

# What is stroke ?

## What is stroke

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Member, Board of Directors, World Stroke Organization  
&  
In-charge, Stroke Unit  
The National Hospital of Sri Lanka

## Left and Right Brain Functions

### Left-Brain Functions

Analytic thought

Logic

Language

Science and  
math

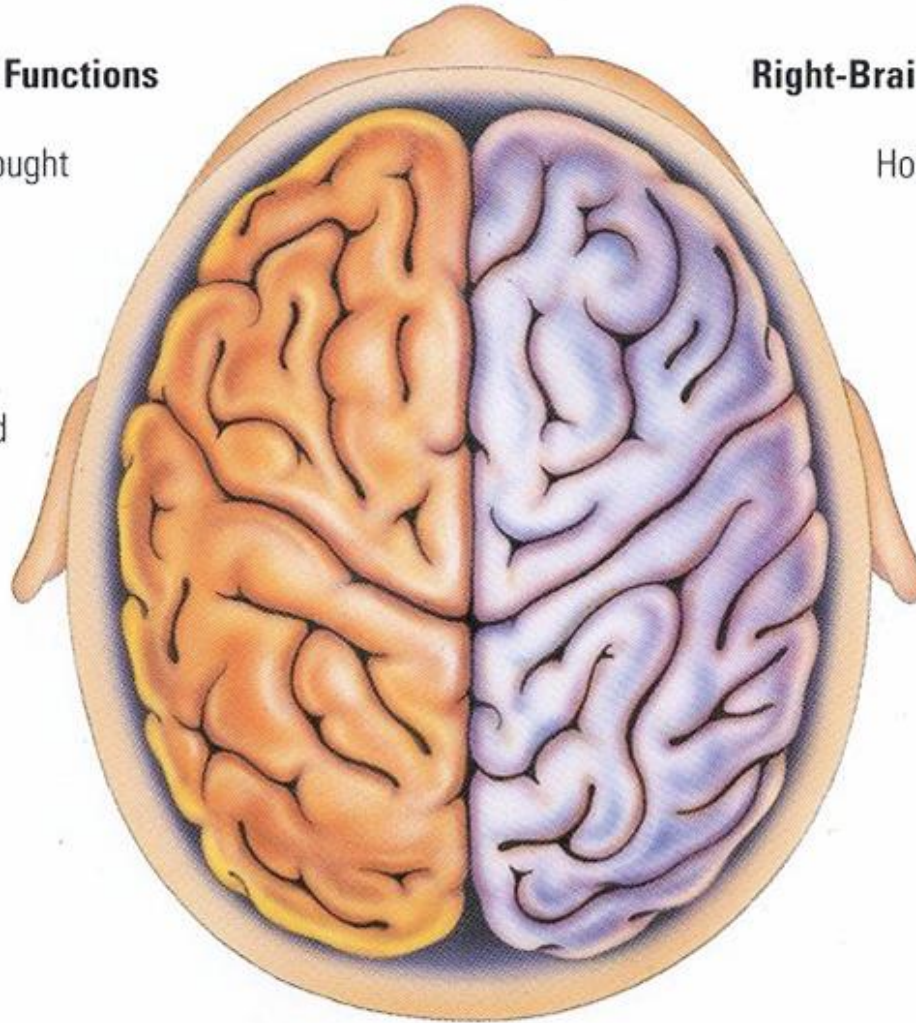
### Right-Brain Functions

Holistic thought

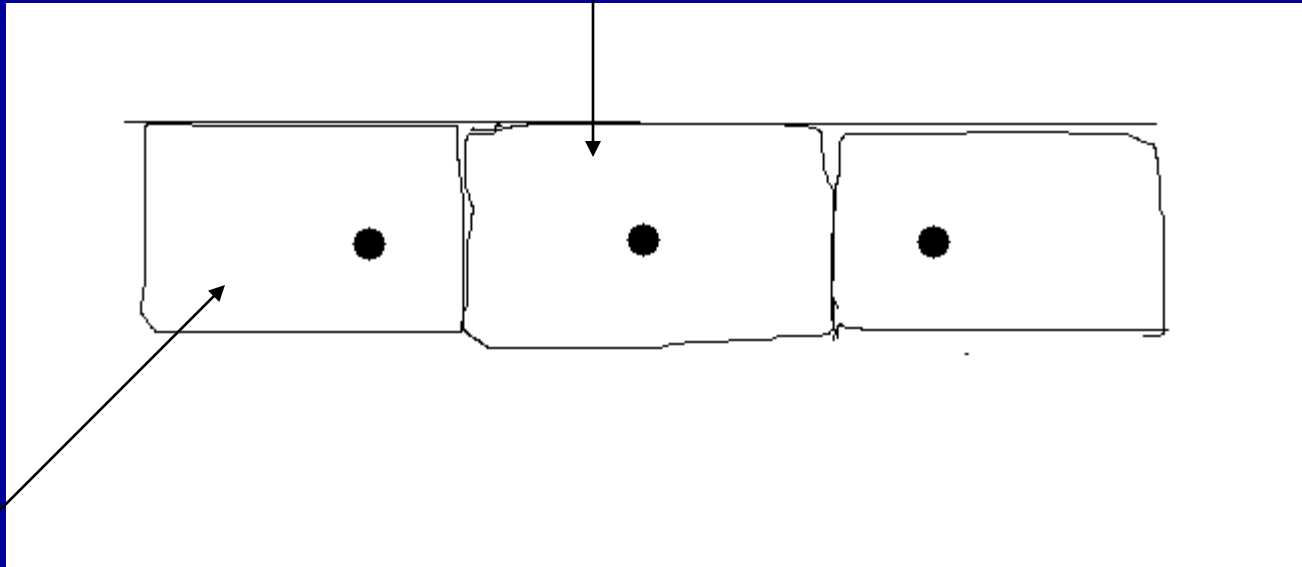
Intuition

Creativity

Art and  
music

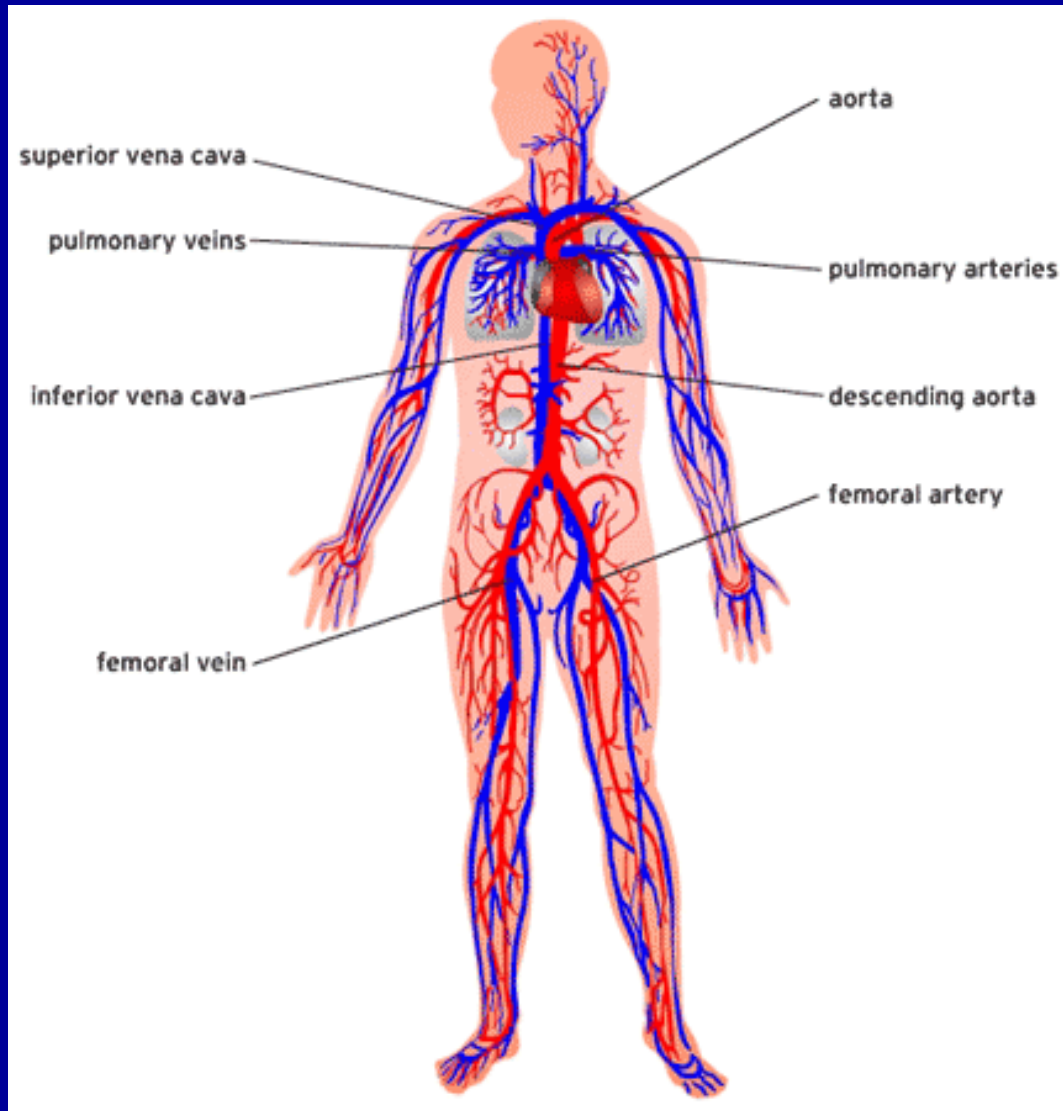


O<sub>2</sub> + Glucose



Cells

Tissue



ANT. COMMUNICATING A.

RECURRENT BRANCH (HEUBNER)  
(ANT. CEREBRAL)

INTERNAL CAROTID A.

ANT. CEREBRAL A.

MIDDLE CEREBRAL A.

MEDIAL AND LATERAL STRIATE  
(LENTICULOSTRIATE) ARTERIES

ANT. CHOROIDAL A.

POST. COMMUNICATING A.

POST. CEREBRAL A.

SUP. CEREBELLAR A.

BASILAR A.

INT. AUDITORY A.

ANT. SUP. CEREBELLAR A.

VERTEBRAL A.

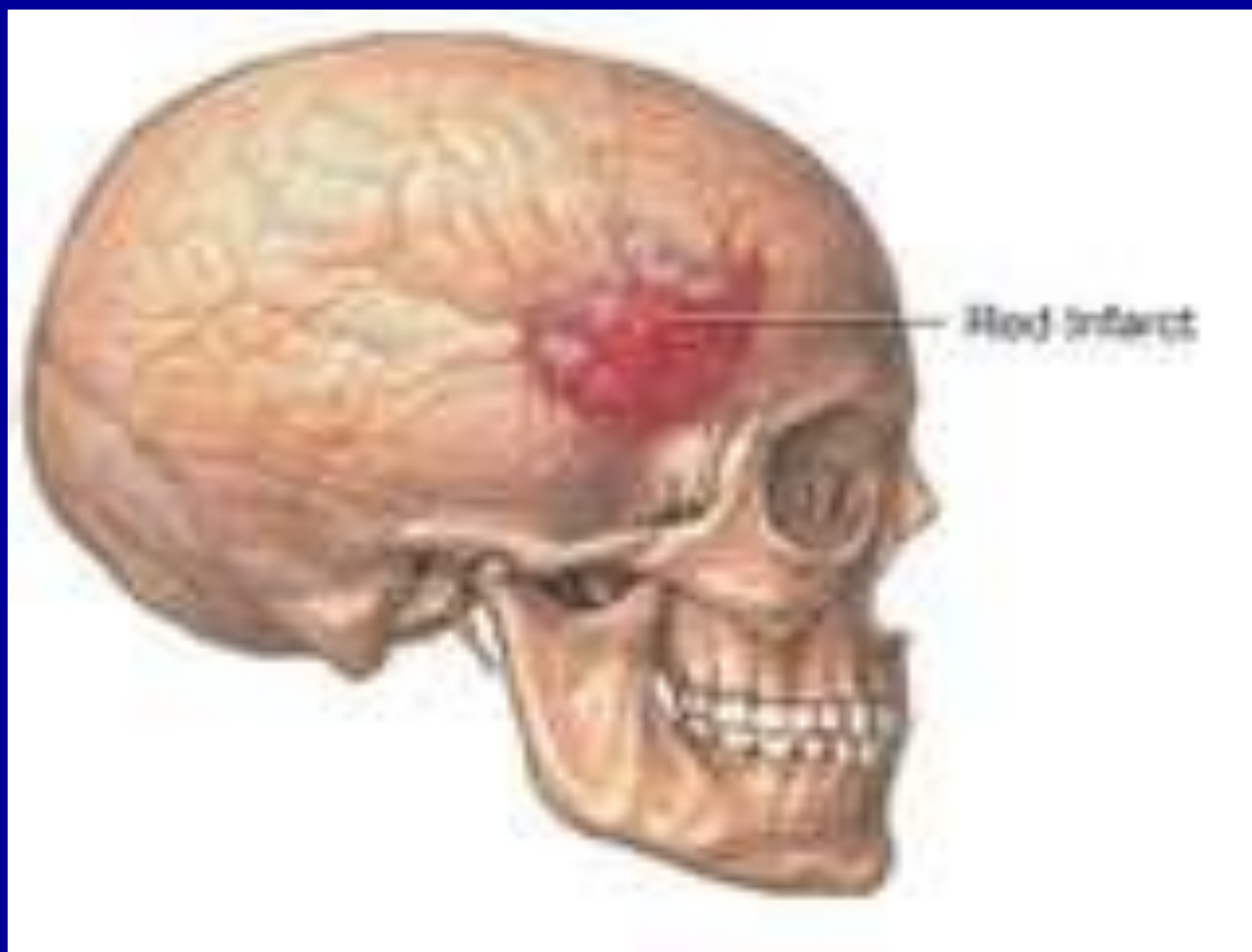
ANT. SPINAL A.

POST. INF. CEREBELLAR A.

POST. SPINAL A.



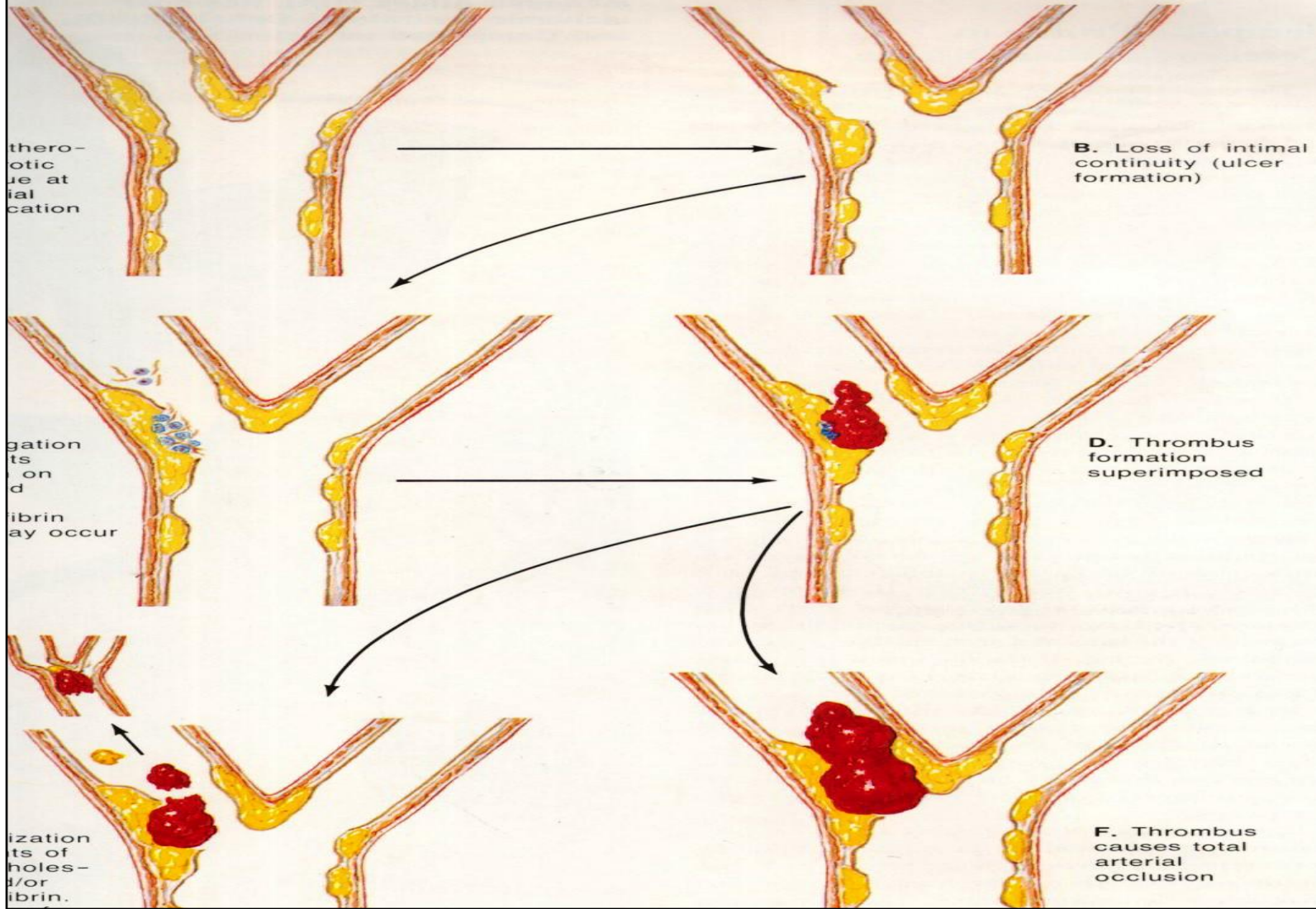
W. N. H. 1892



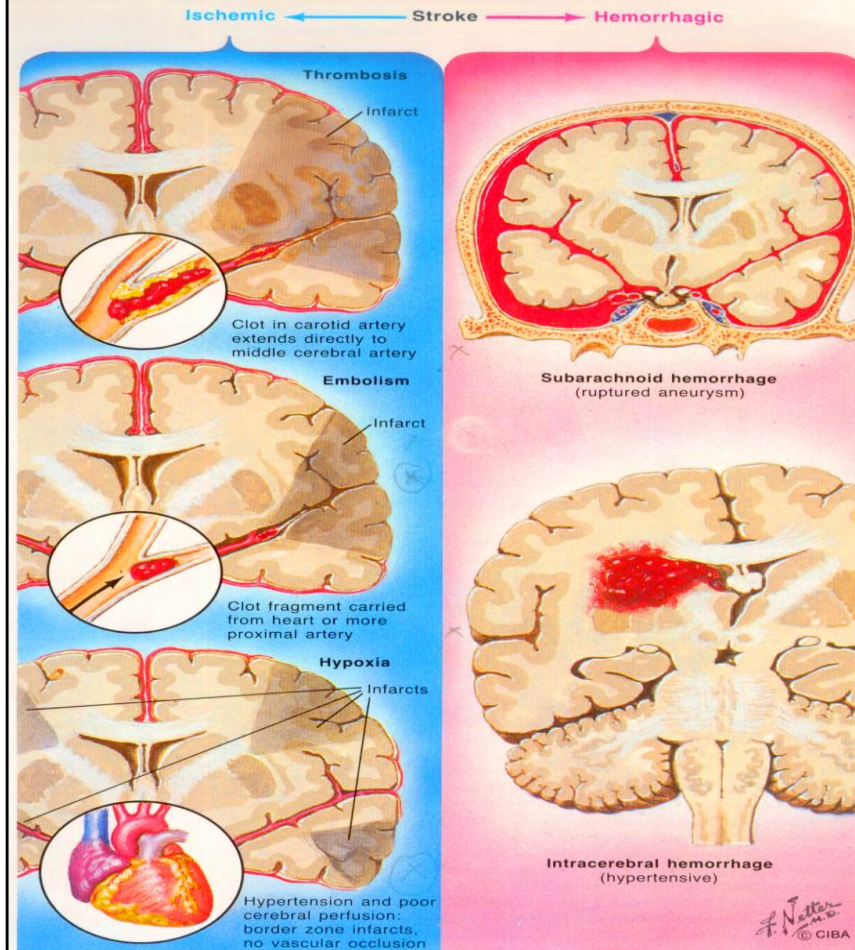
Hemorrhage

# Atherosclerosis

## Atherosclerosis, Thrombosis and Embolism



# “Brain attack” or stroke





# Aetiology

- 80% - Cerebral Infarction
- 15% - Cerebral Haemorrhage

## B. Cerebral hemisphere

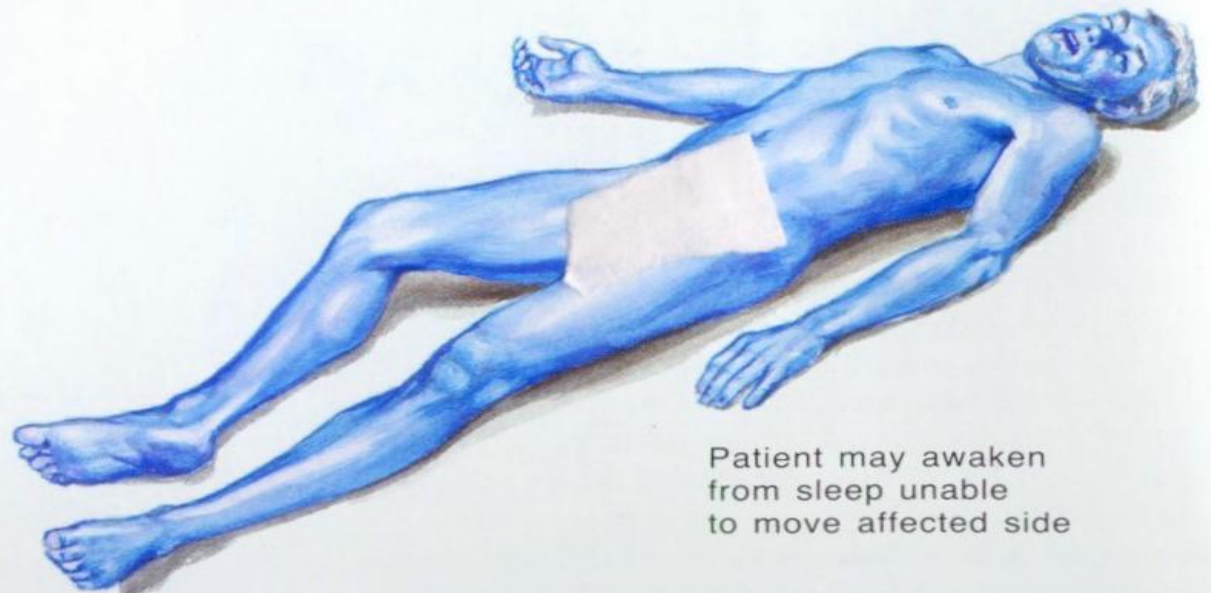
Occasional headache (usually supraorbital or temporal)

Homonymous (partial) visual field defects

Language defect (partial or complete) only when dominant hemisphere is involved

Hemiparesis or hemiplegia (only arm or leg may be affected); may be fleeting, transient or permanent and may appear with or without sensory deficits

On side opposite involved artery



Patient may awaken from sleep unable to move affected side

Pike

X



Vertigo, ataxia;  
motor and sensory  
deficits, which may  
be unilateral, bilateral  
or alternating

Dysphagia  
(cranial nerve X)



Abnormal eye movements (cranial nerves III, IV  
and/or VI). Horner's syndrome may be present



Motor and sensory  
deficits in face; unilateral,  
bilateral or alternating  
(cranial nerves V and VII)



Hemianopsia (frequently bilateral)



Headache, vomiting



Dysphonia (cranial nerve X)

F. Netter  
M.D.  
© CIBA



Altered consciousness  
(partial or complete) may  
be fleeting, transient or  
of long duration

# SYMPTOMS Contd....

- Gradual loss of memory

57834

S 194 1mm  
1626 2 8  
139 00mm  
0 00  
(256,228)

Mr.NIHAL

2006 02 24  
120kV/ 250mAs  
1.00s/10mm/10.0



RA

WL=40  
WW=90  
NON Contrast

47Y/M  
008983  
WD 14  
DR FO  
DR TR/SS  
SUHF/VFF  
/FC21/ORG/

NATIONAL HOSPITAL OF SRI LANKA

57388

S:192.2mm

1133: 2:10

163.00mm

8.0D

(256,243)

S.H.HEMAPALA

2006.02.14

120kV/ 250mA

1.00s/10mm/10.0



R

WL-40

WW-90

NON Contrast

Asteion

PF

65Y/M

900344

WD 16

DR PG

DR NDD/CW

SU/HF/VEF

/FC21/ORG//

NATIONAL HOSPITAL OF SRI LA...

A 57388

4 S:192.2mm

S.H.HEMAPALA

K. HARELD  
73290/909391

A

AH3 5

H-SP-CR

MHSL  
SOMATOM AR  
VD10E

28-FEB-2006  
IMAGE 10

R



SCAN 10  
TI 3.0  
RA 20  
V 133  
V 10.0  
TP -598  
FOV 210  
CE 0/-27  
UT -6

56Y, H/RND, 12/UT, 02/DR, SP  
NON CONTRAST

H  
C

86  
34

K. HARELD  
73290/909391

K.M.SOYZA, MRS  
10310.....731109  
\*3/1/33

STUDY 1  
3/1/05  
7:55:03 AM  
4 IMA 19

RF

TI 2500.0  
TR 9000.0  
TE 113.0  
TA 02:42\*2  
M

A

Harmony  
4VA15A  
HFS  
+LPH  
↓

5cm

I/R  
TP 0  
SP H34.0  
SL 5.0  
FoV 201\*230  
224p\*256s  
Tra>Sag(3,6)

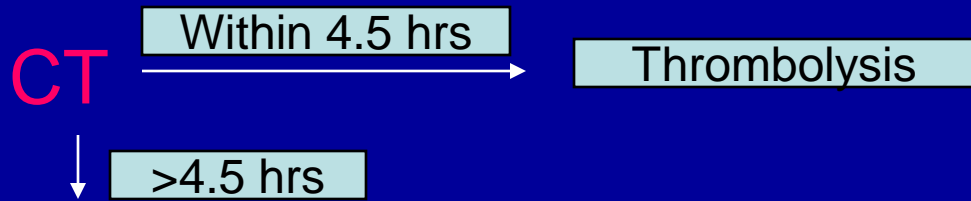








# Management

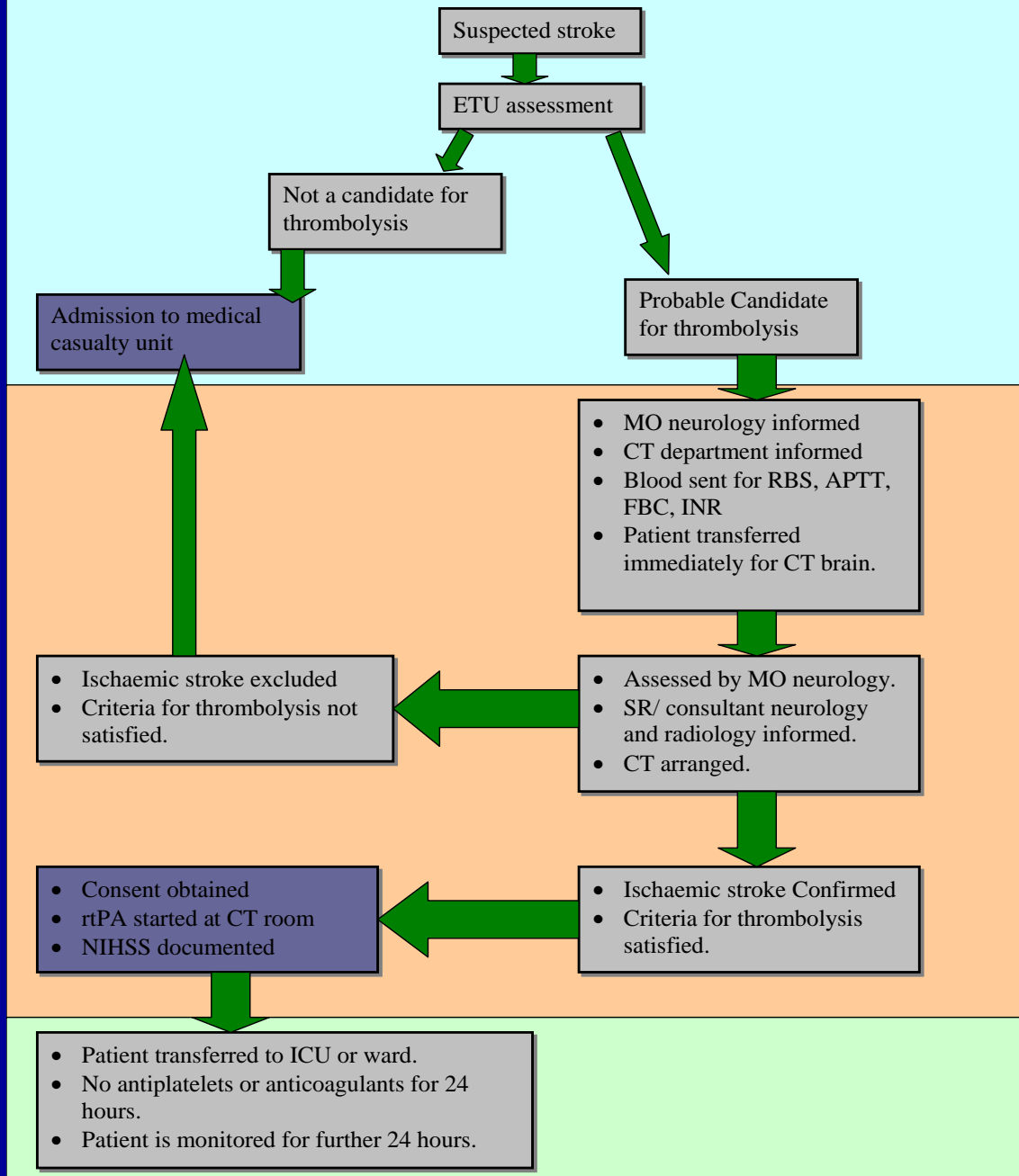
- CT 

```
graph TD; CT[CT] -- "Within 4.5 hrs" --> Thrombolysis[Thrombolysis]; CT -- ">4.5 hrs" --> LabTests[RBS, FBC, INR, ECG, FBC, ESR, RFT, Lipids, RBS, UFR];
```
- RBS, FBC, INR, ECG
- FBC, ESR, RFT, Lipids, RBS, UFR
- Nutrition
- Nursing
- Rehabilitation
  - Physiotherapist
  - Occupational therapist
  - Speechtherapist

# Specific treatment

- Thrombolysis with rt-PA within 3 hrs
- Antiplatelet
  - Aspirin
  - Clopidogrel
  - Dipyridamole
- Oral anticoagulants
  - For cardiac source of thrombo embolism

**Acute stroke care programme (ASCaP) – NHSL Colombo  
FLOW CHART**



# RESULTS

- Absolute benefit between 11% and 13%
- Relative benefit between 30% and 50%
- For every 100 patients treated with rtPA according to NINDS protocol, 11 more patients will achieve favourable out come

# Stroke Units

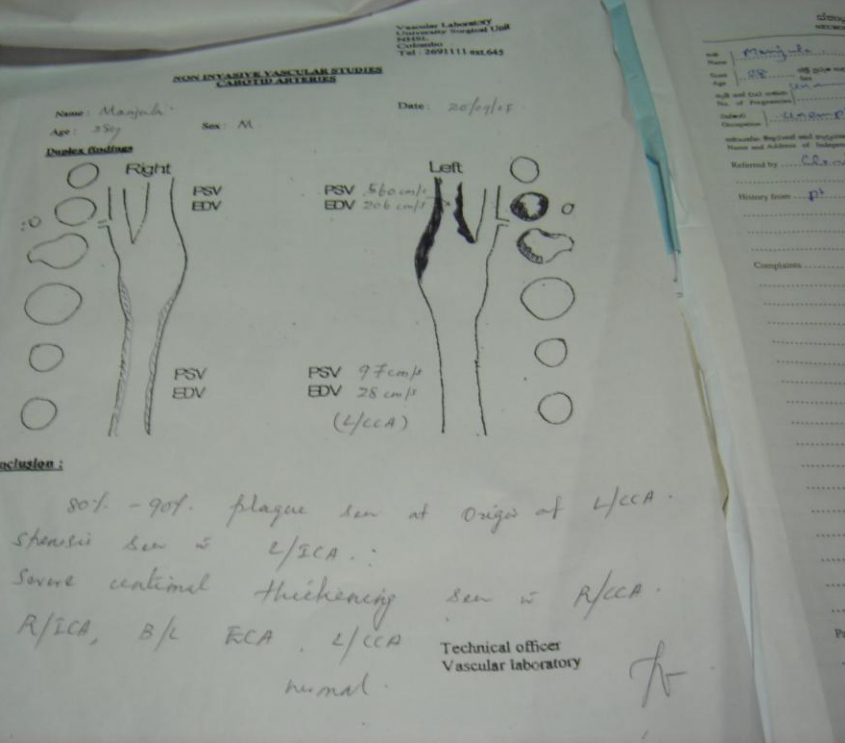
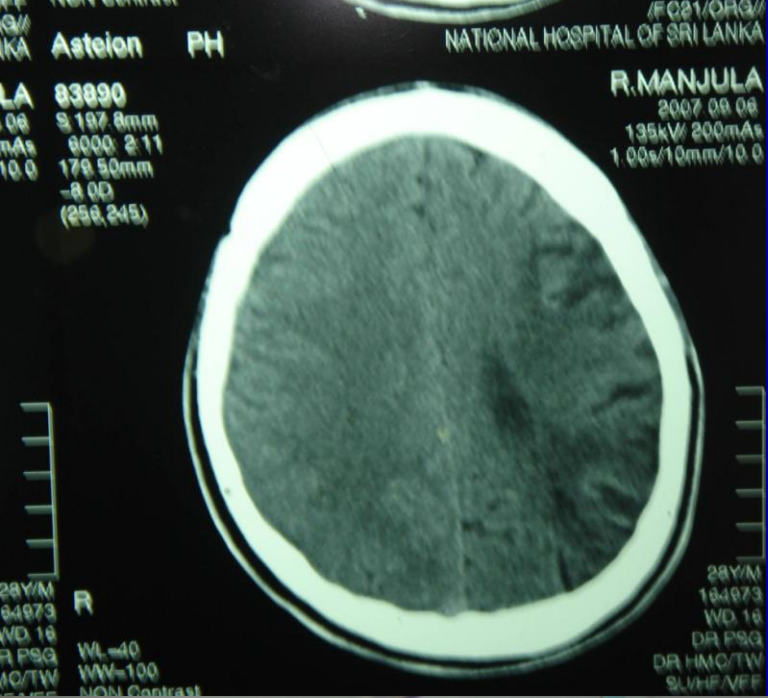
- Multidisciplinary team of health care professionals , providing organized in patient care, in a defined area.
- There is a significant improvement in short term and long term outcome measures.( death, disability, dependency and hospital stay)



# Stroke Team

- Medical Officer
- Nurse
- Physiotheapist
- Speech theapist
- Occupational therapist
- Social worker
- Counselor

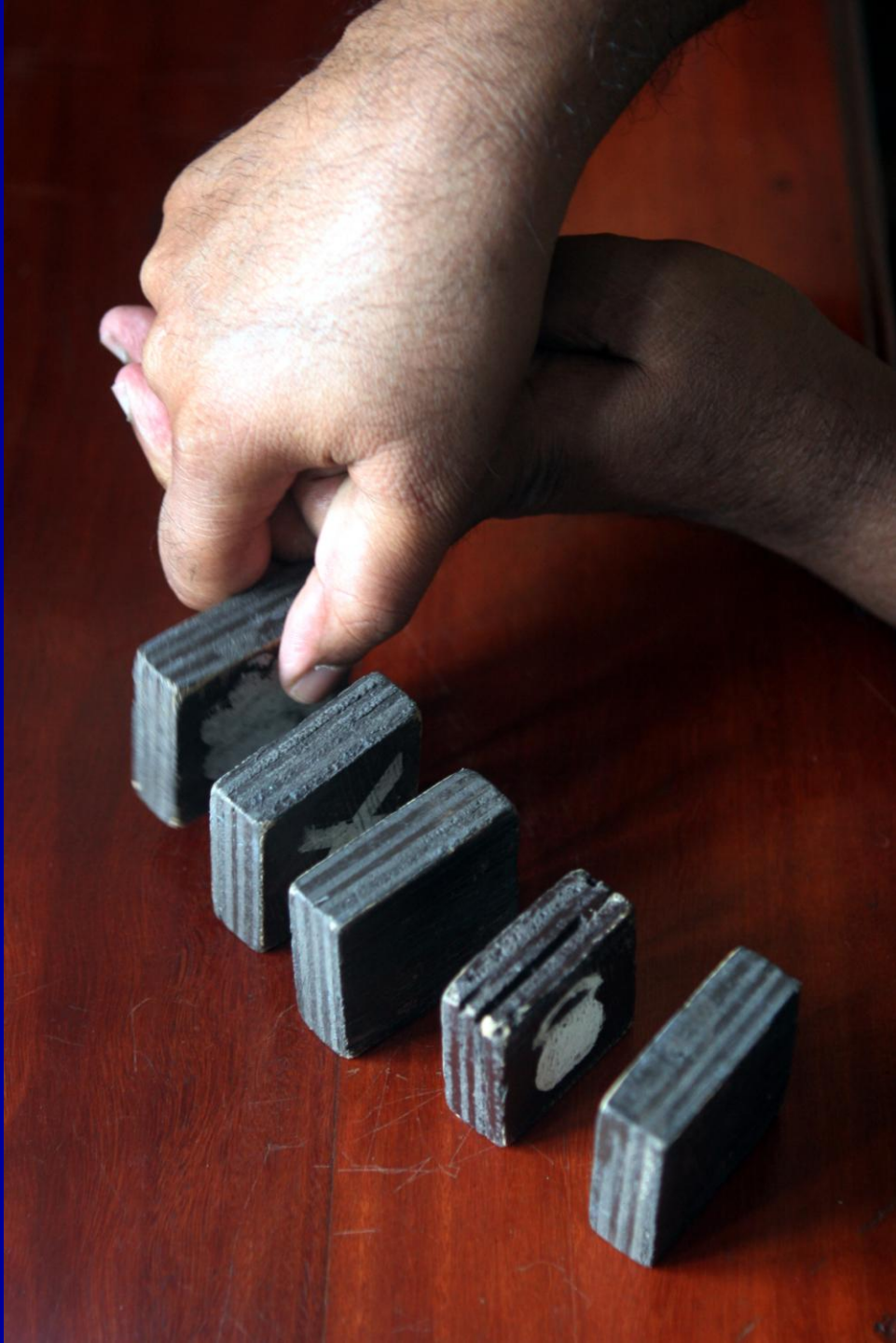
- Secondary prevention
- Rehabilitation





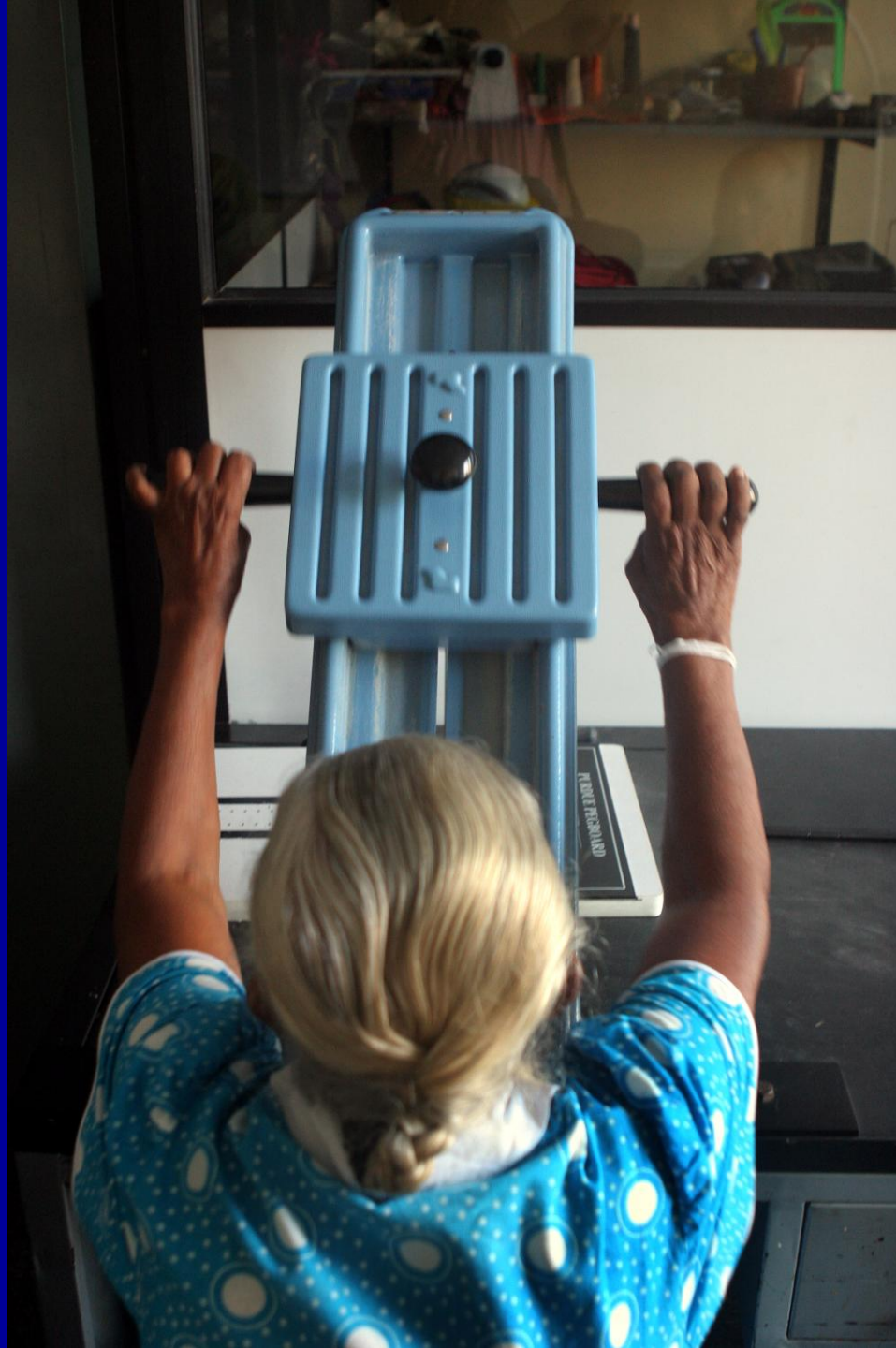












# Prognosis

- Further stroke attribute to 25% of deaths
- 10% die within 30 days
- 50% remain disabled after 6 months
- Heart disease is the commonest cause of death
- 30% functionally dependent at 1 year



***THANK YOU***