

Cardiovascular Diseases: Risk factors and Prevention

Presented by-

Dr. Anubrata Karmakar

MD CM PGT

All India Institute of Hygiene & Public Health,
Kolkata

What are cardiovascular diseases (CVDs)?

CVDs due to atherosclerosis	Other cardiovascular diseases
<ol style="list-style-type: none"><li data-bbox="86 535 898 735">1. Ischaemic heart disease or coronary artery disease (e.g. heart attack)<li data-bbox="86 835 917 963">2. Cerebrovascular disease (e.g. stroke)<li data-bbox="86 1063 898 1342">3. Diseases of the aorta and arteries, including hypertension and peripheral vascular disease.	<ol style="list-style-type: none"><li data-bbox="975 564 1690 614">1. Congenital heart disease<li data-bbox="975 678 1690 728">2. Rheumatic heart disease<li data-bbox="975 792 1516 842">3. Cardiomyopathies<li data-bbox="975 906 1574 956">4. Cardiac arrhythmias

What are the Risk Factors?

Behavioural risk factors	Metabolic risk factors	Other risk factors
<ul style="list-style-type: none">1. tobacco use2. physical inactivity3. unhealthy diet (rich in salt, fat and calories)4. harmful use of alcohol.	<ul style="list-style-type: none">5. raised blood pressure (hypertension)6. raised blood sugar (diabetes)7. raised blood lipids (e.g. cholesterol)8. overweight and obesity.	<ul style="list-style-type: none">9. poverty and low educational status10. advancing age11. gender12. inherited (genetic) disposition (Family History)13. psychological factors (e.g. stress, depression)
Modifiable		

Prevention: reducing exposure to risk factors

- To prevent heart attacks and strokes, the total cardiovascular risk needs to be reduced by **lowering all modifiable risk factors**.
- Cardiovascular risk factors such as **hypertension, diabetes and hyperlipidaemia cluster together** and are major risk factors for strokes and heart attacks
- CVD Prevention needs a **life course** approach

DIETARY HABITS



What is a balanced diet ?

A diet that contains **adequate** amounts of all **necessary** nutrients required for healthy growth and activity

Different food groups

THE TEN FOOD GROUPS ARE:

1. Grains, white roots and tubers, and plantains
2. Pulses (beans, peas and lentils)
3. Nuts and seeds
4. Dairy
5. Meat, poultry and fish
6. Eggs
7. Dark green leafy vegetables
8. Vitamin A-rich fruits and vegetables
9. Other vegetables
10. Other fruits

SMART PLATE

What's on Your Healthy Plate?



Brought to you by:  everyday HEALTH

WHAT IS JUNK FOOD ?

- Food with high calories
- Rich in salt, sugar and fat
- With little nutritive value.



- Tasty and usually cheap.
- Contains little or no fibre.



Healthy Diet

- **Wash** vegetables & fruits properly before cooking.
- Develop the habit of taking meals at **regular intervals**.
- Use **boiling, steaming** etc. as methods of cooking, **avoid fried food**
- Increase of locally available seasonal **fruits** and **green leafy vegetables** in the diet.
- Vegetable- **3-4 serving/bowl** & **at least one fruit** daily

Healthy Diet

- Restrict intake of ghee, oils
(Recommended-**500gm/person/month**)
- **Trans-fat** (margarine, Vanaspati, Dalda)
consumption should be **avoided**
- Reduce salt intake **<5gm per day**
- Avoid intake of aerated drinks (cola),
fast/processed food (Chips, burger,
samosa etc.).

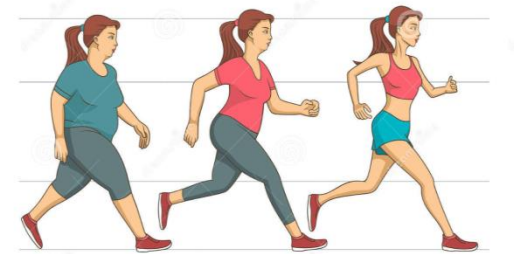
Physical activity/ দৈহিক পরিশ্রম



Physical activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure

Benefits of Regular Physical Activity

- **Physical Benefits**
 - Controls weight
 - Improves immunity
 - Improves blood circulation
 - Strengthen muscles
 - Strengthen heart
 - Improves balance and posture



Benefits of Regular Physical Activity

- **Mental benefits:**
 - Reduce stress
 - Reduce depression
 - Reduce anxiety
 - Helps to control emotions
 - Improves sleep quality
 - Improves concentration
 - Increases Social integration and bonding



Health Benefits of Regular Physical Activity

- Reduce risk of obesity
- Reduce your risk of cardiovascular disease
- Reduce your risk for type 2 diabetes and metabolic syndrome
- Reduce your risk of some cancers
- Strengthen your bones and muscles



Recommendations for Physical Activity

- **For Children 6-17 years:**

Everyday 60 minutes of moderate to vigorous PA

- **For Adults(18-64 years):**

30 minutes of moderate PA for at least 5 days/week i.e. 150 minutes a week or 25 minutes vigorous PA 3days/week i.e. 75 minutes/week

- **For Older Adults(65 years old or older):**

Similar to above- 30 minutes of moderate PA; at least 5 days/week

What counts as moderate physical activity

Any physical activity is better than none. It is never too late to get more active to improve health. Activities could include:

walking



gardening



hiking



dancing



cycling



active recreation



swimming

Myths vs Facts

- Myth: Consumption of junk food and fast food leads to indigestion but has no relationship with CVD
- Fact: Junk food and Fast food increases the risk of CVD

Myths vs Facts

- Myth: Only exercising in gym will lower a person's chance of developing CVD
- Fact: Brisk walking, cycling, swimming, gardening, aerobic (free hand exercise) are equally good

Myths vs Facts

- Myth: Only exercising in gym will lower a person's chance of developing CVD
- Fact: Brisk walking, cycling, swimming, gardening, aerobic (free hand exercise) are equally good

“I am a housewife. I don’t get time to exercise.” or,
“I do lot of work in house, I don’t need any extra exercise”

- It can be done in the evening also.
- Only 30 minutes is required from 24 hours.
- That too can be done in 3 bouts of 10 minutes also.

“I am old, I have knee and back pain”

- It can be done in the evening also.
- Only 30 minutes is required from 24 hours.
- That too can be done in 3 bouts of 10 minutes also.

Sedentary habits



- Watching TV for long duration
- Computer work/ surfing internet
- Use of smartphones/ mobile
- Sitting and gossiping
- Excessive sleeping
- Job related- Teachers, IT professionals, doctors, lawyers etc.

Attention!!!

- **Screen time use** (TV, Computer, Mobile etc.) should be restricted to **2 hours/day**
- **Sleep** at least **7-8 hours/day**
- **Sleep deprivation** is also a risk factor for obesity, CVDs and metabolic syndrome

ADDICTION





8 to 10 Dips a Day
equals

30 to 40 Cigarettes
a Day

2nd Hand smoking



In nonsmokers, secondhand smoke causes



approximately

7,300 lung cancer deaths per year



and nearly

34,000 heart disease deaths per year

<http://www.cagle.com/politicalcartoons/PCcartoons/markstein.asp>

ONE PERSON
DIES

EVERY 6 SECONDS
FROM A TOBACCO-
RELATED DISEASE.



That's 10 people per minute.



TOBACCO = NICOTINE

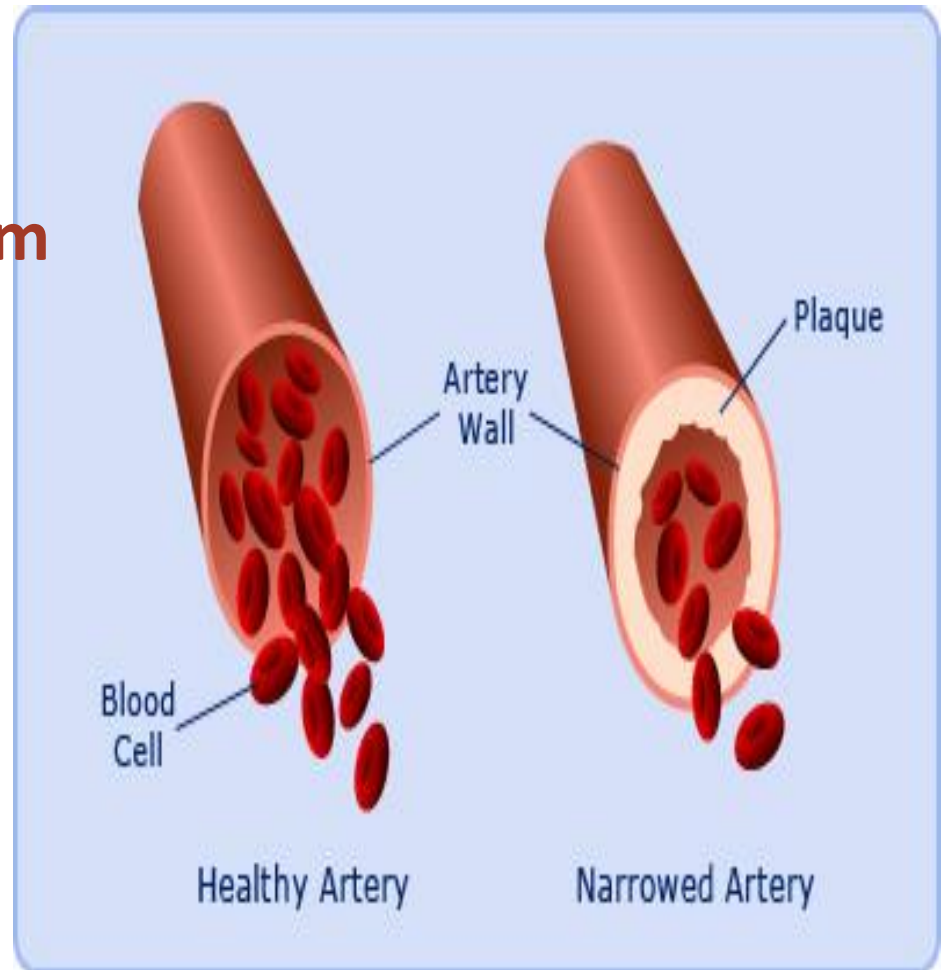


NICOTINE = ADDICTION

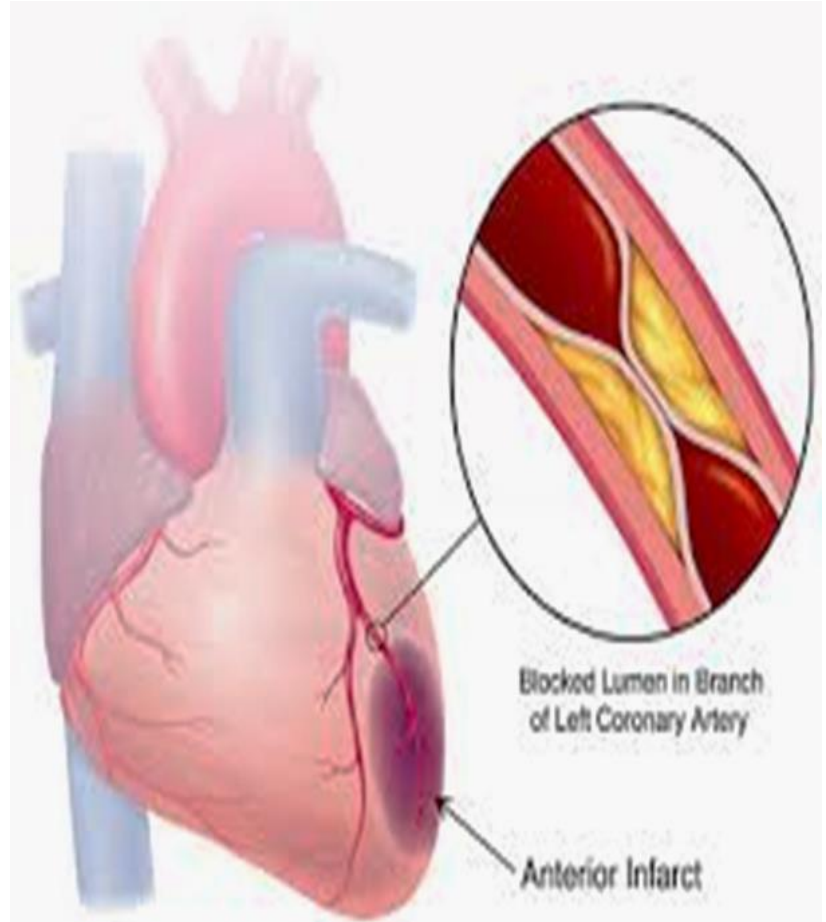
Tobacco is an agricultural product & 'Nicotine'
is a drug found in tobacco which is highly
addictive.

Effects of nicotine

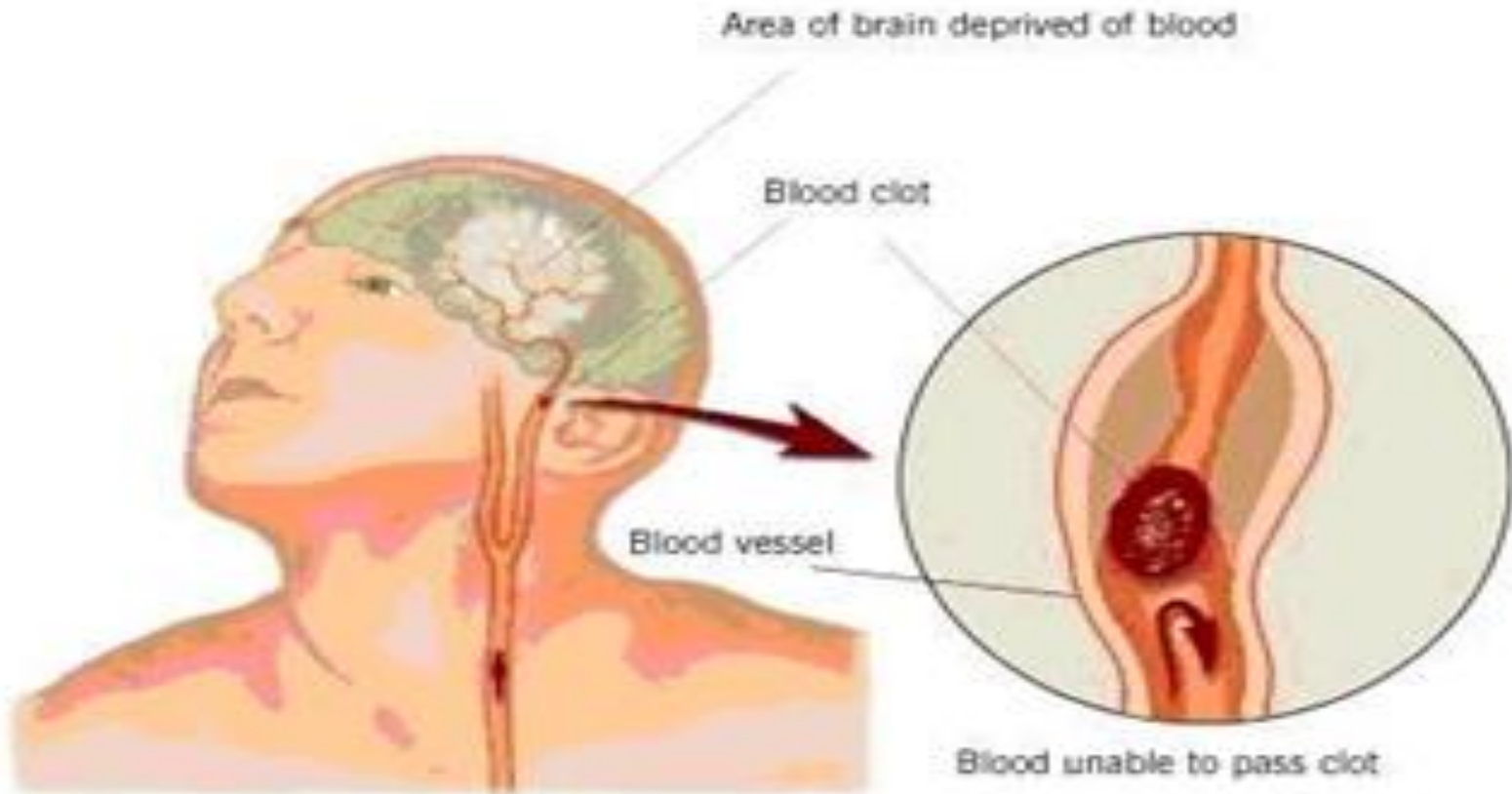
- Addictive
- Stimulates nervous system
- Constricts blood vessels
- Increase heart rate and blood pressure



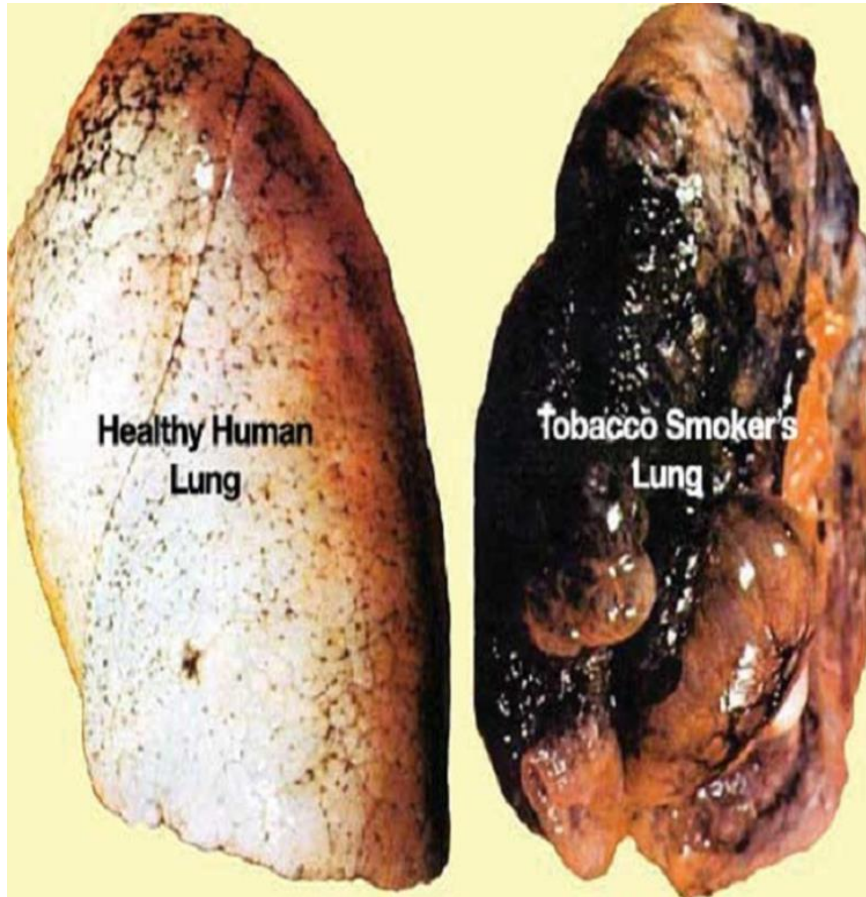
HEART ATTACK



Stroke



Tar deposition in lung



- **Smokers are 10 times more likely to get lung cancer and emphysema compared to non smokers.**

Oral cancer



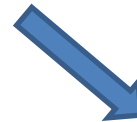
**Other Hazards
of Tobacco**



Respiratory problems

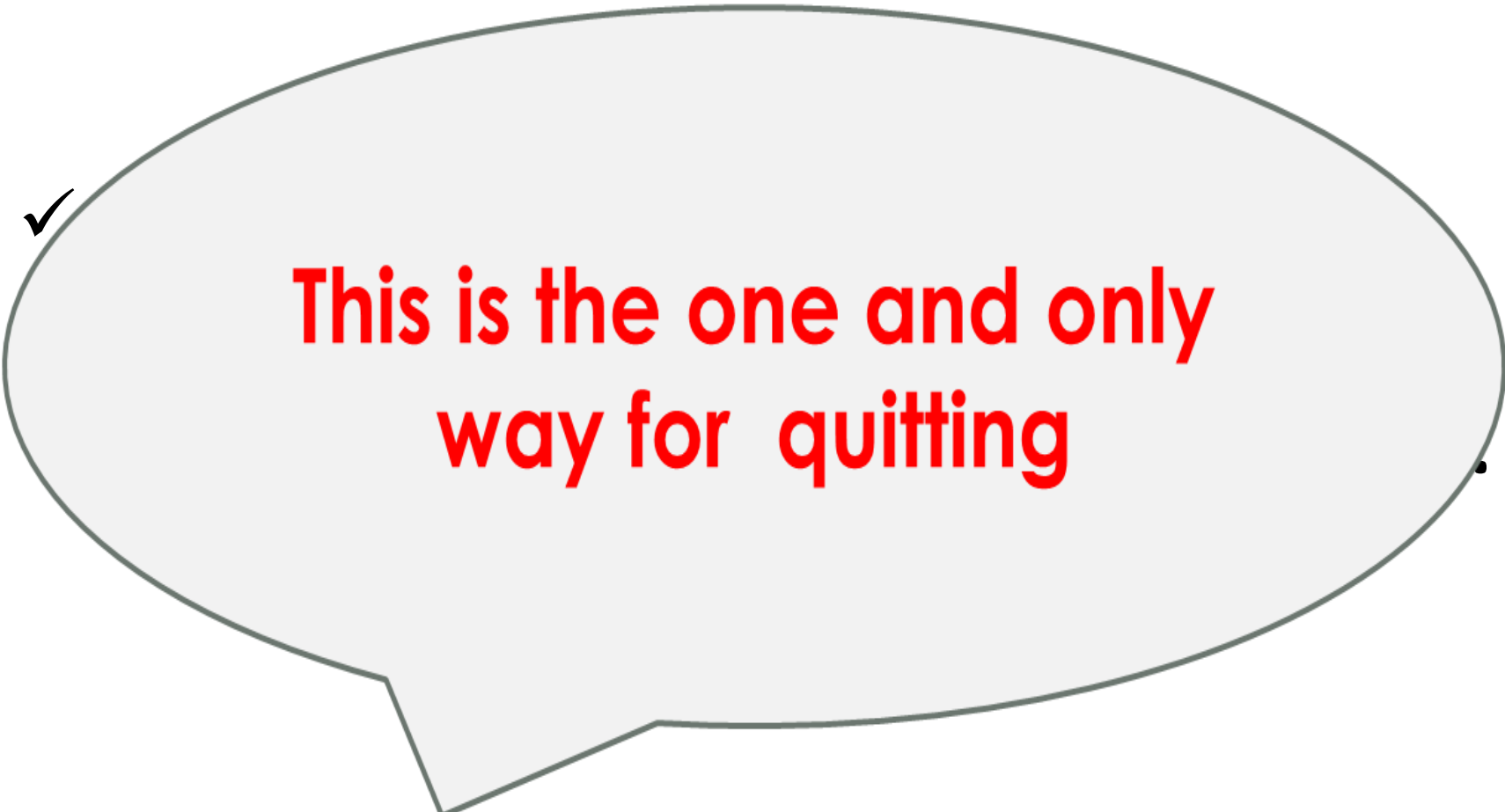


Dental caries



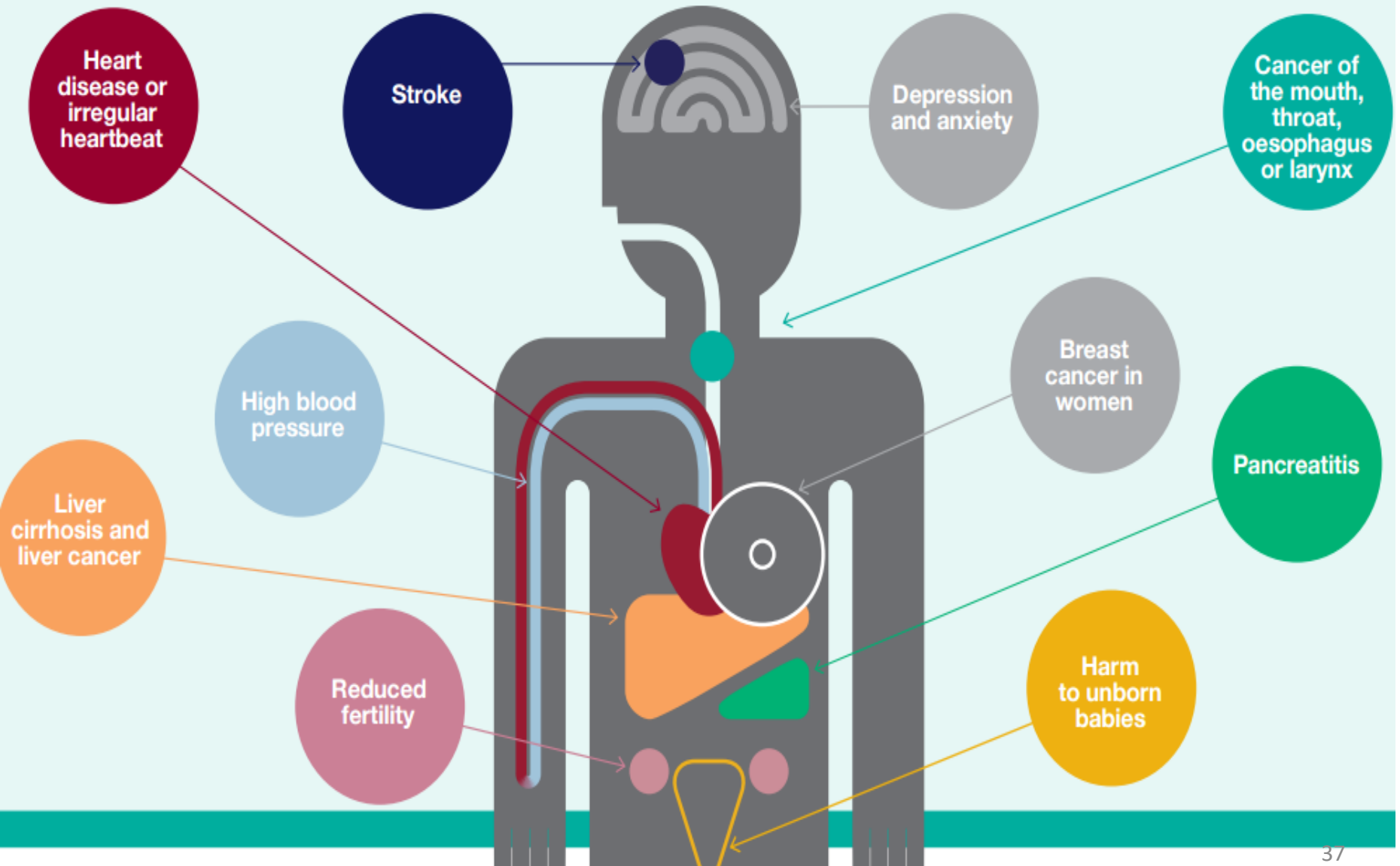
Cataract

HOW TO Quit



**This is the one and only
way for quitting**

Alcohol abuse



What is moderate drinking?

- **3-4 standard drinks** per drinking episode, no more than 9 drinks per week for women and 12-14 for men. Also, moderate drinking means limiting **how fast you drink**
- A standard drink is equal to-
 - ✓ 355 ml. beer with 5% alcohol
 - ✓ 150 ml. glass of wine (12.5% alcohol).
 - ✓ 45 ml. of 80 proof liquor (40% alcohol)

If you're thinking about moderate drinking for yourself!

- If you've had significant alcohol-related problems and **are currently not drinking**, trying moderate drinking may put you at risk again for alcohol-related problems.
- If you're currently drinking more than the guidelines of moderation, you will reduce your risk for problems by cutting back.

HYPERTENSION



High

Systolic 140 or above OR
Diastolic 90 or above

Pre-High

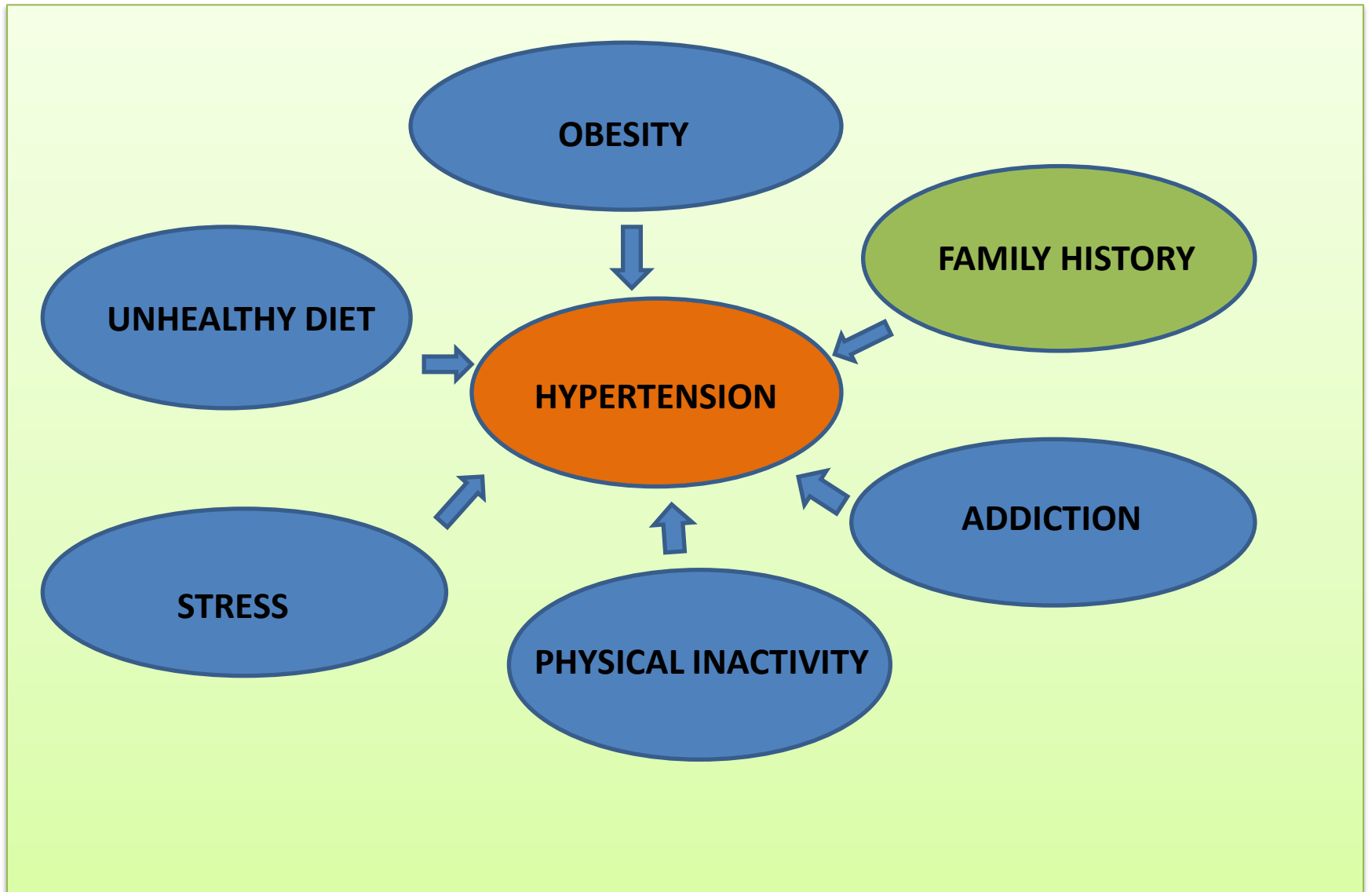
Systolic between 121-139 OR
Diastolic between 81-89

Normal

Systolic 120 or less AND
Diastolic 80 or less



RISK FACTORS



Hypertension self care

- Self monitoring
- Compliance to antihypertensive drug

“If I start taking drugs I have to take life long!”

- It is better to start drugs to control BP rather than let hypertension damage your other organs like heart and kidney permanently.
- There is always chance of stopping the drug **(on doctor’s advice)** if your BP is lowered.

STAY SUPER

HALT THE RISE

BEAT DIABETES



WORLD HEALTH DAY 2016

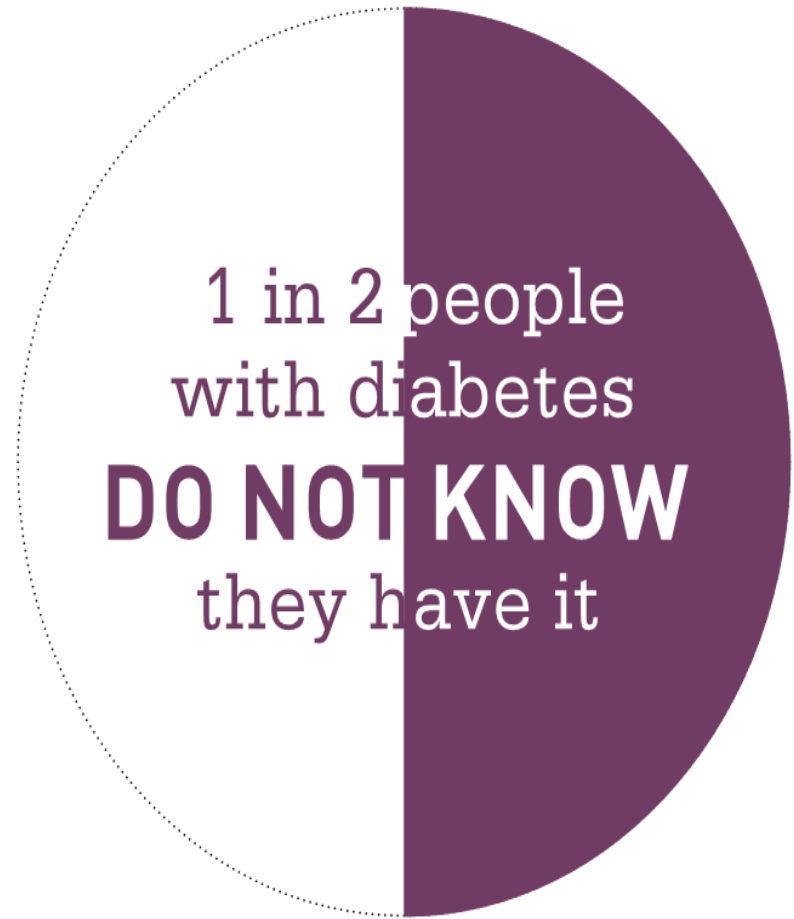
#diabetes | www.who.int/worlddiabetes



World Health
Organization

Diabetes is a huge and growing problem...

 / 12
people with
DIABETES



DIABETES RISK FACTORS



family
history



lack of
exercise



unhealthy
eating



overweight

Warning Signs



Tiredness



Excessive thirst



Increased hunger



Frequent urination



Unexplained weight loss



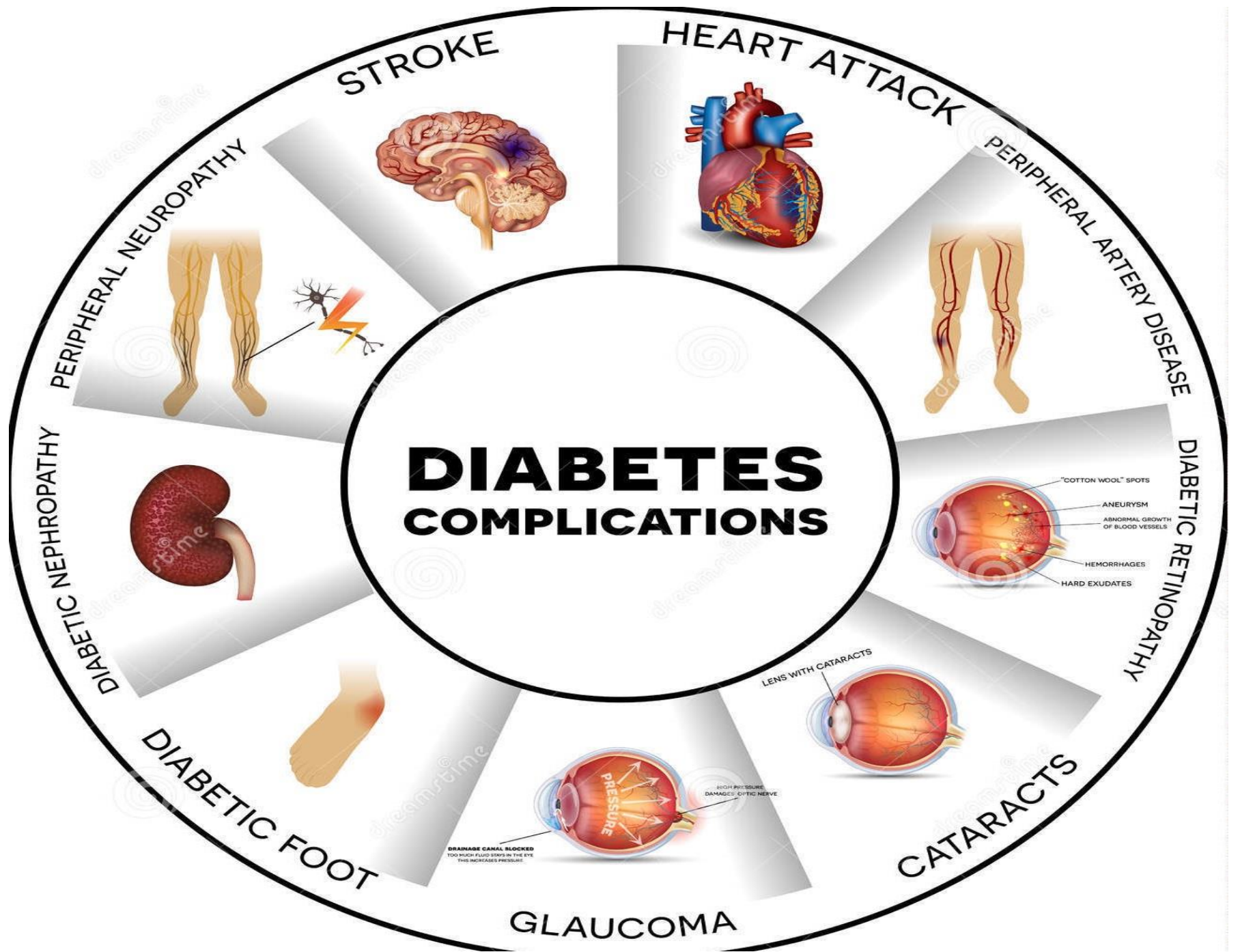
Blurred vision



Slow wound healing



Tingling in the hands & feet



American Diabetes Association, 2011 Diagnostic criteria for Diabetes Mellitus

	Normal Glucose tolerance	Impaired Glucose Tolerance 'PREDIABETES'	Diabetes Mellitus
Fasting plasma glucose	<100mg/dl	100-125mg/dl	<i>>/=126mg/dl</i>
2 hr plasma glucose during an OGTT**	<140mg/dl	140-199mg/dl	<i>>/=200mg/dl</i>
Random Blood glucose + Symptoms of diabetes*			<i>>/= 200mg/dl</i>
A1C	<5.6%	5.7-6.4%	<i>>/= 6.5%</i>

*polyuria, polydipsia, weight loss

**after a glucose load of 75g anhydrous glucose dissolved in water

**YOU can control diabetes
with a healthy lifestyle,
proper nutrition
and support.**



Diabetes Self-care

- Diet
- Physical activity
- Blood sugar monitoring
- Taking drugs regularly
- Foot care
- Eye care

Self care

Thoroughly inspect
your feet daily, and
keep them clean
and dry



A close-up photograph of a person's midsection. The person is wearing a light blue, long-sleeved shirt. A yellow measuring tape is wrapped around their waist, held in place by their right hand. The tape measure shows markings in inches and centimeters. The background is a plain, light-colored wall.

OBESITY

BMI(Body Mass Index)

Calculate Your

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height x Height (metre)}}$$

BMI Chart

BMI less than 18.50

Underweight

BMI 18.50 - 24.99

Healthy weight

BMI 25.00 - 29.99

Overweight

BMI 30 or more

Obese

WHO Classification

Associated risks

BMI between 18.5 and 25 : normal weight

Normal

BMI between 25 and 30 : overweight

Average

BMI between 30 and 40 : obesity

Important

BMI above 40 : morbid obesity

Severe

Central Obesity

- Waist circumference (WC) recommendation:
 - ✓ Less than 90 cm for men
 - ✓ Less than 80 cm for women
- Even if your BMI is normal, if your WC is high, you are at risk.

Dyslipidemia/ High blood cholesterol

Lipid profile	Desirable range
Total cholesterol	<200 mg/dl
Triglyceride	<150 mg/dl
LDL (bad cholesterol)	<100 mg/dl
HDL (good cholesterol)	>50 mg/dl

Stress



World Health Day: 7th April

WHO Theme 2017



Tips on Managing Stress

- Positive Attitude
- Support System
- Exercise
- Laughing
- Taking Time for You
- Meditation



BENEFITS OF YOGA

INCREASES

FEELING OF WELLNESS
POSITIVE ATTITUDE
CONCENTRATION
FLEXIBILITY
ENERGY
SOCIAL SKILLS

ANXIETY/ STRESS
DEPRESSION
**SUGAR &
CHOLESTEROL**
WEIGHT
BLOOD PRESSURE
**ARTHRITIS /
MUSCLE PAIN**

DECREASES

A close-up photograph of a bright green tree frog lying on its back on a large, green lily pad. The frog's front legs are tucked up towards its chest, and its hind legs are also tucked up towards its belly. The frog's eyes are large and dark, and it has a calm, relaxed expression. The background is a soft, out-of-focus green, suggesting a natural, moist environment. The overall mood is peaceful and serene.

Relax.

www.facebook.com/montereybayholistic

It's a healthy choice!



Thank you