Effects of Sedentary Lifestyle And Its Management

Dr. Md. Mostafizur Rahman

MBBS (Dhaka Medical College)

MPH (Nutrition), (Dhaka University)

CCD (BIRDEM)

Medical Officer

BPATC Savar Dhaka.

Session Plan

- What is Sedentary lifestyle?
- Effects of sedentary lifestyle
- Brief discussion on noncommunicable diseases.
- Preventive management of NCD
- Definition of nutrition and measurement of nutritional status.
- How to maintain body weight
- Daily calorie management.

What is Sedentary Lifestyle ?

A **sedentary lifestyle** is a type of Lifestyle with no or irregular Physical activity .

Sedentary activities include :

- Sitting
- Reading
- Typing
- Watching television
- Playing video game and computer use

for much of the day with little or no vigorous physical exercise.

Effect of Sedentary Lifestyle

- Anxiety
- Cardiovascular disease
- Mortality in elderly men by 30% and double the risk in elderly women
- Deep vein thrombosis
- Depression
- Diabetes
- Colon cancer
- High blood pressure
- Obesity
- Osteoporosis
- Lipid disorders
- Kidney stones
- Spinal disc herniation (Low back pain)

The Age 40

- The age 40— it's a milestone for sure, signaling a time of transition from young adulthood to middle-age.
- This is an important decade for **preventing health problems** such as diabetes, heart disease and many types of cancer later in life.
- Among CVDs, ischemic heart disease (IHD) is the leading cause of death in the country.

Health risks of 40+

- After the age of forty body's degeneration starts.
- At this age people are prone to suffer from many non-communicable diseases which are the major causes of death

Old Age

- Old age" occurs because we take into our bodies, mainly in food, harmful substances which for one reason or another, the excretory organs fail to eliminate.
- Some of these substances serve no purpose at all in the body and are best avoided if possible, and some are perfectly normal by products of normal body processes.

Degeneration process

- We have so many cells and every day we loss more and more. Our bodies completely regenerate every year and a half. That is the oldest cell in our body is 1 year and 6 months old.

- The fact is, as we grow older we have less and less proper nutrition and we are far more affected by free radicals (stress). Our cells have less and less fuel to work with and when the do multiply they are reborn with a poorer structure.

Degeneration starts at the age of 40

Depending on the diet and other lifestyle factors, the process of degeneration can be rapid, terminating life in youth or middle age, or deferred, to finally terminate life by what is known as old age.

WHAT CAN BE DONE:

- Well it's quite obvious now to tackle any of these large group of co-morbidities , a multi-disciplinary approach is required in order to shift the curve towards the better of this slowly rising epidemic…..

Physical Inactivity

- Physical inactivity is a termed used to identify people who do not get the recommended level of regular physical activity.

- The American heart association recommends 30 to 60 minutes of aerobic exercise three to four times per week to promote cardiovascular fitness.

Prevention of heart diseases

everyone can become more heart healthy by following a few key steps, such as :

- Eating a healthy diet.
- Exercising.
- Quitting smoking.
- Maintaining a healthy body weight.

What is Non Communicable Diseases ?

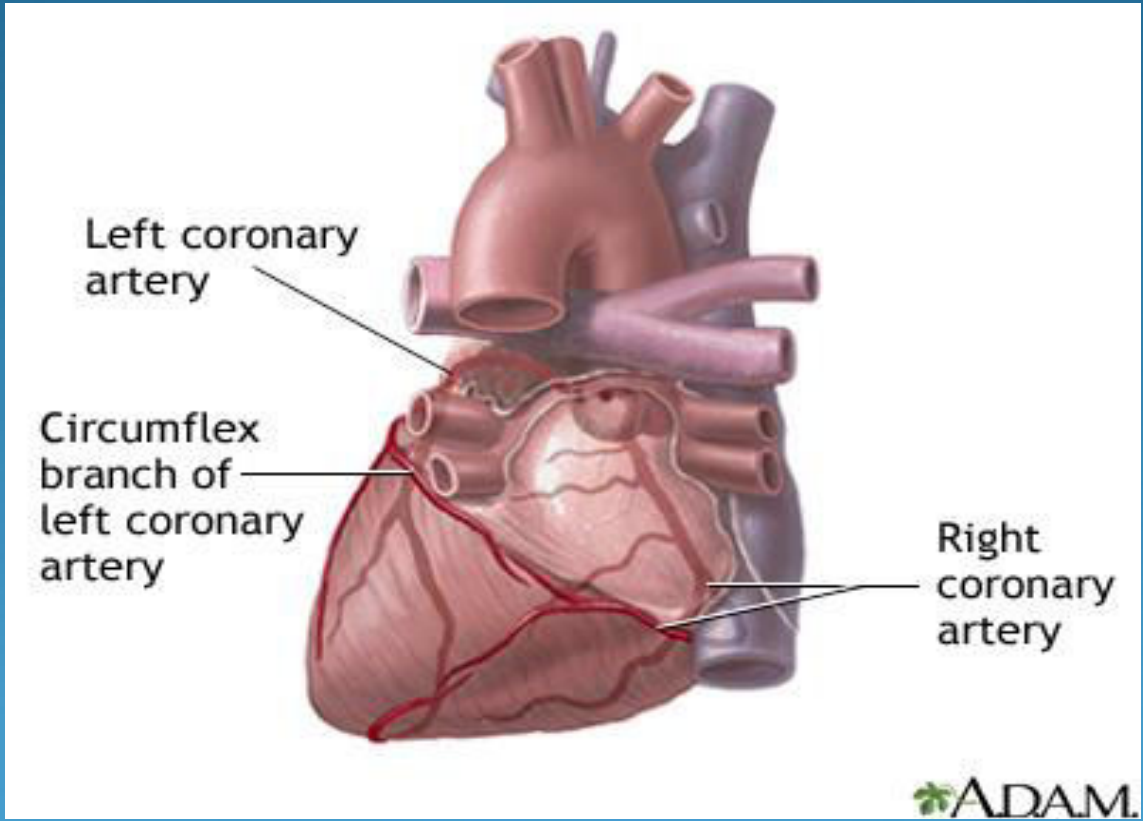
A non-communicable disease, or NCD, is a medical condition or diseases which by definition is non-infectious and non-transmissible among people. NCDs may be chronic diseases of long duration and slow progression.

- **Major Non Communicable diseases (NCD) :**

- · Cardiovascular diseases (CVD)
- · Diabetes Mellitus
- · Hypertension
- · Obesity1
- · Cancer
- · Osteoarthritis
- · Mental health problem

Controllable Risk Factors of Heart Disease :

Cigarette smoking.
Obesity
Hypertension.
Diabetes mellitus.
High cholesterol level.
Stressful life.
Physical inactivity.


Left coronary artery
Circumflex branch of left coronary artery
Right coronary artery
A.D.A.M.

Today's Lifestyles are tomorrows risk factors

Today's risk factors are tomorrows diseases

Risky behaviors → Risk factors → NCDs

Healthy Lifestyle

A way to prevent NCD

What is Healthy Lifestyle ?

A healthy lifestyle is defined by four basic criteria:

- Not smoking
- Holding weight down
- Eating right
- Exercising

Increase Activity

Just adding a little movement to our life can:

- Reduce the risk of heart disease, stroke and diabetes
- Improve joint stability
- Increase and improve range of movement
- Help maintain flexibility as you age
- Maintain bone mass
- Prevent osteoporosis and fractures
- Improve mood and reduce symptoms of anxiety and depression

Hyperlipidaemia

Hyperlipidaemia is the term used to denote raised serum levels of fatty substances called lipids. These are

-Cholesterol

-Triglycerides

These fatty substances travel in the blood attached to proteins known as lipoproteins

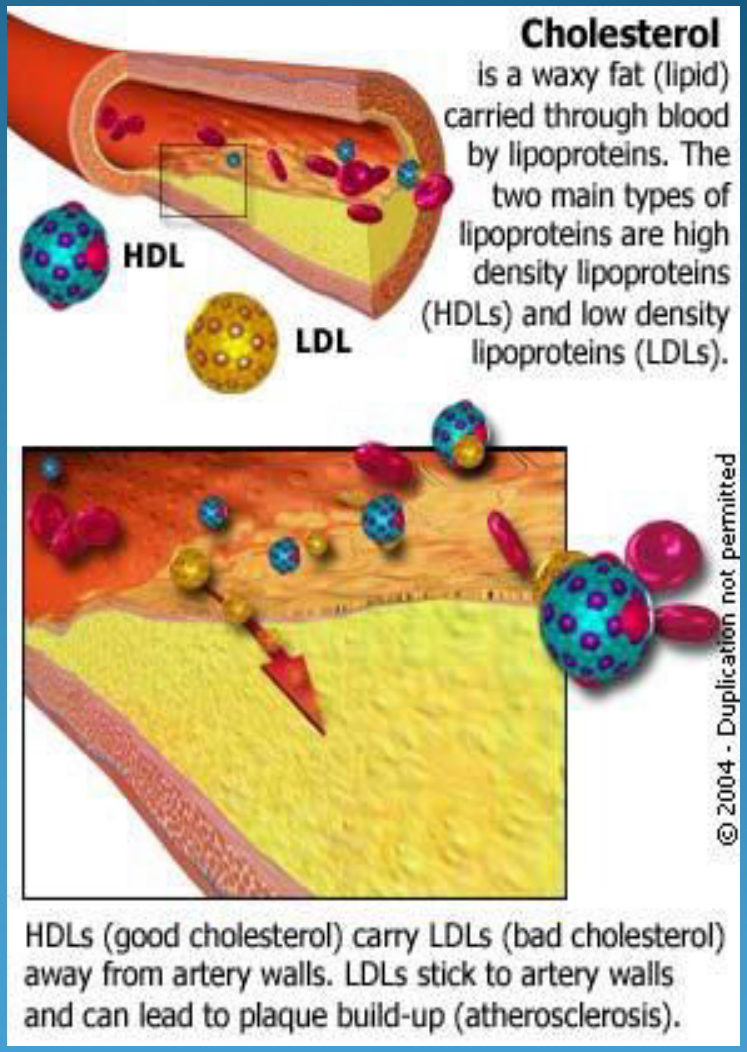
Lipoproteins:

Chylomicrons

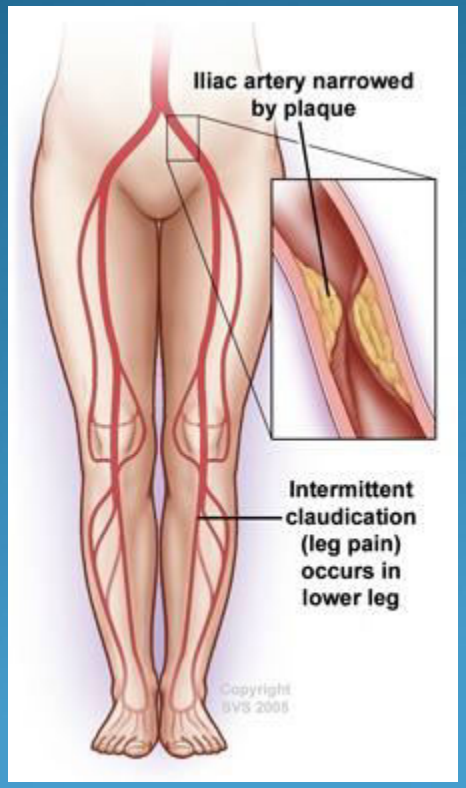
LDL (low density lipoprotein)

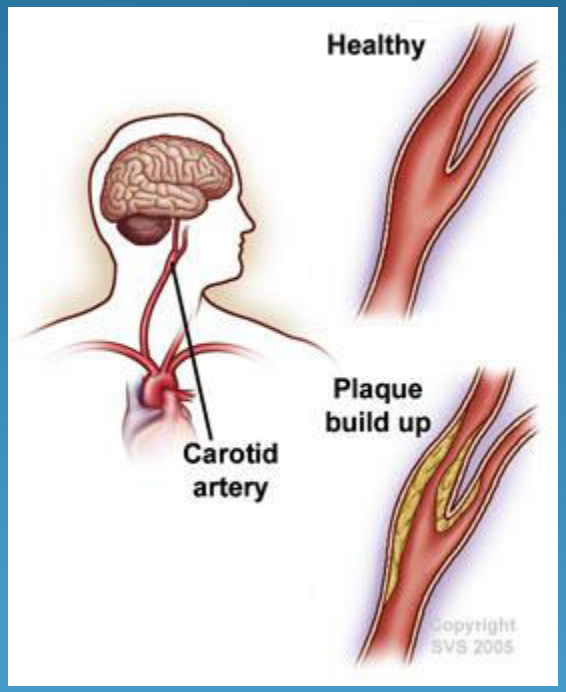
HDL (high density lipoprotein)

VLDL



Hyperlipidaemia



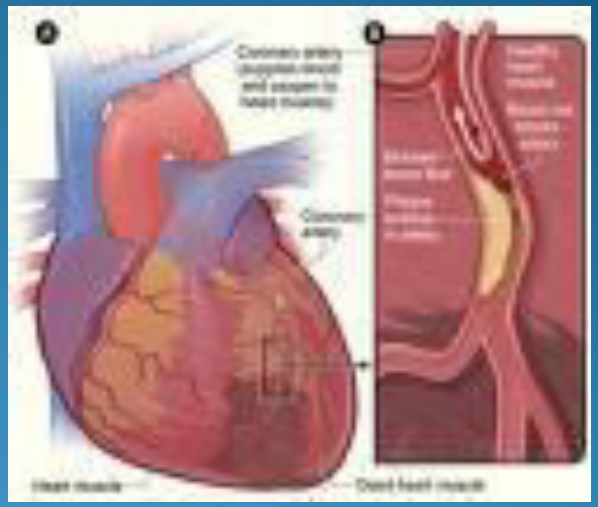


What is HDL Cholesterol?

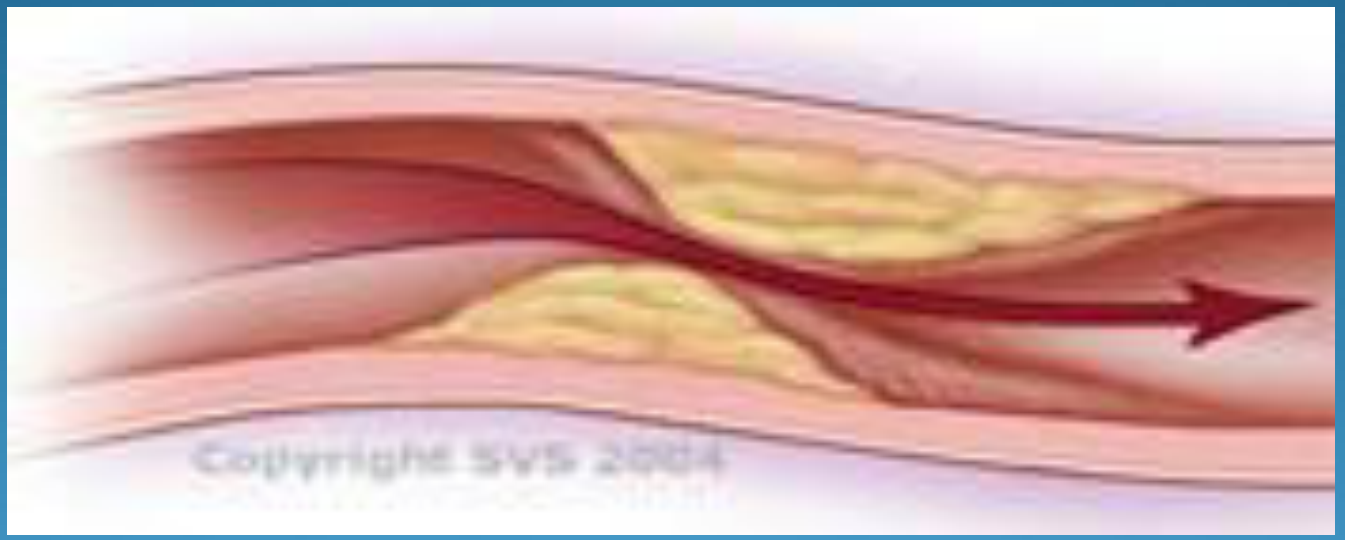
- High-density lipoprotien (HDL)
  - “Good” cholesterol
  - Carries cholesterol away from the arteries and back to the liver
  - High levels of HDL appear to protect against heart attack
  - Low HDL indicates a greater risk for heart attack

Why it becomes a Silent Killer ?

- Cholesterol is intimately related to the development of **atherosclerosis**, which is a leading cause of **heart attack** and death.
- During the atherosclerotic process, cholesterol is carried into the inner lining of arteries causing an injury to the artery wall and inflammation.
- Inside the artery, the cholesterol combines with white blood cells and other materials to create a *lipid foam*.
- This lipid foam provides the building material for plaque deposits on the inner wall of arteries, including the **coronary arteries** in the heart and the **carotid arteries** in the brain



Why it becomes a Silent Killer ?



- Coronary Artery Block.

Ways to Raise HDL Cholesterol

- Get active. Physical activity can boost your HDL level. ...
- Lose extra weight. If you're overweight, losing extra pounds can help raise your HDL levels, as well as cut your LDL ("bad") cholesterol levels.
- Choose better fats. ...
- Alcohol in moderation. ...
- Stop smoking.

Xenthelasma

5 Ways to Raise Your HDL Cholesterol

- Get active. Physical activity can boost your HDL level. ...
- Lose extra weight. If you're overweight, losing extra pounds can help raise your HDL levels, as well as cut your LDL ("bad") cholesterol levels.
- Choose better fats. ...
- Alcohol in moderation. ...
- Stop smoking.
-

How to prevent Hypertension?

- Do not take extra salt
  - avoid table salt
  - use less salt during cooking
  - avoid foods with extra salt e.g. cheese

- Increase intake vegetables, citrus fruits and fibers
- Stop smoking, taking tobacco and alcohol
- Proper rest and mental pleasure

How to prevent Hypertension?

- Reduce weight
- Reduce taking extra salt, sugar
- Decrease animal fat, cholesterol e.g. beef, mutton, brain, liver, butter, prawn, chicken skin, egg yolk, coconut

Diabetes Mellitus

How to prevent Diabetes?

- Diet control
- Prevention of over weight/ obesity
- Discipline
- Regular exercise

How to prevent Diabetes?

Diet :

- ✓ Take your meal regularly
- ✓ Avoid extra sugar, sweet and honey
- ✓ Take proteins from fish, chicken & nuts
- ✓ Control beef & mutton
- ✓ Underweight people should gain weight and overweight people should reduce wt.
- ✓ Eat more salad, vegetables and sour fruits

How to prevent Diabetes?

Discipline:

Take a balanced diet

- Take medicines timely
- Keep yourself neat & clean
- Monitor weight and blood glucose level

How to prevent Diabetes?

- **Exercise:**

- **Exercise or walking 45 minutes a day is helpful for controlling diabetes**
- **Helps to control weight**

**Be careful about infections

**Try to reduce mental stress

Inference of OGTT

Inference	0 min glucose level	120 min glucose level
Diabetes Mellitus	≥ 7.0 m. mol/ L	≥ 11.1 m. mol/ L
Impaired Gl. Toller	< 7.0 m. mol/ L	≥ 7.8 – 11.1 m. mol/ L
Imp. Fasting Glyc	≥ 6.1 - < 7.0 m. mol/ L	< 7.8 m. mol/ L
Normal	< 6.1m. mol/ L	< 7.8 m. mol/ L

Target to Control DM

Fasting Blood Sugar	--	less than 5 m.mol/L
Random Blood Sugar	--	Less than 7.8 m.mol/L
HbA1C	--	Less than 7%

How to avoid Cancer?

- Take fresh food, vegetables and fiber containing diet
- Take adequate amount of food from plant origin
- Avoid taking too much food of animal origin e.g. beef, mutton, red meat

How to avoid Cancer?

- Too much canned food and food using preservatives should be avoided
- Tobacco and smoking should be ceased
- Avoid taking extra salt
- Avoid using artificial color in food
- Stop using harmful pesticide

What is Nutrition ?

Nutrition is the biochemical and physiological process by which an organism uses food to support its life. It includes ingestion, absorption, assimilation, biosynthesis, catabolism and excretion.

Good nutrition aims to achieve and maintain a desirable body composition, optimal health, prevention of diseases and high potential for physical or mental works.

Introduction to Nutrition

Nutrition = The study of food.

Food = Any substance that contains nutrients.

Nutrients = Any substance which can be digested and used by the body.

There are six nutrients:

- Protein
- Fat
- Carbohydrates
- Vitamin
- Minerals
- Water

Some tips to maintain nutrition

- Keep your daily calorie intake to a reasonable amount.
- Enjoy your food but eat less. Mindful eating.
- Keep portion sizes of food to a reasonable and recommended amount.
- Try to eat more of these foods: vegetables, fruits, whole grains, lean proteins, and some low-fat dairy products.
- Dedicate half your plate at meals to fruits and vegetables. Fruits, vegetables.
- Try to make at least half (or preferably all) your daily grains whole grains.

Food Pyramid

Why Nutritional Management is important ?

Good nutrition can help to reduce the risk of some disease, including heart disease, diabetes, stroke, some cancers and osteoporosis. Also help to

- Reduce high blood pressure
- Hyperlipidaemia.

Nutrition and Nutrients

Nutrition is the biochemical and physiological process by which an organism uses food to support its life.

Nutrients are chemical compounds in food that are used by the body to function properly and maintain health.

Macronutrients: Protein, Fat, Carbohydrate.

Micronutrient : Vitamin, Minerals and Water

Nutrient Density

A food that supplies large amount of nutrients relative to the number of calories it contains is nutrient dense.

The higher the level of nutrients and the fewer of calories, the more nutrient dense the food is.

Percent contribution to adult female RDAs

Cola soft drink, 1 cup

Skim milk, 1 cup

	Cola soft drink, 1 cup	Skim milk, 1 cup
	0% 10% 20% 30% 40%	0% 10% 20% 30% 40%
Calories		
Protein		
Vitamin A		
Vitamin C		
Thiamin (B_1)		
Riboflavin (B_2)		
Niacin (B_3)		
Calcium		
Iron		

Benefits of good nutrition:

Benefits of good nutrition or eating healthy are

- Heart health
- Weight loss
- Diabetes
- Hypertension
- Immunity
- Reduced cancer risk
- Gut health
- Memory

Diet and nutrition

Diet refers to all the food that we consume through the day on a regular basis.

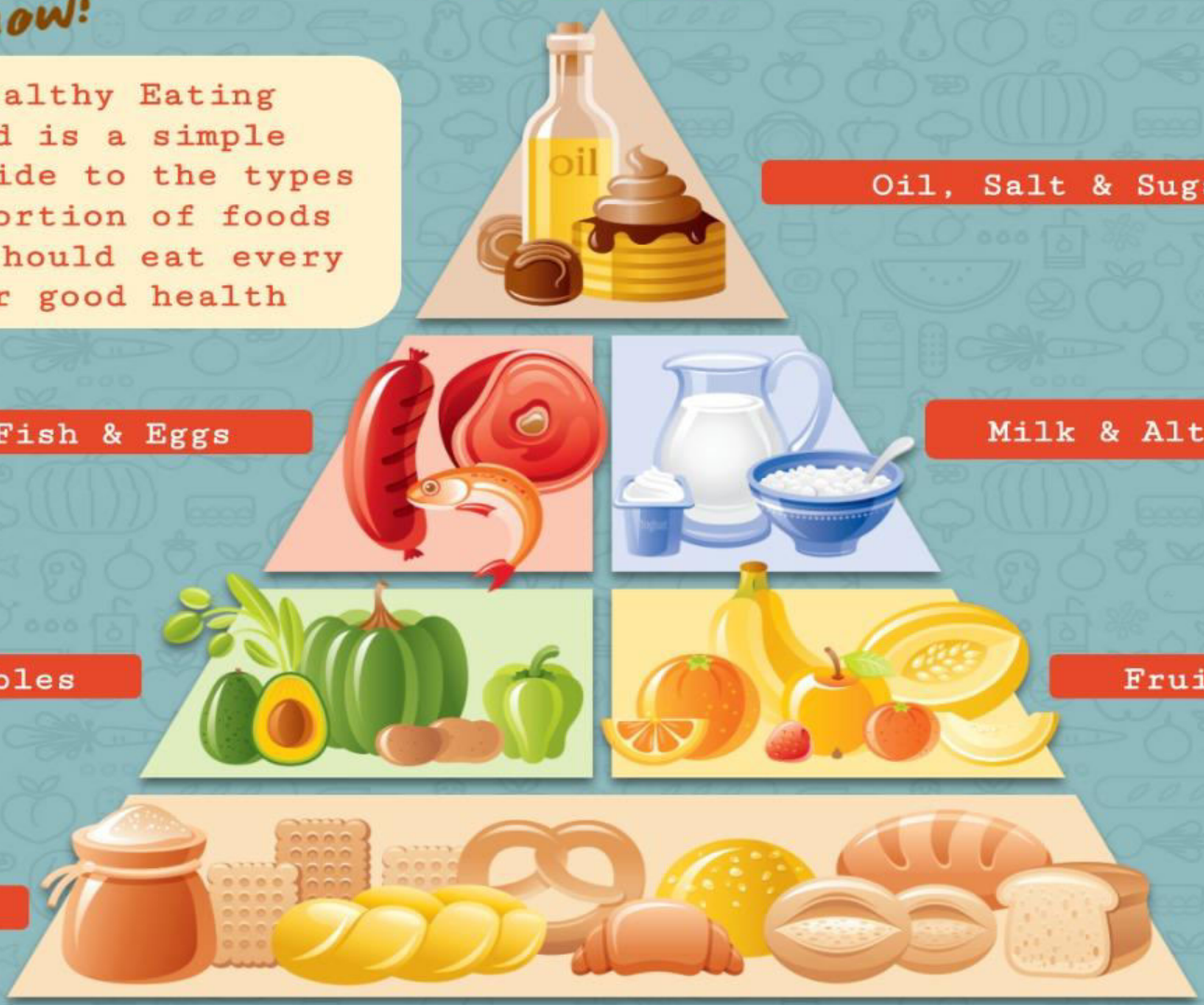
On the other hand, nutrition refers to the fuel that our body requires to function optimally and maintain good health. It refers to the right mix of nutrients.

The Food Pyramid

Balance your diet

Did you know?

The Healthy Eating Pyramid is a simple visual guide to the types and proportion of foods that we should eat every day for good health



DMP

@DattMediproducts

So overview is

How to prevent Over-weight and Obesity?

- **Diet:**
  - Low intake of rice and wheat products
  - Restriction of high calorie diet
  - Increase intake of low calorie diet
  - Increase fiber containing diet intake
  - Prepare foods with little or no oil.
  - Avoid sugary foods : Candy, Jelly, Jam etc.
  - Limit beverage drinks.

How to prevent Over-weight and Obesity?

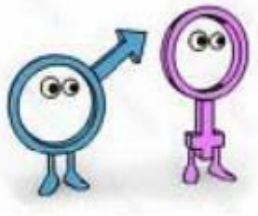
- Eat balanced diet.
- Do not read or watch TV while you eat.
- Take 1-2 glasses of water before meal.
- On the occasion or party may go off your plan. Don't be too hard on yourself and don't quit. Get back on track on next day.

- **Prevention of obesity:**

Keep your BMI under 25

HOW MUCH ENERGY DO WE NEED ?

Age



Sex

Energy Requirement

Physical Activity

Body Weight

How to calculate BMI ?

Body Mass Index (BMI) = Wt. in Kg/Ht. in meter^2

Ideal Body Wt. (kg) = Ht. in cm – 100 (Roughly)

Losing even 10% of your total body weight can significantly lower your risk.

Interpretation of BMI According to WHO:

Classification	BMI Principle cut-off points
Overweight	≥ 25.00
Pre-obese	25.00-29.99
Obese	≥ 30.00

Mode of Activity

Sedentary : Sitting and standing activities, Driving, Typing, Lab. Works etc.

Light Activity : Walking on plain, House cleaning, Child care, Walking @ 2.5 – 4.0 km/hr. etc.

Moderate Activity : Walking @ 6.0 – 7.0 km/hour, Cycling, Dancing, Weeding etc.

Heavy Activity : Climbing, Walking up hill with load, Digging, Football, Basketball etc.

Mode of Activity	Action	Calorie Increment
Sedentary	Sitting and standing activities, Driving, Typing, Lab. Works etc.	No Increment
Light Activity	Walking on plain, House cleaning, Child care, Walking @ 2.5 – 4.0 km/hr. etc.	30% of DCA
Moderate Activity	Walking @ 6.0 – 7.0 km/hour, Cycling, Dancing, Weeding etc.	50% of DCA
Heavy Activity	Climbing, Walking up hill with load, Digging, Football, Basketball etc.	100% of DCA

How to prevent Over-weight and Obesity?

- Physical exercise:
- Regular exercise and walking
- Daily household works and daily activities
- Try to be active
- Try to maintain desirable nutrition status

** Regular monitoring of Wt/BMI

Energy Expenditure on Various Physical Activities

Activity	K.cal/hour
Watching TV	86
Cleaning/Mopping	210
Gardening	300
Cycling (15 km/hr.)	360
Running(12 km/hr.)	750
Running(10 km/hr.)	650
Running(08 km/hr.)	522
Walking (04 km/hr.)	160
Walking (06 km/hr.)	350

Energy Expenditure on Various Physical Activities

Activity	K.cal/hour
Table Tennis	245
Lawn Tennis	392
Dancing	372
Typing	108
Sleeping	57
Standing	132
Sitting	86

Approximate Caloric Value of Some Cooked Preparations

Preparations	Quantity	Calories (Kcl.)
Rice	1 cup	170
Bread	2 slice	80
Paratha	1 no.	150
Khichri	1 cup	200
Plain Dal	½ cup	100
Boiled egg	1 no.	90
Fried egg	1 no.	160

Approximate Caloric Value of Some Cooked Preparations

Preparations	Quantity	Calories (Kcl.)
Mutton curry	1 cup	325
Chicken curry	1 cup	300
Samosa	1 no.	200
Fruit cake	1 no.	270
Sweet	1 no. (Med.)	140
Custard	1 cup	320
Ice-cream	1 cup.	400

Approximate Caloric Value of Some Cooked Preparations

Preparations	Quantity	Calories (Kcl.)
Tea (2 tsp sugar +50 ml milk)	1 cup	75
Cow's milk (2 tsp Sugar)	1 cup	110
Soft drinks	200 ml	150
Cashew nut	10 Nos.	95
Pea nut	50 Nos.	90

Approximate Caloric Value of Some Cooked Preparations

Preparations	Quantity	Calories (Kcl.)
Apple	1 Med.	65
Banana	1 Med.	90
Guava	1 Med.	50
Mango	1 Med.	180
Orange	1 Med.	40
Carrot	1 Med.	30

Nutrition Facts

Serving Size 1 oz (28g/about 15 chips)
Servings Per Container 1

Amount Per Serving

Calories 160	Calories from Fat 90
	% Daily Value*
Total Fat 10g	**16%**
Saturated Fat 1g	**5%**
Trans Fat 0g	**0%**
Cholesterol 0mg	**0%**
Sodium 170mg	**7%**
Total Carbohydrate 15g	**5%**
Fiber 1g	**5%**
Sugars less than 1g	
Protein 2g	

Vitamin A	**0%**	**Vitamin C**	**10%**
Calcium	**0%**	**Iron**	**2%**
Potassium	**10%**	**Vitamin E**	**6%**
Thiamin	**4%**	**Niacin**	**6%**
Vitamin B_6	**10%**	**Magnesium**	**4%**

*** Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your caloric needs.**

	Calories:	2,000	2,500
Total Fat	Less Than	65g	80g
Sat Fat	Less Than	20g	25g
Cholesterol	Less Than	300mg	300mg
Sodium	Less Than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Lay's Classic Potato Chips (1 oz)

INGREDIENTS: POTATOES, VEGETABLE OIL, (SUNFLOWER, CORN, AND/OR CANOLA OIL), AND SALT

NO PRESERVATIVES

250 ml of Coca cola contain about 100 calorie

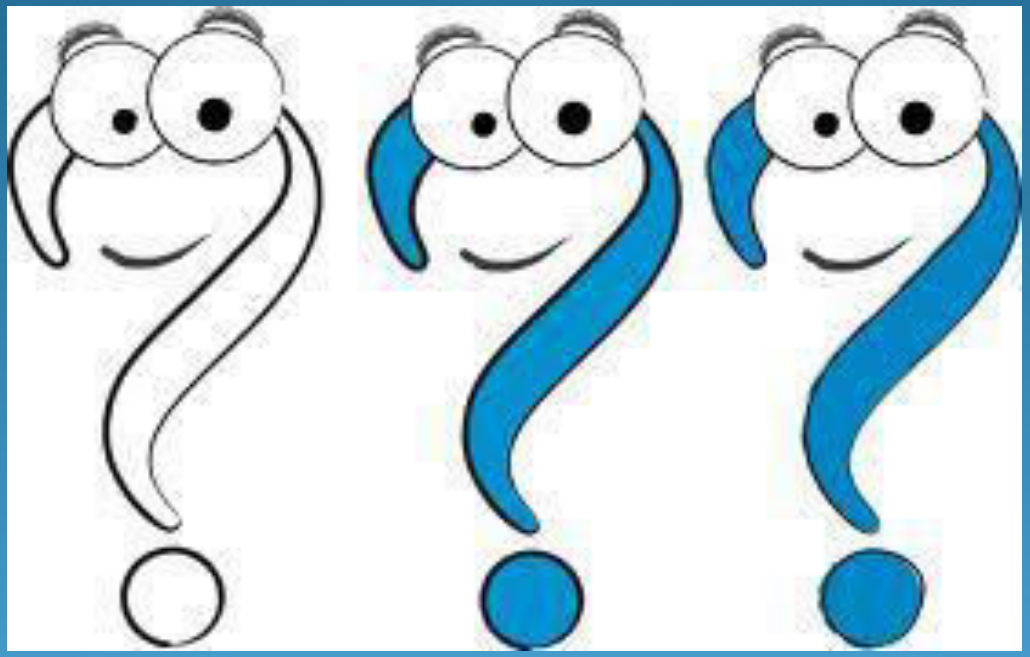
Population advice to prevent NCD

- Do not smoke.
- Take regular exercise.
- Maintain ideal body weight.
- Avoid using to much sodium intake (2.5gm/day).
- Add fiber to your diet.
- Eat a mixed diet rich in fresh fruit and vegetables.
- Limit alcohol use.
- Aim to get no more than 30% of energy intake from fat.
- Learn to check your blood pressure at home.

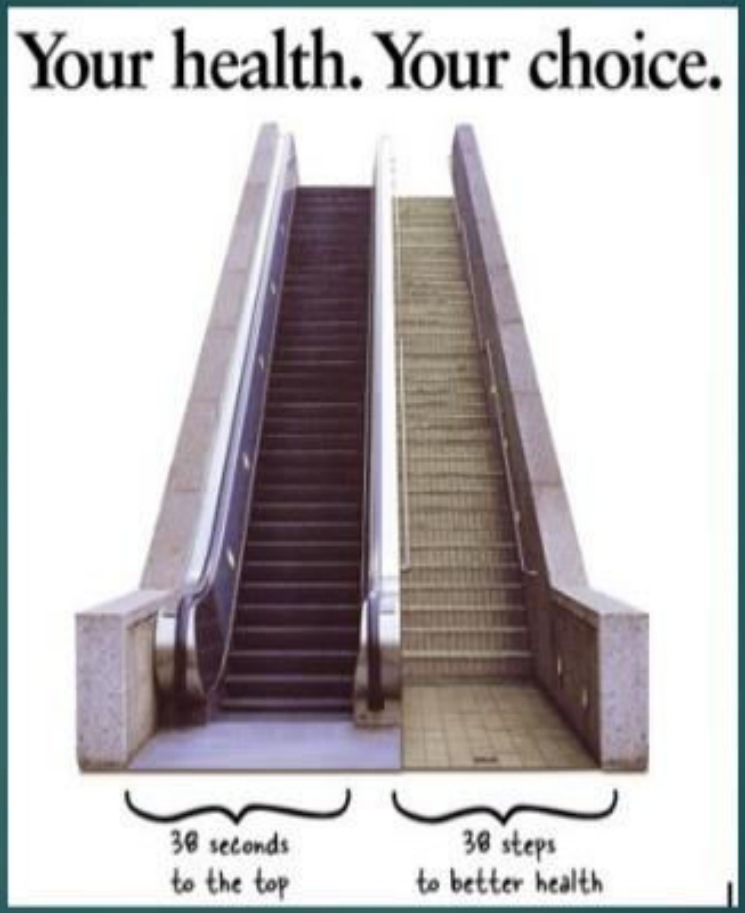
How to cut down fat in food

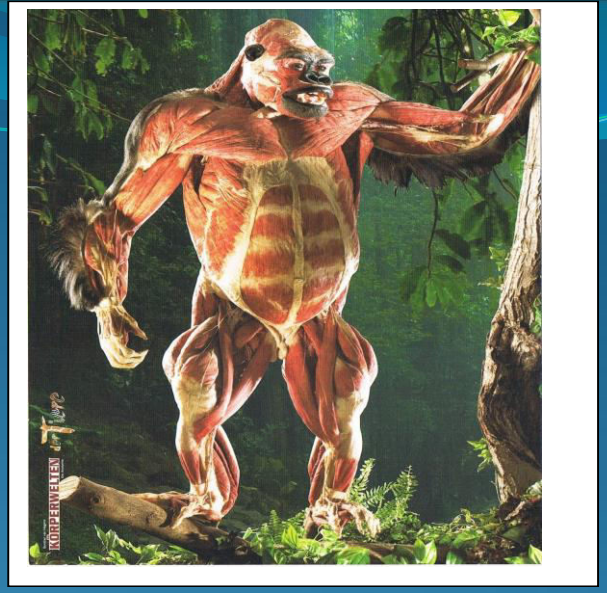
- Adopt cooking methods other than frying.
- Trim any visible fat from meat.
- Choose poultry and fish
- Avoid high fat containing foods.

Query ?



THANK YOU


Your health. Your choice.
30 seconds
to the top
30 steps
to better health



You probably noticed that many animals have considerably more muscle mass than humans. This is not only limited to gorillas, but you can also see it in bears, cows, bulls, horses, big cats, boars, just to list some you may know. This is mainly due to genetics.

Every animal is built for a different purpose. A human is built for endurance and fine movements, a gorilla is built for using its power. It must be strong enough to climb trees easily, despite its weight. An average sized male gorilla who has the same height as a man, can easily outweigh the man three times. Remember, both being average and not extraordinary.

A 500 pound gorilla has enough strength to climb a tree with the ease of a ballet dancer. Just as you have enough strength to carry bags home from the grocery store. Or enough stamina to walk 50 miles without training.

The gorilla doesn't need to work out to get strong. It must be strong, therefore it is strong. It does calisthenics on a daily basis. It has more fast twitch muscle fibers and they are stronger than yours. The gorillas bone density is much higher, the bones are thicker, the heart and lungs bigger.

You (a human) don't need to be physically strong to survive. You need to be smart. Excess muscle is a waste of resources, especially if you don't need it. If you stop working out, you will lose most of your hard earned muscle. The gorilla will not.

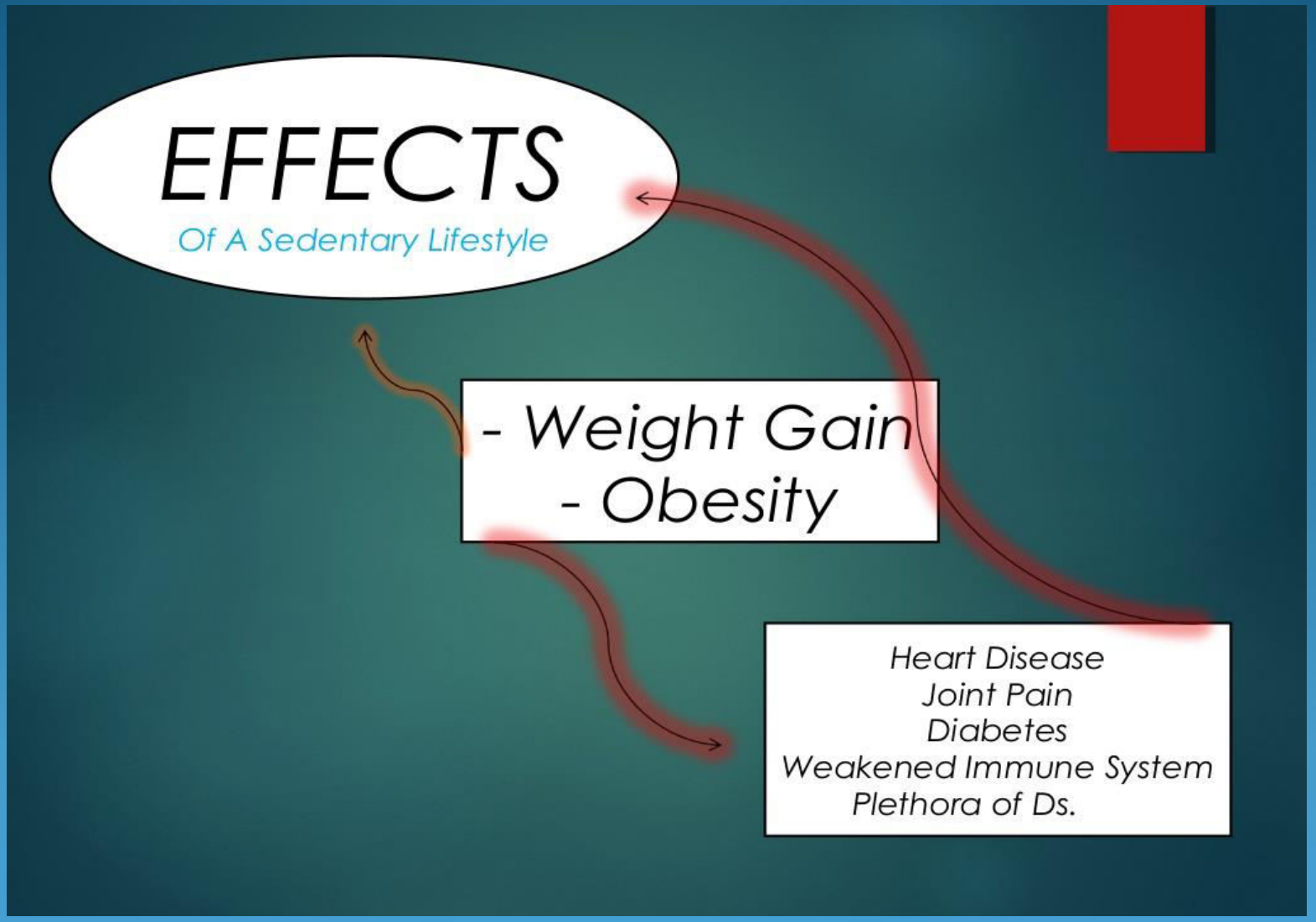
To put things better in perspective compare the frames of a man and a gorilla.

By the way, powerlifters also spend a lot of time sleeping and eating. They don't work out 24/7.

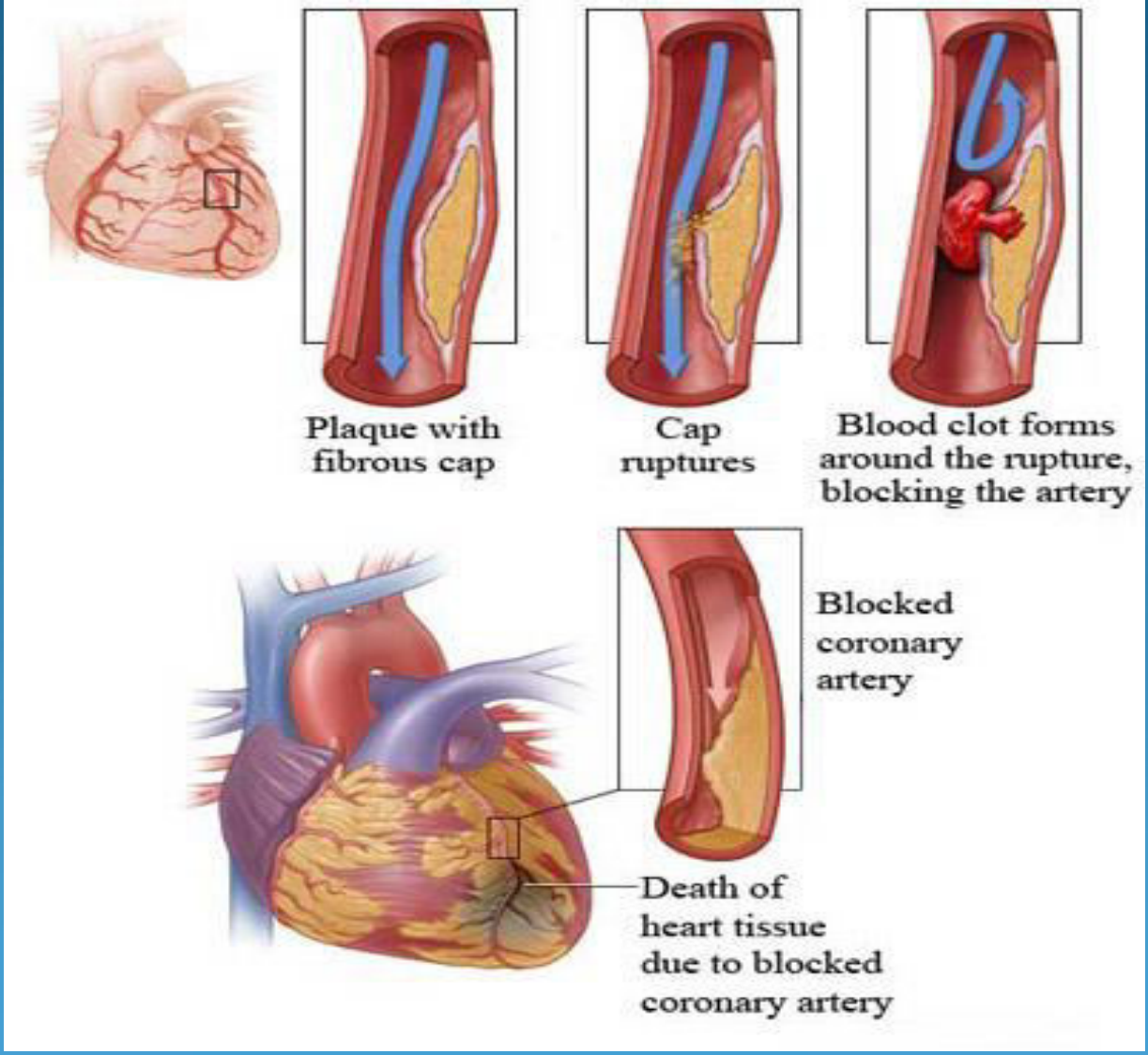
Skeleton of Human And Gorila

Digestive System

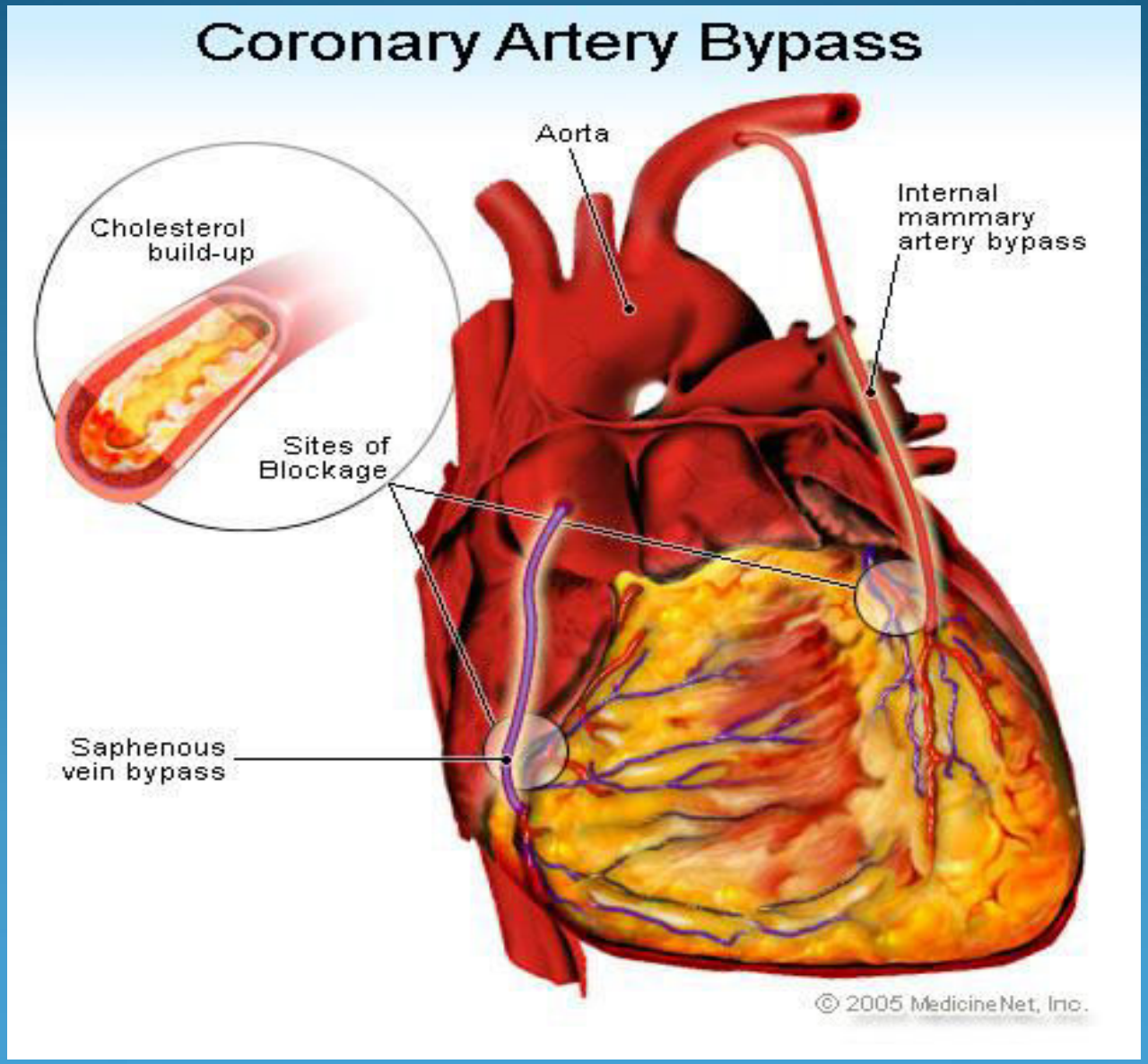
Effects of Sedentary Lifestyles

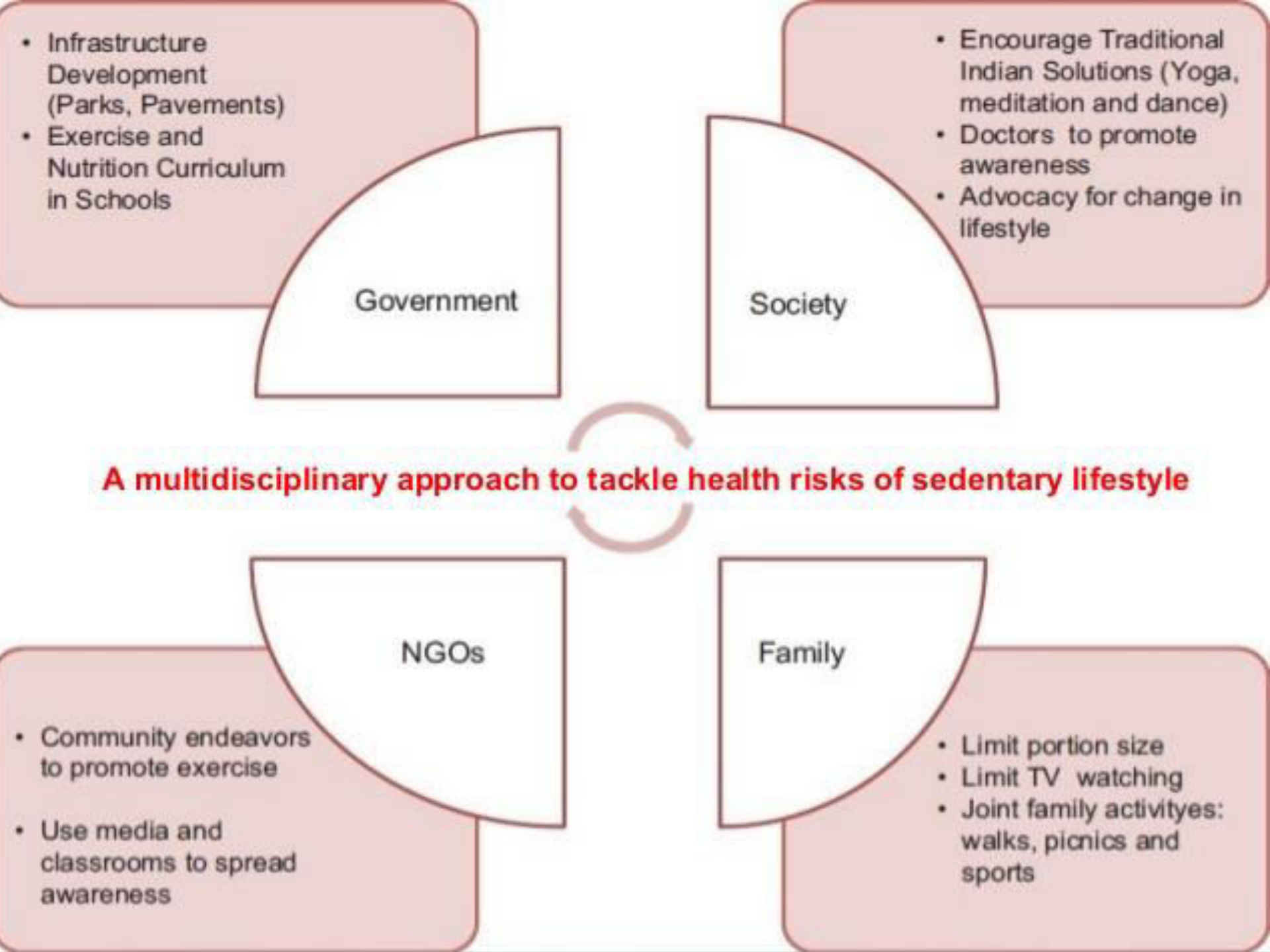


Heart Attack

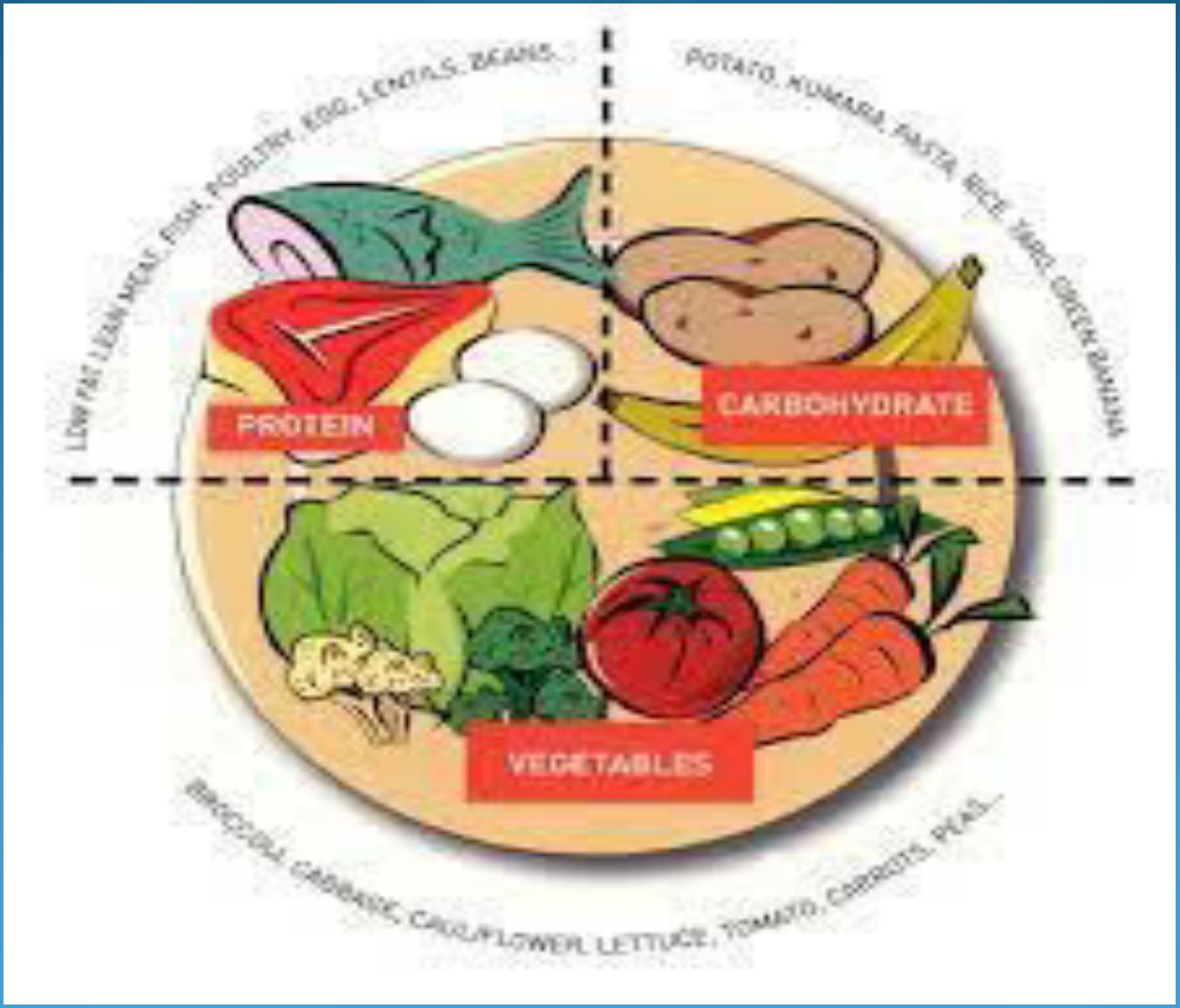


Bypass Surgery

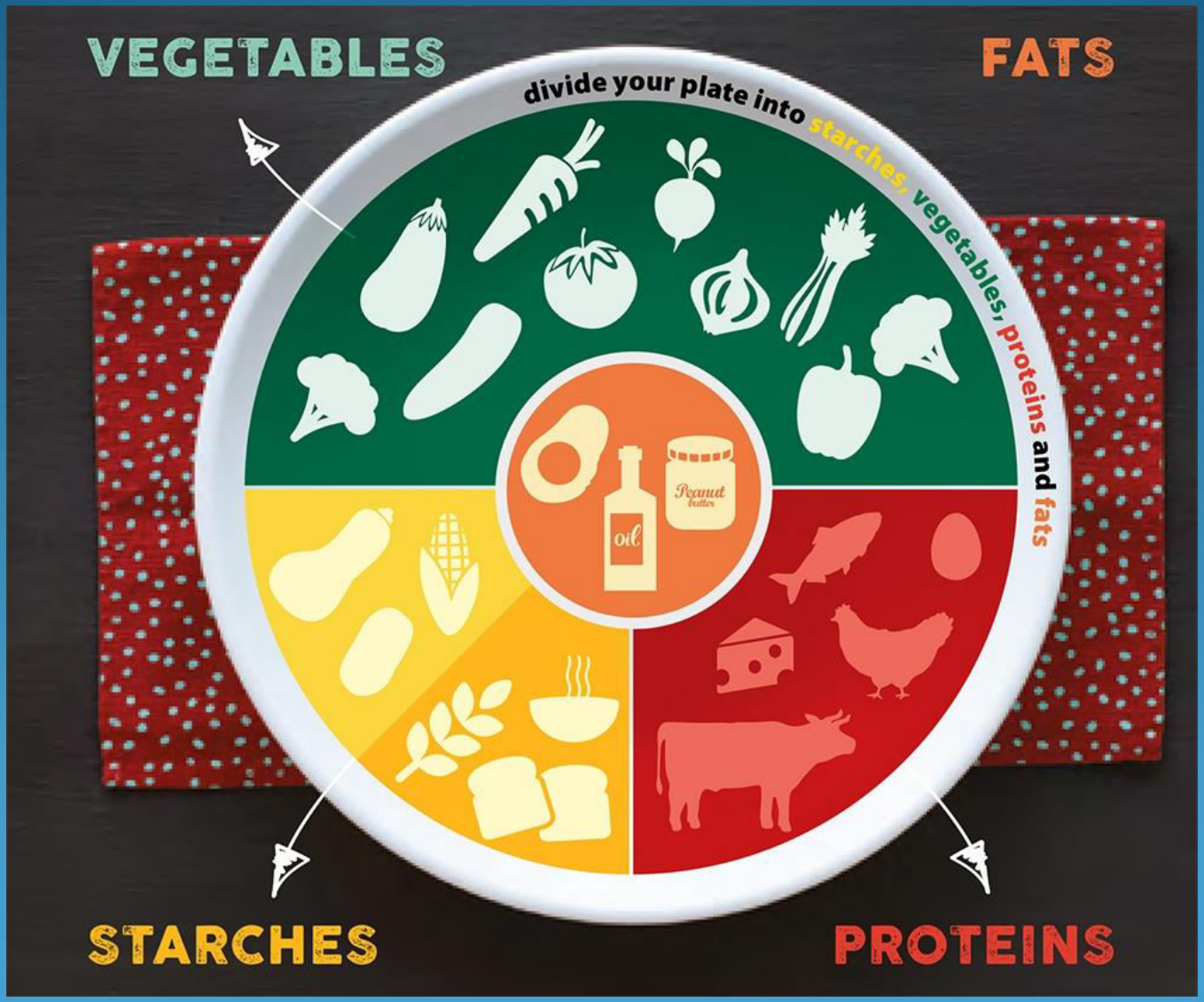



• Infrastructure Development (Parks, Pavements)
• Exercise and Nutrition Curriculum in Schools
Government
• Encourage Traditional Indian Solutions (Yoga, meditation and dance)
• Doctors to promote awareness
• Advocacy for change in lifestyle
Society
A multidisciplinary approach to tackle health risks of sedentary lifestyle
NGOs
• Community endeavors to promote exercise
• Use media and classrooms to spread awareness
Family
• Limit portion size
• Limit TV watching
• Joint family activityes: walks, picnics and sports

Healthy Plate Model



Healthy Plate Model



স্যাসপেশ্ট সাময়িকীর প্রতিবেদন

'স্থূলতা, ক্ষুধা ও জলবায়ু' নিয়ে জরুরি ভিত্তিতে ভাবনার তাগিদ

প্রায় ১০০ কোটি মানুষ এখন ক্ষুধার্ত এবং ২০০ কোটি মানুষ ভুল খাবার অতিরিক্ত খাচ্ছে। ফলাফল মহামারির মতো স্থূলতা, হৃদরোগ ও

অঙ্কুরিত ছোলা

প্রোবায়োটিক ফুড : টক দই

এক টেবিল চামচ তেলে প্রায় ১৪ গ্রাম ফ্যাট থাকে

Type of Fat	Saturated Fat	Monounsaturated Fat	Polyunsaturated Fat
Coconut oil	11.7 gm	0.8 gm	0.2 gm
Soybean oil	2.0 gm	3.1 gm	7.8 gm
Olive oil	1.9 gm	9.8 gm	1.2 gm
Sunflower oil	1.4 gm	2.8 gm	8.7 gm
Safflower oil	1.3 gm	1.7 gm	10.0 gm
Canola oil	0.8 gm	8.4 gm	4.4 gm
Mustard oil	1.62 gm	8.29 gm	2.97 gm
Rice bran oil	2.68 gm	5.34 gm	4.76 gm
Butter	9.0 gm	4.1 gm	0.6 gm