अखिल भारतीय आयुर्विज्ञान संस्थान
ALL INDIA INSTITUTE OF MEDICAL SCIENCES
शरीरमाद्यं खलु धर्मसाधनम्

Welcome to AIIMS

Welcome to

HELP-3

Health Education Lecture Discussion for Public

26 June, 2009. Friday

STROKE (Paralysis)

All you wanted to know about its Diagnosis, Management & Prevention

PANEL

- *Dr. Kameshwar Prasad*
- *Dr. M.V.Padma*
- *Dr. Ashish Suri*
- *Dr. Rajeev Aggarwal*
- *Dr. Bir Singh (Anchor)*

Organized by:

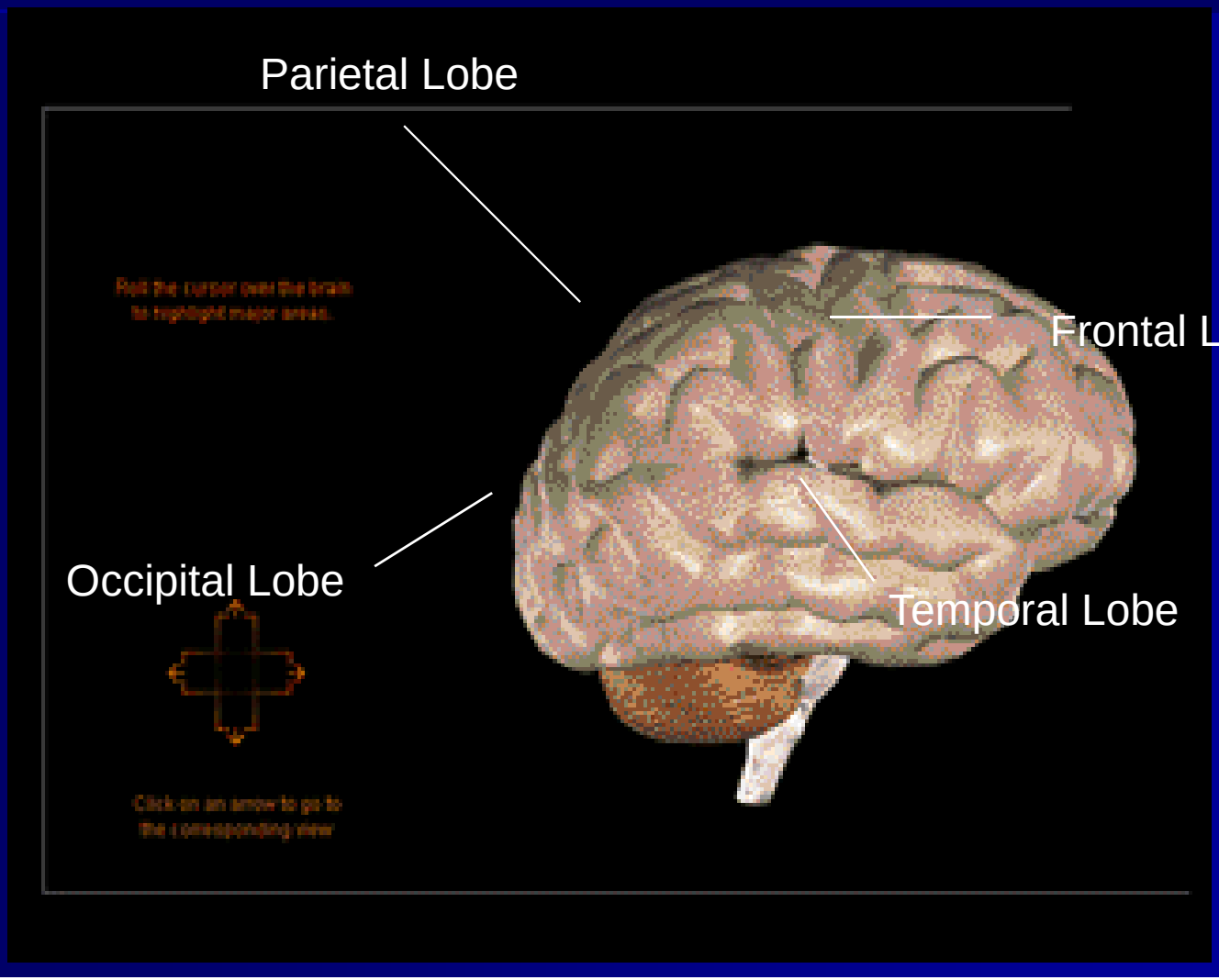
- **Health Promotion & Health Communication Unit, Centre for Community Medicine, AIIMS, New Delhi.**

BRAIN

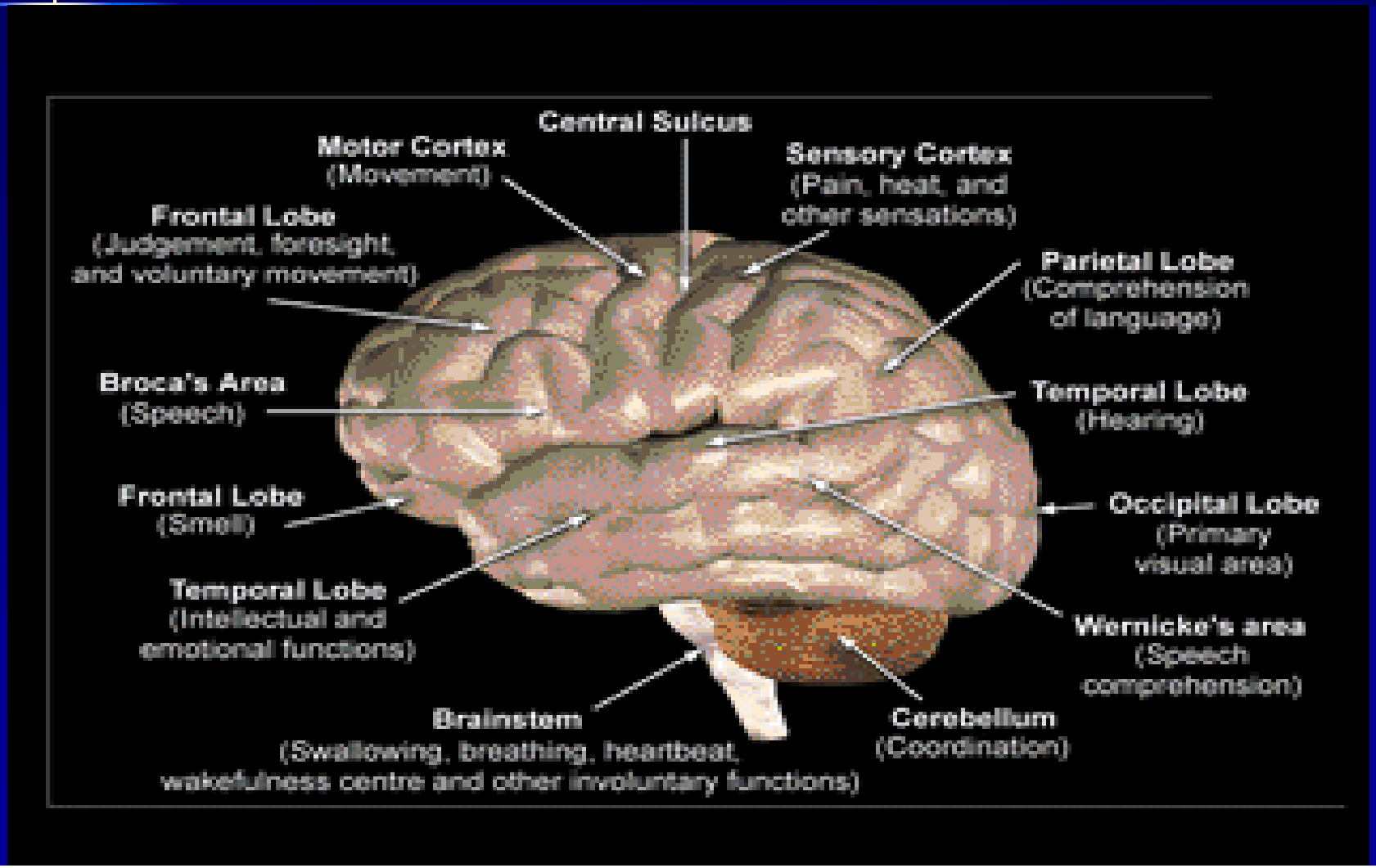
What is it ?

Why is it so important??

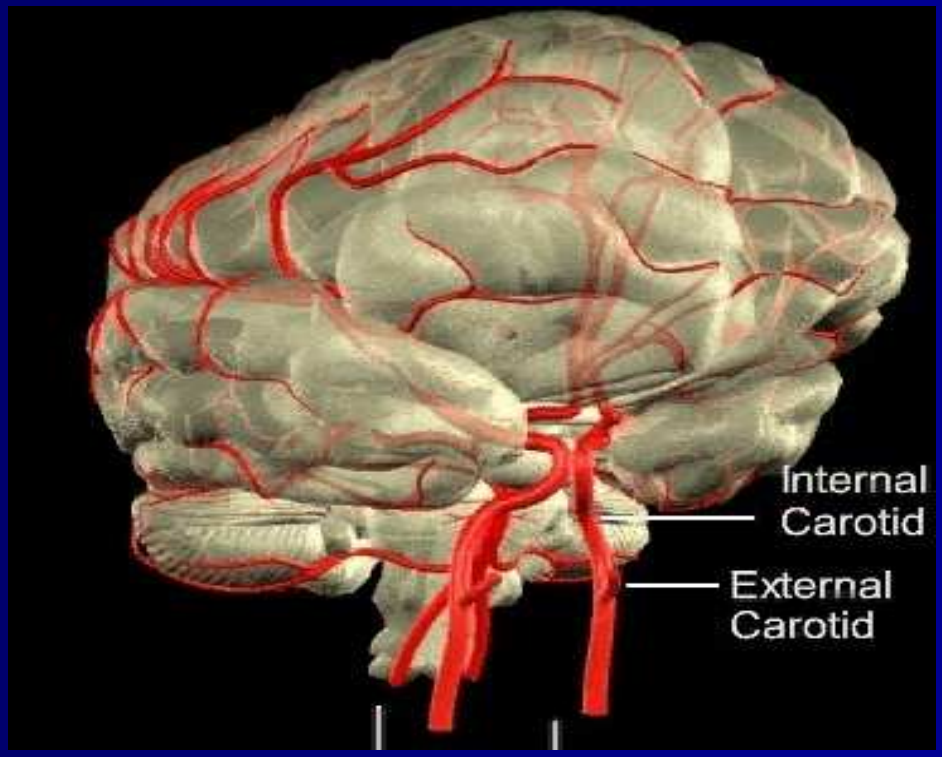
Major Anatomical Areas of the Brain



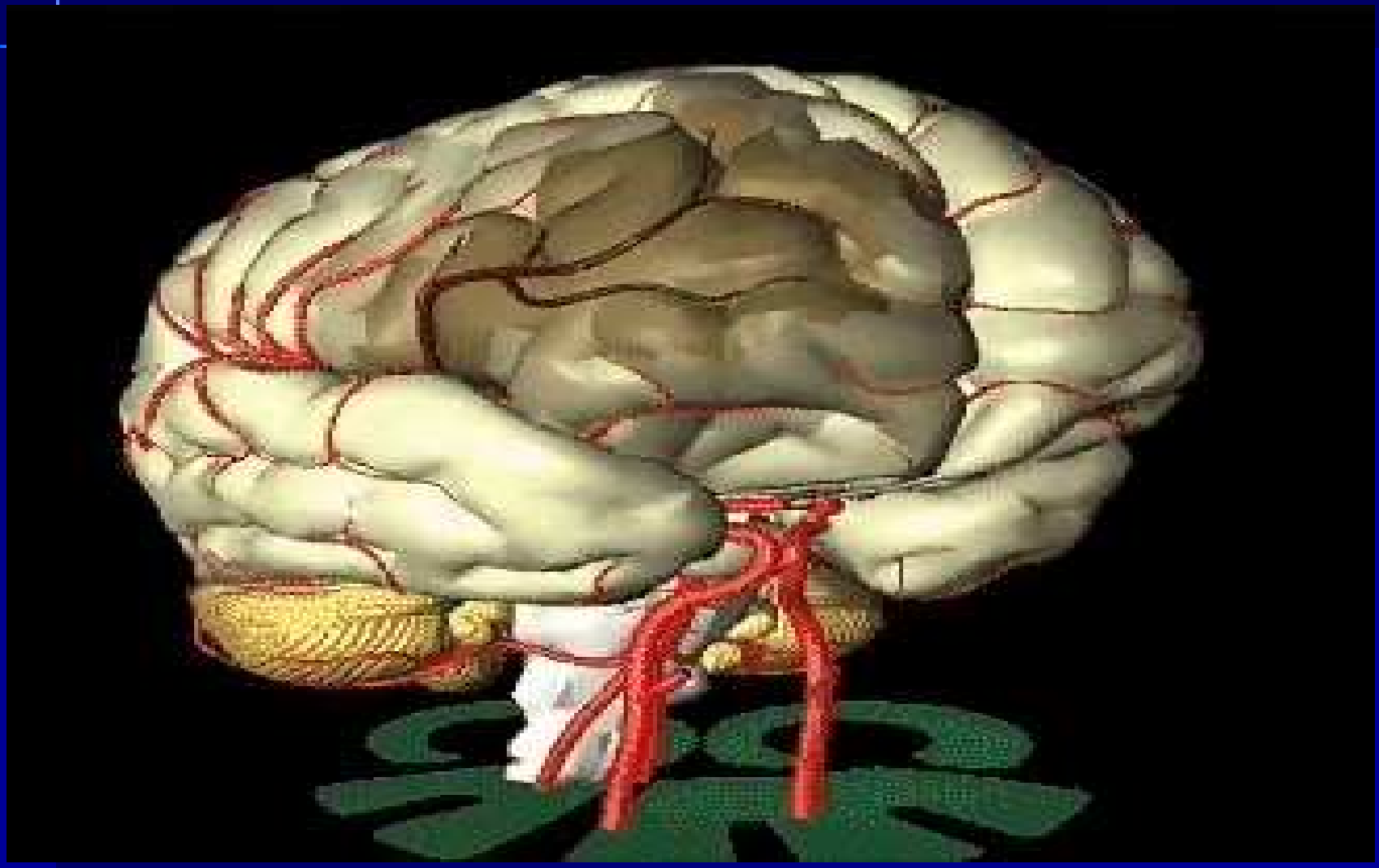
Control Centres of the Brain & their differentiated functions



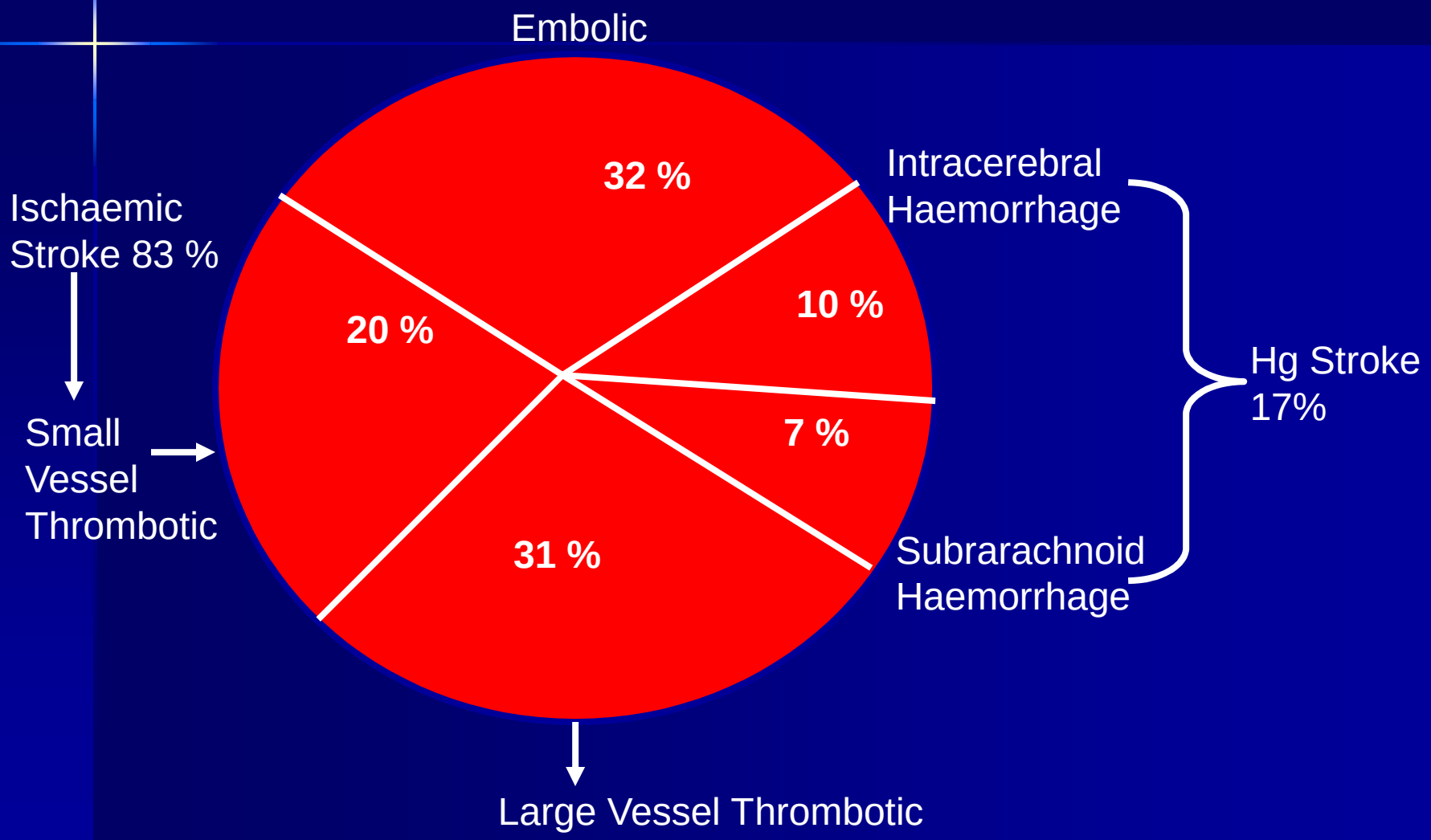
Major Blood Vessels of the Brain

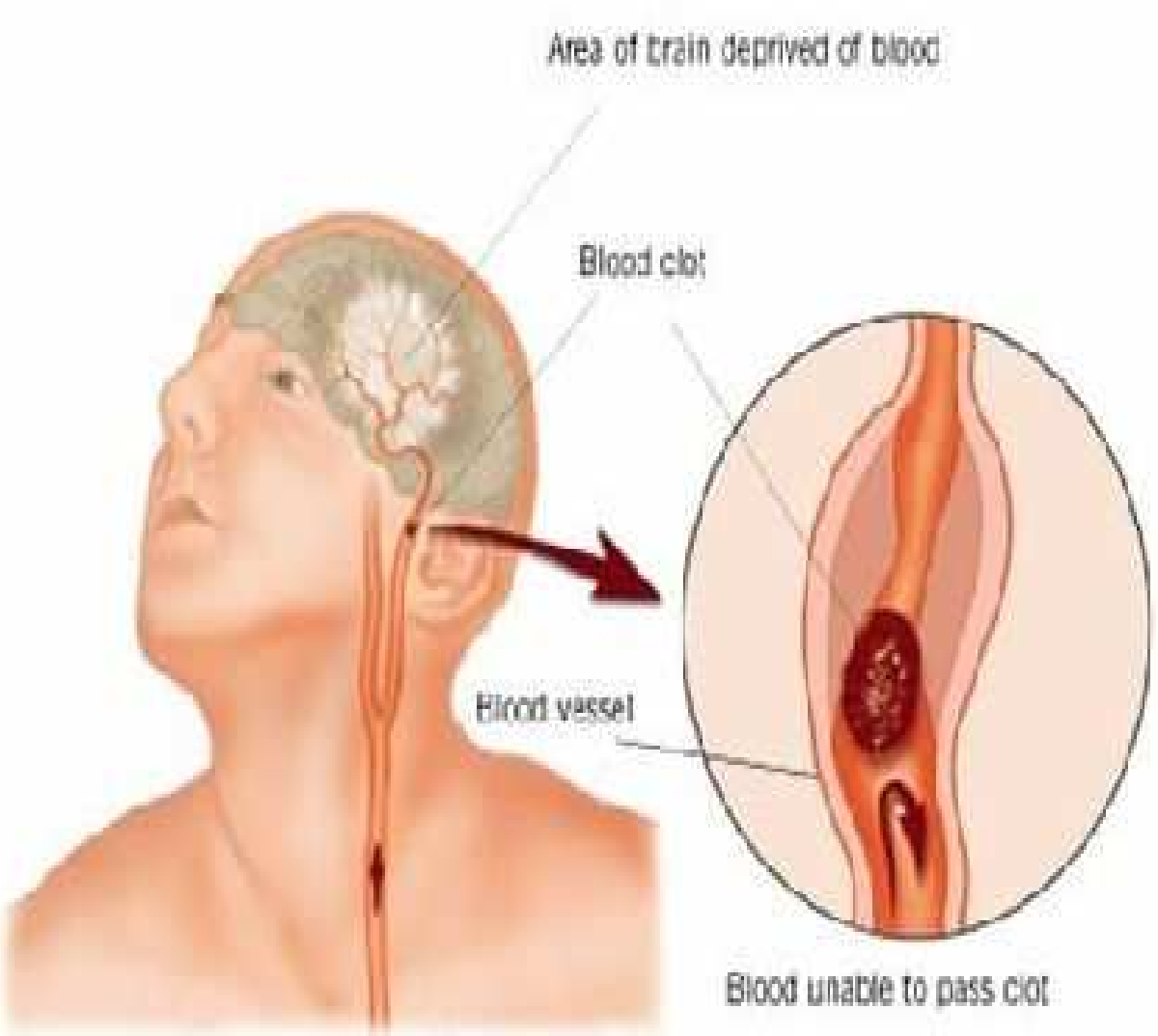


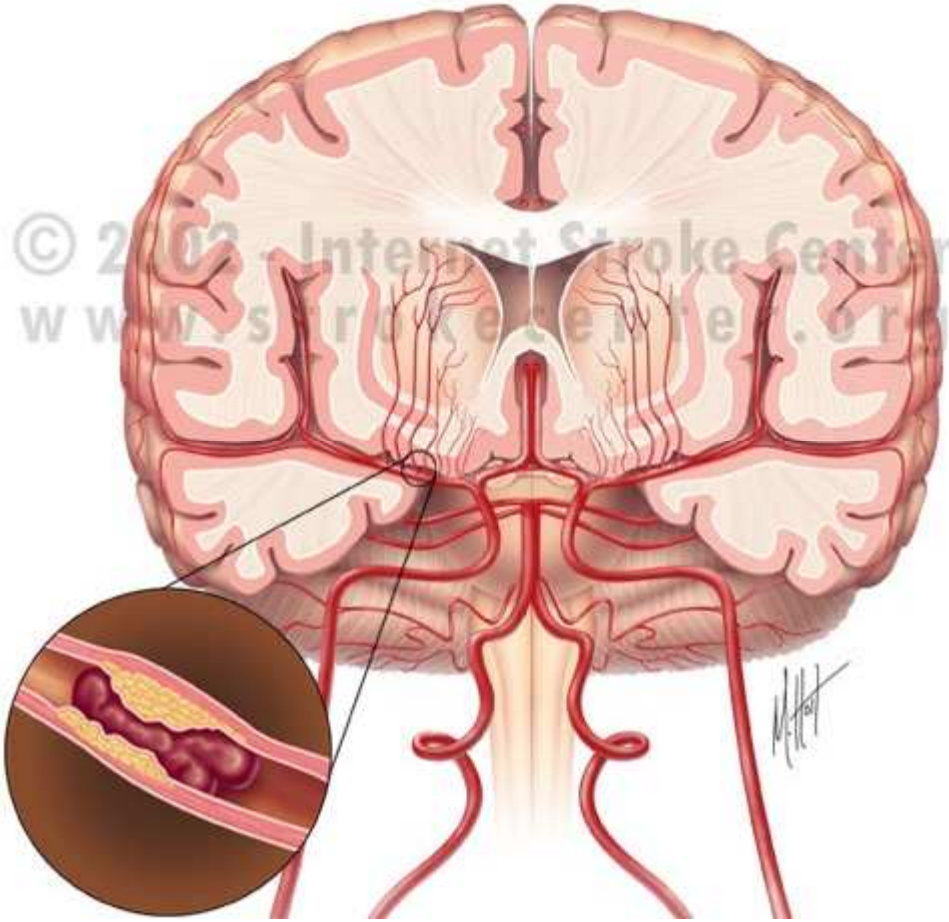
BRAIN ATTACK



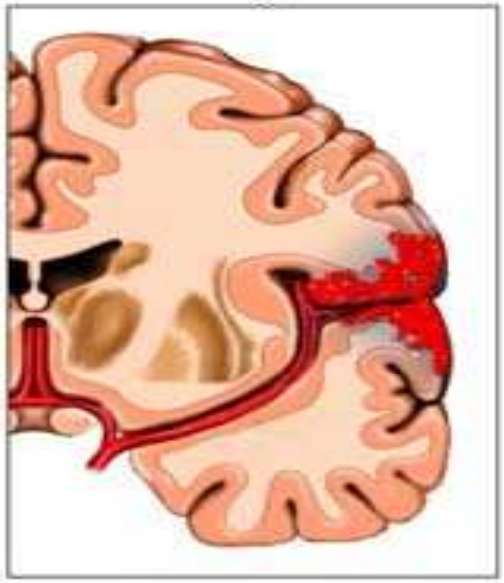
TYPES OF STROKE




Area of brain deprived of blood
Blood clot
Blood vessel
Blood unable to pass clot

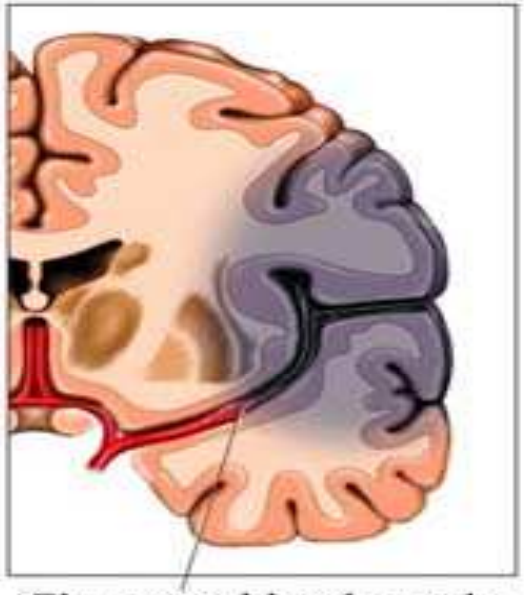


Hemorrhagic Stroke



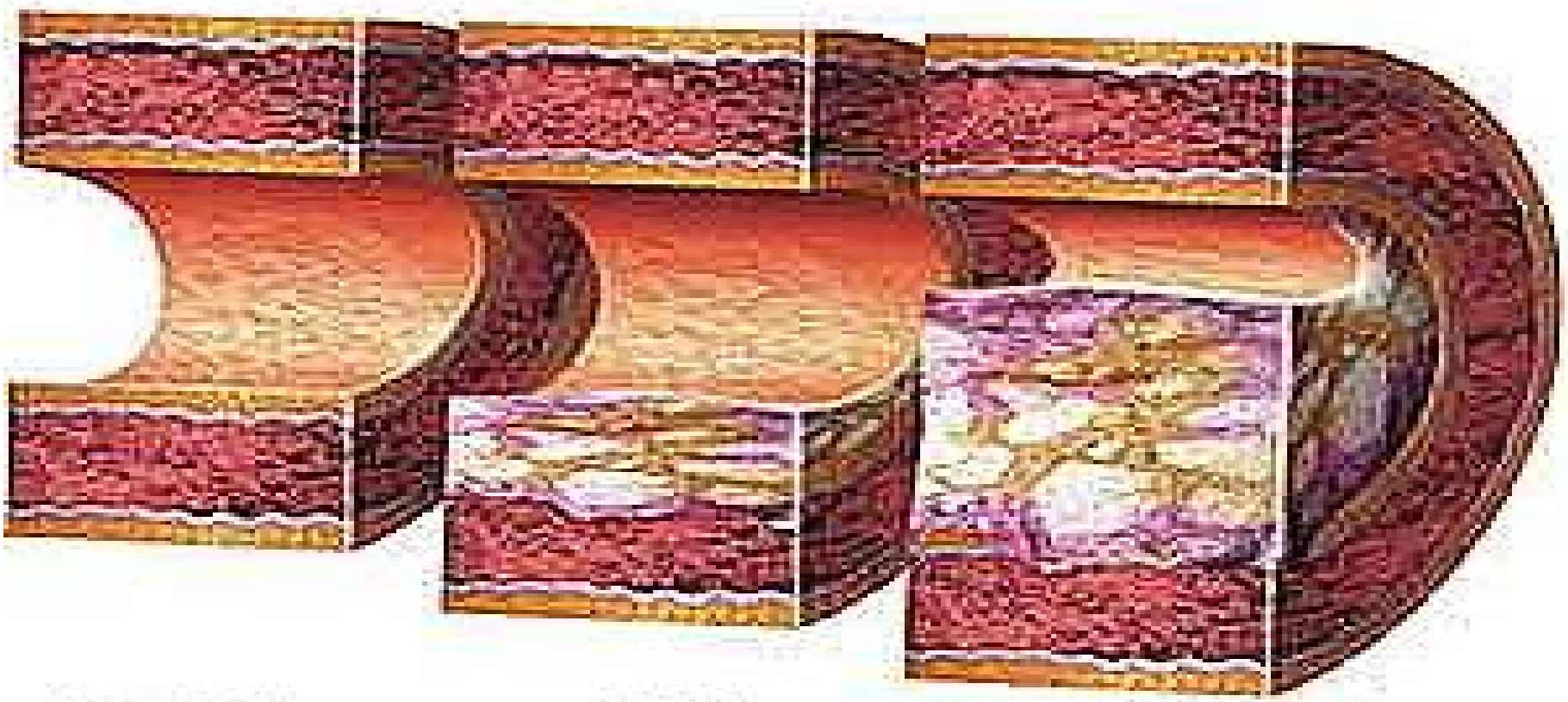
Hemorrhage/blood leaks into brain tissue

Ischemic Stroke



Clot stops blood supply to an area of the brain

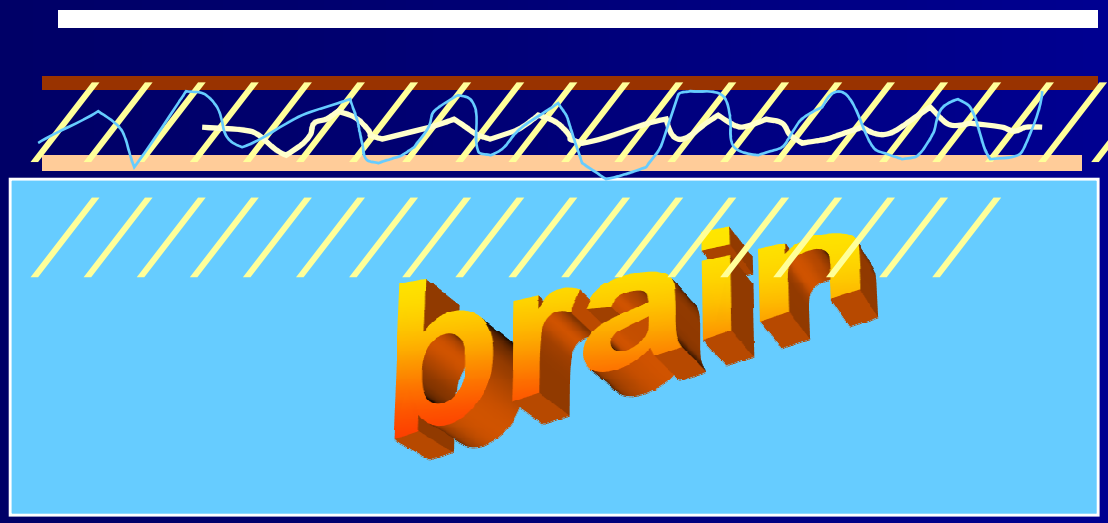
Atherosclerosis



SUBARACHNOID HEMORRHAGE (SAH)

Definition:

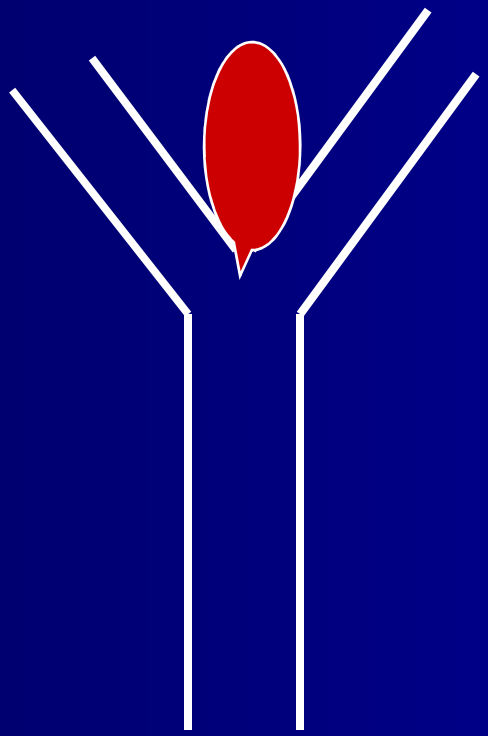
Bleeding between pia & arachnoid



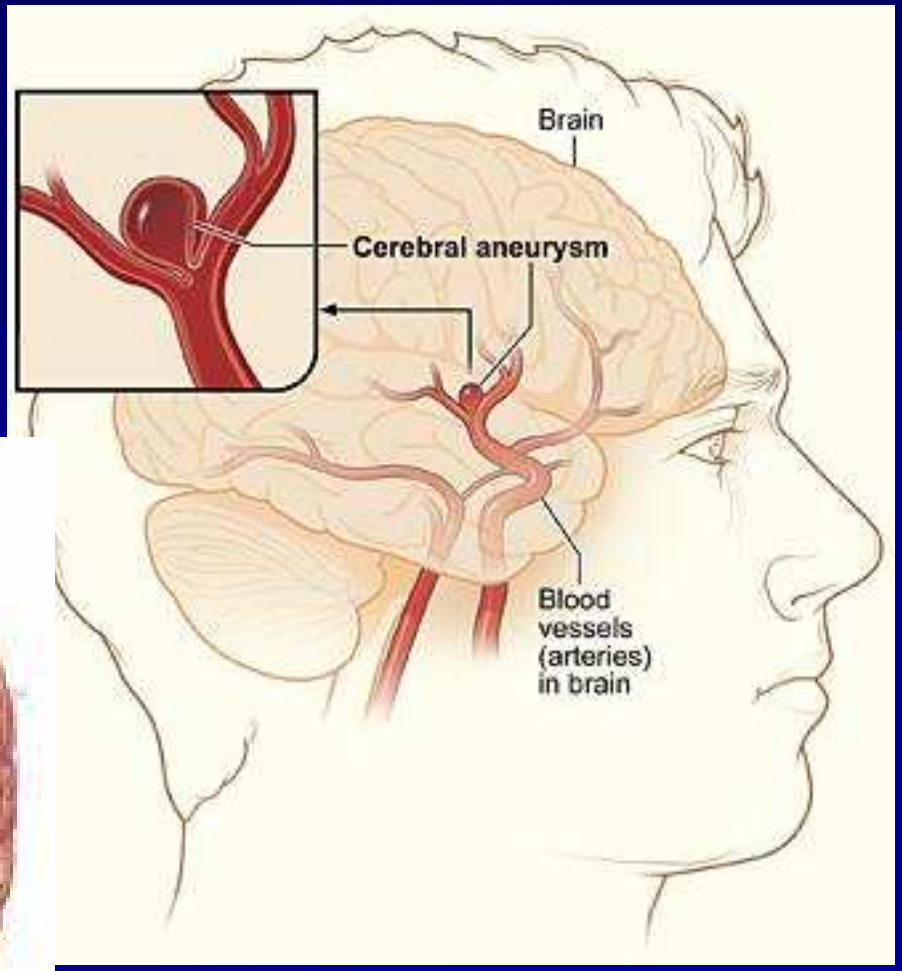
Dura
Arachnoid
Pia

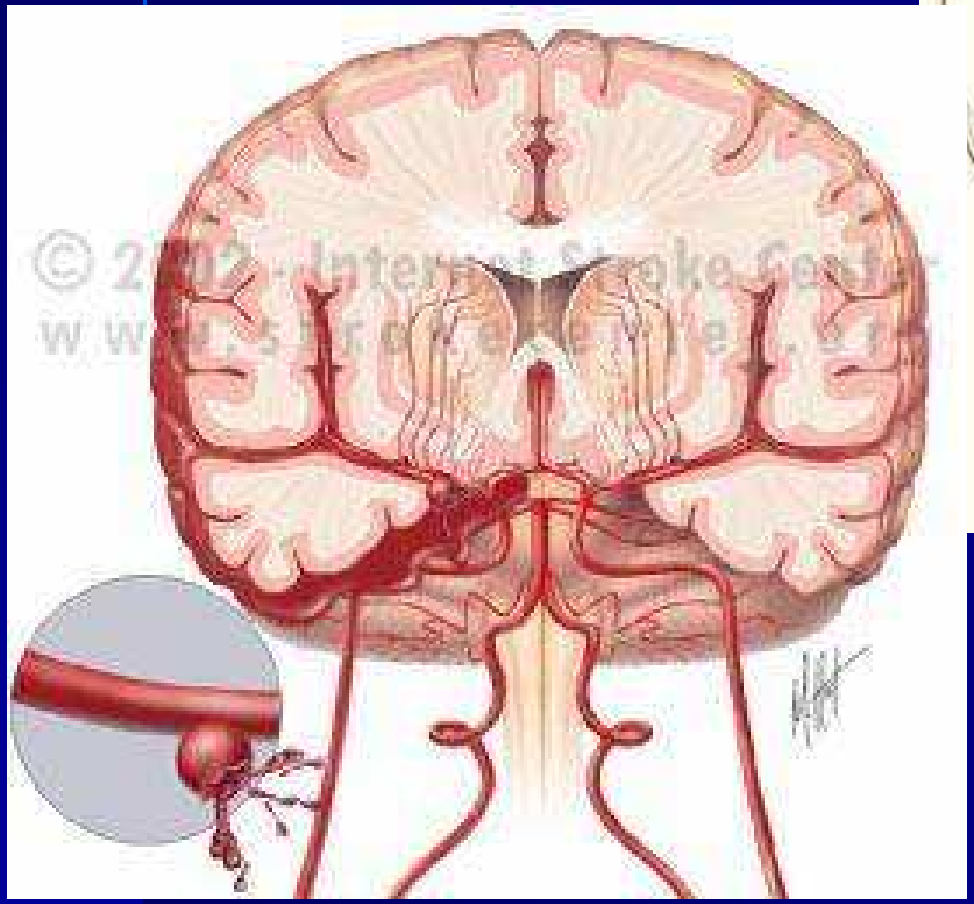
SPONTANEOUS SAH

- Aneurysm: 50- 60 %



Aneurysm

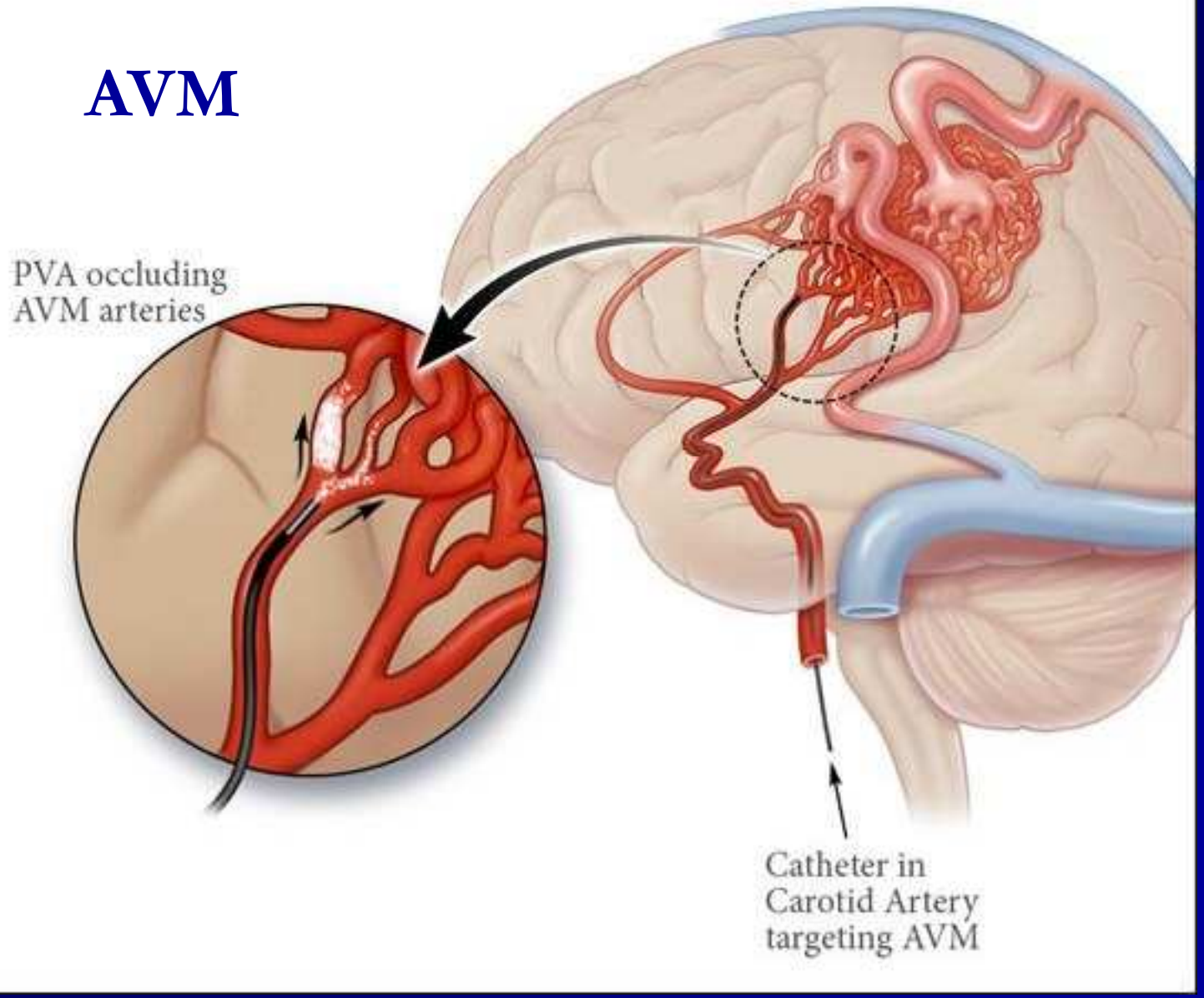




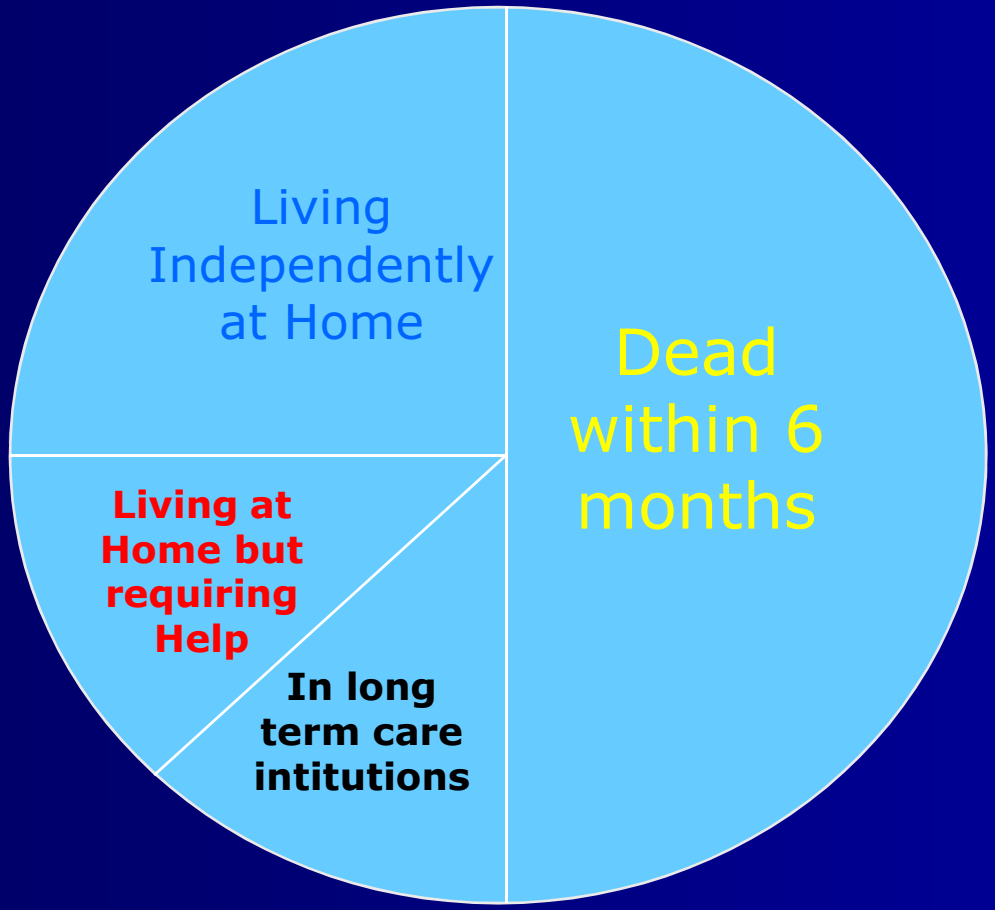
SPONTANEOUS SAH

- Arteriovenous malformation (AVM): 5-10%

AVM


PVA occluding
AVM arteries
Catheter in
Carotid Artery
targeting AVM

Out come of first ever stroke

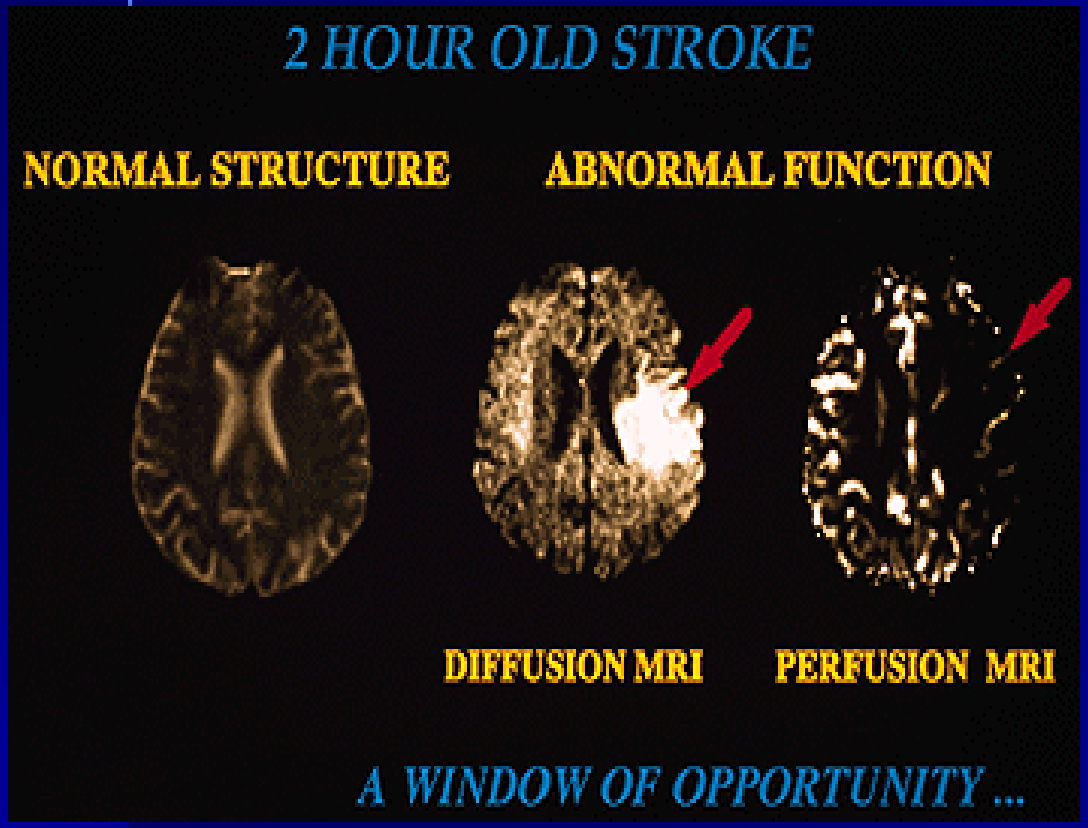


Warning Signs of Stroke

- Sudden weakness, paralysis or numbness of the face, arm & leg on one or both sides of the body.
- Loss or speech, or difficulty speaking or understanding speech.
- Dimness or loss of vision, particularly in only one eye.

- Unexplained dizziness (especially when associated with other neurological symptoms), unsteadiness, or sudden falls.
- Sudden severe headache & / or loss of consciousness.

EFFECT OF ISCHEMIA ON THE BRAIN



Changes may be detected within minutes of a stroke.

Clinical Features SAH

- Warning leaks: headache

  orbital/facial pain

  neck/back pain

Clinical Features SAH…

- Headache: sudden

  severe excruciating

  unusual (never before)

- Neck stiffness

Clinical Features SAH…

- Vomiting
- Seizures / convulsions
- Unconsciousness / death

How Common is Stroke ?

Life After a Stroke

RISK FACTORS

Who have higher chances of having a Stroke??

Risk Factors for stroke - Treatable

Major:

- Hypertension.
- Diabetes
- Heart Disease, esp. atrial fibrillation.
- Cigarette Smoking.
- Transient Ischaemic Attacks.

Secondary Risk Factors:

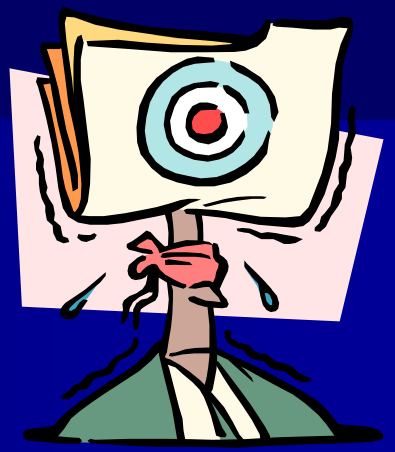
- Increased Serum Cholesterol / Lipids.
- Physical Inactivity.
- Obesity.

Less Well Documented

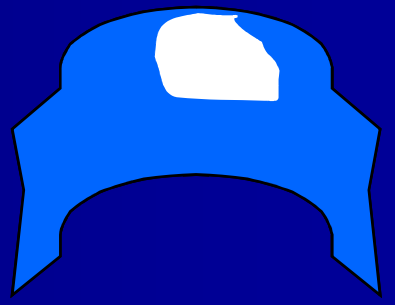
- Excessive alcohol intake / drug abuse.
- Acute infection.

SPONTANEOUS SAH

- Hypertension (High BP): 5-10%



- Brain Tumor



- Bleeding & clotting disorder: leukemia, dengue

How do we Manage a Patient with Stroke ?

"THE CODE RED".

Stroke < 3 hrs

↓

CT Scan

↓

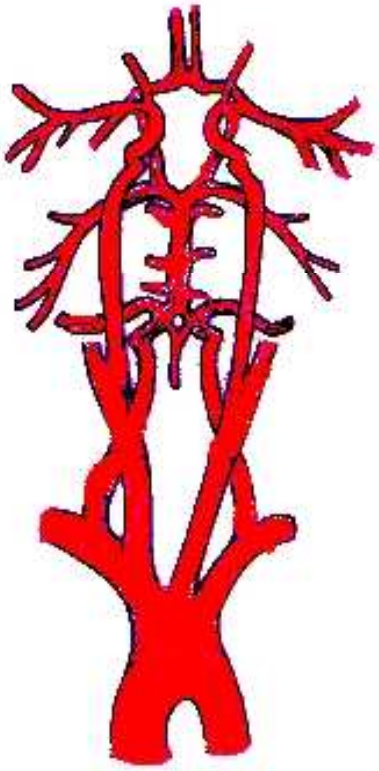
Rule out contraindications

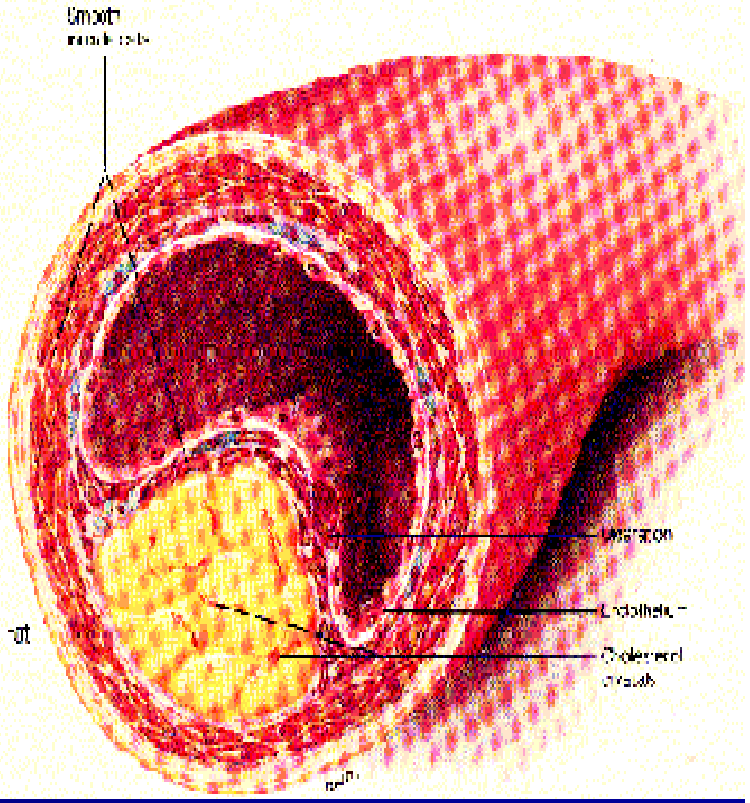
↓

RtPA

URGENT INVESTIGATION IN STROKE: CT SCAN

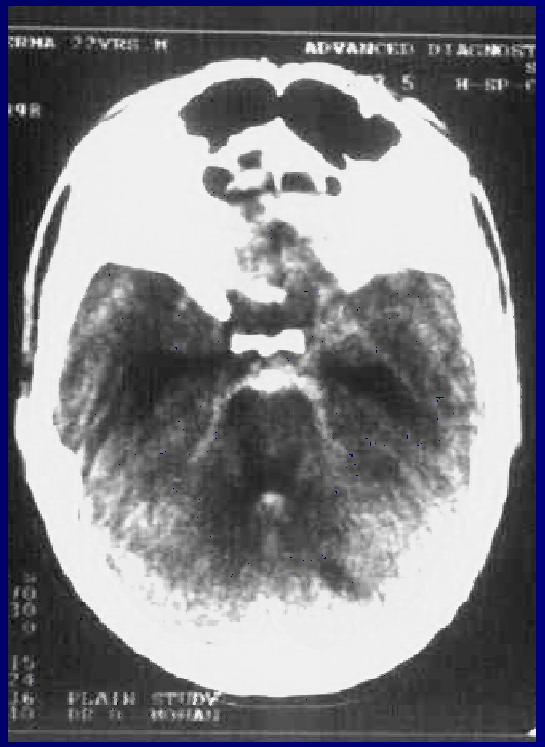
THROMBOLYSIS: THE NEED

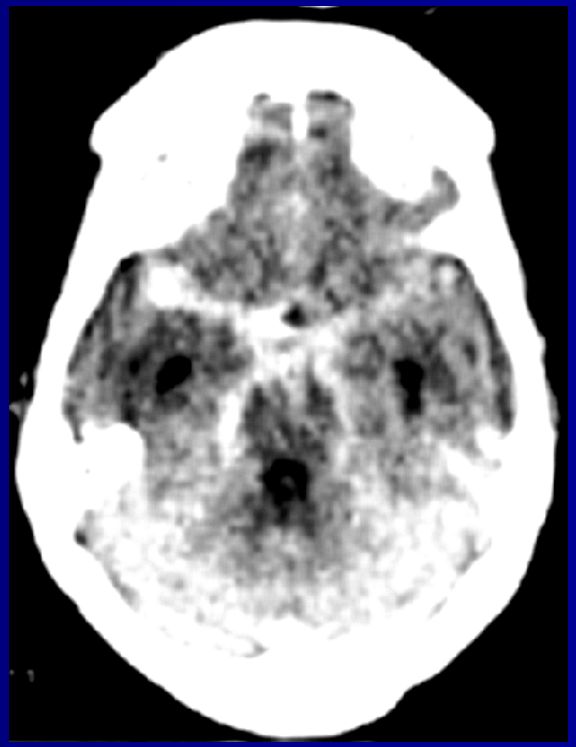




Investigations

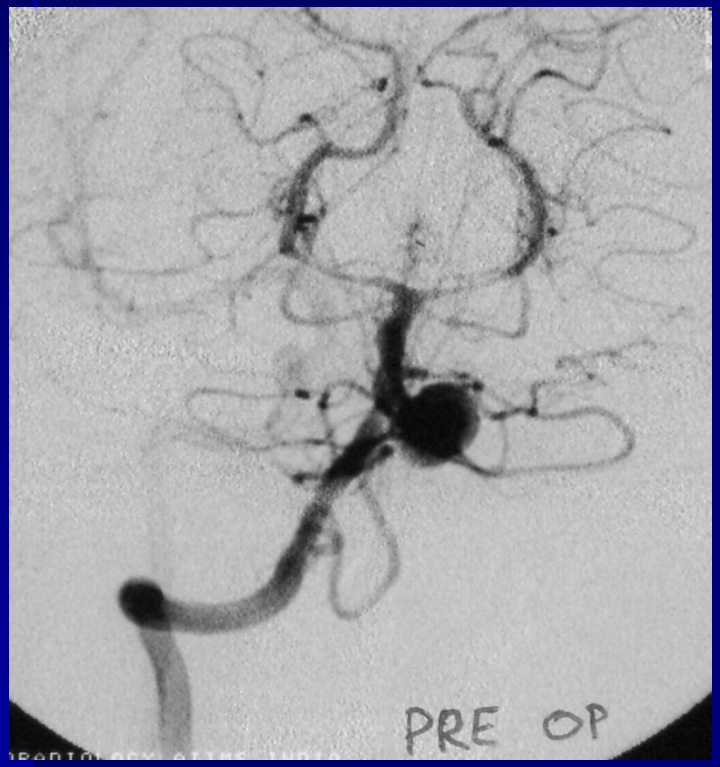
- C.T. scan

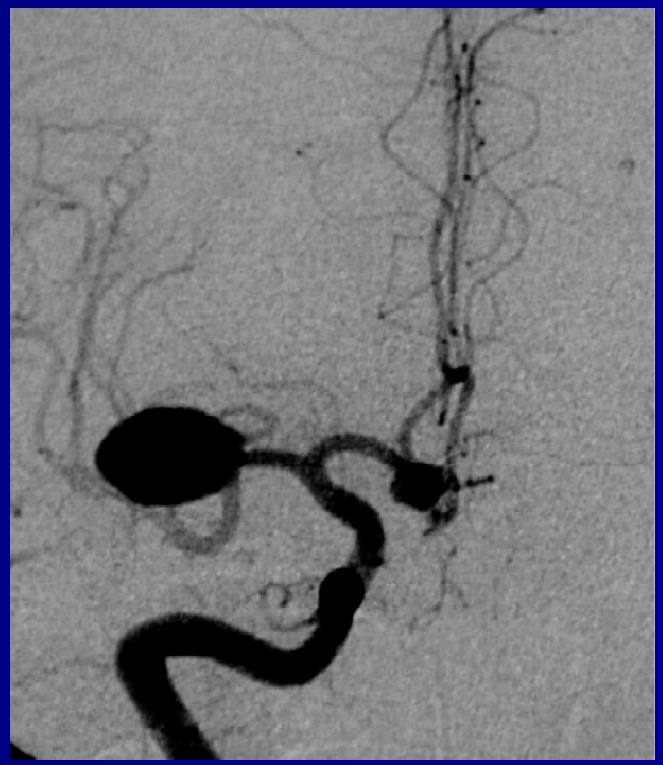




Investigations

- Brain (cerebral) angiogram

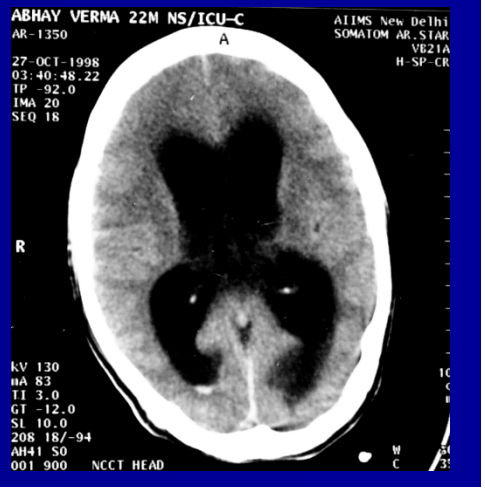




- **Subarachnoid hemorrhage is an emergency condition which merits immediate admission, resuscitation and treatment.**

Treatment: AIM

- Prevent rebleed
- Prevent vasospasm
- Prevent brain compression by clot
- Prevent hydrocephalus



Medical Treatment

- Strict bed rest: relax, sedation
- Fluids
- Anticonvulsants prevent seizures
- Prevent raised intracranial pressure

Medical Treatment

- Prevent rebleed
  - Prevent high B.P.
  - Prevent constipation
  - Prevent restlessness

Medical Treatment

- Prevent complications
  - Lung: pulmonary edema
  - Heart: ECG changes
  - Abdomen: GI bleeding

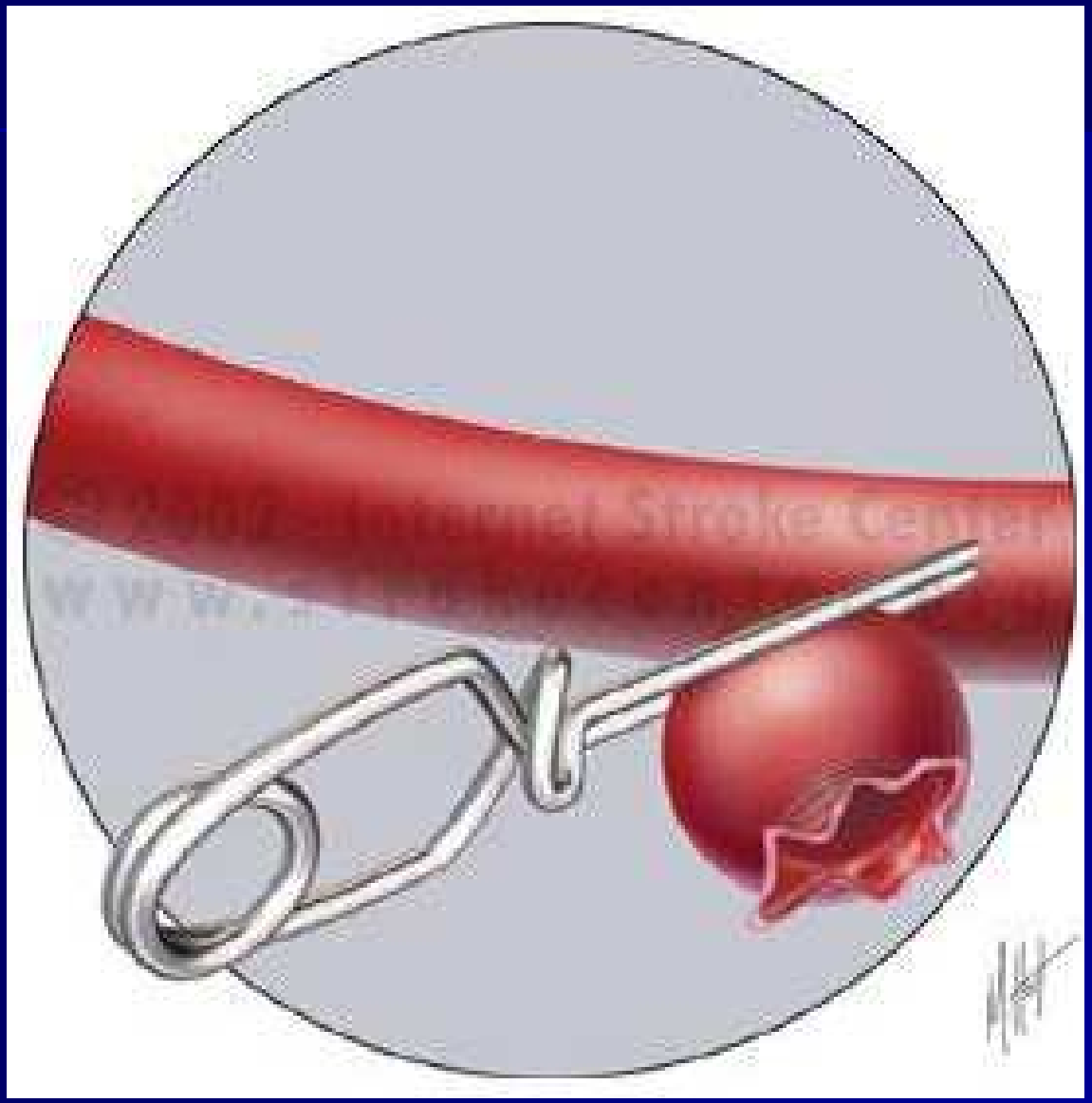
Definitive Treatment

- Surgery (CLIPPING)

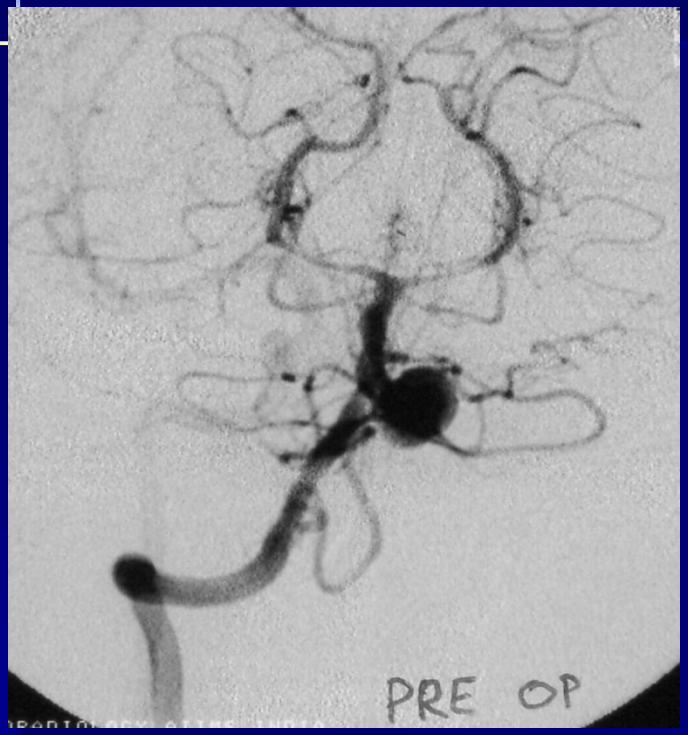
or

- Embolization (COILING)

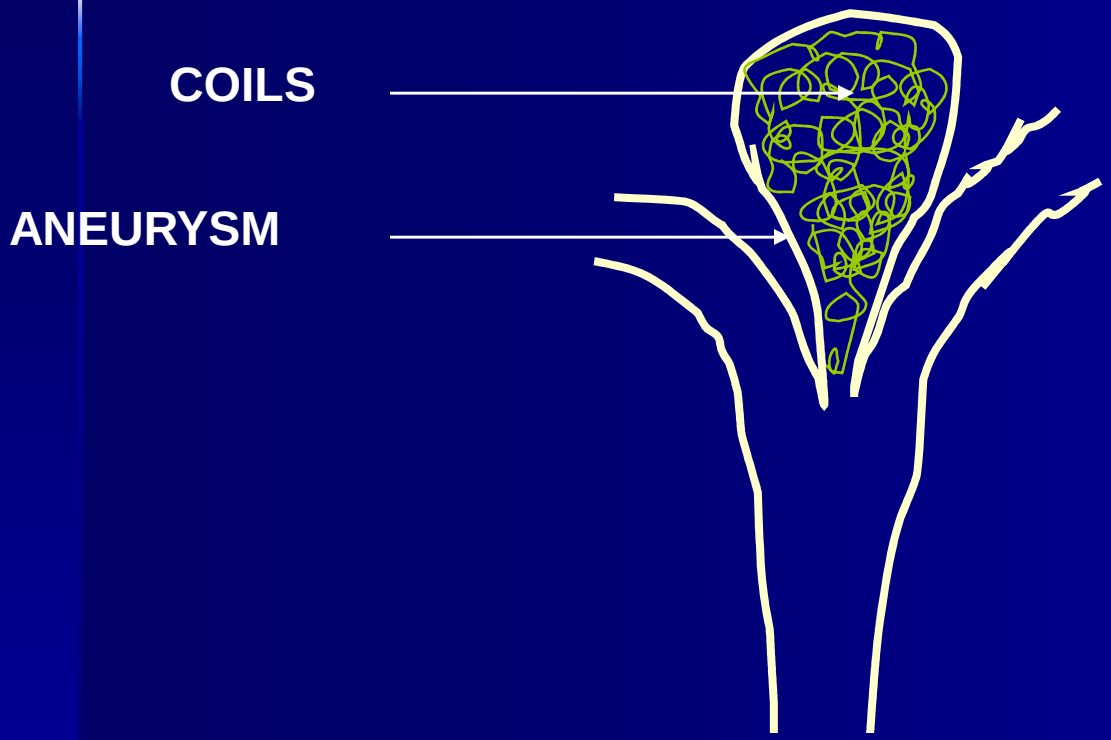
Surgery (CLIPPING)



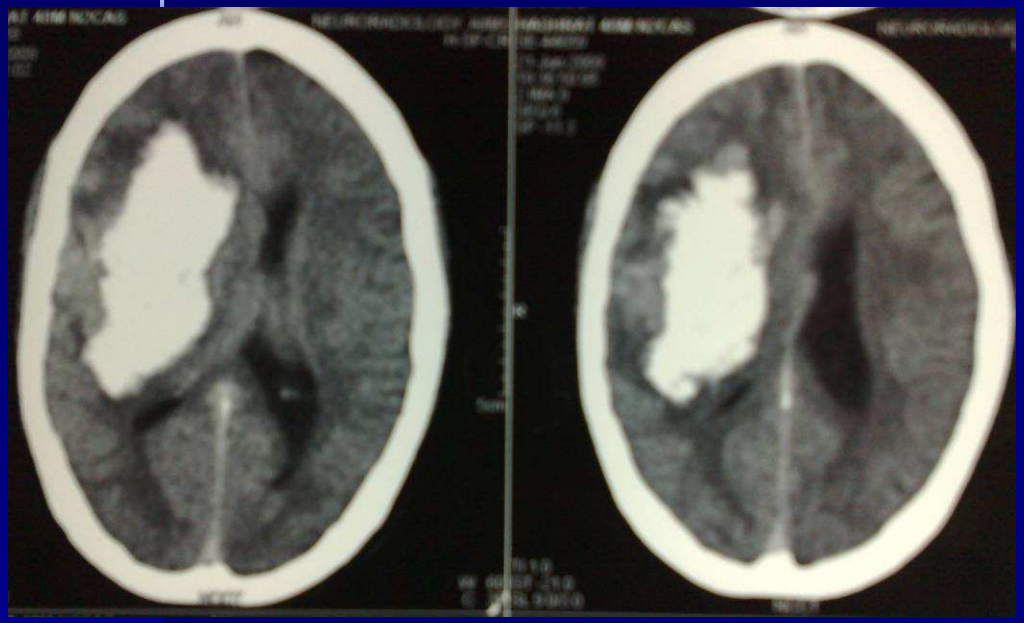
Surgery (CLIPPING)



Embolization (COILING)



Hemorrhagic stroke (clot evacuation)



STROKE ALWAYS STUNS

- Stroke strikes unexpectedly.
- Stroke does not discriminate.

..if there is a stroke, HURRY UP...!

CONCLUSION 1.

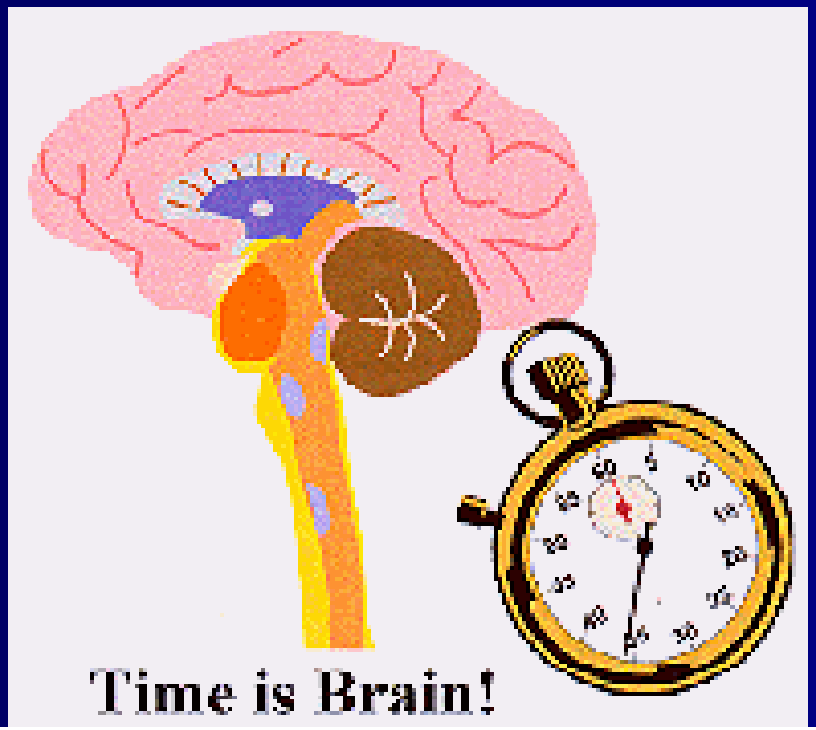
- TIME IS IMPORTANT

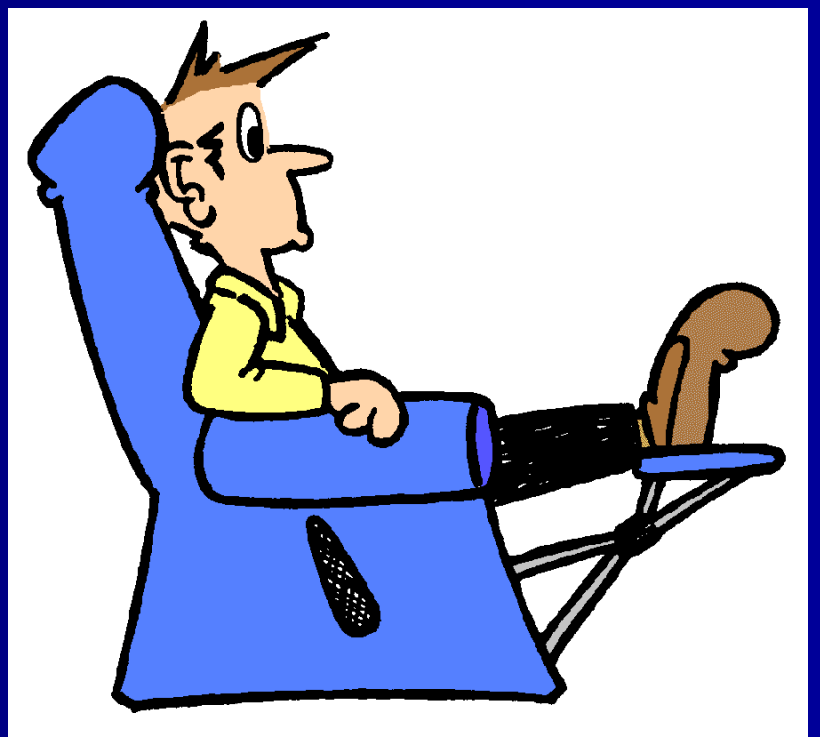
CONCLUSION 1.

- TIME IS IMPORTANT

CONCLUSION 2.

DO NOT WASTE TIME AFTER A STROKE





CONCLUSION 3.

- LEARN TO RECOGNISE STROKE
- REACT TO STROKE ON TIME

…A HAPPY ENDING…

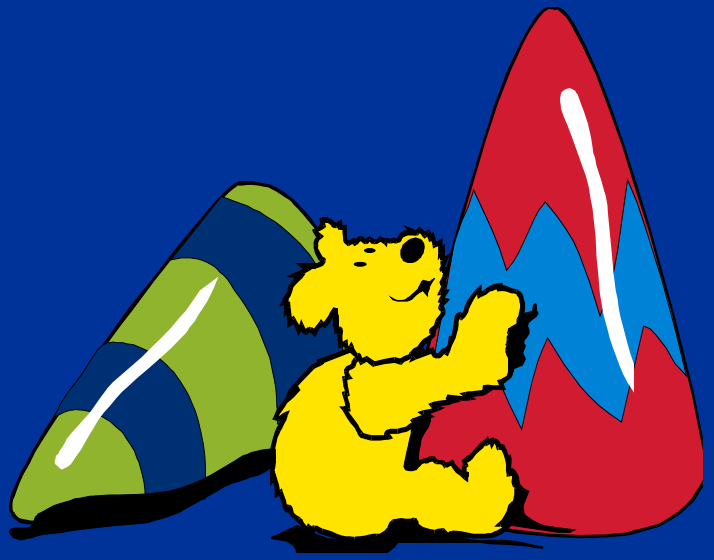
- Stroke need not necessarily disable.
- Stroke need not necessarily kill.

PHYSIOTHERAPY IN STROKE

Physiotherapy in Stroke

- ***Why ?***
- ***When ?***
- ***What ?***
- ***How ?***

WHY PHYSIOTHERAPY ???



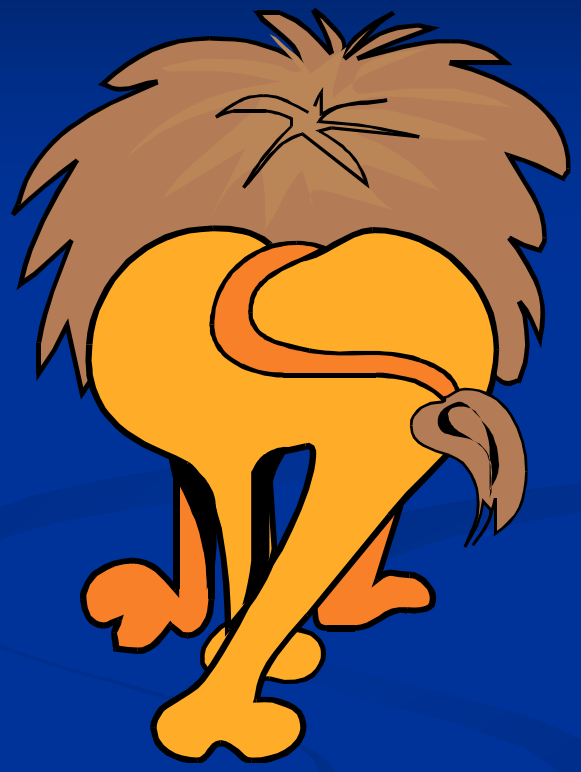
- PREVENTION OF SECONDARY COMPLICATIONS
  - CHEST COMPLICATIONS
  - BED SORE
  - ABNORMAL POSTURE
  - ABNORMAL MOVEMENT PATTERNS
  - DEFORMITIES
  - LEARNED ‘NON-USE’
  - VENOUS CONGESTION

WHY PHYSIOTHERAPY ???

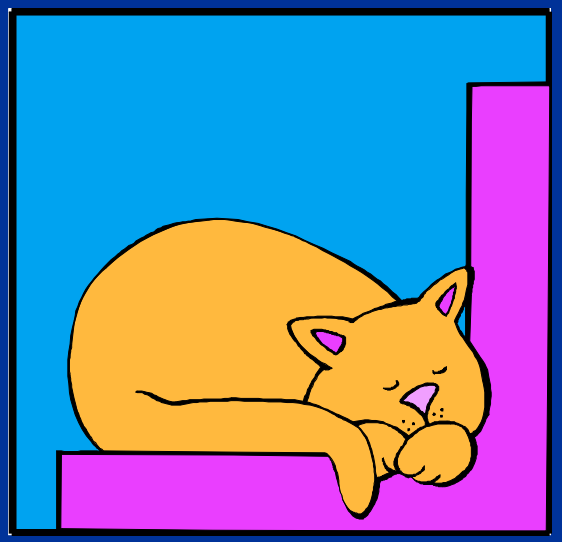
- **RECOVERY**
  - **REGAIN TONE OF MUSCLES**
  - **RELEARN FUNCTIONAL ACTIVITIES**
  - **LEARN COMPENSATORY STRATEGIES**
  - **REGAIN BALANCE AND CO-ORDINATION**
  - **AMBULATION RETRAINING**
  - **MAINTAINCE/RESTORATION OF STRENGTH, ENDURANCE AND FITNESS**

WHEN TO START

- acute-care hospital after the patient's medical condition has been stabilized
- often within 24 to 48 hours after the stroke
- earlier it begins the more likely survivors are to regain lost abilities and skills



HOW LONG DOES IT LAST ?



- DEPENDS ON
  - EXTENT OF LESION
  - RECOVERY PATTERN
  - DEDICATION, MOTIVATION AND PERSEVERANCE OF PATIENT
- SOMETIMES IT LASTS LIFE LONG

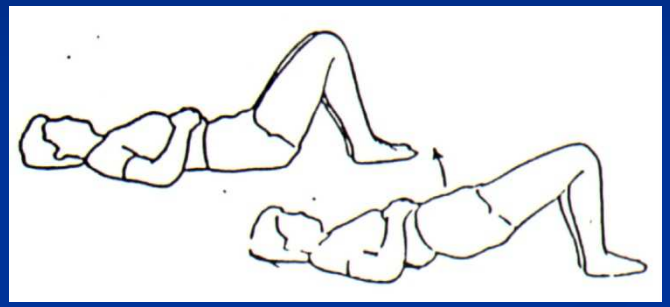
HOW MUCH RECOVERY IS POSSIBLE ???

- WITH GOOD MEDICAL, SURGICAL AND PHYSIOTHERAPEUTIC CARE MOST OF THE SURVIVOR BECOMES AMBULATORY AND ABLE TO DO GROSS MOVEMENTS
- DEDICATED PATIENTS MAY ACHIEVE EVEN FINE CONTROL AND ACHIEVE FULL RECOVERY

WHERE TO GET PHYSIOTHERAPY

- ACUTE CARE HOSPITAL
- IN PATIENT REHABILITATION CENTRE
- OUT PATIENTS PHYSIOTHERAPY UNITS
- HOME BASED PHYSIOTHERAPY

PHYSIOTHERAPEUTIC MANAGEMENT



BALANCE AND CO-ORDINATION

GAIT TRAINING

CONSTRAINT INDUCED MOVEMENT THERAPY

CONSTRAINT INDUCED MOVEMENT THERAPY

FITNESS TRAINING

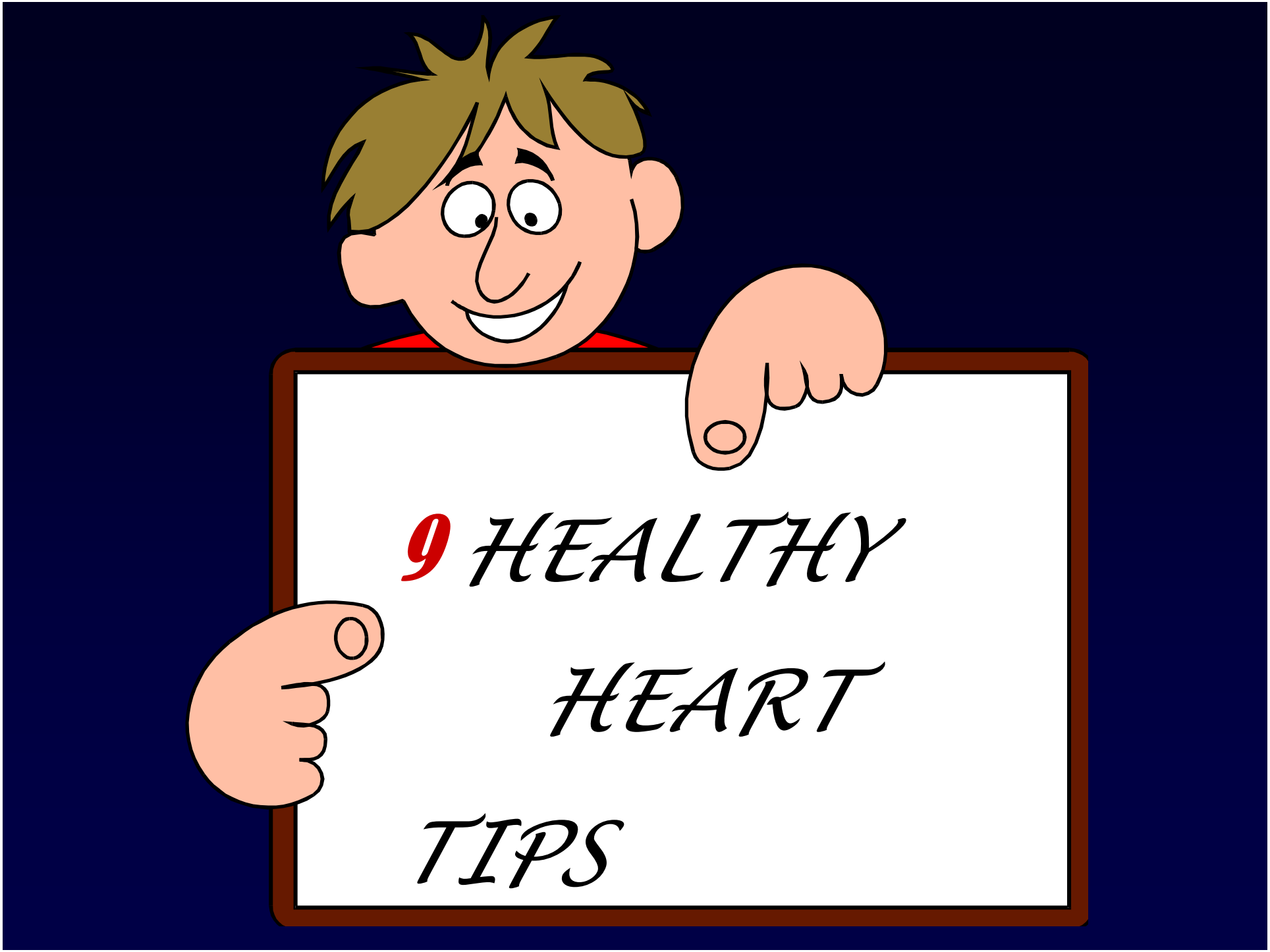
ASSISTIVE DEVICES

PREVENTION

CONTROL THE RISK FACTORS

Control of …..

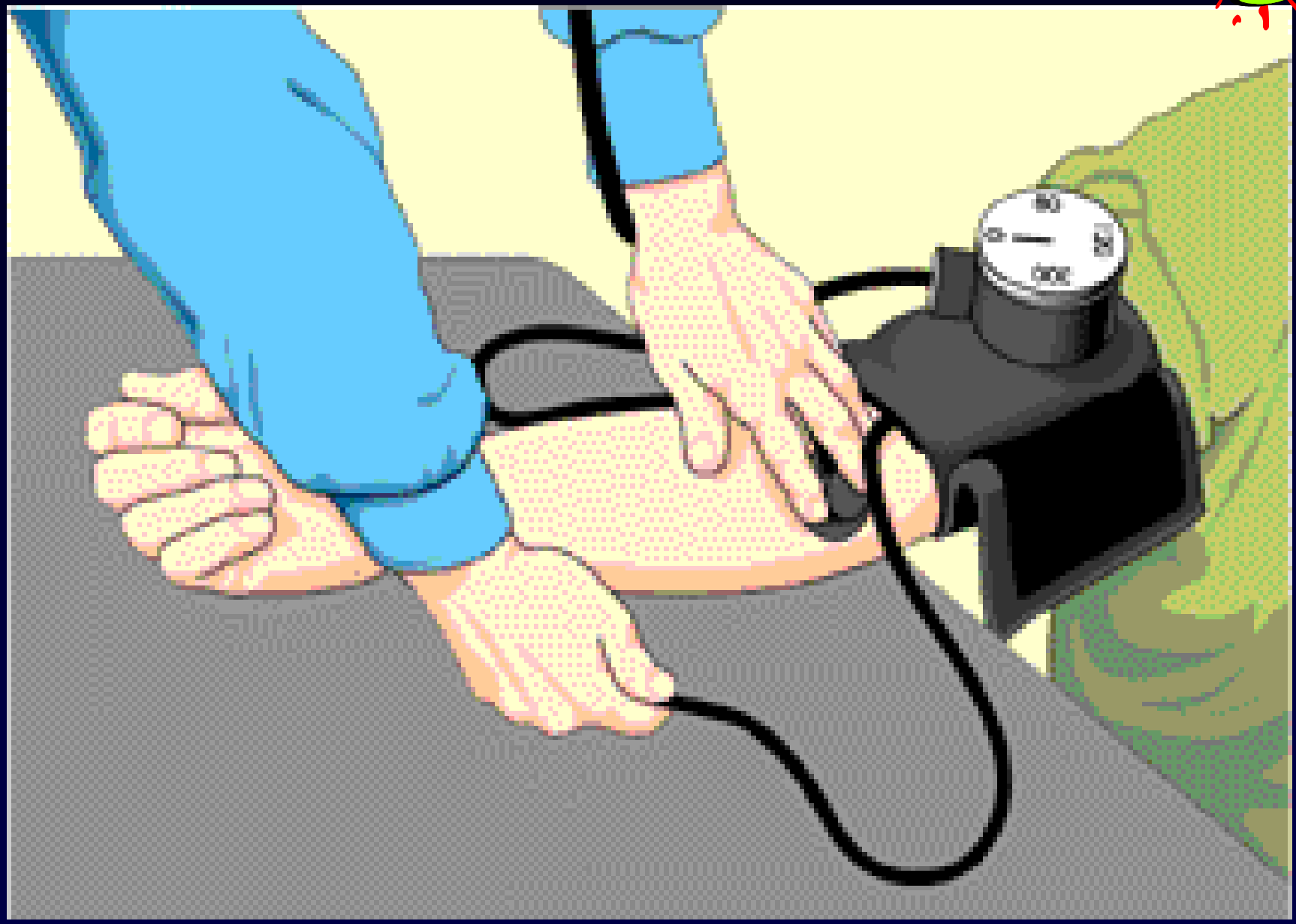
- High BP
- Diabetes
- Weight
  - ----Diet
  - ----Exercise
- High Lipids
- Smoking
- Stress


9 HEALTHY
HEART
TIPS

THE SINGLE MOST ALTERABLE RISK FACTOR"

20 minutes:
Blood pressure and pulse rate drops to normal;
24 hours:
Chance for a heart attack goes down.
1 year:
Risk of coronary heart disease is cut in half.
15 years:
Risk for coronary heart disease and stroke is the same as for a lifelong nonsmoker.
Not to mention that your risk of cancers of mouth, eosphagus and lungs are cut by half

CONTROL BLOOD PRESSURE



CONTROL YOUR DIABETES 3

- **Diagnosed when your Fasting Plasma Sugar >126 mg/dl**

- **REMEMBER DIABETES IS NOT MERELY A DISEASE OF YOUR PANCREAS.**
  IT IS A *VASCULAR DISEASE* AND AFFECTS HEART, KIDNEYS, EYES, BRAIN, NERVES

Every diabetic may need to take Statin, Aspirin, ACE inhibitors

CONTROL YOUR LIPIDS

YOU NEED TO TAKE CARE IF YOUR

- **Total Cholesterol > 200 mg/dl**
- **LDL (Bad Cholesterol) >100 mg/dl**
- **HDL (Good Cholesterol) < 40 mg/dl**
- **Triglyceride > 150 mg/dl**

- Eating healthy food
- Losing weight
- Exercise
- Medicines--STATINS

ABDOMINAL OBESITY

Central Obesity Major Risk Factor in Asians

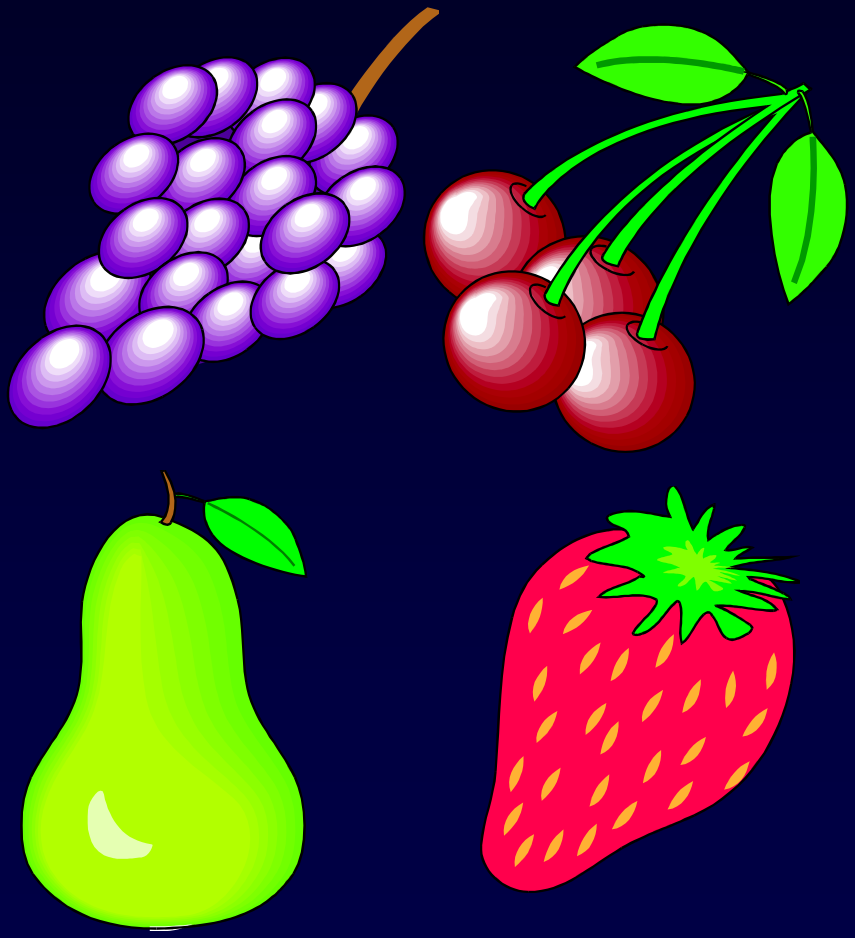
- **Waist circumference**

  ***40 inches in males and 35 inches in females for west**

  *** * 36 inches in males and 32 inches in females for Indians**

For every 14 Kg of excess weight there are 40 kilometers of extra blood vessels through which blood must be pumped

HEALTHY DIET



- Eat a variety of fruits and vegetables
- Grain products like bread, cereal, rice
- Poultry without skin and fish
- Fat-free or low-fat milk products
- Unsaturated vegetable oil –canola, safflower
- Avoid red meats
- Avoid high-fat processed meat like sausage
- Avoid whole milk , ice cream, sweets
- Avoid butter, egg yolks and cheese

EXERCISE

- Plan physical activity
- Start slowly-Do not overdo it
- Choose activities you enjoy
- Use variety to keep interest
- Regular part of your life style
- Use buddy system
- Do not compare with others

REDUCE YOUR STRESS

- RELAX
- MEDITATION
- STRESS CONTROL
- YOGA

Annual Health Check

Early Detection and Management of Risk Factors

Get and maintain health insurance

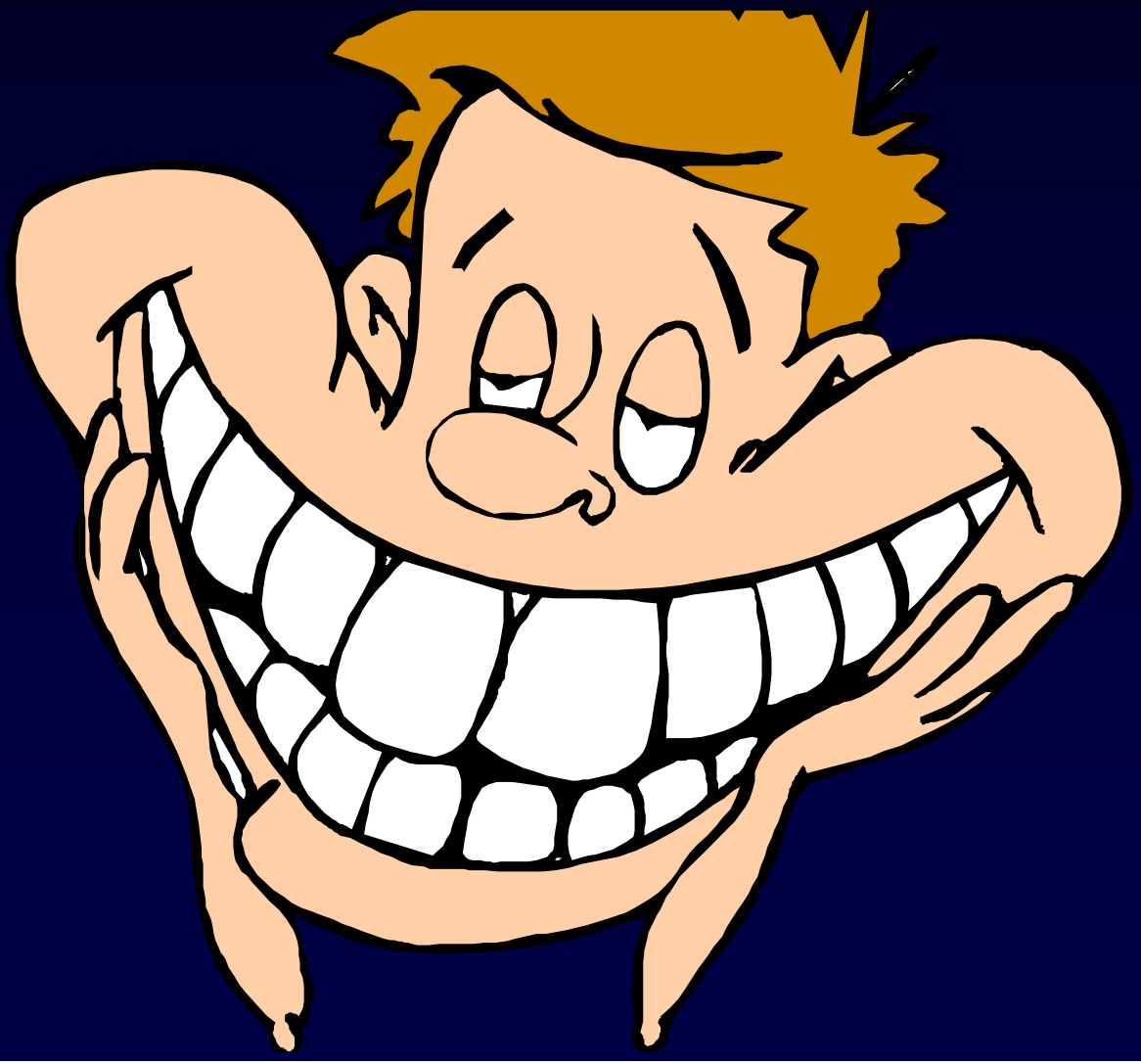
Be skeptical about information sources

If you have a question, ask!

Even if you do develop Heart Problem

You can "beat" it.

Be positive



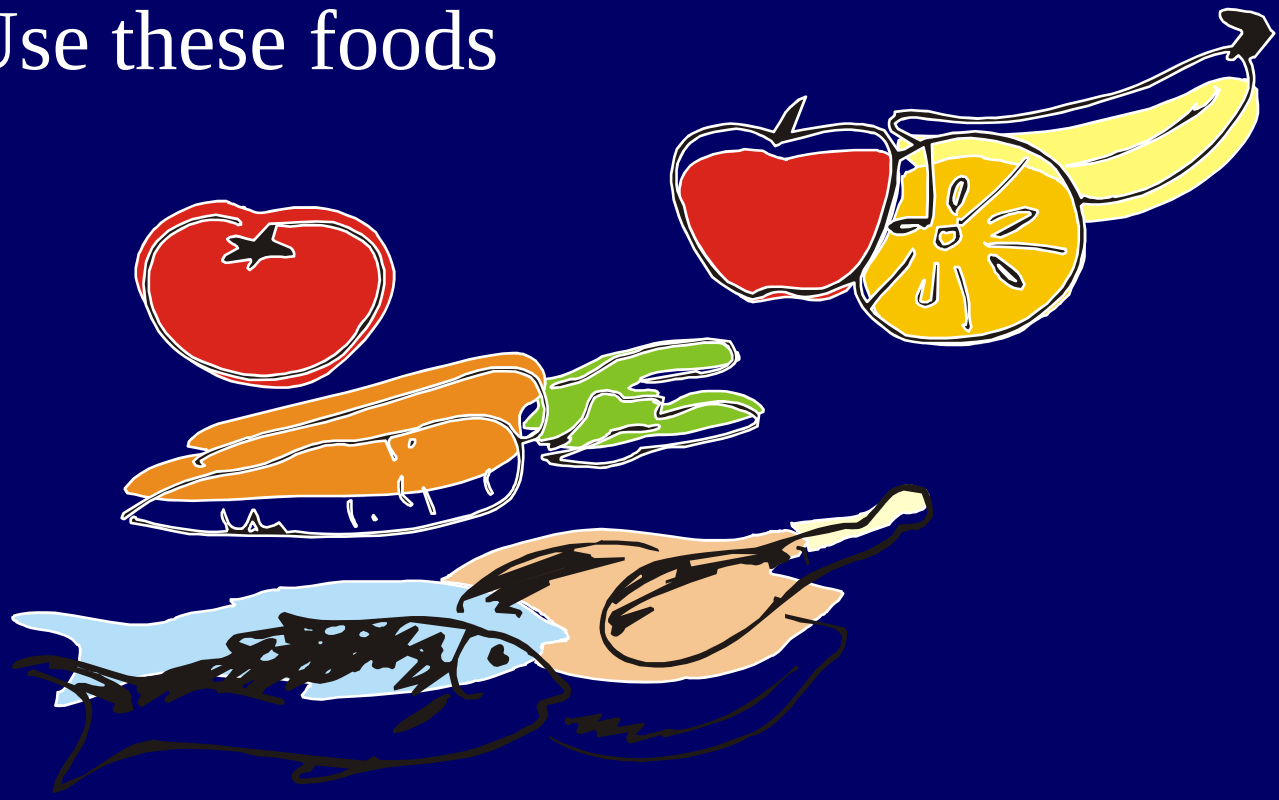
Diet

- Vital role in maintaining an ideal weight, body fat and normal levels of blood lipids.
- Hyperlipedemia can be controlled by dietary regulation, depending on quality and quantity of fat intake.

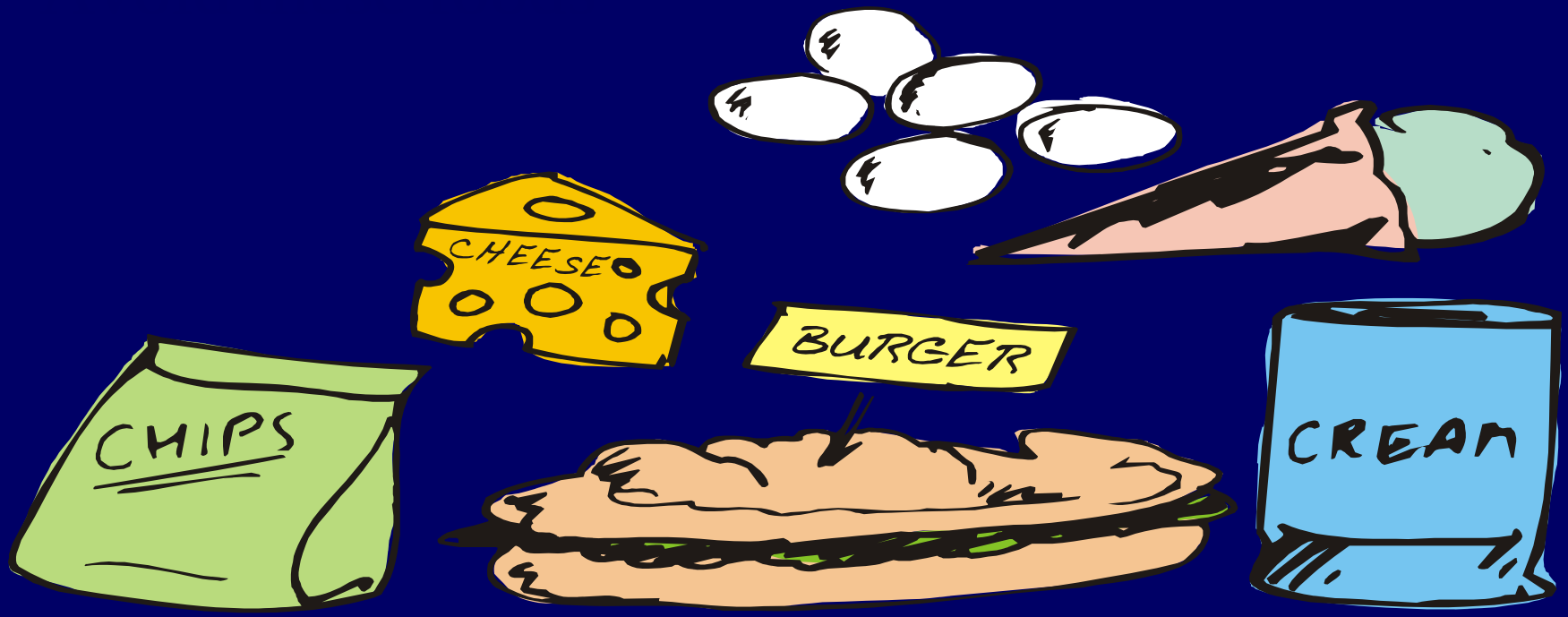
“IT SHOULD BE CONTROLLED RATHER THAN STOPPED.”

What type of food I should eat?

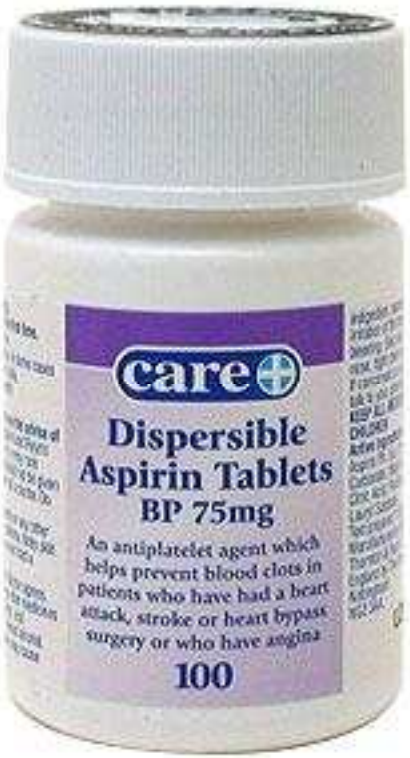
- Use these foods

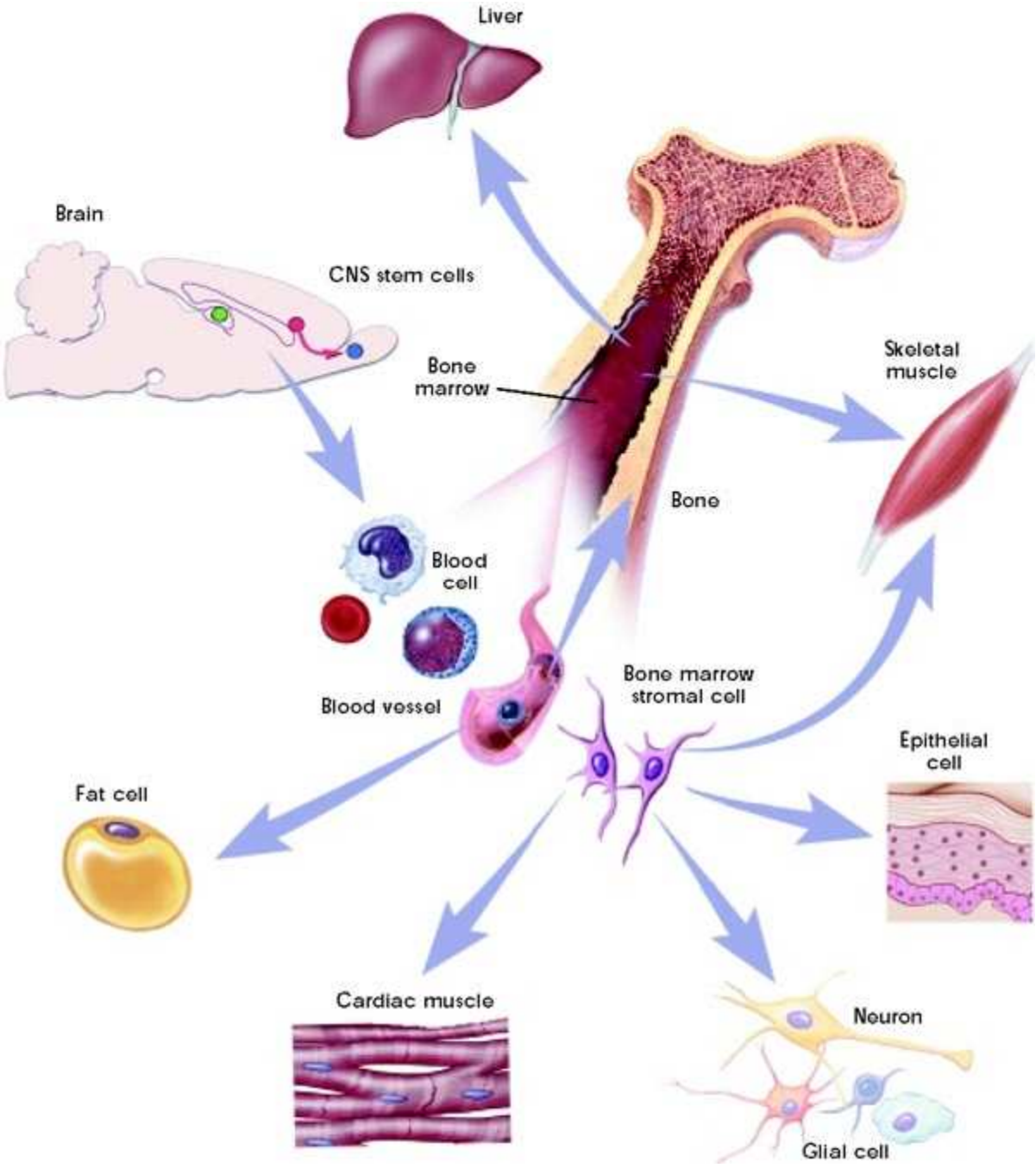


What type of food I should eat less often?




caglecartoons.com
GENERATION XXXL
X
CHILDHOOD OBESITY EPIDEMIC..


care
Dispersible
Aspirin Tablets
BP 75mg
An antiplatelet agent which helps prevent blood clots in patients who have had a heart attack, stroke or heart bypass surgery or who have angina
100


Liver
Brain
CNS stem cells
Bone marrow
Skeletal muscle
Bone
Blood cell
Blood vessel
Bone marrow stromal cell
Epithelial cell
Fat cell
Cardiac muscle
Neuron
Glial cell

STROKE ALWAYS STUNS

- Stroke strikes unexpectedly.
- Stroke does not discriminate.

..if there is a stroke, HURRY UP...!

CONCLUSION 1.

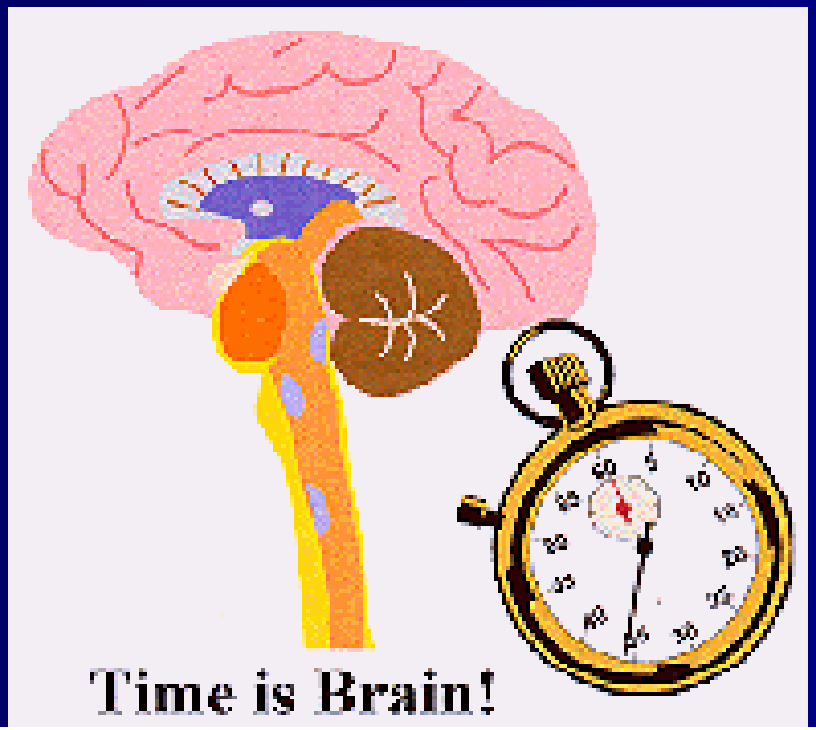
- TIME IS IMPORTANT

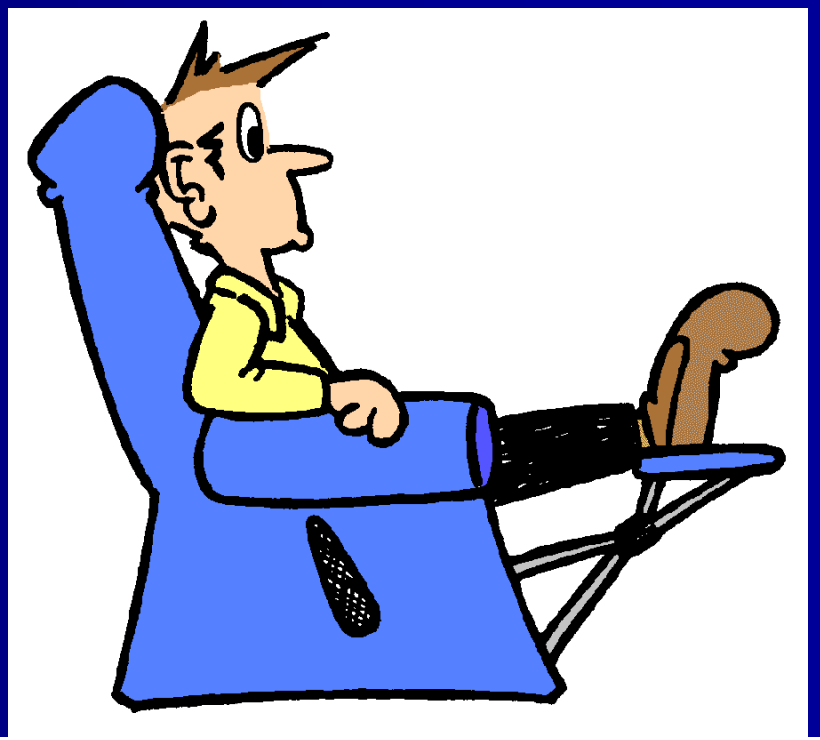
CONCLUSION 1.

- TIME IS IMPORTANT

CONCLUSION 2.

DO NOT WASTE TIME AFTER A STROKE





CONCLUSION 3.

- LEARN TO RECOGNISE STROKE
- REACT TO STROKE ON TIME

…A HAPPY ENDING…

- Stroke need not necessarily disable.
- Stroke need not necessarily kill.

Thank you