

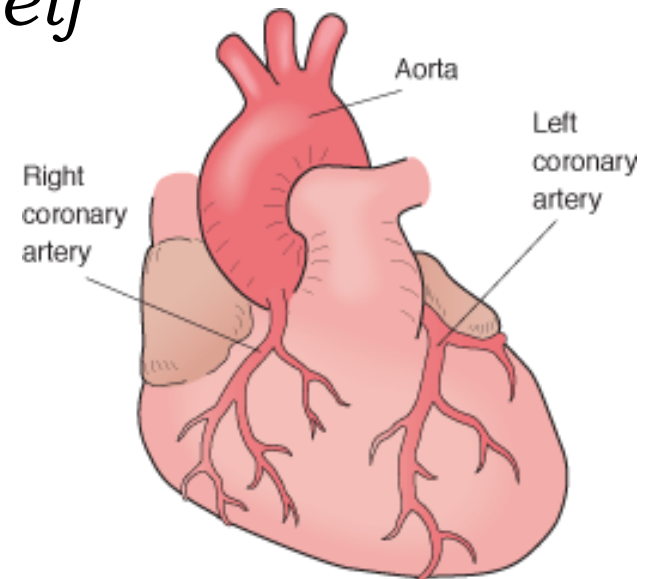
Prevention of Heart Disease



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What is Heart Disease?

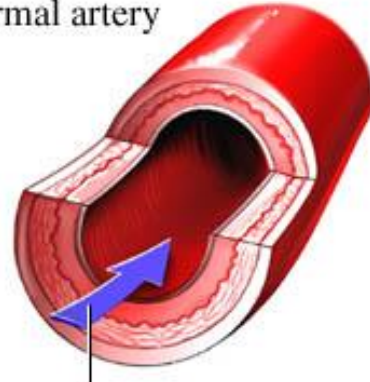
- **Heart** : The most hard-working muscle of our body – pumps 4-5 liters of blood every minute during rest
- Supplies nutrients and oxygen rich blood to all body parts, including *itself*
- **Coronary arteries** surrounding the heart keep it nourished with blood



What is Atherosclerosis

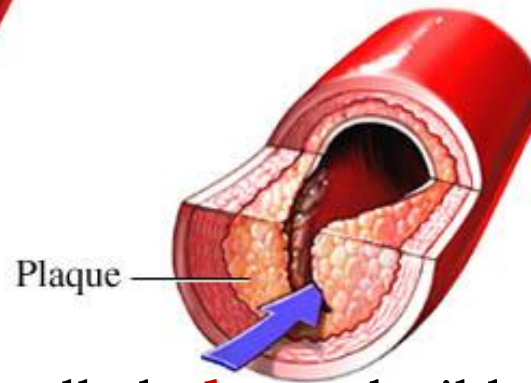
what is coronary artery disease?

Normal artery



Blood flow

Artery narrowed
by atherosclerosis



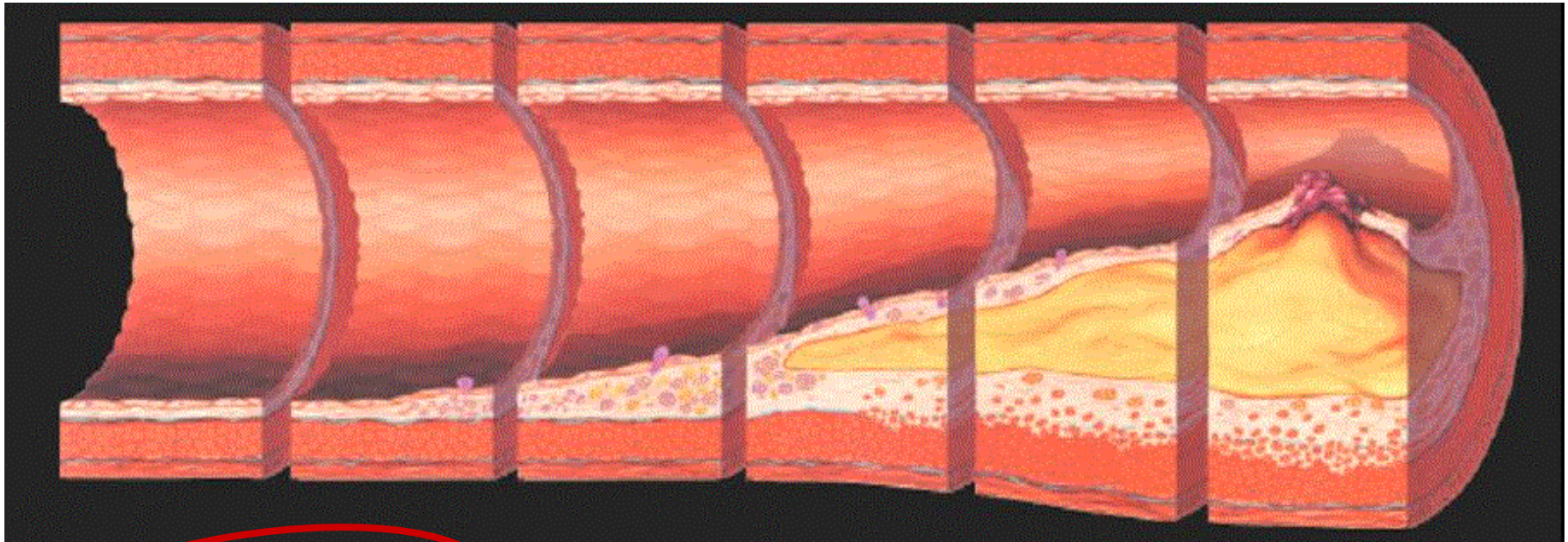
Plaque

- 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

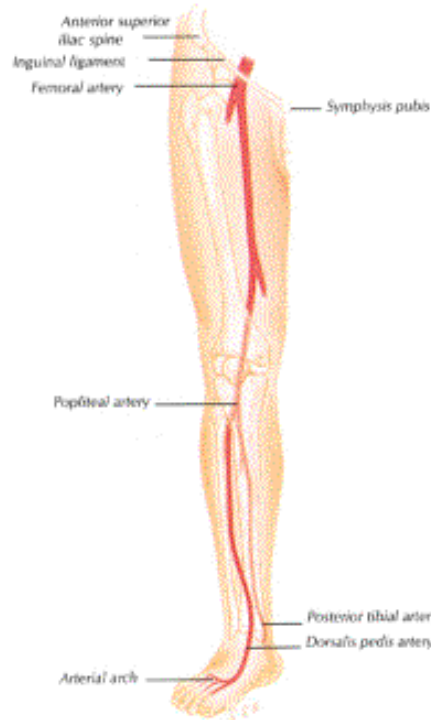
From Fourth Decade



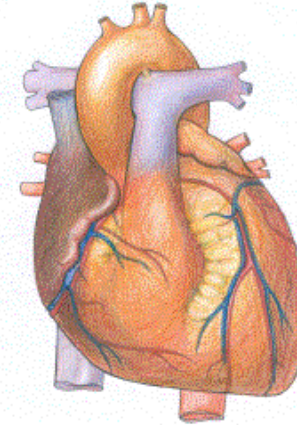
Are Other organs Affected?



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



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



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

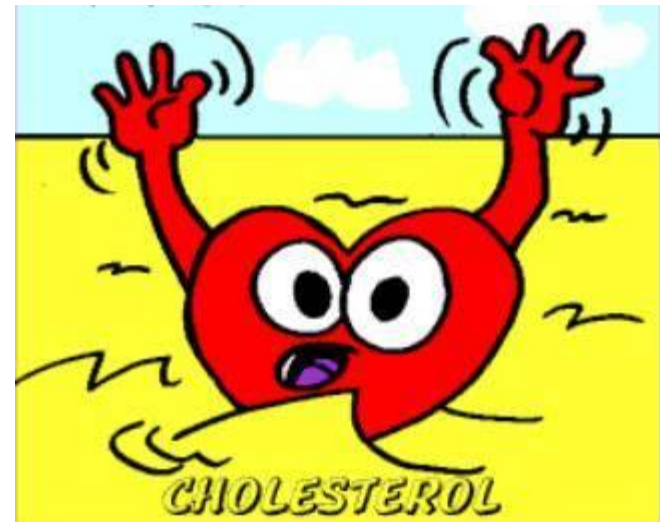
You can !!

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



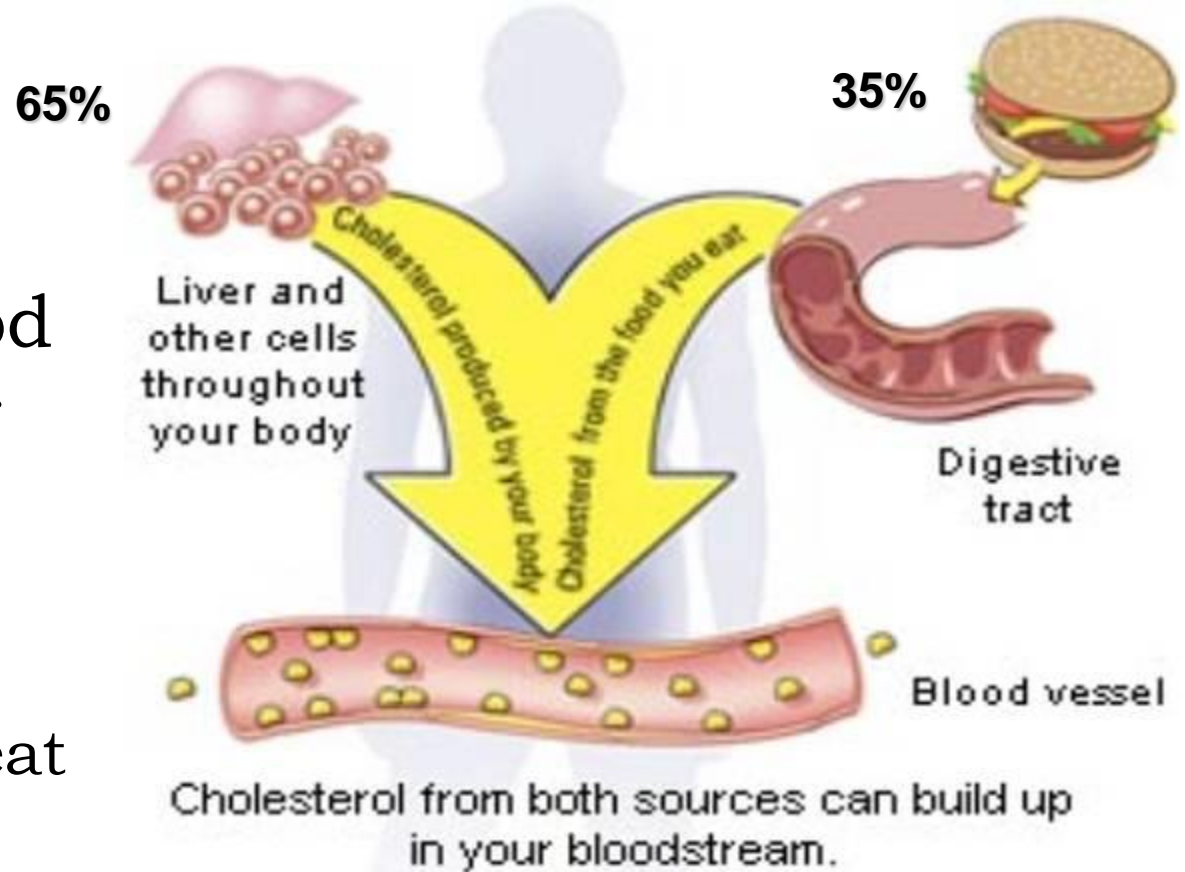
Cholesterol (A type of fat)

- 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



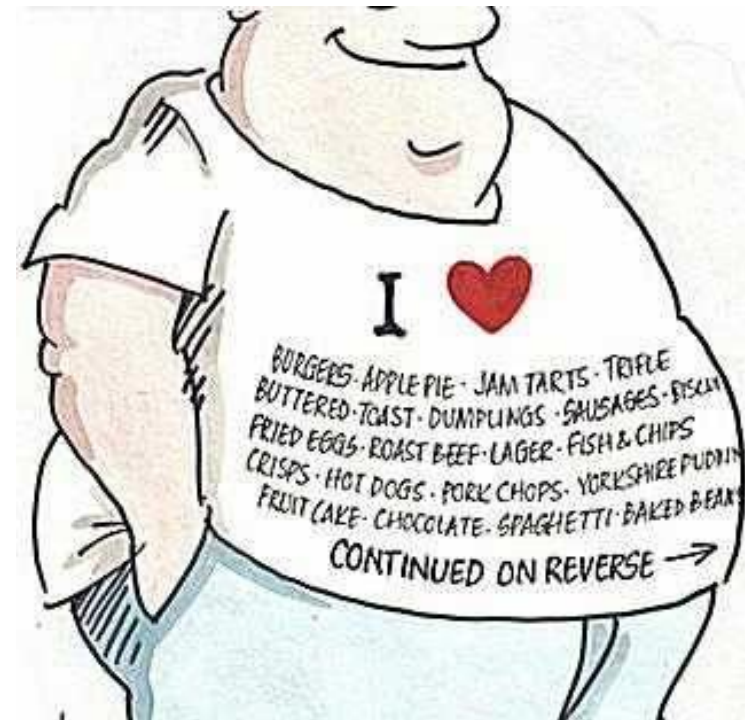
Good vs. BAD Cholesterol

- **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**



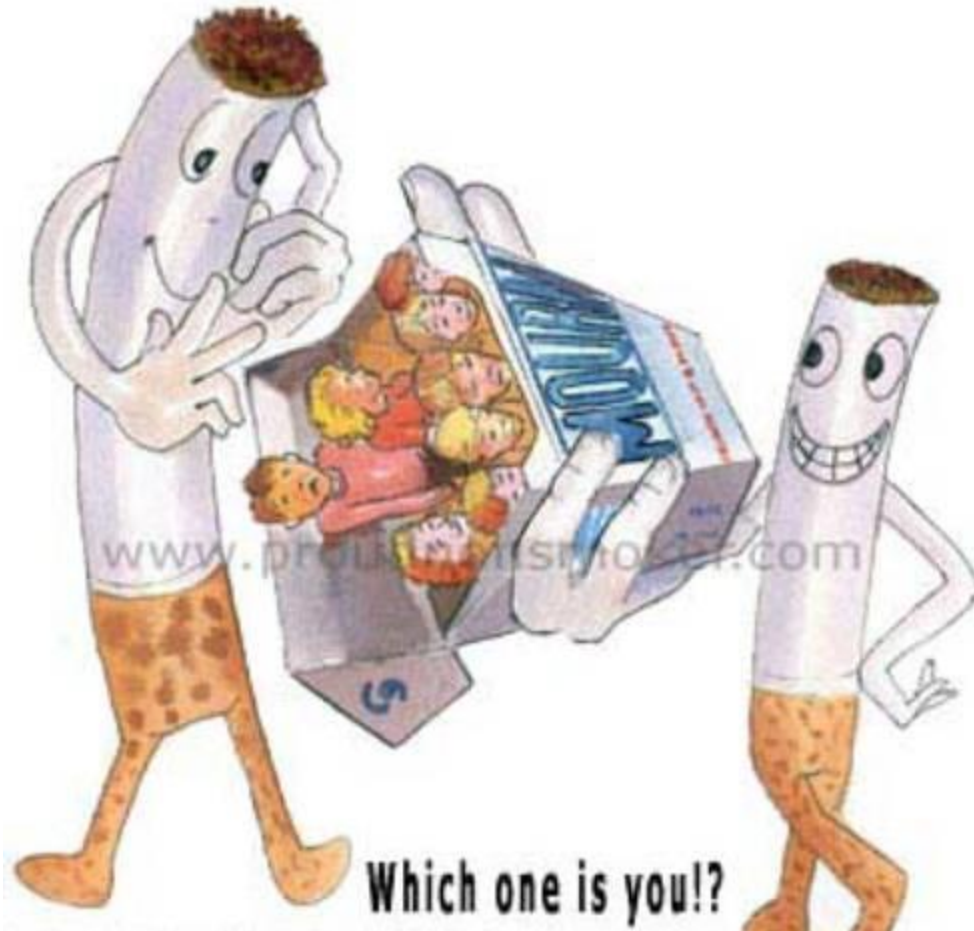
Cigarette Smoking

- 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



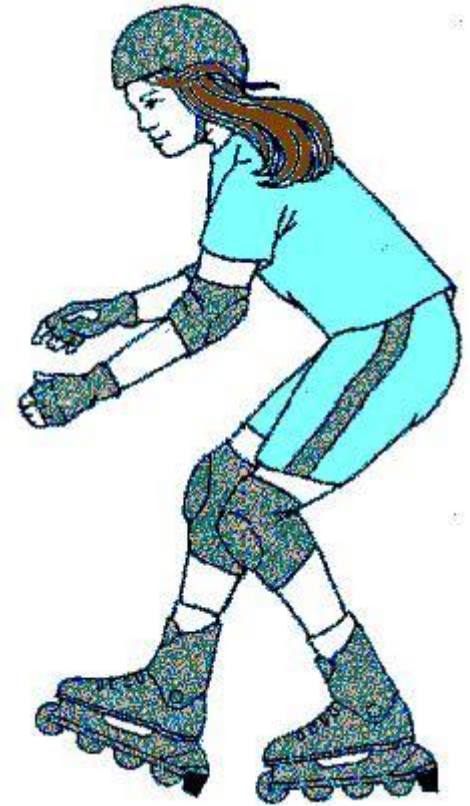
**Misfortunes always come in
by a door that has been left
open for them.**

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?



**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 #1 Look before your 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, 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



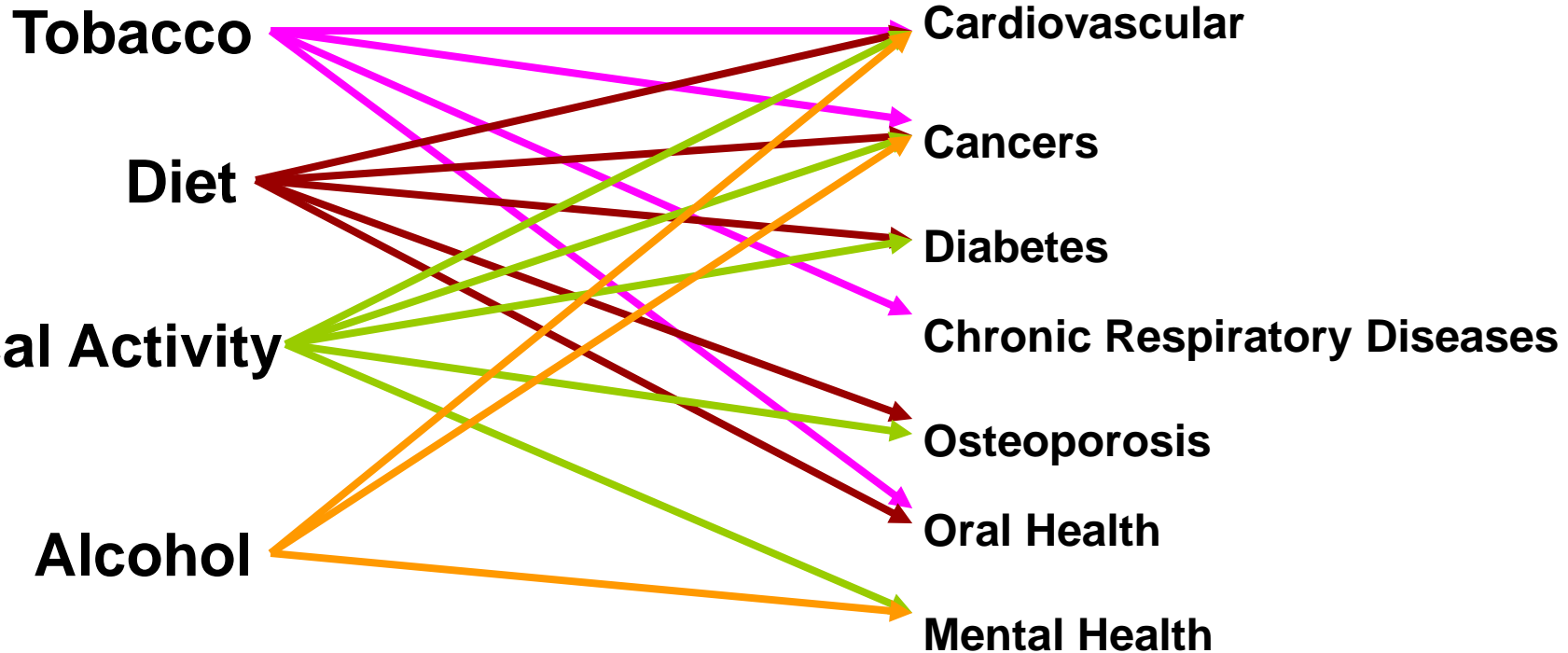
Rule # 3 Stop Smoking NOW!



“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



**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.



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