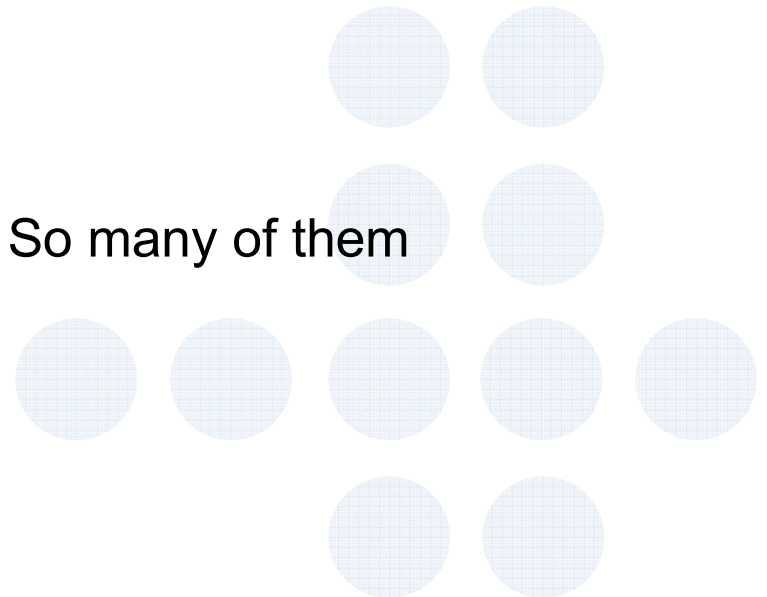


Creative strategies do not work !

- Karva Chauth!
- Never had a test or retest
- Never been to Doctor !

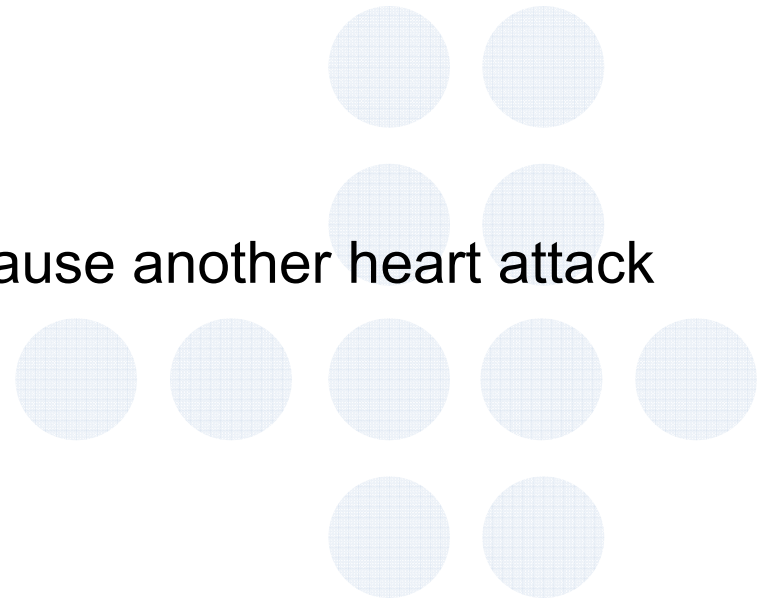
I hate them

- 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



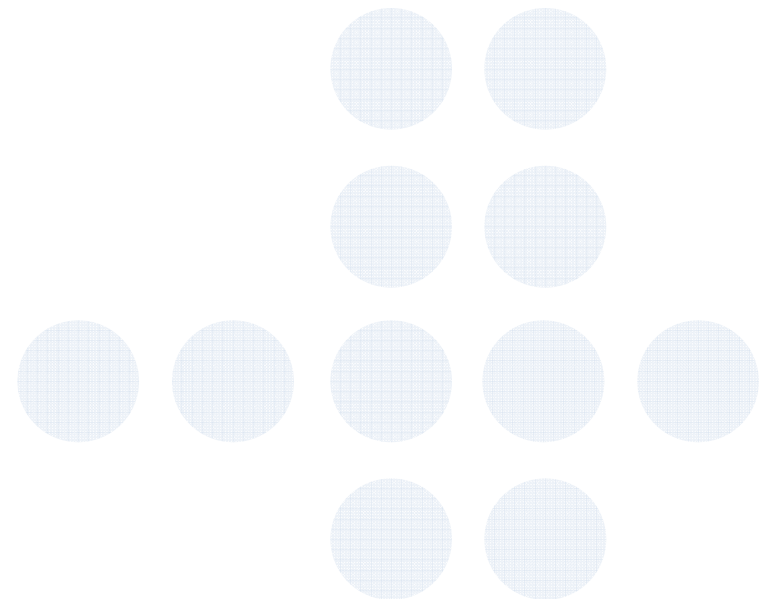
Cardiac Misconceptions

- Heart disease is caused by 'stress' 'worry' or 'overwork'
- If you've had a heart attack you are bound to die of heart disease
- Rest restores the heart
- Any excitement or shock could cause another heart attack



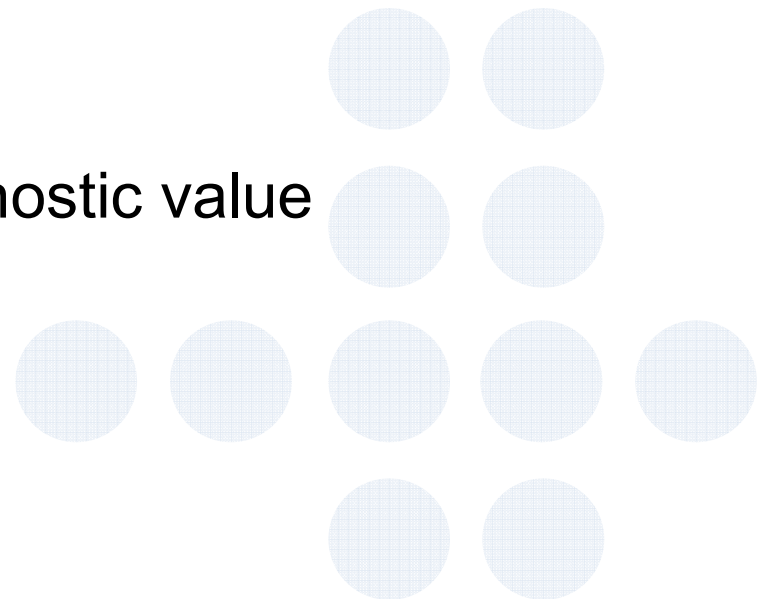
INVESTIGATION

- ECG
- ECHOCARDIOGRAM
- TMT
- THALLIUM SCAN
- CT ANGIOGRAPHY
- CORONARY ANGIOGRAPHY
- PET SCAN



ECG

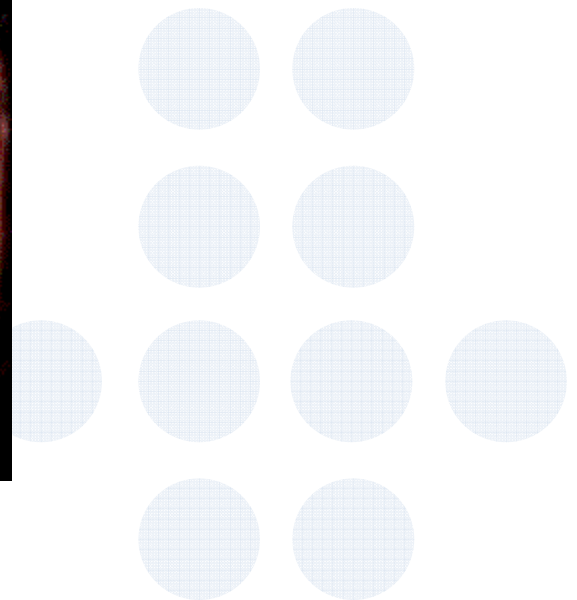
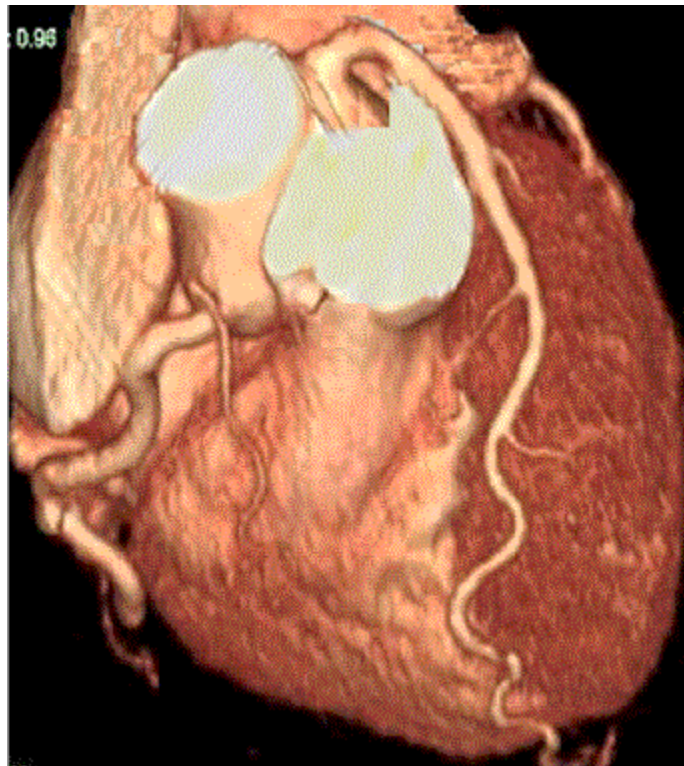
- Normal ECG does not mean a normal heart
- ECG indicates the condition of the heart at the time of recording.
- ECG does not have any prognostic value



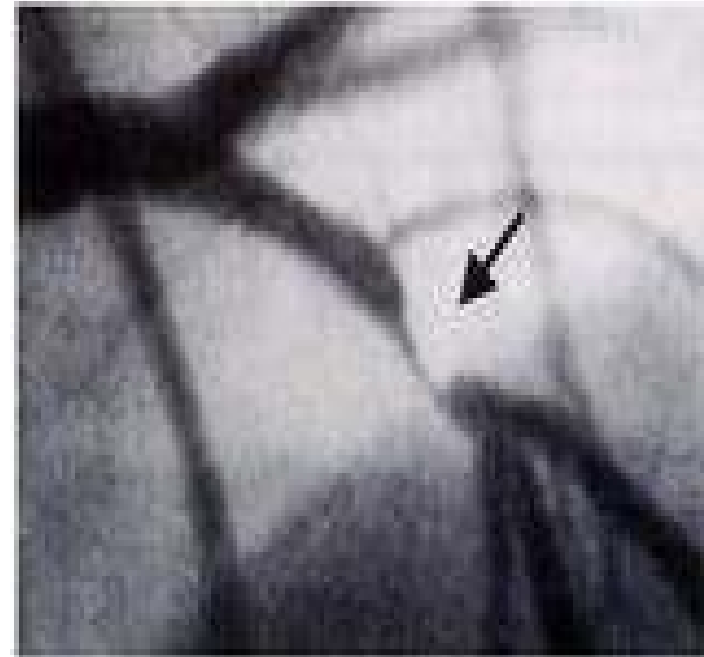
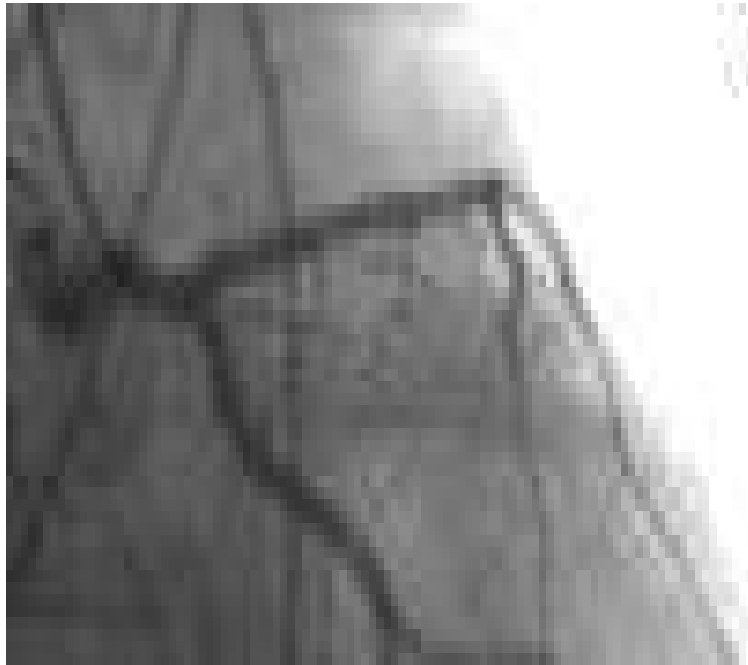
TMT



C.T Coronary Angiogram

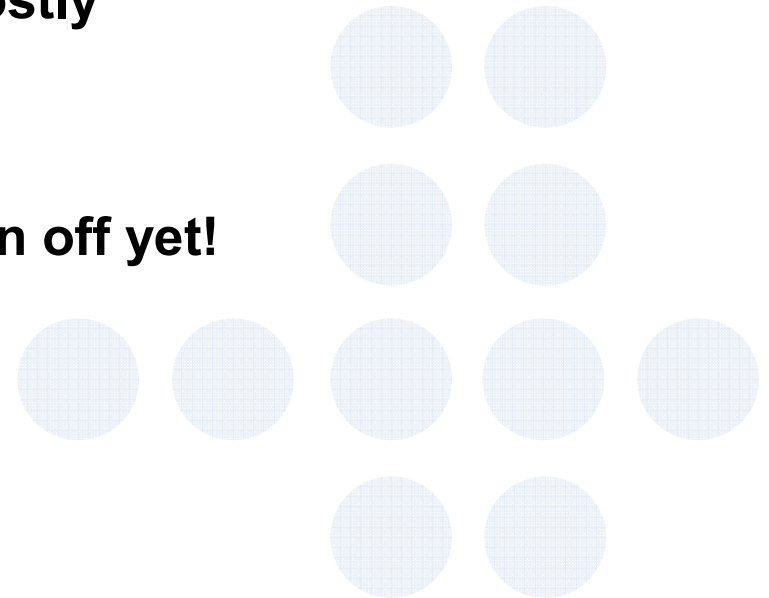


Coronary Angiography



WHY SHOULD WE PREVENT?

- 1. Loss of man power**
- 2. Economic Impact at the community as well as National level**
- 3. Cost of High Tech Treatment**
- 4. PTCA, By pass Surgery are costly**
- 5. Common man can not afford**
- 6. Health Insurance has not taken off yet!**



**Much more before Hippocrates, Aristotle
and Galen, a Couplet from Bhagawad Gita
emphasised the importance of balanced
food, exercise and other life style variables
in disease prevention**

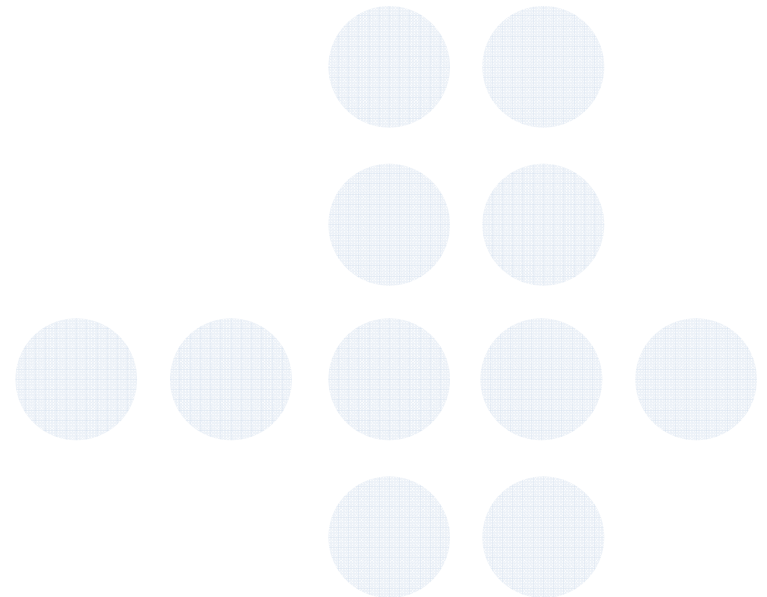
GITA SAYS :-

“ One who observes control over his diet, takes regular exercise, has time to relax, dose the right toil in discharge of his duties, observes proper hours of sleep and awakening and is balanced in his action and reaction, emotions and reason duties and rewards, conquers disease”



Prevention Of CAD

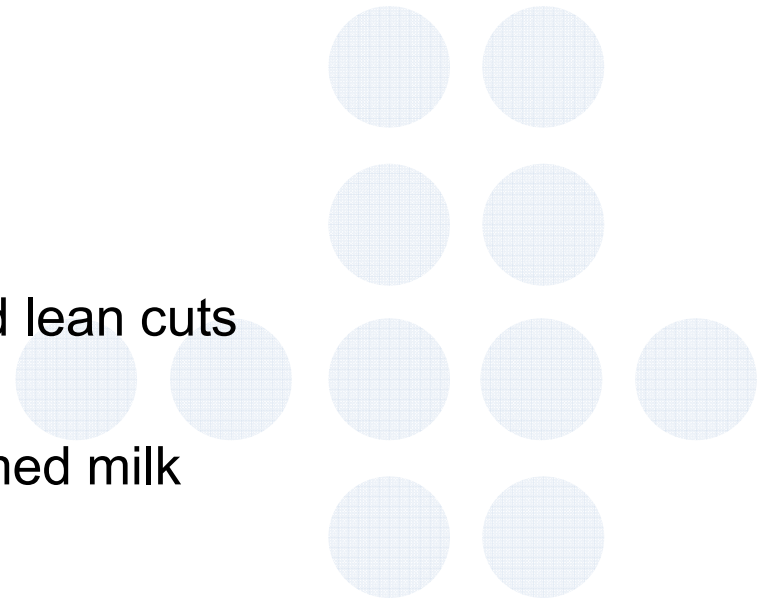
- Diet
- Cholesterol
- Exercise
- Smoking
- Alcohol
- Stress



Preventing Heart Disease

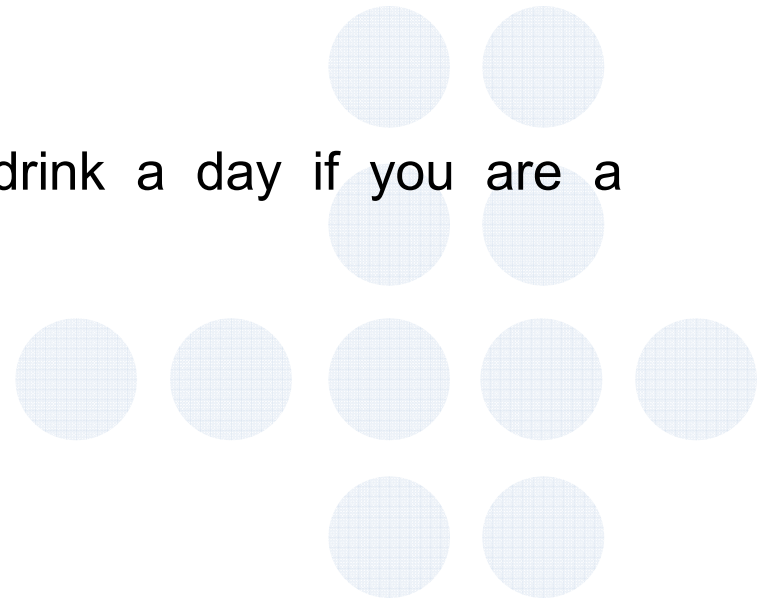
Rule #1 Look before you eat

- Eat a variety of fruits and vegetables every day. (5 servings - they are naturally low in fat and high in vitamins and minerals and anti oxidants). Eat colored vegetables and fruits
- Eat a variety of grain products
- Choose nonfat or low-fat products.
- Use less fat meats- chicken, fish and lean cuts
- Switch to fat-free milk—toned/skimmed milk



Dietary Guidelines

- Limit your intake of foods high in calories and low in nutrition, including foods like soft drinks, candy, junk food
- Limit foods high in saturated fat, trans- fat and cholesterol
- Eat less than 6 gms of salt a day
- Have no more than 1-2 alcoholic drink a day if you are a regular drinker



Limit / Avoid

- Foods rich in Cholesterol and Saturated fats
 - Egg Yolk
 - Fatty meat & organ meat(Liver)
 - Butter chicken / Batter fried fish !
 - Milk fat – Desi Ghee, Butter, Cheese, Malai, Rabri, Khurchan, Doda, Ice Cream, full cream milk,
 - Hidden Fat like Bakery biscuits, Patties (!), Cakes, Pastries,

Cooking Oils: The mystery of PUFA / MUFA

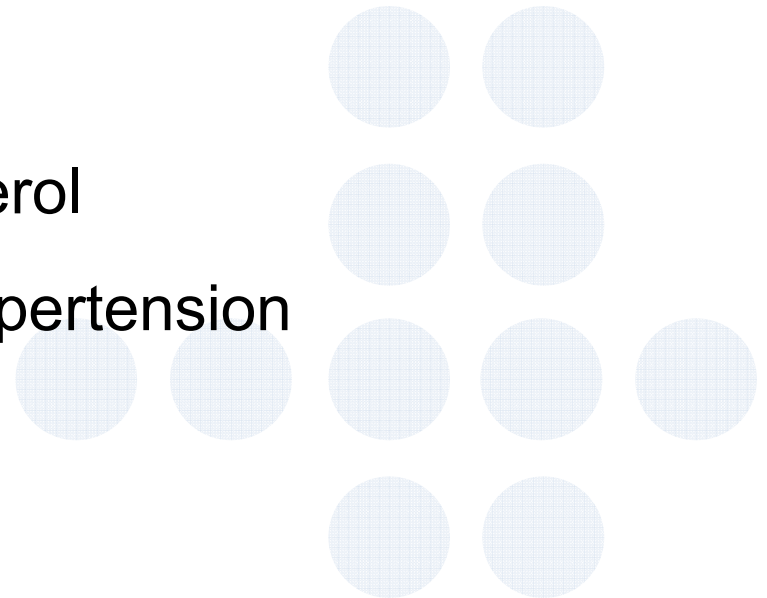
- Saturated Fats : Increase Cholesterol – Avoid
 - Coconut oil, Palm oil, Vanaspati ghee
- Monounsaturated Fats (MUFA): Heart healthy
 - Olive oil, Groundnut oil, Canola oil, Mustard oil
- Polyunsaturated Fats (PUFA): Heart healthy
 - Sunflower oil, Soybean oil
- Omega-3-Fatty acids Fish oil : Heart Healthy

Rotate the oils or Mixture of oils

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

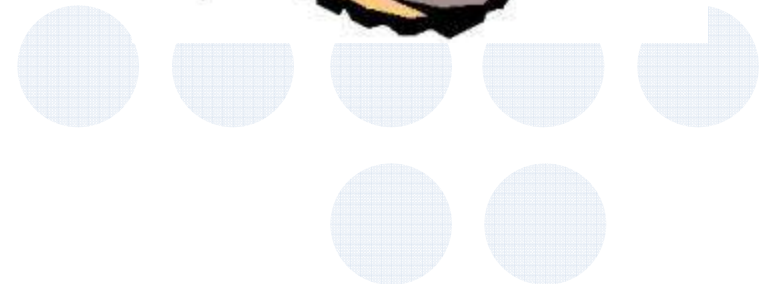


“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”

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

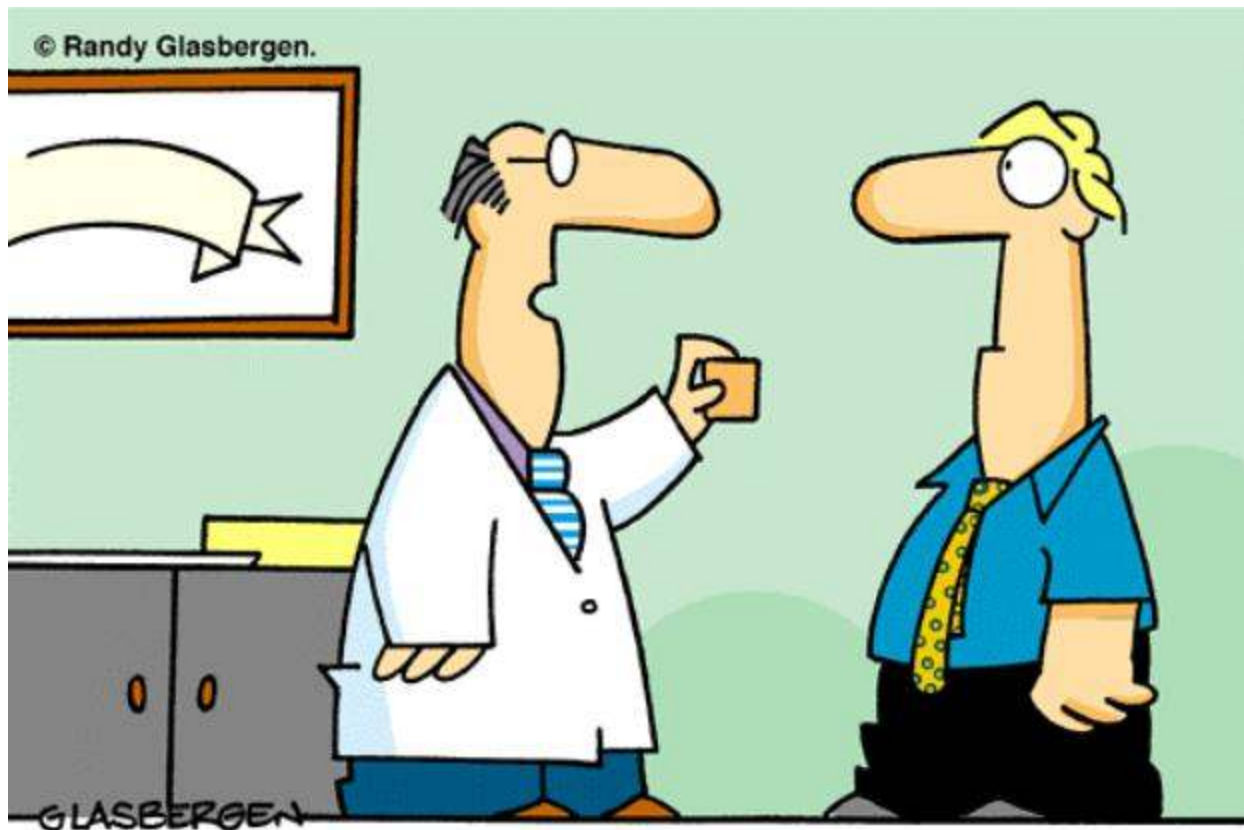


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Rule # 3 Stop Smoking NOW!



“I’m prescribing a patch to help you quit smoking. Wear it over your mouth.”

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!!*

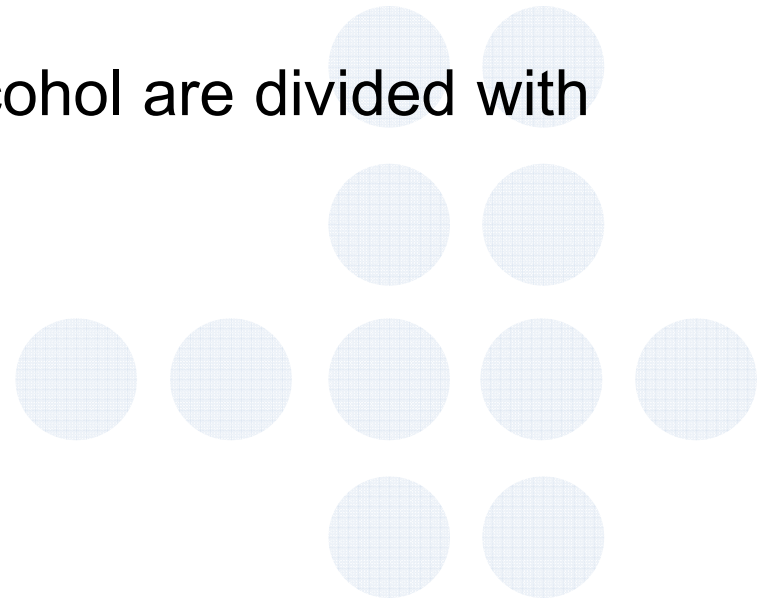
Benefits of reducing cholesterol

**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**

Alcohol Consumption

- In small amounts it acts as a vasodilator.
- In large amounts it acts as a vasoconstrictor & adds to the caloric intake
- The good & Bad affects of Alcohol are divided with a very fine line!



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

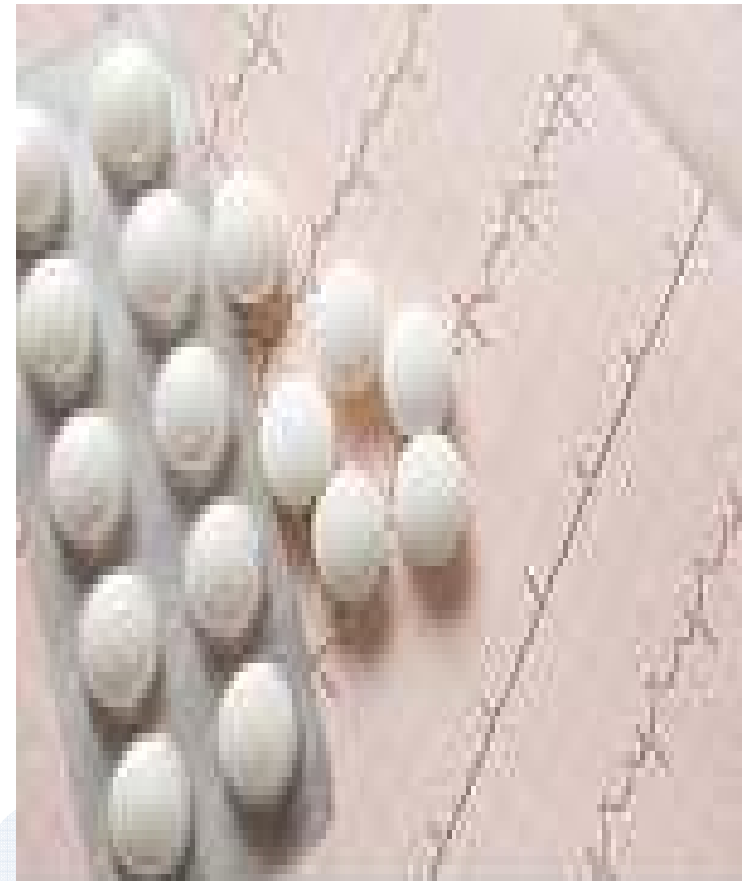
Treatment

- Drugs
- Angioplasty & Stent
- Coronary Artery Bypass Surgery



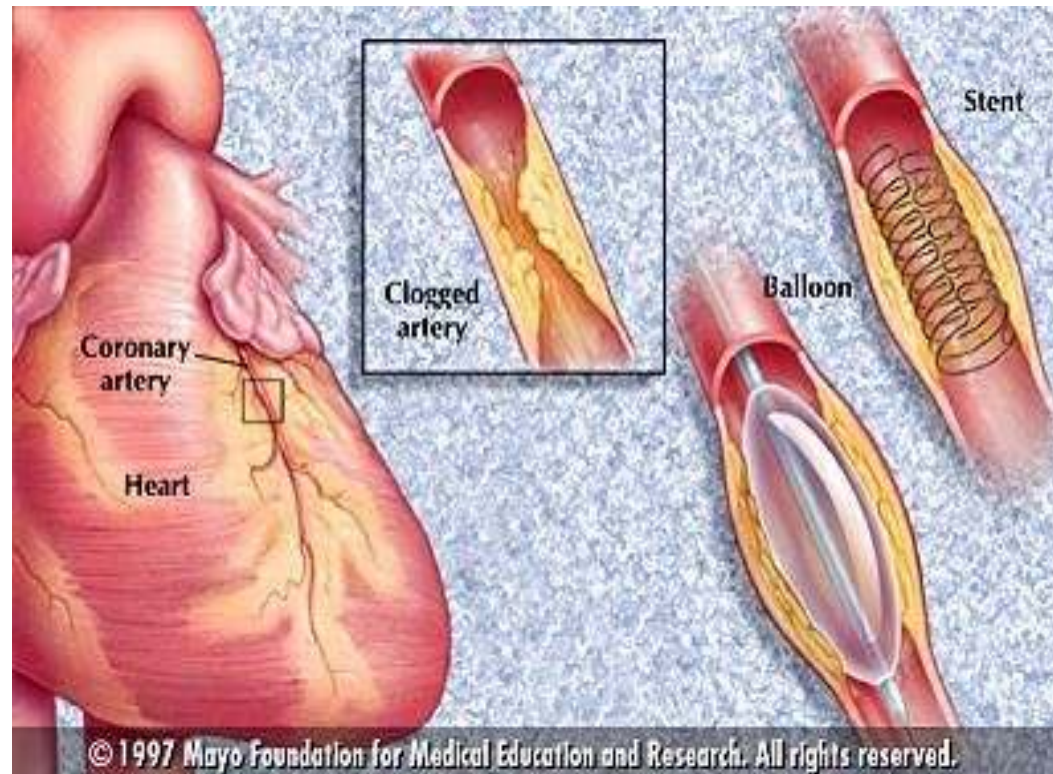
Medicines

- NITRATES
- BETA BLOCKER
- CALCIUM ANTAGONIST
- BLOOD THINNER
- LIPID LOWRING DRUGS
- RESINS
- FIBRIC ACIDS
- HMG CoA REDUCTASE INHIBITOR
- NIACIN



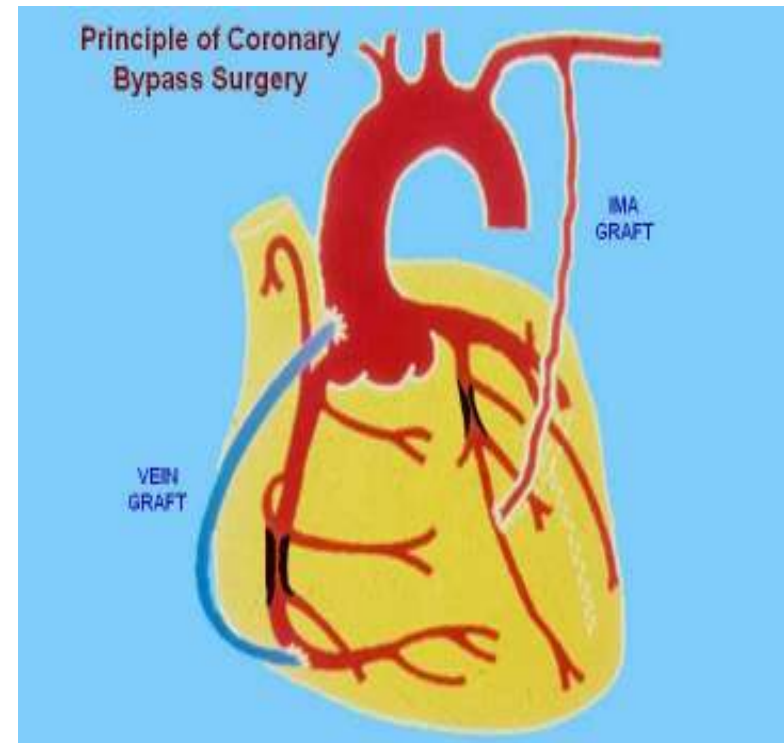
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Angioplasty & Stent (PTCA)



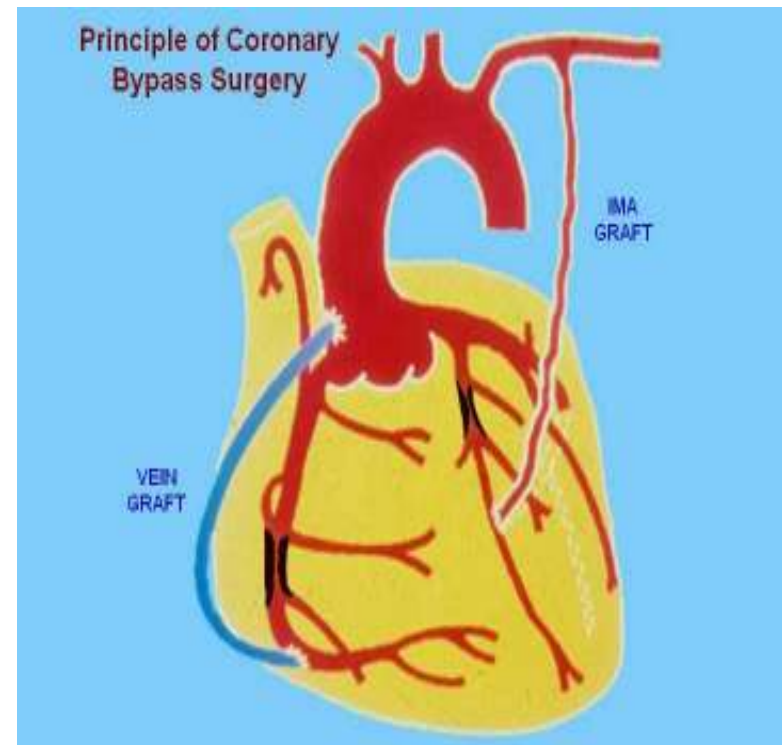
Coronary Artery Bypass Surgery (CABG)

- The most frequently performed major surgery.
- Surgery reroutes or bypasses blood around clogged arteries.



Coronary Artery Bypass Surgery (CABG)

- The most frequently performed major surgery.
- Surgery reroutes or Bypasses blood around clogged arteries.



Conclusion

- Coronary Artery Disease is highest among Indians.
- It is highly preventable and controllable with diet and exercise.
- With present treatment of Angioplasty & Coronary Bypass Surgery person can live long and fruitful life

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.



THANK YOU

