SCALP ACUPUNCTURE
&
POST STROKE REHABILITATION

Sandjaya Tri

MD, PhD, DAOM, LAc, Dipl.Acu, CSAS

SUBJECTS OF PRESENTATION

- **OVERVIEW OF ACUPUNCTURE / SCALP ACUPUNCTURE AND ITS ACTION MECHANISMS**
- **STROKE PATHOGENESIS , DIAGNOSIS & MANAGEMENT / PREVENTION / REHABILITATION.**
- **THE CLINICAL RESEARCHE STUDIES**
- **PERSONAL CLINICAL EXPERIENCE CASES**

HISTORICAL DEVELOPMENT OF TRADITIONAL ACUPUNCTURE, and NEW DISCOVERIES

- Acupuncture has been practiced for over 5000 years in China and others Asian countries then continues to grow vigorously around the world included in USA.

.

- In the twenty first century, an enormous amount of laboratory data and clinical evidence enable us to reach a deeper understanding than ever before of the inner workings of acupuncture, using knowledge that ranges from molecular medicine to the modern understanding of human anatomy .

- Scientists have been exploring the physiological and molecular mechanisms of acupuncture with high- tech facilities in the laboratories for more than four decades in order to have its powerful underlying biomedical mechanisms

THE GROWTH OF ACUPUNCTURE IN USA

- Over 3000 new acupuncture trials published in English since the 1997 Panel
- Use of Acupuncture by US public shows growth from 0.5 % in 1990 to 1,4 % in 2008
- Number of American Hospital offering Alternative or complimentary Medicine 8.6 % in 1998 to 20.9 % in 2008
- Acupuncture usage in USA Hospitals were 42 % IN 2010 and acupuncture is represented one of the top six modalities in both outpatient and inpatient setting in US Hospitals.

(Lixing Lao PhD,MB, LAc : the symposium on Acupuncture in Pain Management ; Research and Clinical Implication, Sept. 17, 2022)

- Acupuncture is recommended by WHO as an alternative and complementary strategy for stroke treatment and improving stroke care.

- The National Institute of Health published a consensus statement that acupuncture may be useful as an adjunct treatment or acceptable alternative to be included in a comprehensive management program for the care of stroke.

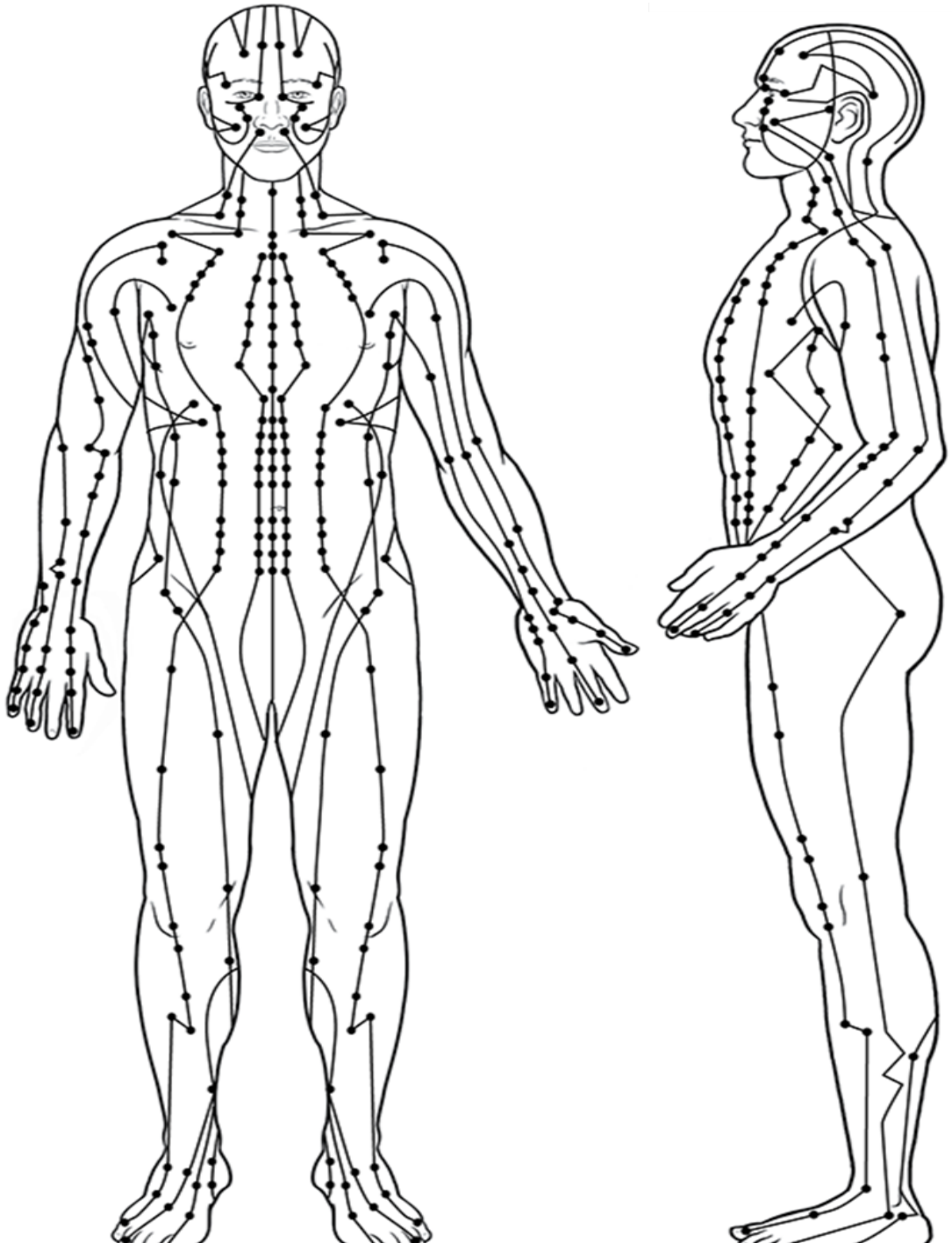
- Clinical trial and meta- analysis findings have demonstrated the efficacy of acupuncture in improving balance function, reducing spasticity and increasing muscle strength and general well- being post stroke.

- Based on a literature review with the evidence indicates that there are five major different mechanisms associated with the beneficial effects of acupuncture / E A on ischemic stroke rehabilitation.

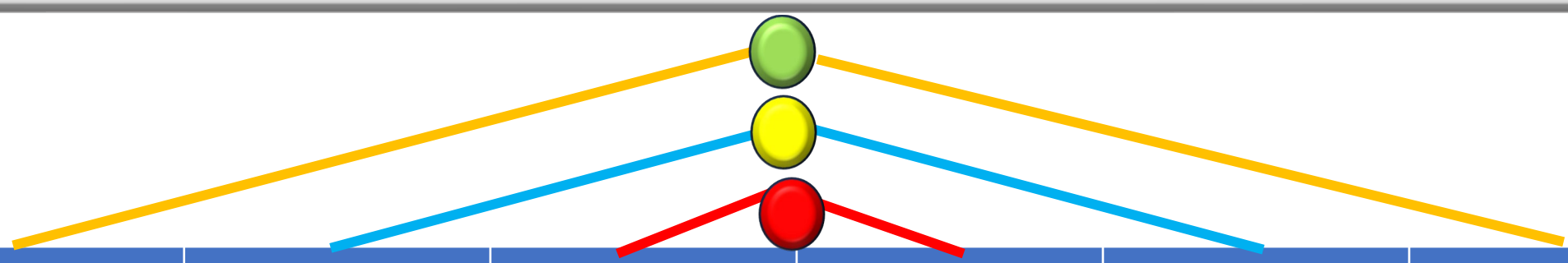
CLASSICAL ACUPUNCTURE

- The channel theory became the foundation of classical acupuncture which explain the clinical discovery of specific interrelationship between different parts of the human body on the surface, likewise between the exterior areas and the viscera.

MERIDIAN NETWORK IN THE BODY



REGULAR MERIDIANS RELATIONSHIP

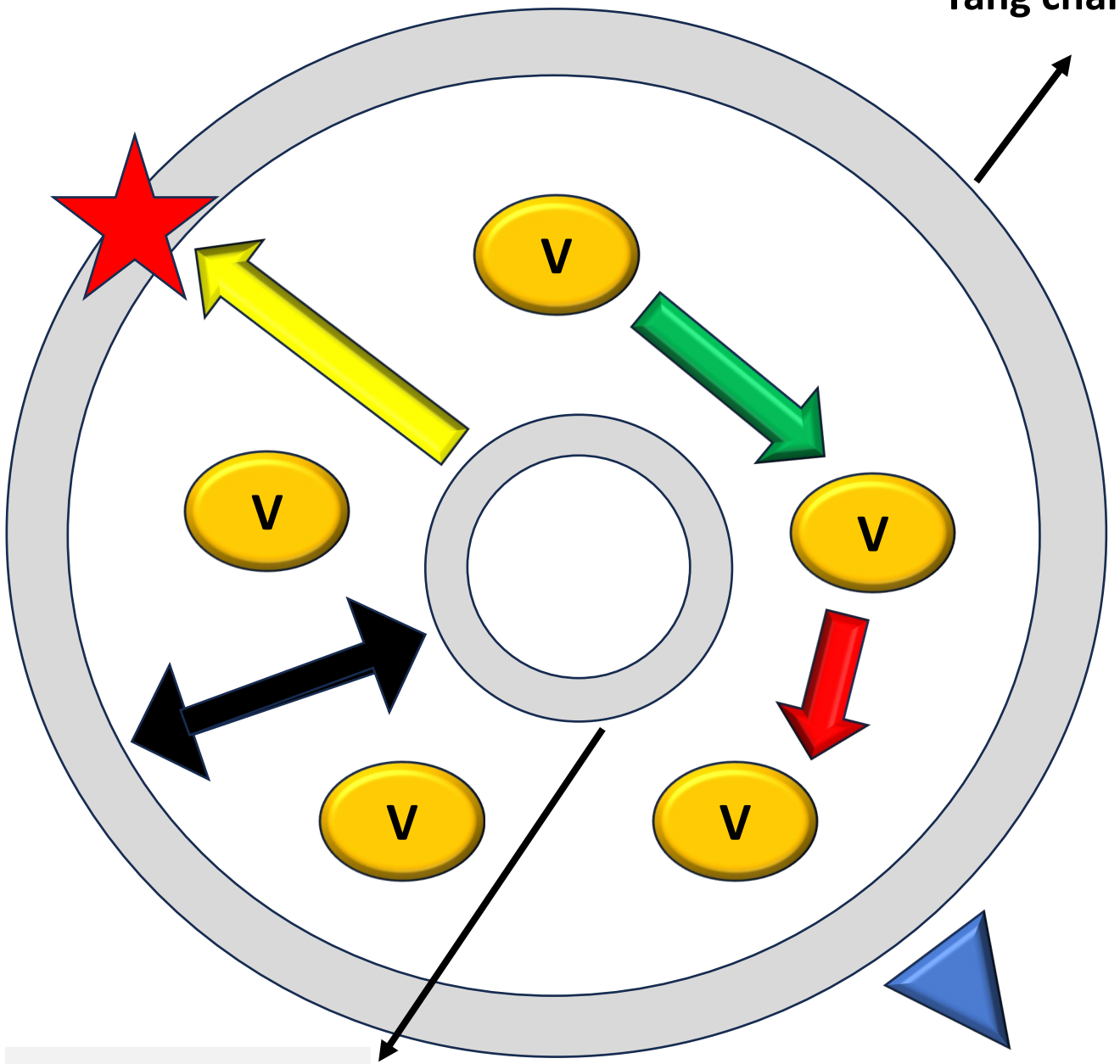


PC	HT	LU	LI	SI	SJ
LV	KD	SP	ST	UB	GB

jUE YIN	SHAO YIN	TAI YIN	YANG MING	TAI YANG	SHAO YANG

CHANNELS can act as :

1. Transporter
2. Connector
3. Regulator
4. Reflector
5. Protector
6. In & Out Liner

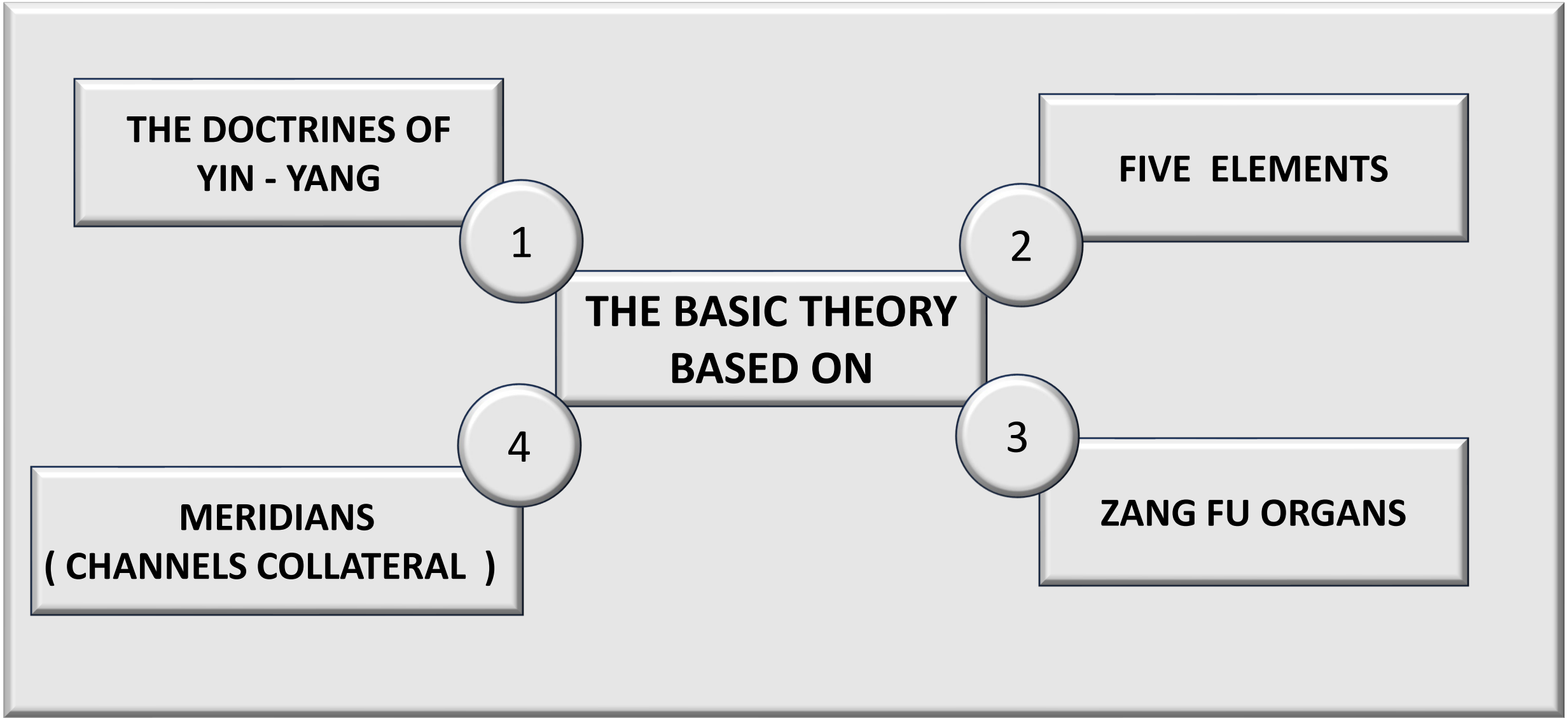


TCM vs WESTERN MEDICINE

- They are different not only in specific diagnostic methods and therapeutic principles but also in its interpretation of both normal physiological function and pathological changes in the human body.

- In particular, TCM postulates a unique, in extricable relationship between human body and its environment. In order to maintain the body's normal physiological function, body and environment have to be in a relatively balance state. When this balance is compromised, however, disease is the consequences.

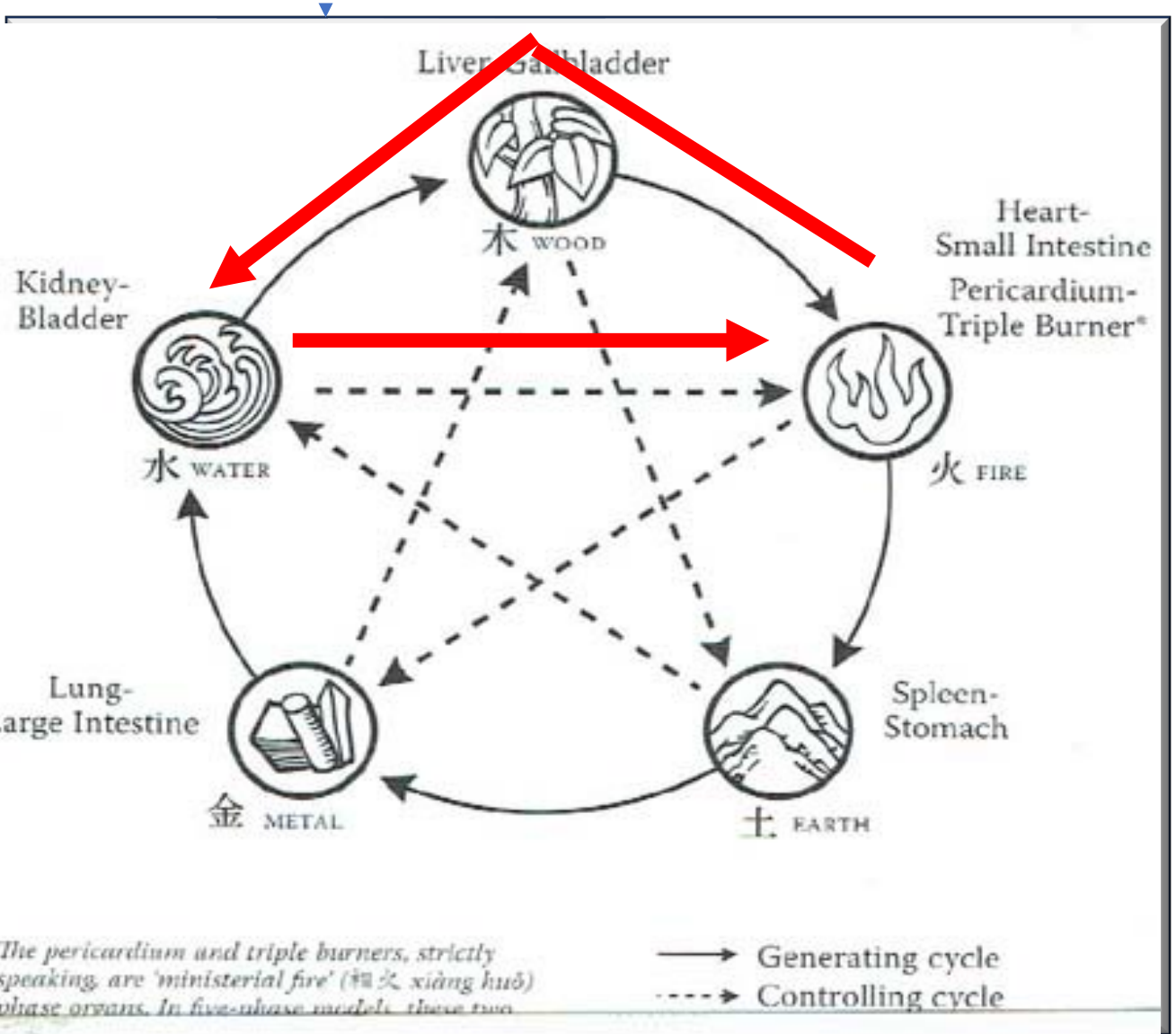
THEORETICAL SYSTEM OF TCM



THE DOCTRINES OF YIN & YANG

- Yin is the philosophical partner of Yang, they refer to two fundamental principles which have 4 relationship as :
  1. Opposition, such as Yin represents cold and Yang represents hot.
  2. Interconsumption, in which excess yang consumes Yin and conversely.
  3. Intertransformation shows that the state of deficiency heat turn to be cold as the product of over nourishing yin and on the other hand.
  4. Interdependent meaning yin and yang are compliment each other or they are unseperable.
- The Yin and Yang theory is important concept for diagnosis and treatment

FIVE ELEMENT THEORY



The pericardium and triple burners, strictly speaking, are 'ministerial fire' (相火 xiàng huǒ) phase organs. In five-phase models, these two

- **PHYSIOLOGICAL CYCLES**
  1. GENERATING CYLCE
  2. INTERACTING CYCLE

- **PATHOLOGICAL CYCLES**
  1. OVERACTING CYCLE
  2. COUNTERACTING CYCLE

In TCM, the occurrence and symptoms of diseases are determined by :

THE FOUNDAMENTAL ASPECTS OF DISEASE
with concern of :

- **Body resistance**
- **The cause of disease**
- **The disease with root inside the patient**
- **Primary onset of disease**
- **The treatment is emphasized on this Fundamental aspects.**

THE INCIDENTAL ASPECTS OF DISEASE
Comprise :

- **The pathogenic factors**
- **The particular manifestations of the disease**
- **The complications of the disease**

DIAGNOSTIC & THERAPEUTIC PRINCIPLES

DIAGNOSTIC METHODS :

- ❑ **Medical history**
- ❑ **Objective finding**
  - x **Observation**
  - x **Auscultation**
  - x **Palpation**
  - x **Olfaction**
  - x **interogation**

THERAPEUTIC PRINCIPLES

After thorough evaluation on the patient history includes symptoms and syndromes of differentiation based on the TCM nosology , different treatments will be applied at different stages of the disease, such as acupuncture, herbal formulas, etc.

ACU- PUNCTURE and SEFL HEALING

- Needles and needle induced lesions activate the built in survival mechanisms that normalize homeostasis and promote self healing.
- This process consists of two parts ; central and peripheral .
  - **The central mechanism needling** and needle induced lesions stimulate parts of the brain that activate the principal survival systems, affecting the nervous, endocrine, immune, and cardiovascular system, and normalize the physiological activities of the whole body

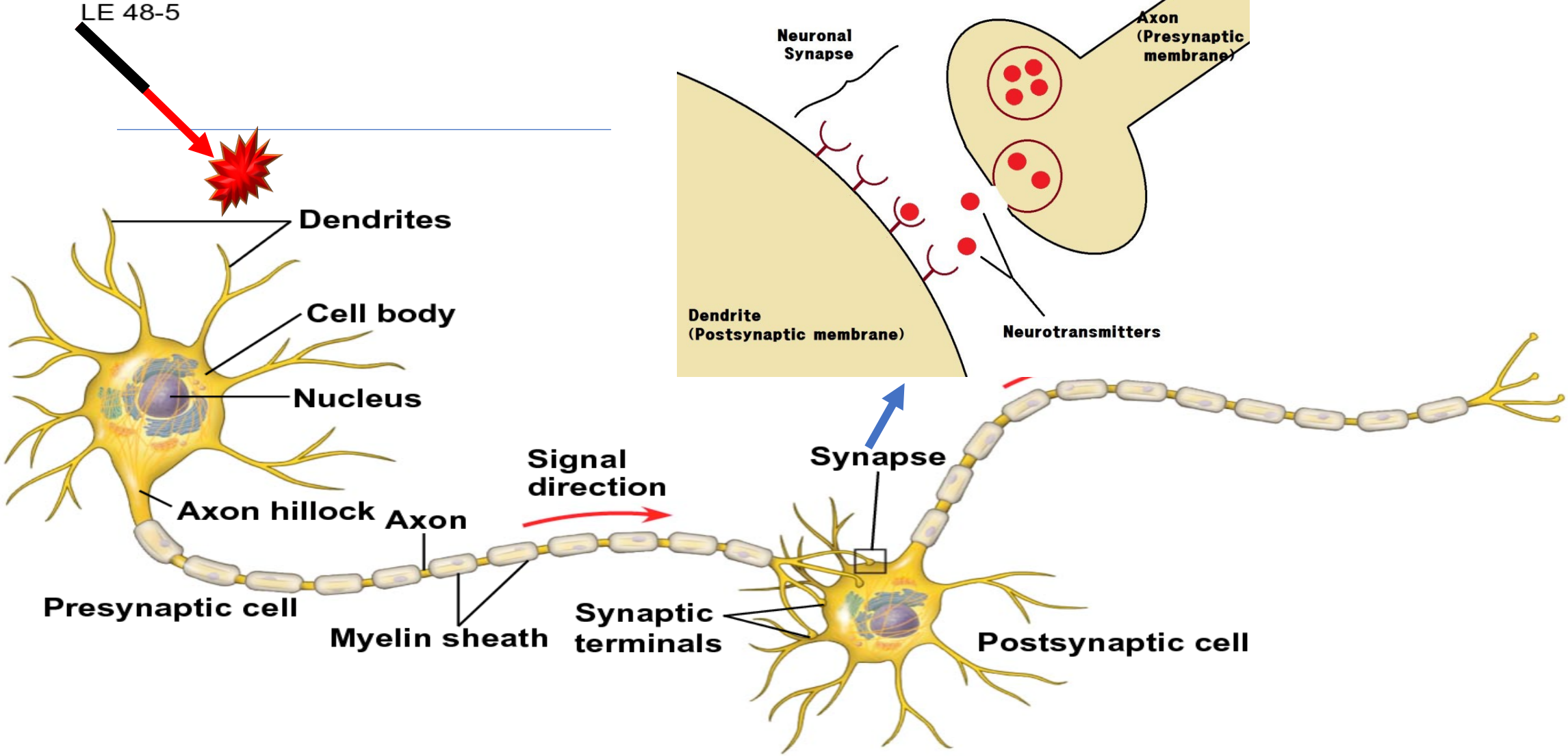
- **The peripheral mechanism needling** causes lesions that trigger **physiological reaction** around the needling sites that involve all four survival systems in desensitizing and repairing the damages tissues.
  At the needling sites, a cascade of survival reactions occurs, including the immune reaction which is called the local needling reaction.

- Thus acupuncture can be defined as a physiological therapy coordinated by the brain which responds to the stimulation of manual or electrical needling of peripheral sensory nerves.

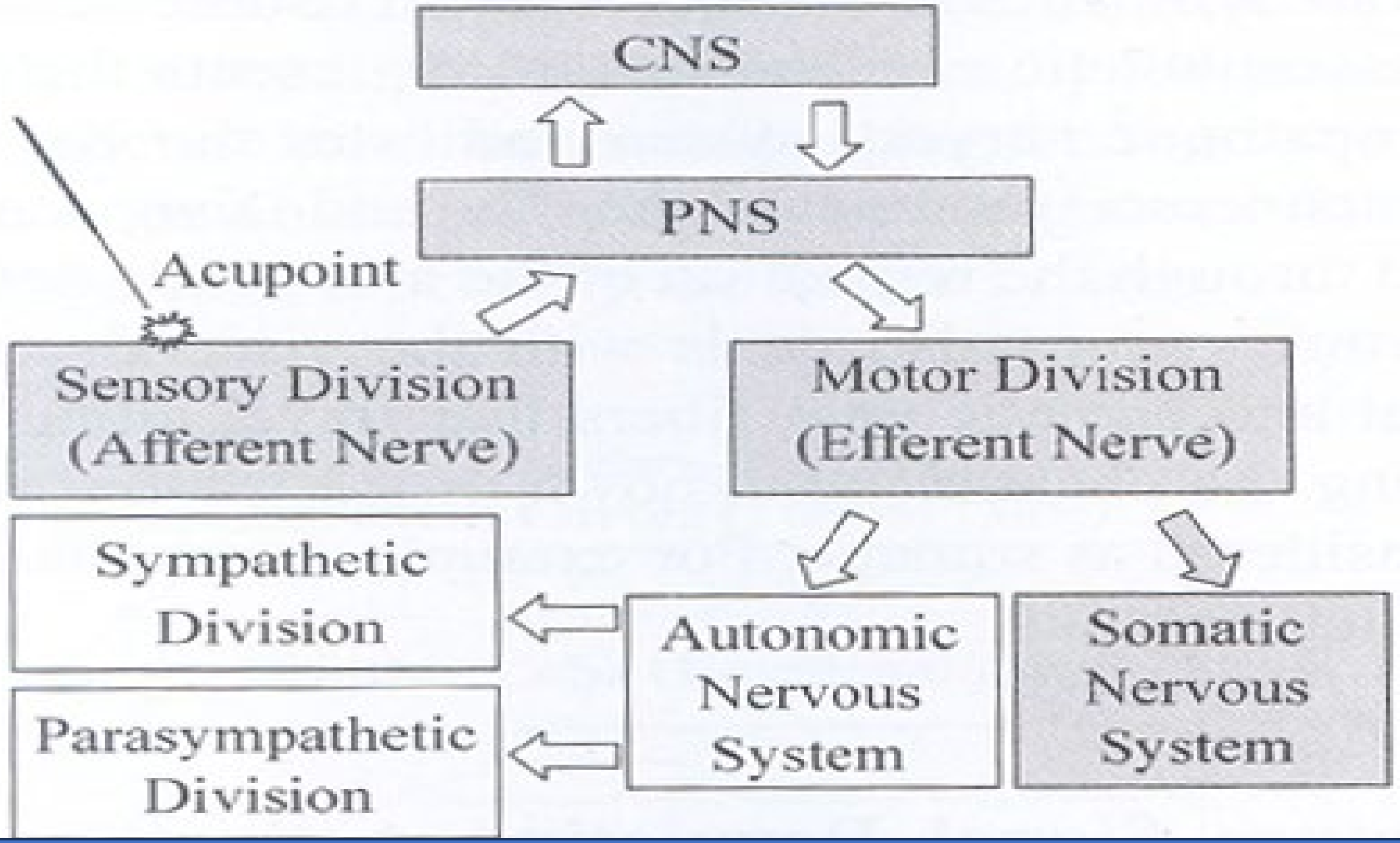
CENTRAL MECHANISMS OF NEEDLING

- Numerous hypothesis on acupuncture analgesia can be successfully explained by neuronal mechanisms that correlate with the brain, such as the humoral and autonomic nervous functions of the hypothalamus and the brainstem.

- Acupuncture stimulation leads to activation and deactivation of cortical neurons of the brain through ascending pathway. In return its reflex project back to affect many survival related autonomic function for being regulated.



NEURAL CONNECTION



PATHWAY OF ACUPUNCTURE STIMULATION AND ACTIONS

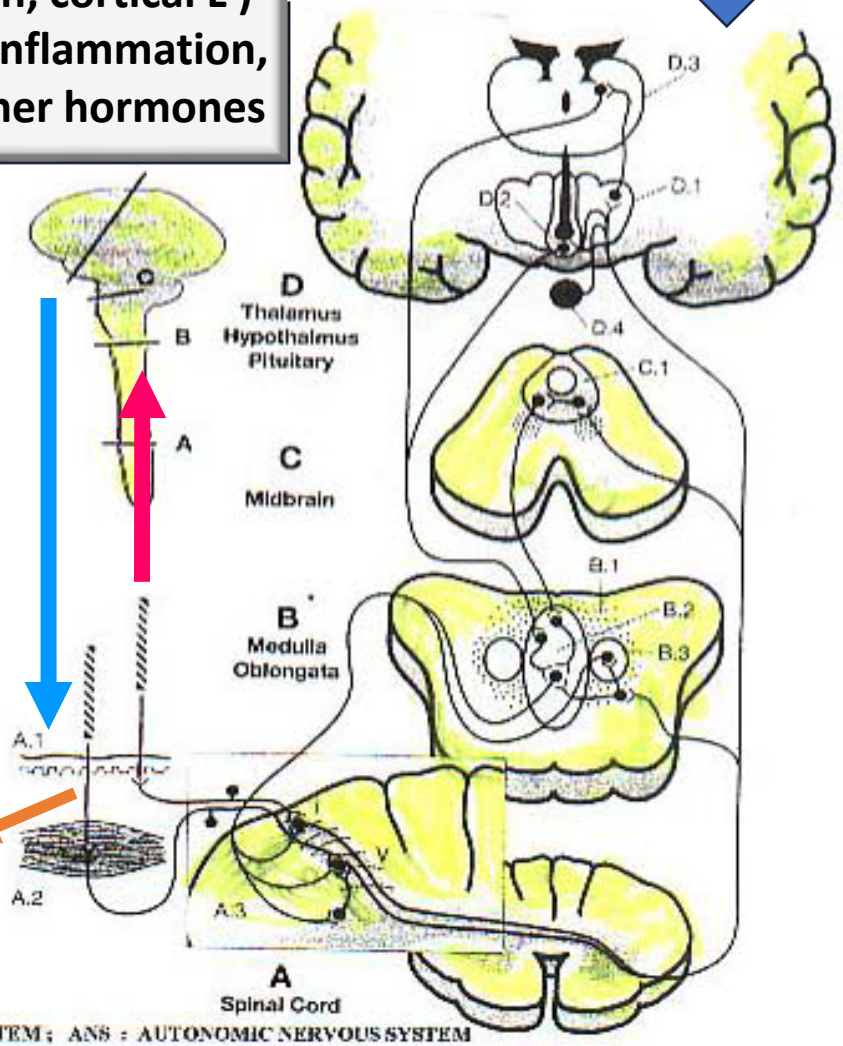
HOW DOES ACUPUNCTURE WORK

PERIPHERAL MECHANISMS CENTRAL

NEURO

ACUPUNCTURE

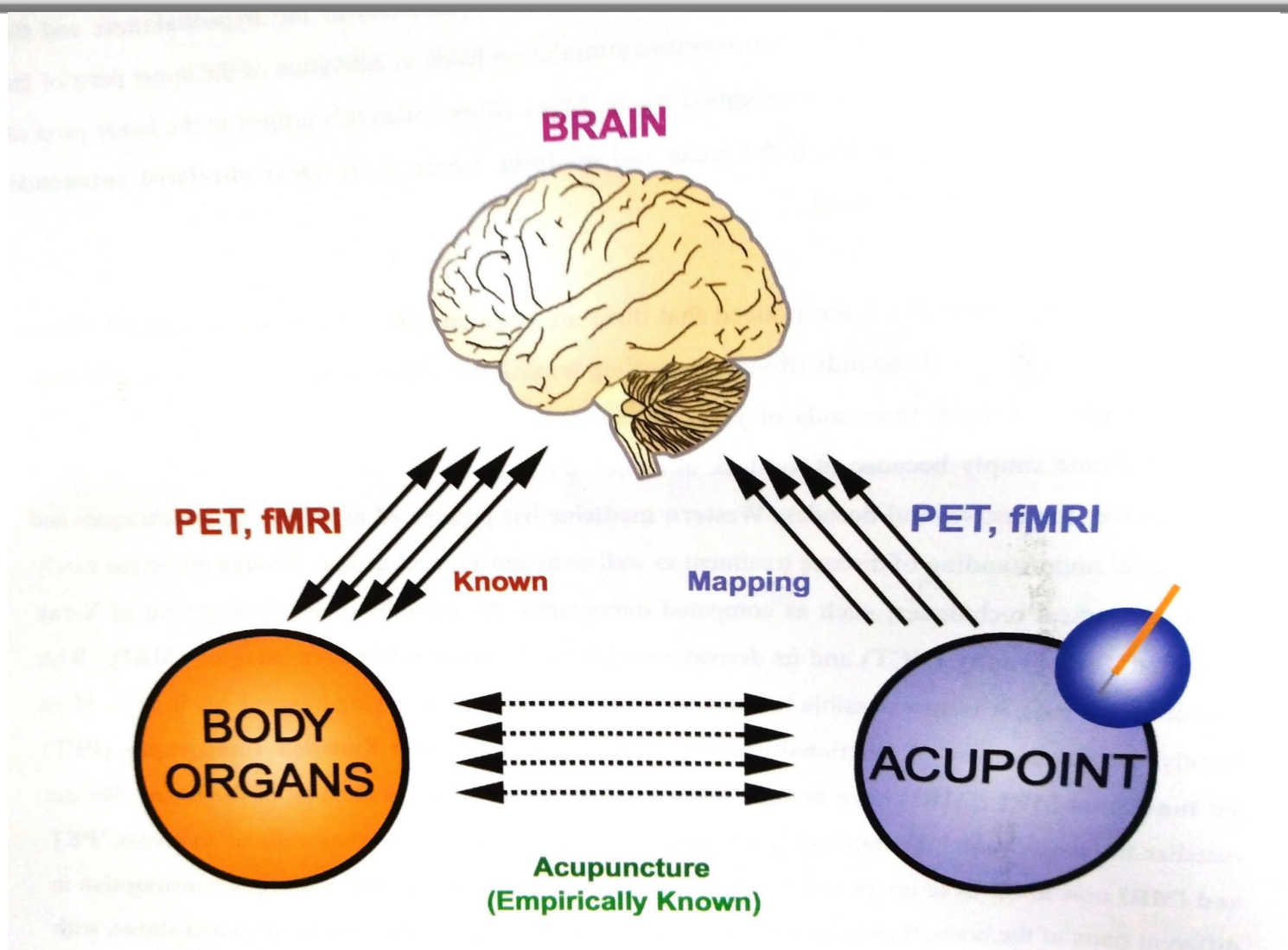
Activation/deactivation
Of CNS (Brain, cortical L)
& ANS , antiinflammation,
E. opioid, other hormones



Local tissue reaction
Vasodilation
Improve B F
Mm relaxation
Tissue regeneration
Neural stimulation

CNS : CENTRAL NERVOUS SYSTEM ; ANS : AUTONOMIC NERVOUS SYSTEM

CONCEPTIONAL RELATIONSHIP
BRAIN, ORGAN & ACUPUNCTURE



Resource : Z H Cho at al : Neuro acupuncture, p . 6

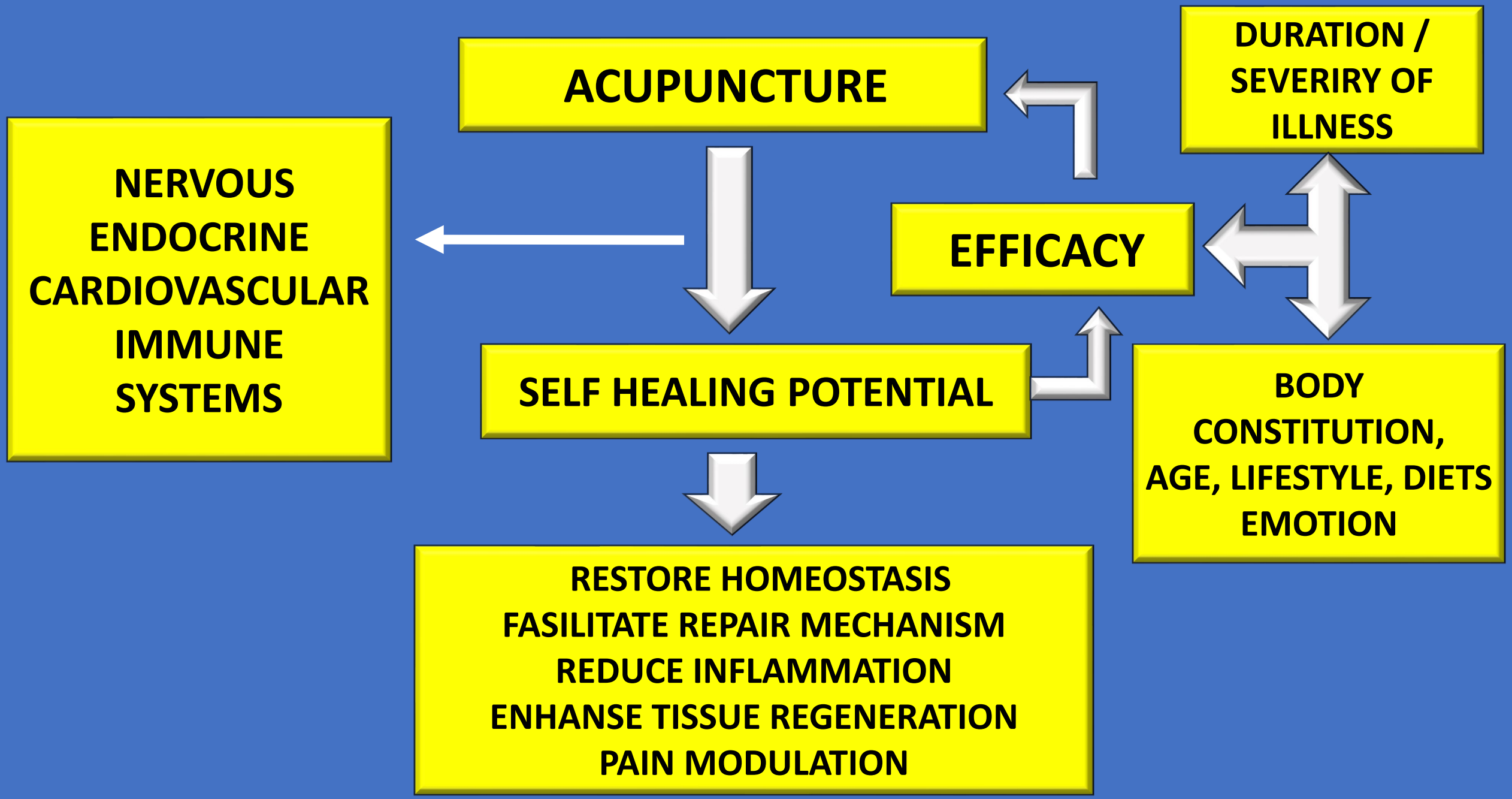
A CASCADE OF SURVIVAL REACTIONS (SELF HEALING MECHANISMS)

1. **RESTORING HOMEOSTASIS**
2. **FASILITATING REPAIR MECHANISMS (ANTIINFLAMMATORY REACTIONS AND TISSUE REGENERATION)**
3. **PAIN MODULATION**

THE EFFICACY OF ACUPUNCTURE THERAPY DEPEND ON

- **STATUS OF SELF HEALING POTENTIAL (genetic makeup, medical history, lifestyle and age)**
- **STATUS OF HEALTH ISSUES (acute / chronic ; with / no complication**

NEURO HORMONAL HEALING MECHANISMS



THE RESPONSE TO ACUPUNCTURE THERAPY CAN BE DEFFERENT

- **NORMAL / BETTER / LESSER RESPOND**

- **THERE ARE 4 RESPONDERS (by Prof. H C Dung , based on 15,000 cases)**
  - **Group A (excellent , complete recovery, no recurrent)**
  - **Group B (good , complete recovery and recurrent, getting well)**
  - **Group C (Average , partially recover)**
  - **Group D (Weak, no improvement)**

(YunTao Ma at al : Biomedical Acupuncture for Pain Menagement. p 24)

THE EFFECTS OF ACUPUNCTURE ON NERVOUS SYSTEM BASED ON NEUROIMAGING STUDIES

- **The goal of the clinical study is to seek and elucidate the potential effect of acupuncture in post stroke aphasia, a language acquired disorder which is one of the most devastating symptoms after stroke.**

- **Acupuncture promotes the process of repairation of the nervous system by regulating neuroplasticity**.

Bifang Zhuo at al : Possible Effect of Acupuncture in Poststroke Aphasia. Behave – Neuro, Published online, 2023 Ap. 12.

https://youtu.be/D53UwyJWa3w?si=cp-FWy6rMVb7Ab6E

WHAT IS NEUROPLASTICITY ?

THE ABILITY OF NS TO CHANGE ITS ACTIVITY IN RESPONSE TO

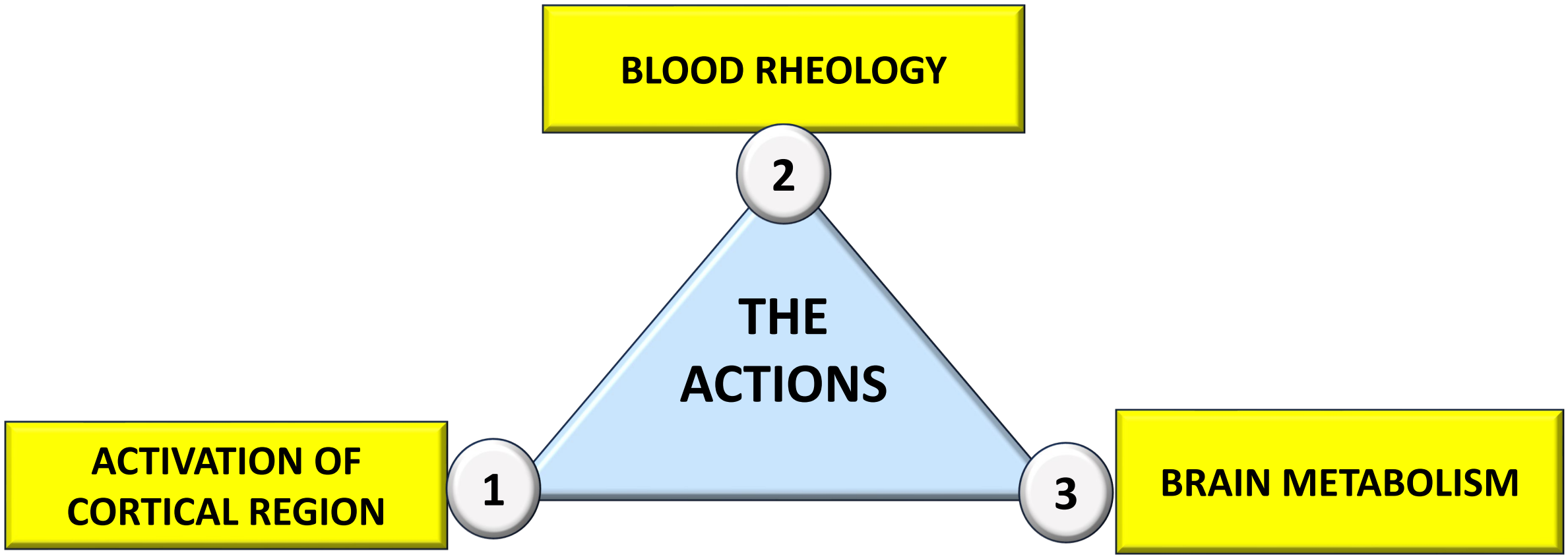
POST BRAIN INJURIES

STIMULI

BY REORGANIZING

- **STRUCTURE**
- **FUNCTIONS**
- **CONNECTIONS**

THE MECHANISM OF ACUPUNCTURE'S ACTION



CORTICAL REGION STIMULATION

ACUPOINTS	ACTIONS /FUNCTIONS	NOTES
S J 8	Therapeutic effect on cortical language region	IN PSA
HT 7 & PC 7	**Activate brain regions differently but both affect language implicated brain regions and broadmann area 22, 40, 44 & 47 (classical Wernicke area)**	
Ht 5 and GB 39	**E A influences language cognitive function, mobilizing of frontal lobe, temporal lobe, parietal lobe and limbic system. Stimulating left HT activates left brain but Right Ht 5 activates bilateral language related region**	

OTHER ACUPOINTS FOR BRAIN STIMULATION

HEAD AREA

GV 20 , Sishencong , GV 26 , GV 15, GV 16, GB 20. Jinjin, Yuye, CV 23

UPPER LIMBS

LI 4 , T E 5, T E 8, PC 6, LI 11, HT 7 , PC 6, HT 5

LOWER LIMBS

ST 36. ST 40 , SP 6, LV 3, GB 34 ,GB 39, KD 1, KD 3, KD 6

HEMORHEOLOGY

- **Blood / plasma viscosity and hematocrit are significant risk factors for stroke that can cause a microcirculation disorder and thrombosis .**
- **Aphasia is an early sign of adverse results in patient with mild ischemic stroke. Increased vaso constriction / vaso resistant, blood viscosity / plasma viscosity (PV) and slow blood flow are essential pathological bases for aphasia post stroke. Further more, elevated PV leads to significantly increased risk of occlusive CVD .**
- **Acupuncture therapy can promote brain blood circulation, and recent studies (Lu Y at al , 2019) have used acupuncture combined with herbal medicine improved hemodynamic parameter.**

IMPROVEMENT OF CEREBRAL METABOLISM

- Brain activity is closely related to cerebral blood flow and cerebral oxygen metabolism rate.
- Acupuncture can antagonize hippocampal nerve cell apoptosis, reduce the degree of damage to secondary nerve cells and promote the repair of damaged neurons , thus reducing ischemia and reperfusion injury, protecting brain tissue and improving brain functions.
- Acupuncture plays an important role in synaptic plasticity by promoting synapstic activity and remodeling through regulating glutamic receptors and neurotropic factor (NTFs).

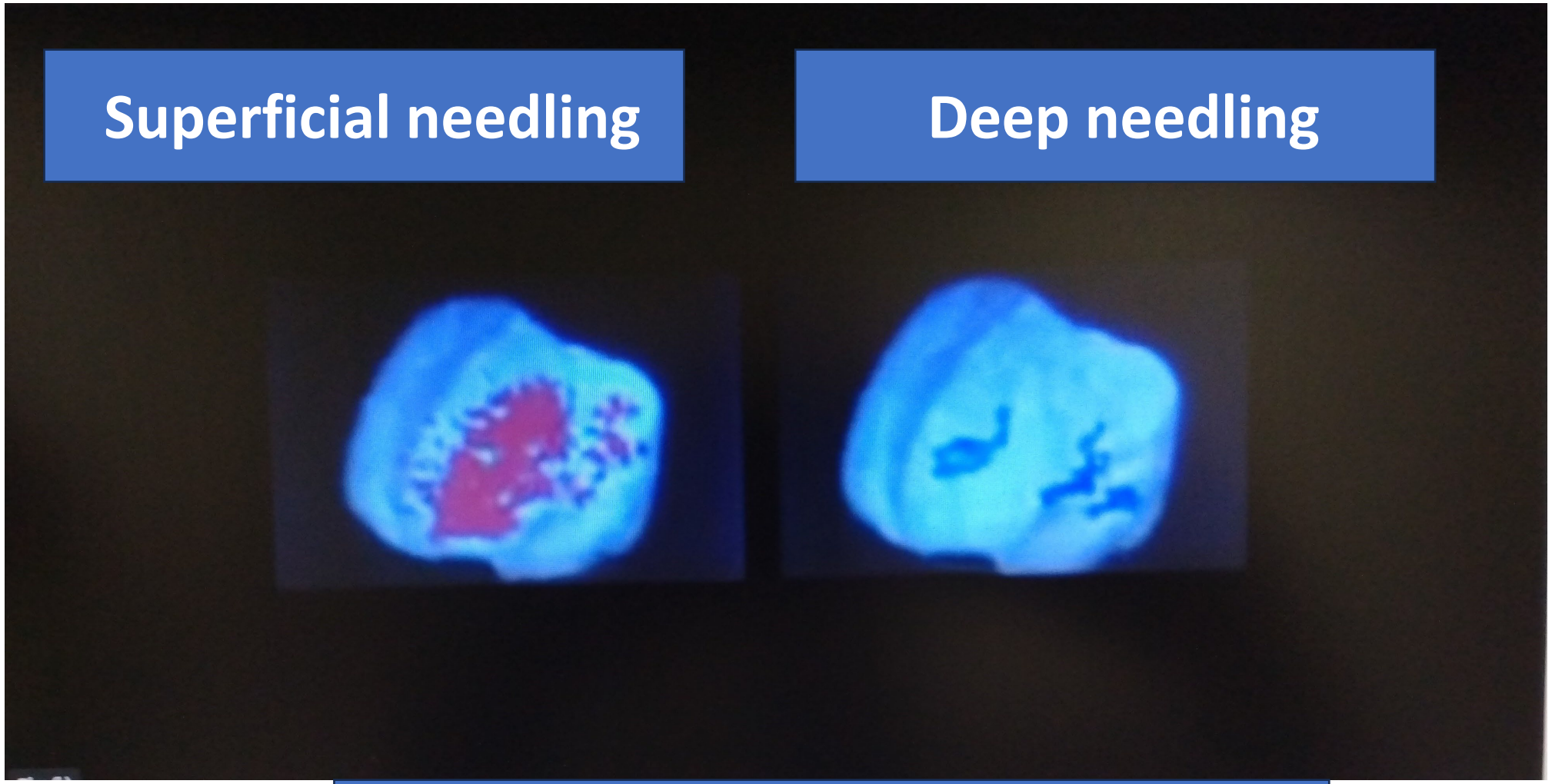
The Mechanism of Acupuncture in Stroke Recovery

- **Some studies showed that in early stroke (12 to 24 hours) that acupuncture can promote the expression of vascular endothelial growth factor (VEGF) which help to restore oxygen and nutrition supply to the ischemic penumbra.**
- **Baldo at al reported that acupuncture could regulate vasoactive substances and activate nitric oxide synthetase III and also inhibits the angiotensin system and platelet adhesion.**
- **Pinedo at al reported that acupuncture could significantly improve local anti-inflammatory effect of ischemic stroke by inhibiting local inflammatory factors. (DU 20 ,ST 36 & LI 11)**

- Acupuncture can increase BDNF and VEGF as essential nutrient medium for neural stem cells and also stimulate the growth of new nerves.
- One of the most common mechanism of acupuncture is antiapoptosis in the treatment of stroke . (LI 4. ST 36, Ren 6 and SP 10).
- Acupuncture can also help to restore the memory and learning process of the hippocampus, After electro acupuncture at Du 20 and DU 24 increased the level of glucose metabolism and dopamine in the hippocampus, amygdale, and cauda putamen which reduce brain atrophy and improved the neuron defect .
- Chen at al found that E A could decrease glutamate release in hippocampus and inhibit hyperemis during reperfusion.

The resource : Journal of Healthcare Enginering : Clinical Effect of Acupuncture for Stroke patient recovery, by Xia Guo & BingJie Cheng. Published 14 Feb. 2022

The impact of needling stimulation on brain



University of York, England

SCALP ACUPUNCTURE

SCALP ACUPUNCTURE HISTORY

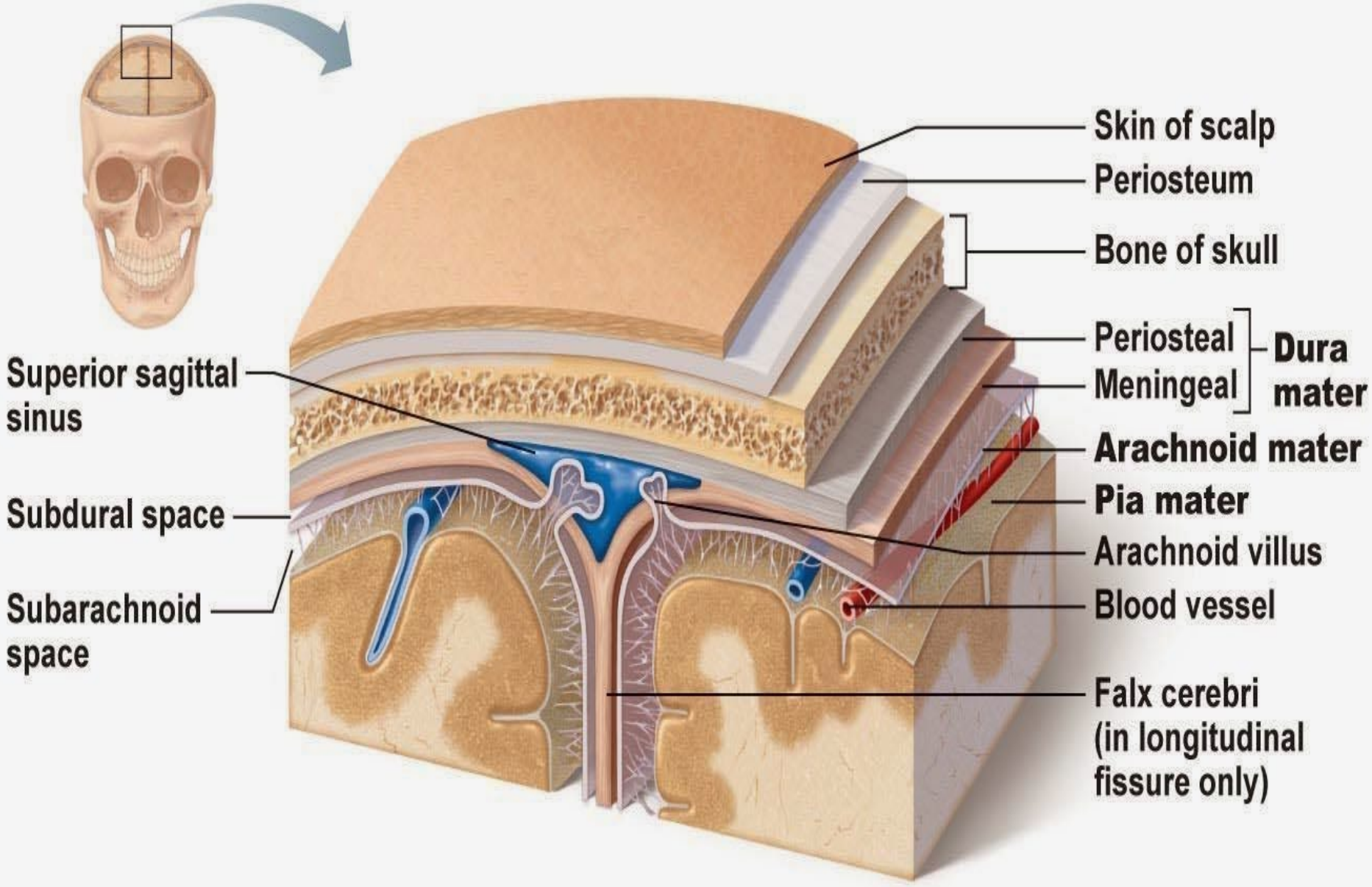
- Scalp acupuncture , also known as head acupuncture originated from ancient practice of needling point on the head which can be traced back many thousand years then it was explored and developed it further art of scalp acupuncture
  - x by Fang Yunpeng from Shan' xi in the 1950
  - x by Tang Songyan from Shanghai. 1960
  - x by Ming Qing Zhu in 1969
  - x by Jiao Shunfa's (Jiao) in 1970
  - x Others, Shi Xue Min, Yamamoto, Lin Xue Jian and Andrew Qi Wu.
- Each school or the practitioner has different theory and clinical experiences in terms of needling areas, point location, lines, areas and zones as well as the needling techniques and manipulation.

- In order to standardized scalp acupuncture in terms of point location, functions and indications for meeting the demands of international academic exchange, and further popularize scalp acupuncture therapy, in 1983 the National Acupuncture Society workout the International standardization Project for Scalp acupuncture point location.

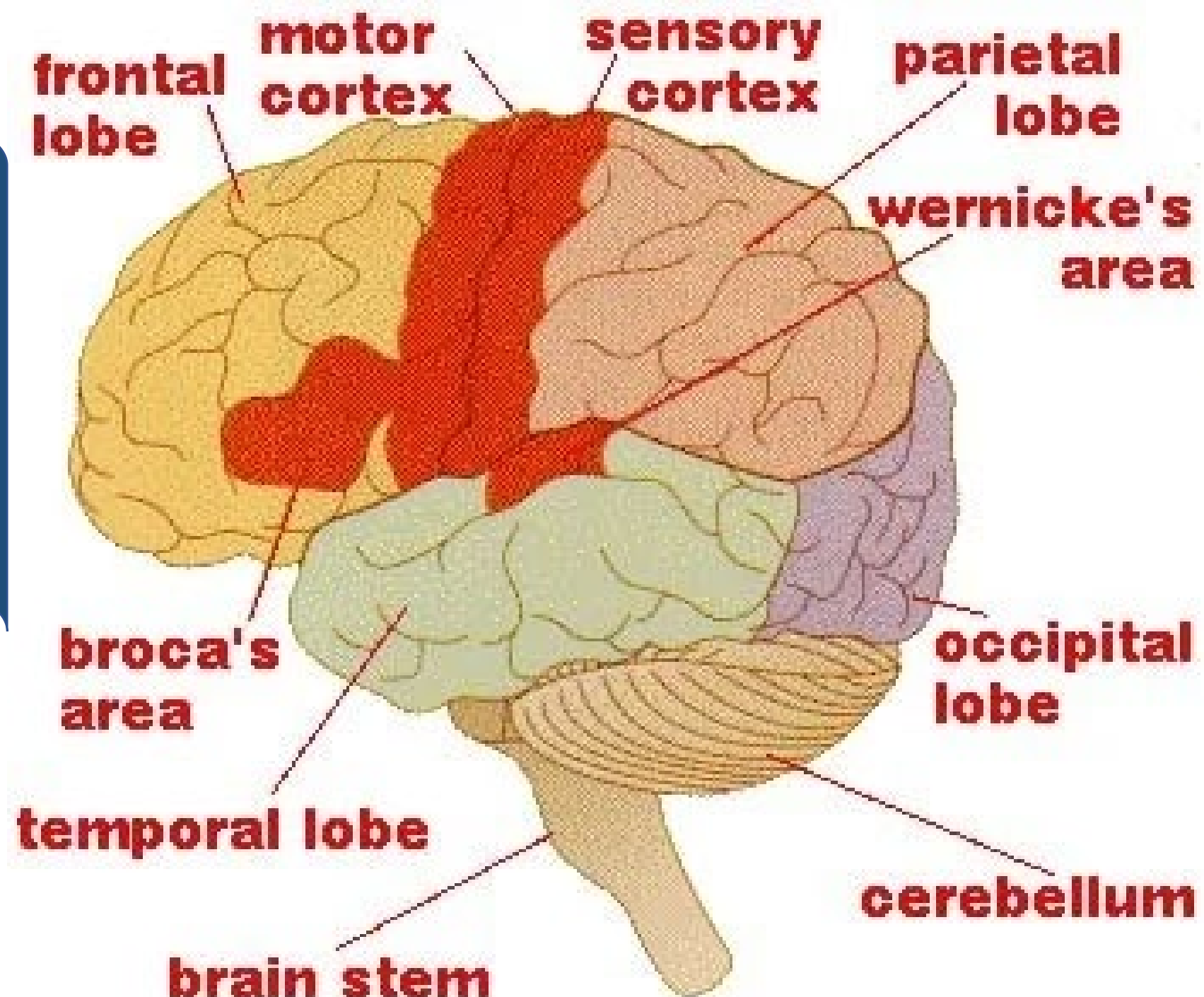
  In 1991 WHO announced the new international standard nomenclature for scalp acupuncture points.

- Since then Scalp acupuncture therapy has been widely used in the treatment of more than 100 diseases in internal medicine, external medicine, gynecology, pediatrics, orthopedics and traumatology, ophthalmology, and dermatology and also in anaesthesia in surgery.

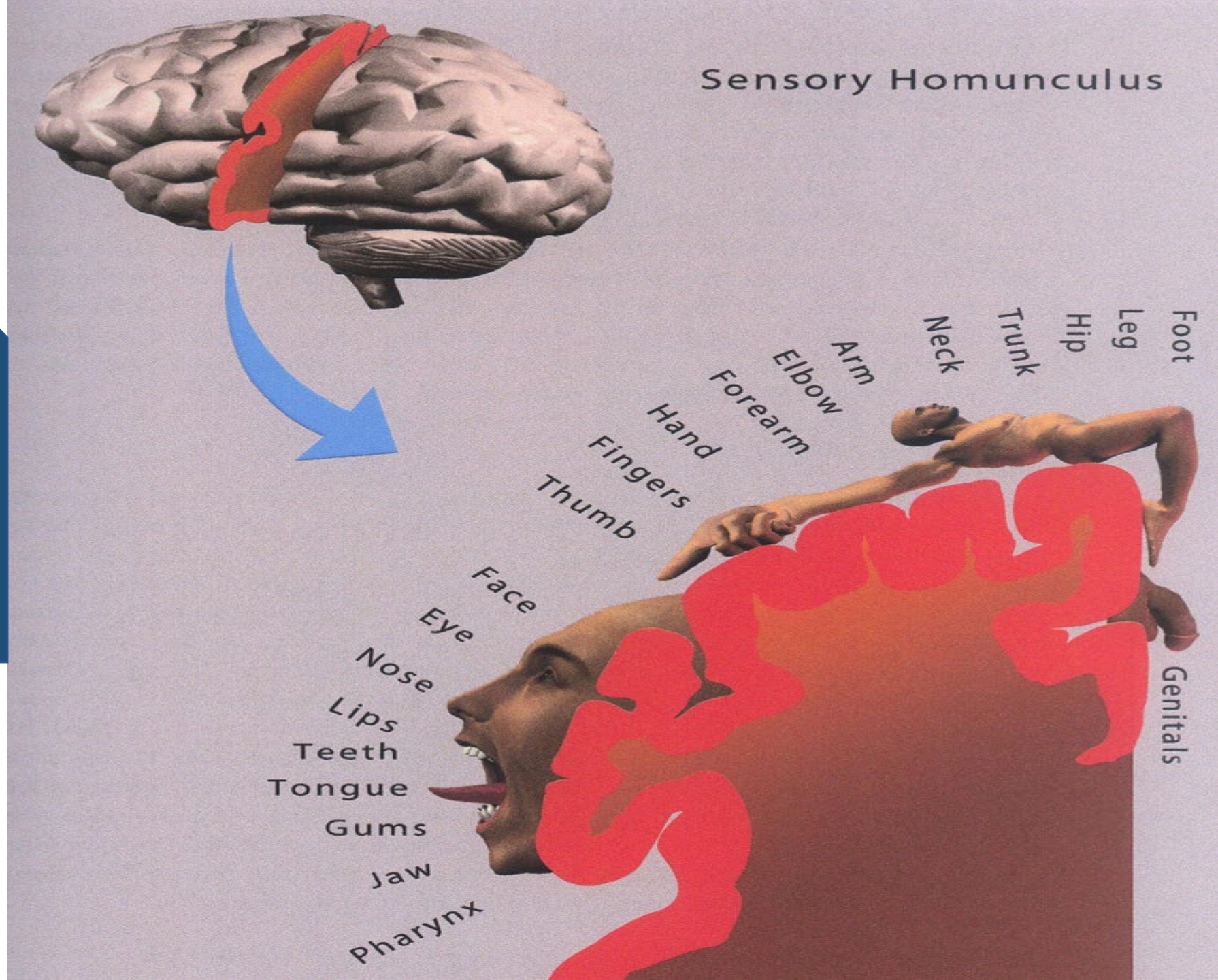
ANATOMY OF THE HEAD



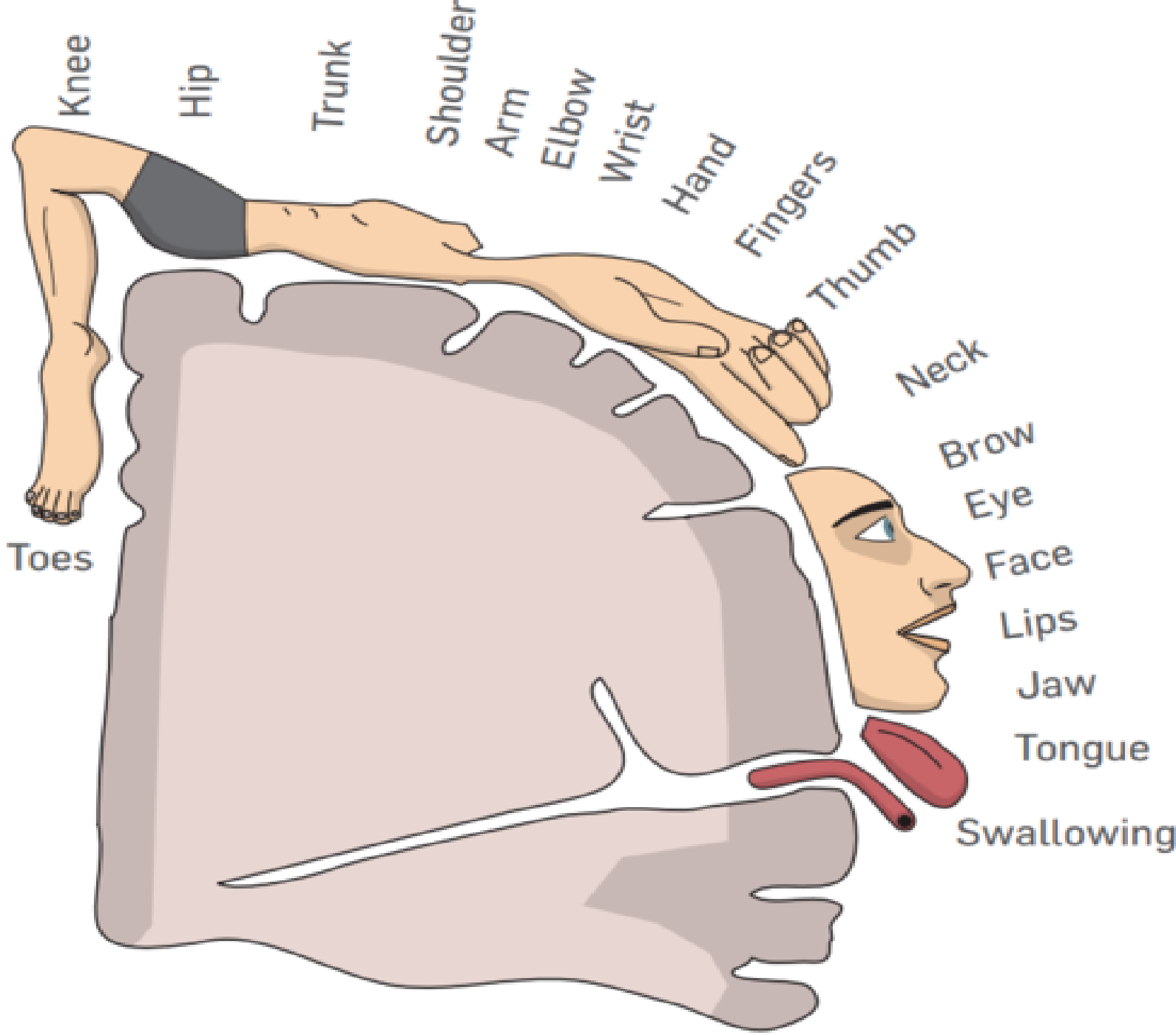
ANATOMY OF THE BRAIN



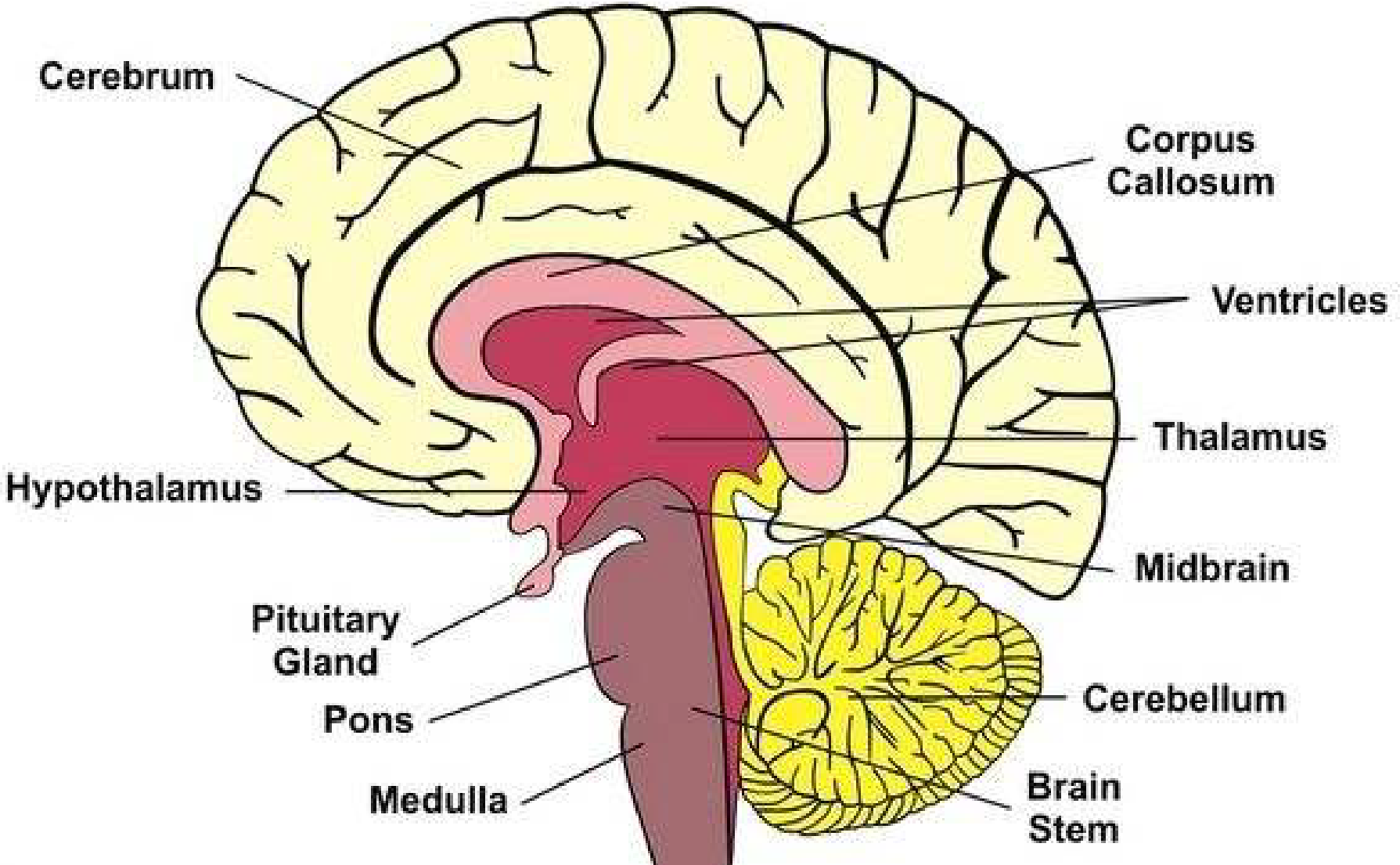
SENSORY HOMUNCULUS



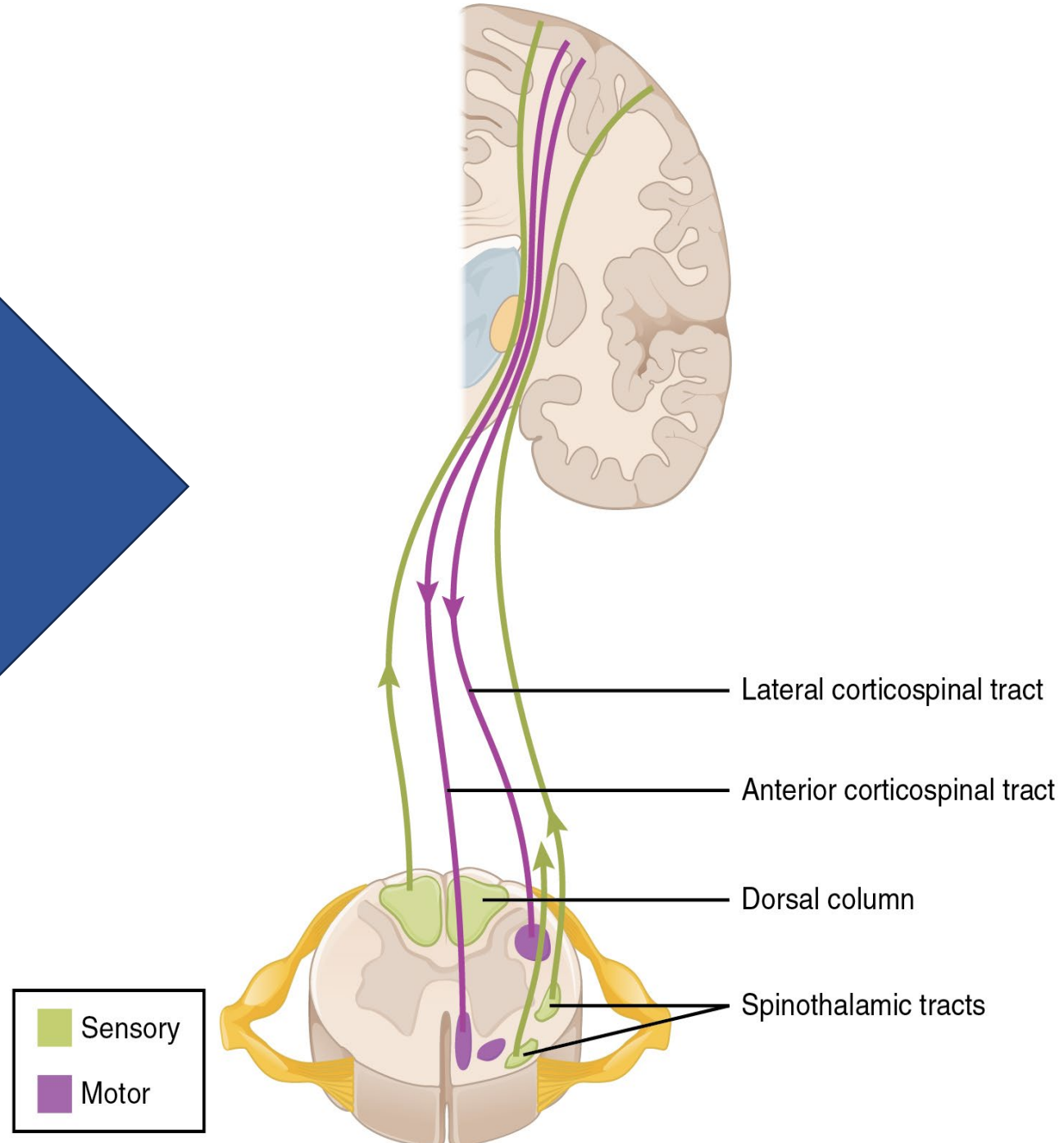
MOTORIC HOMUNCULUS



CLINICAL ANATOMY OF THE BRAIN

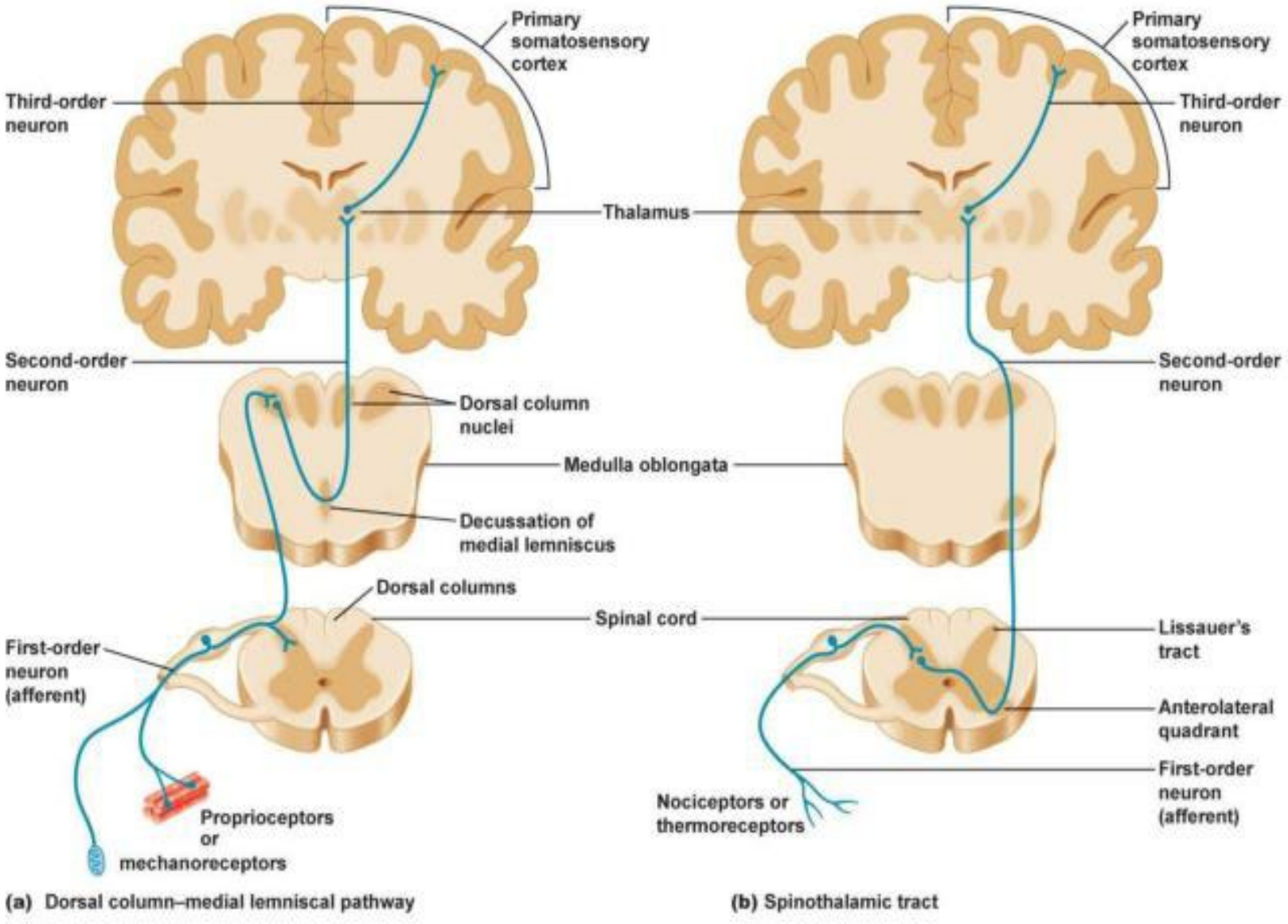


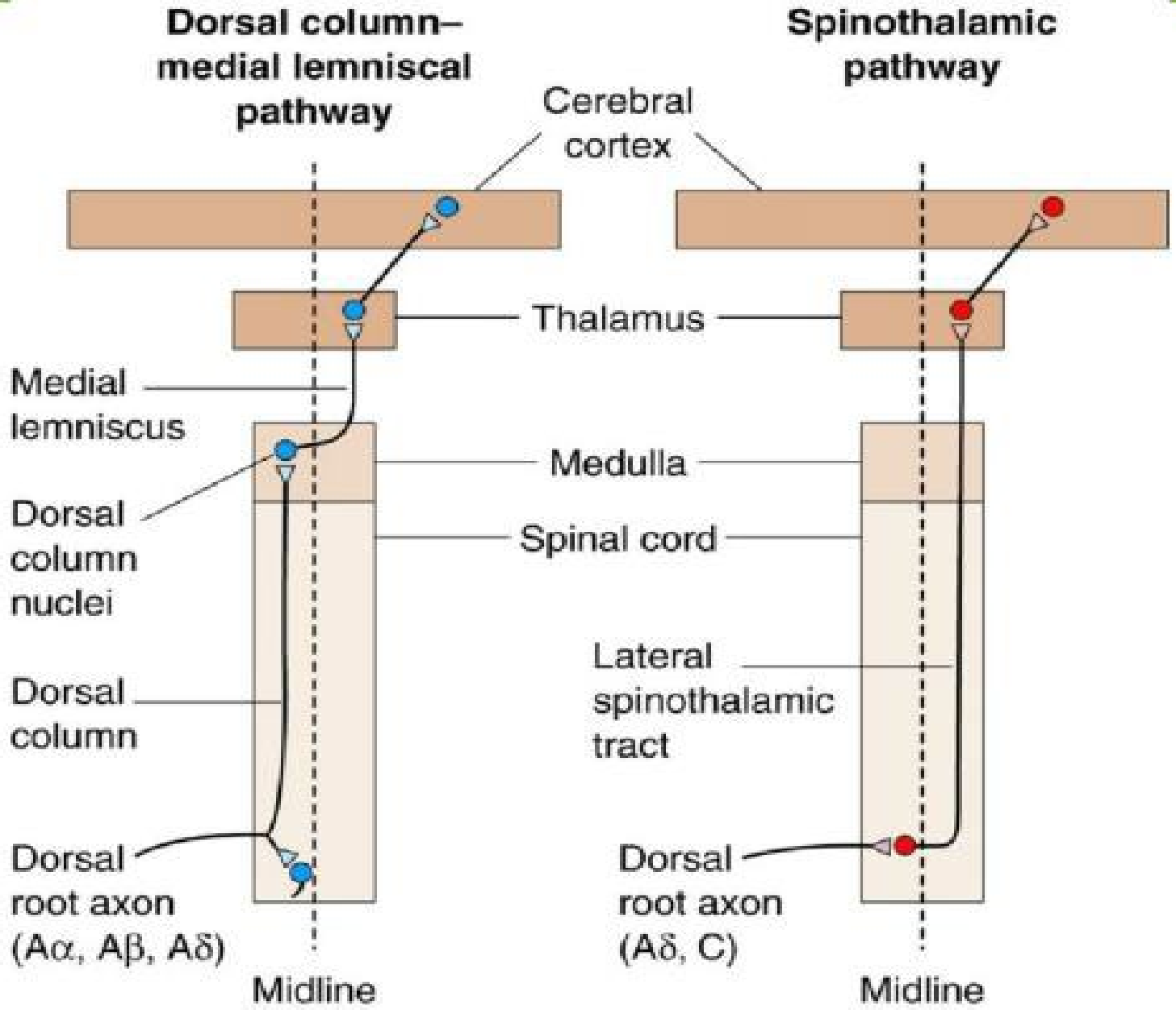
ASCENDING & DESCENDING PATHWAYS OF C N S



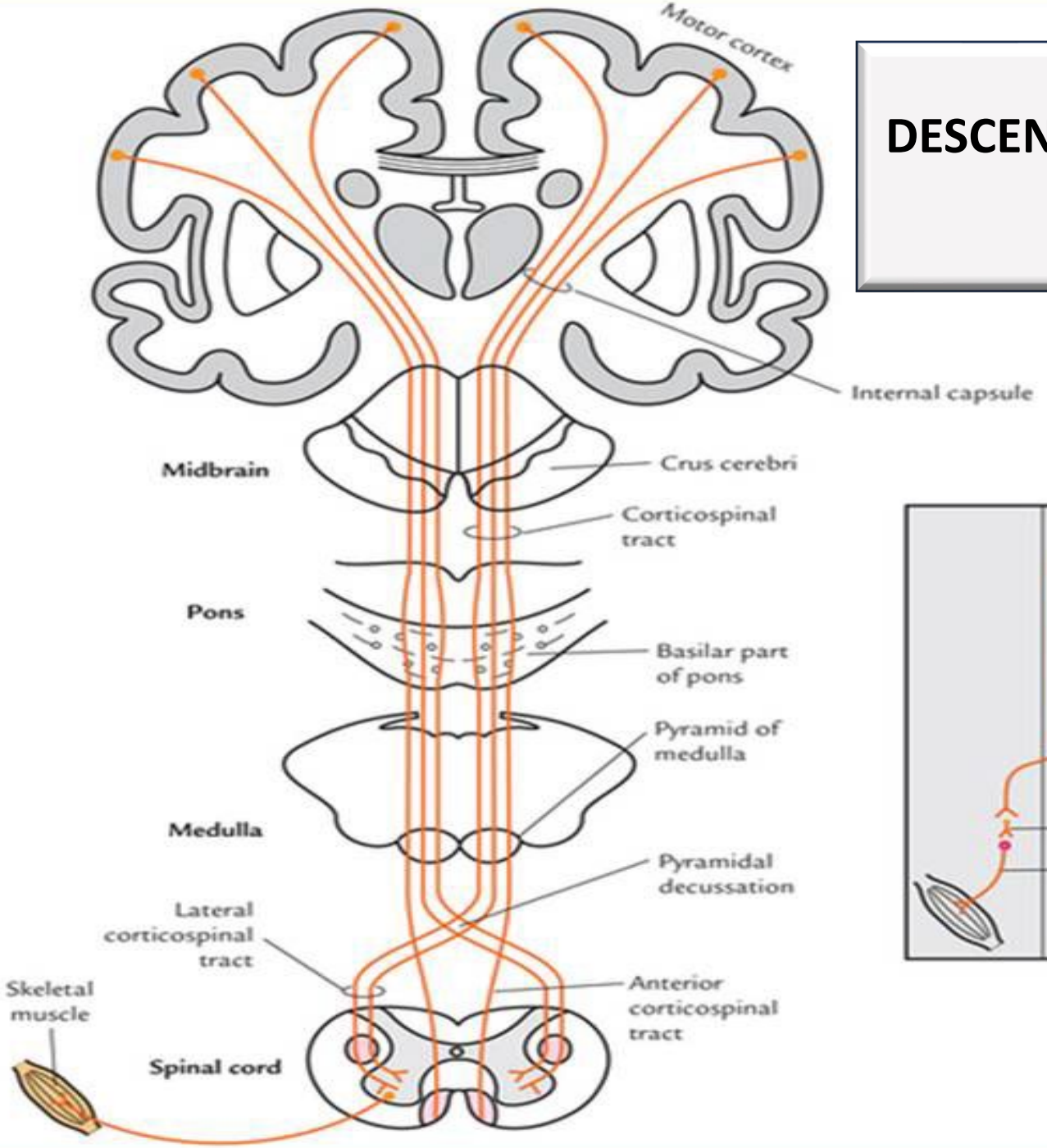
Anterior Spinothalamic Tract

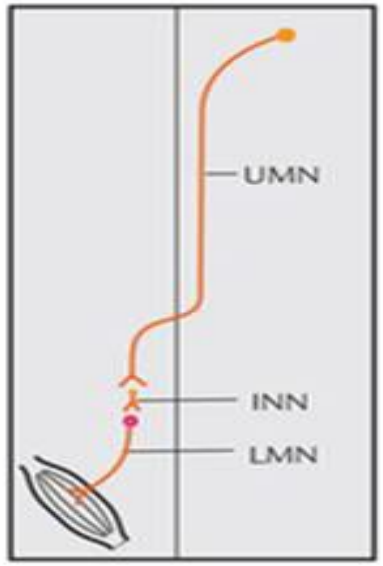
ASCENDING / SENSORY PATHWAY

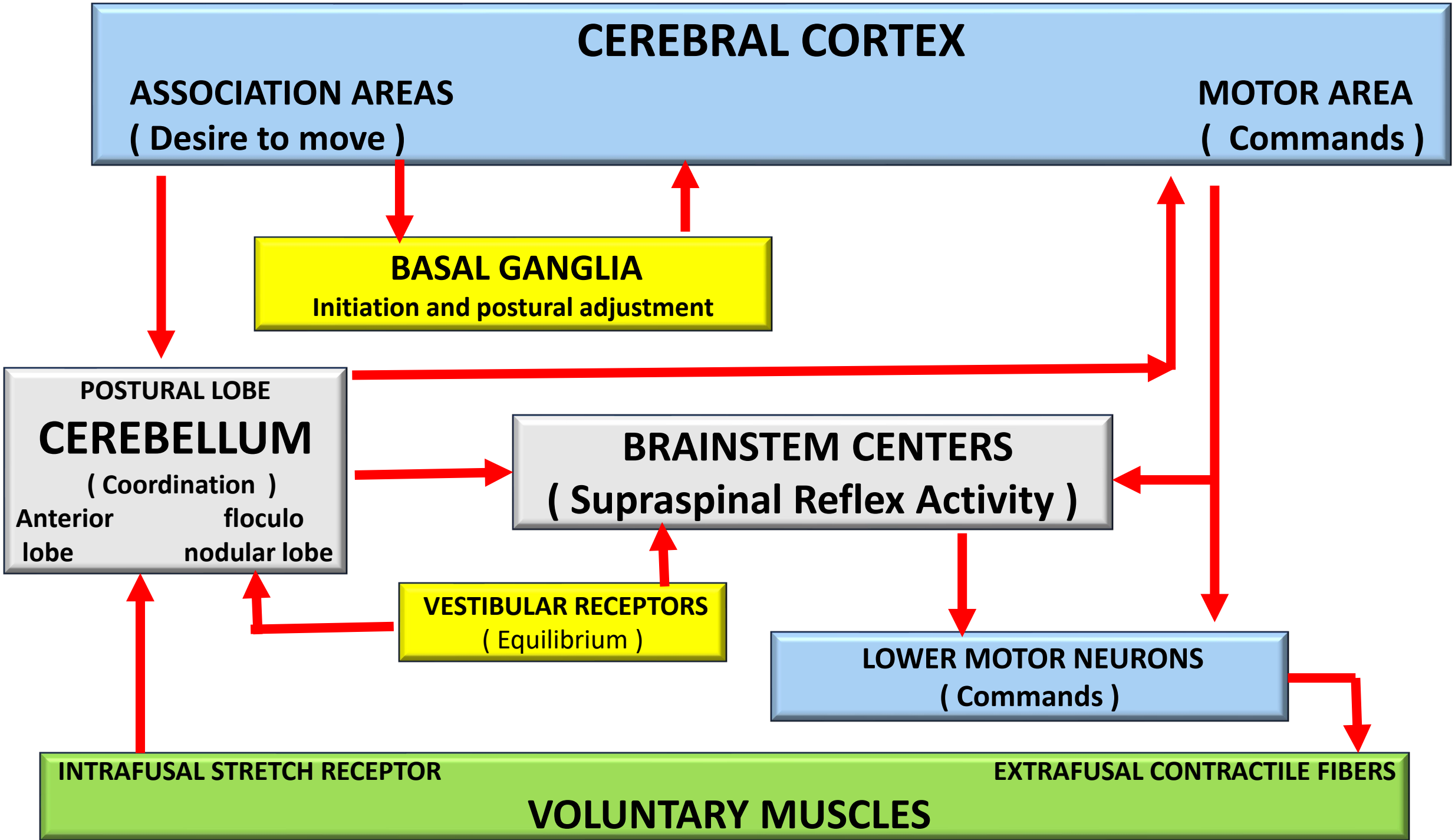



Dorsal column–
medial lemniscal
pathway
Spinothalamic
pathway
Cerebral
cortex
Thalamus
Medial
lemniscus
Medulla
Dorsal
column
nuclei
Spinal cord
Lateral
spinothalamic
tract
Dorsal
column
Dorsal
root axon
(Aα, Aβ, Aδ)
Dorsal
root axon
(Aδ, C)
Midline
Midline
Touch, vibration, two-point
discrimination, proprioception
Pain, temperature,
some touch

DESCENDING / MOTORIC PATHWAY






CEREBRAL CORTEX
ASSOCIATION AREAS
(Desire to move)
MOTOR AREA
(Commands)
BASAL GANGLIA
Initiation and postural adjustment
POSTURAL LOBE
CEREBELLUM
(Coordination)
Anterior lobe
floculo nodular lobe
BRAINSTEM CENTERS
(Supraspinal Reflex Activity)
VESTIBULAR RECEPTORS
(Equilibrium)
LOWER MOTOR NEURONS
(Commands)
INTRAFUSAL STRETCH RECEPTOR
EXTRAFUSAL CONTRACTILE FIBERS
VOLUNTARY MUSCLES

THE BRAIN FUNCTIONS

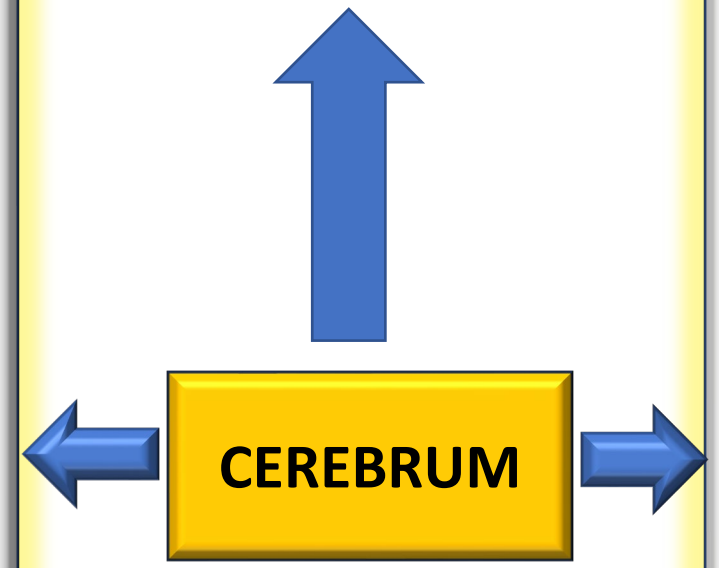
GENERAL FUNCTIONS :

Sensory, motor & integration (consciousness, memory, speech & emotion)

SPECIALIZATION FUNCTIONS

- **L. HEM. : Controls movement of the right hand side of the body, receives information from the right visual field, controls speech, language, recoqnition of words, letters & numbers**

- **R HEM : Controls movement of the left hand side of the body, receives information from the left visual field, controls creativity, context, recoqnition of faces, places and objects .**



PARTICULAR FUNCTION :

principle somatic sensory area (P L)
Principle somatic motor area (F L)
Principle auditory area (T L)
Principle visual area (O L)
Olfactor receptive area (R E)
Motor speech area (I F G)
Sensory speech area (S T G)
Association areas : various sensory and motor areas by association fibres (important in maintenance of higher mental activities in humans)

THE FUNCTIONS OF HEMISPHERES

CEREBRAL TRACTS

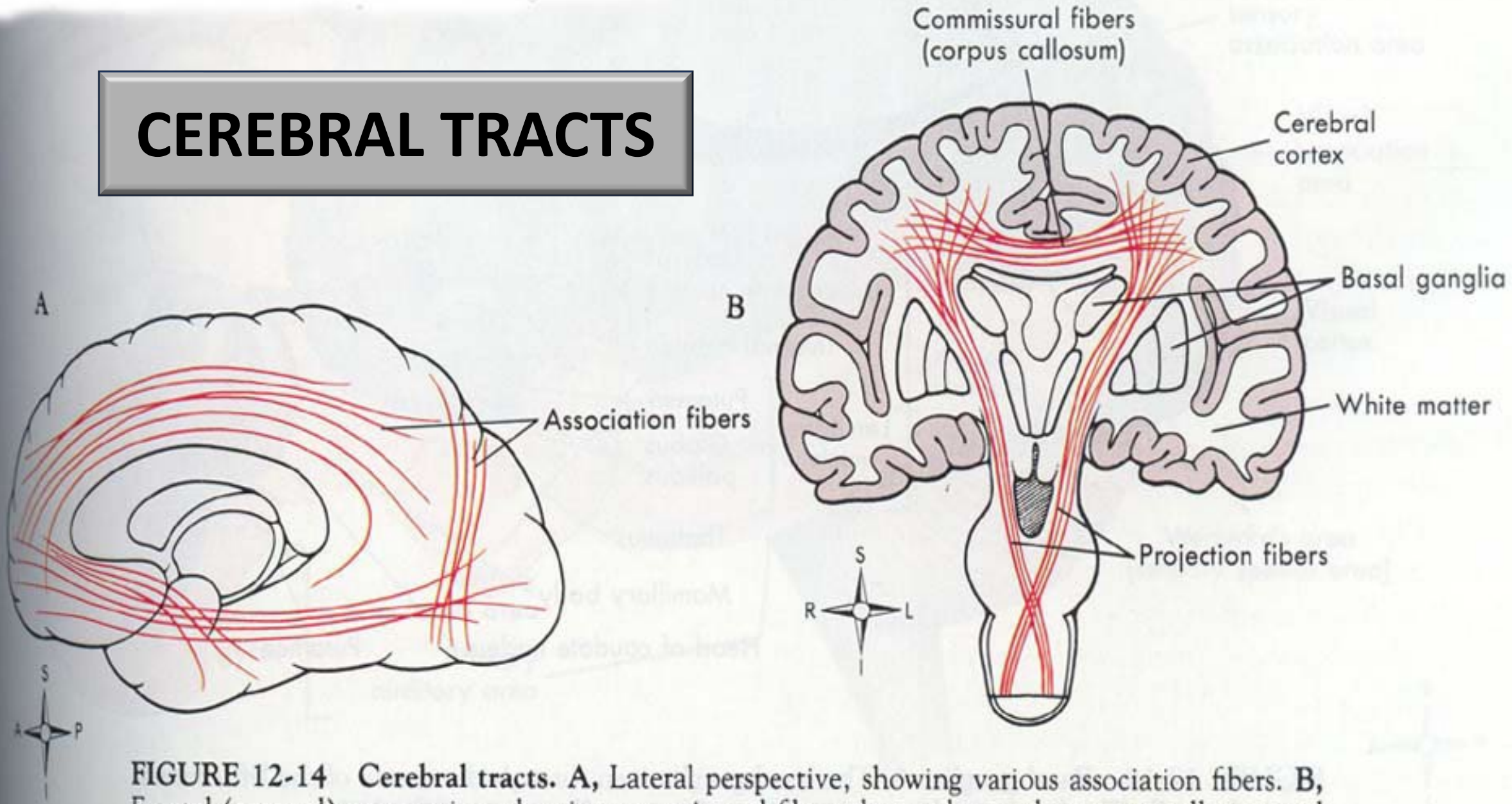


FIGURE 12-14 **Cerebral tracts. A,** Lateral perspective, showing various association fibers. **B,** Frontal (coronal) perspective, showing commissural fibers that make up the corpus callosum and the projection fibers that communicate with lower regions of the nervous system.

DIENCEPHALON

- **THALLAMUS :**
  - **Relays sensory impulses from spinal cord to cerebral cortex**
  - **Registers crude sensation of pain, temperature and touch and emotion.**
  - **Arousal and alteration for complex reflex movements**

- **HYPOTHALLAMUS :**
  - **Higher center for autonomic nervous system**
  - **A link between psychic and soma**
  - **Synthesis and regulation and anterior and posterior pituitary hormones.**

RHINENCEPAHALON

- **Olfaction**
- **Autonomic , somatomotor, somatosensory responses**
- **Anterior limbic and posterior orbital areas : control of emotion**

CEREBELLUM

- **Synergetic control of skeletal muscles**
- **Mediation of postural and equilibrium reflexes**

BRAINSTEM

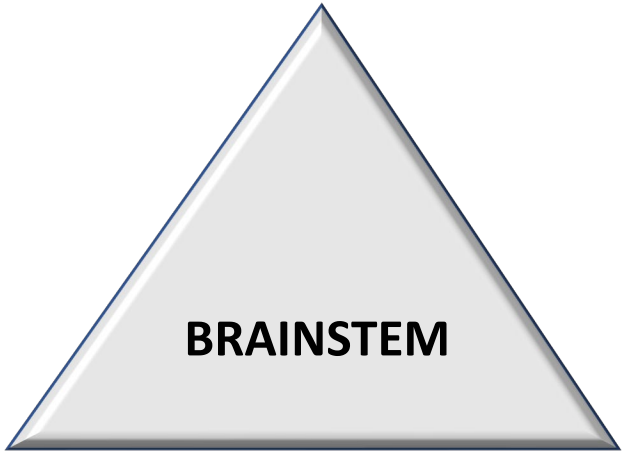
MIDBRAIN :

- Two ways conduction between spinal cord and brain.
- Centers for cranial nerves III & IV

PONS

Two ways conduction between spinal cord and brain.

Centers for cranial nn 5 , 6, 7 and 8



MEDULLA OBLONGATA

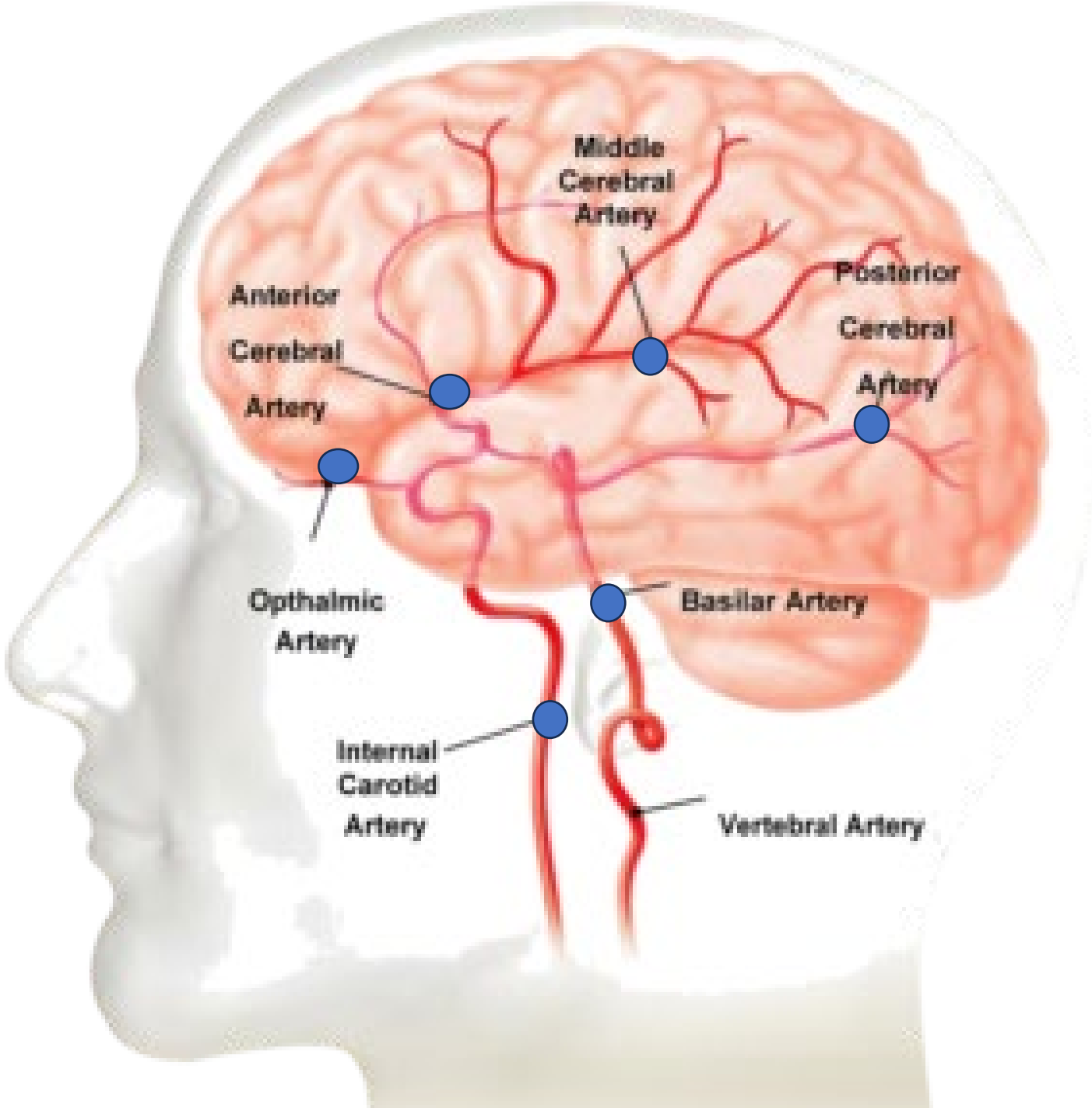
two ways conduction between spinal cord and brain

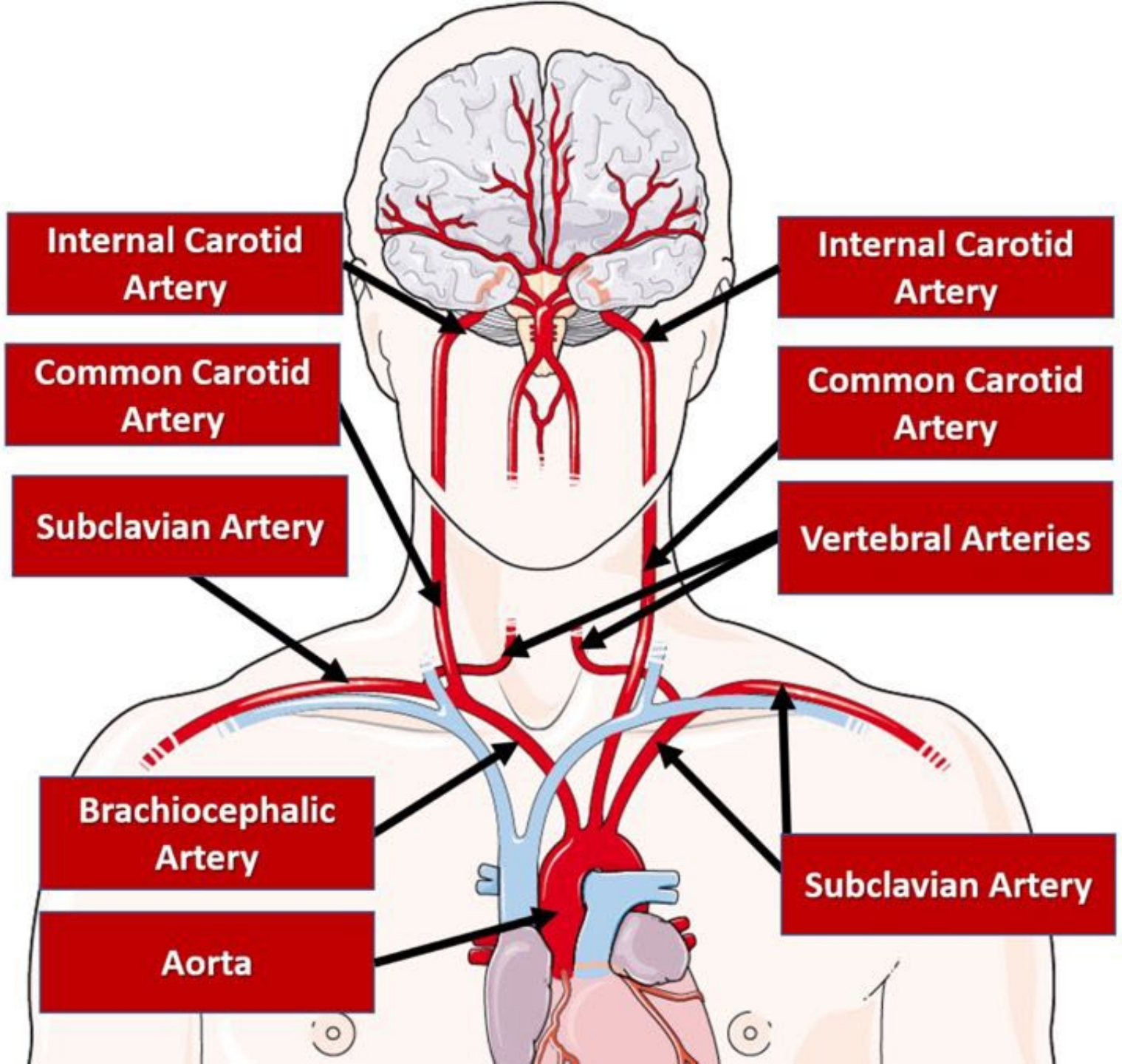
Vital center for cardiac, vasomotor and respiration

Non vital reflexes of vomiting coughing, hiccoughing, sneezing & swallowing

Center CN 9, 10, 11 & 12

BRAIN BLOOD SUPPLY



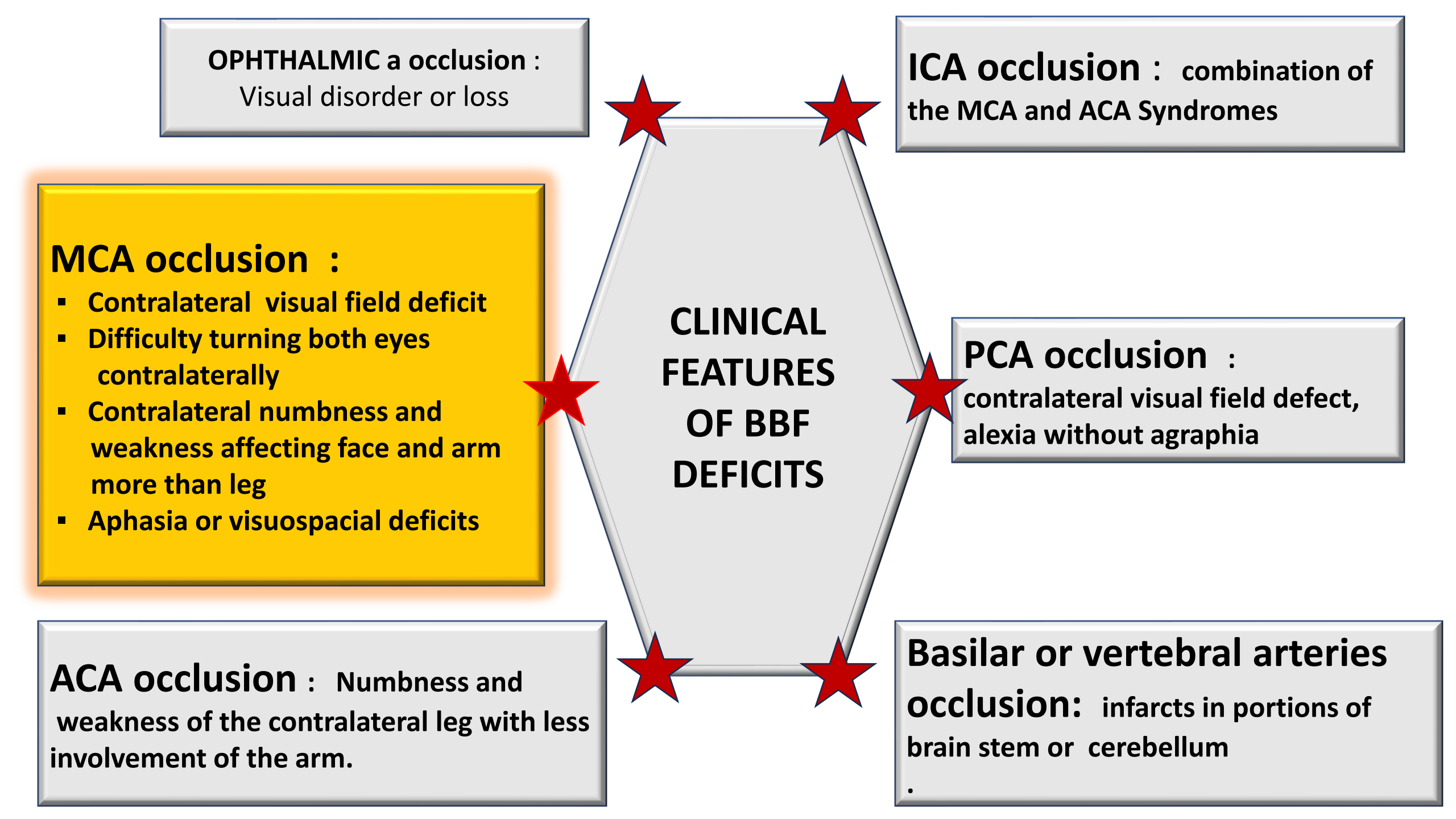


BRAIN

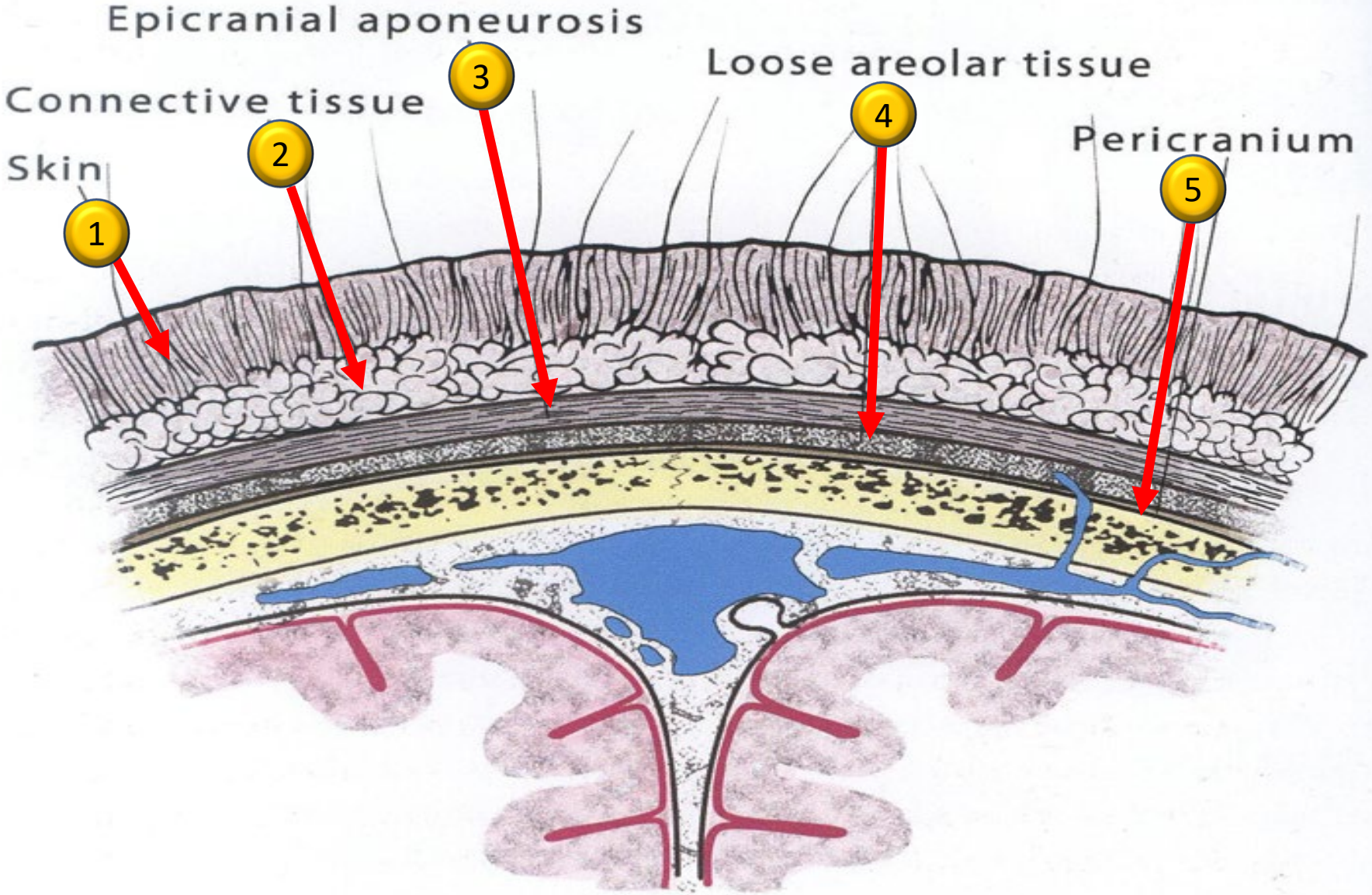
ANTERIOR CIRCULATION:
INTERNAL CAROTID ARTERIES

POSTERIOR CIRCULATION:
VERTEBRAL ARTERIES

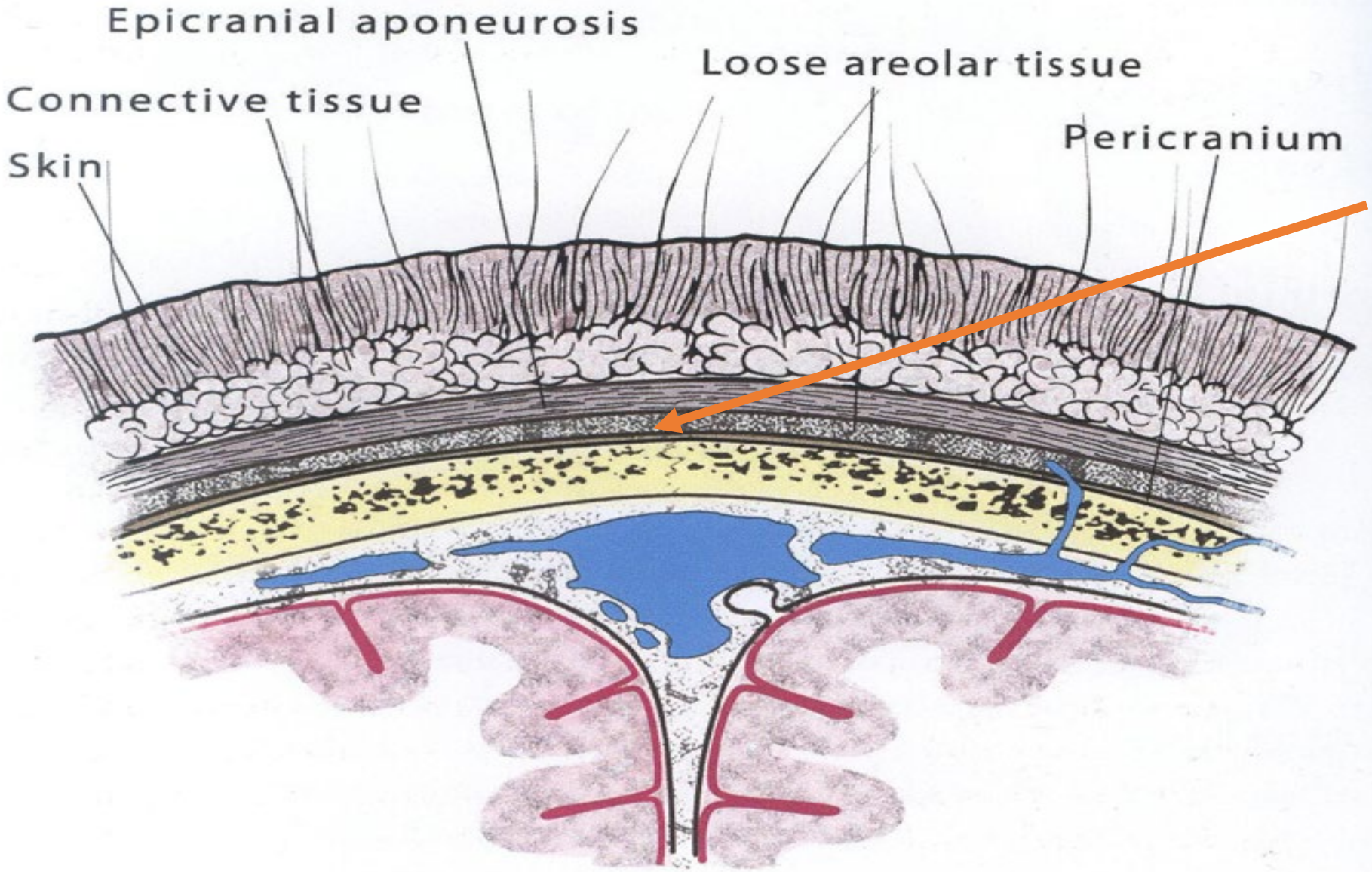
Simply Psych
Free Psychiatry Education


OPHTHALMIC a occlusion :
Visual disorder or loss
ICA occlusion : combination of the MCA and ACA Syndromes
MCA occlusion :
Contralateral visual field deficit
Difficulty turning both eyes contralaterally
Contralateral numbness and weakness affecting face and arm more than leg
Aphasia or visuospacial deficits
CLINICAL FEATURES OF BBF DEFICITS
PCA occlusion : contralateral visual field defect, alexia without agraphia
ACA occlusion : Numbness and weakness of the contralateral leg with less involvement of the arm.
Basilar or vertebral arteries occlusion: infarcts in portions of brain stem or cerebellum

1. Contains numerous of hair follicles and cebaceous glands (common site of cebaceous cyst)
2. Rich of b v and nerves and risk of profuse bleeding.
3. A thin tendon like structure that connect frontal and occipital mm
4. A thin connective tissue layer, contains numerous b v, including emissary veins that connect the veins of the scalp to the diploic veins and intracranial venous sinuses.
5. The outer layer of the skull bone which continuous with endosteum at the suture lines



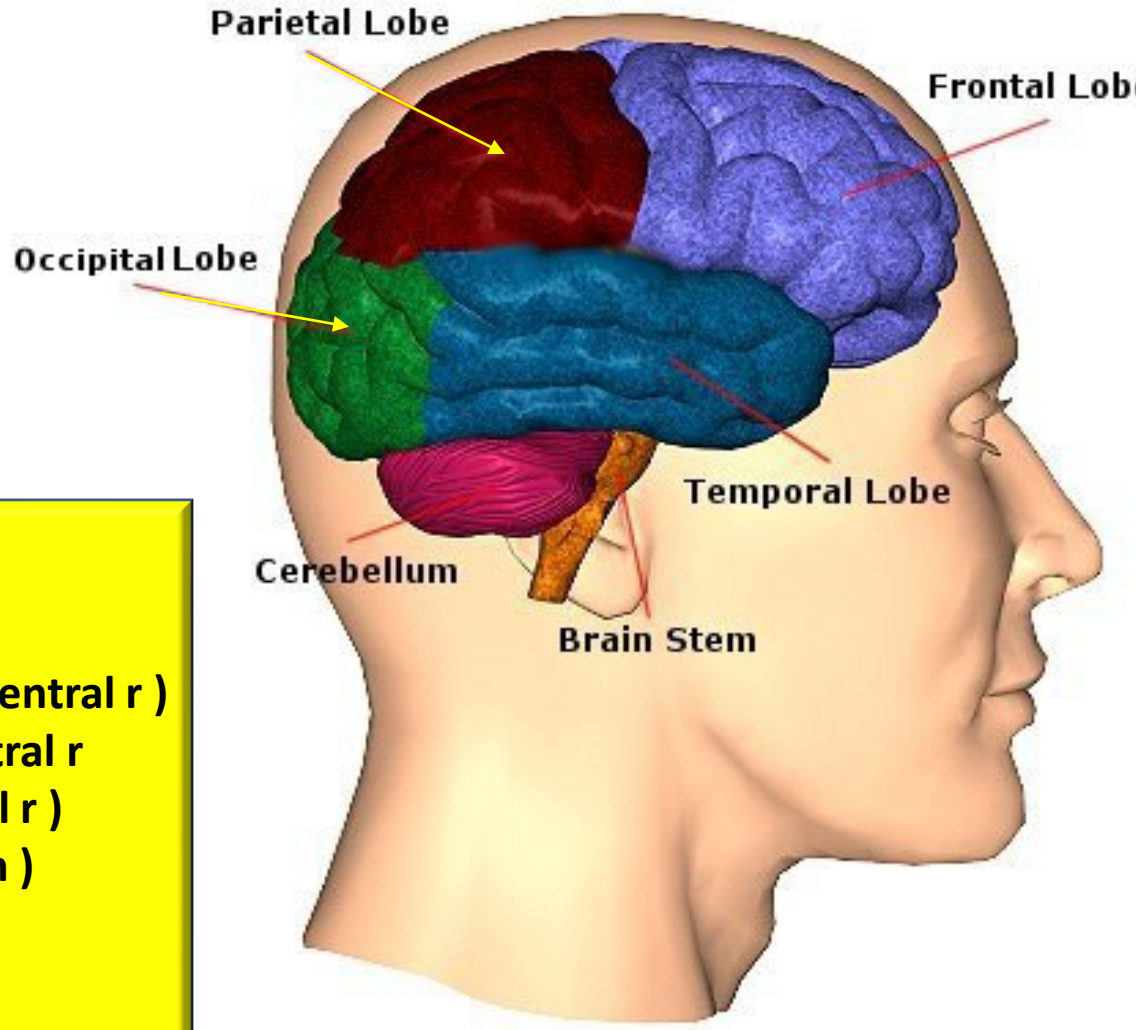
Anatomy of the Scalp



Anatomy of the Scalp

the angle : 15 -30 degree

SCALP INNERVATION from CN V & VII cervical plexus



ANTERIOR PART
5 NERVES

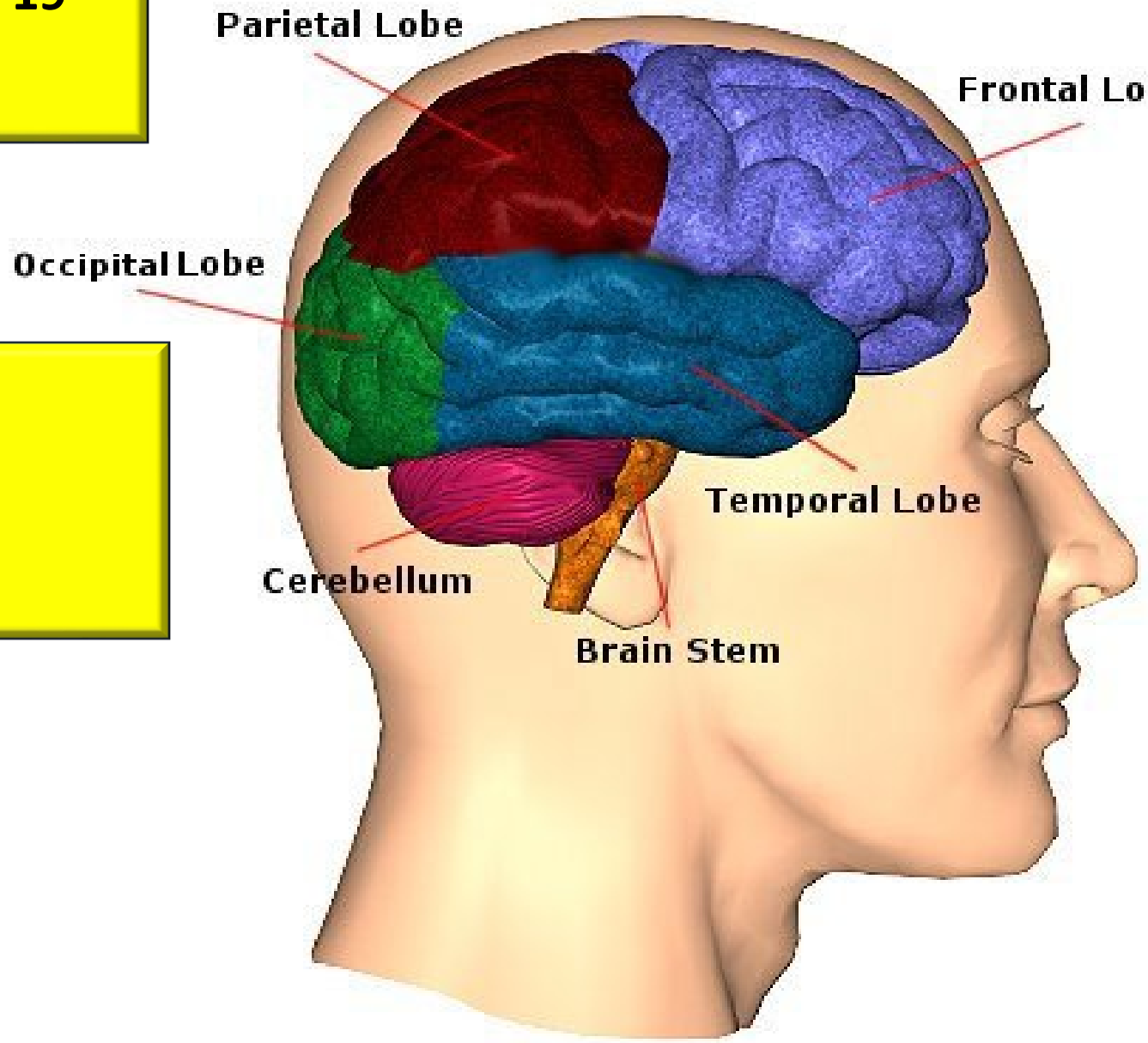
1. Supratroclear n (V 1)
2. Supraorbital n (V1)
3. Zygomatictemporal n (V2)
4. Auricular temporal n (V 3)
5. Temporal n / Facial n

POSTERIOR PART
5 NERVES

1. Greater auricular n (C 2 /3 ventral r)
2. Lesser occipital n (C2/ 3 ventral r
3. Greater occipital n (C2 dorsal r)
4. Third occipital n (C 2 dorsal n)
5. Post auricular n (facial n)

x GV 18. 19
x UB 8

x GV 21, 22, 23, 24
x UB 3,4,5,6,7.
x GB 4, 5, 13, 15, 16
17, 18.
x ST 8



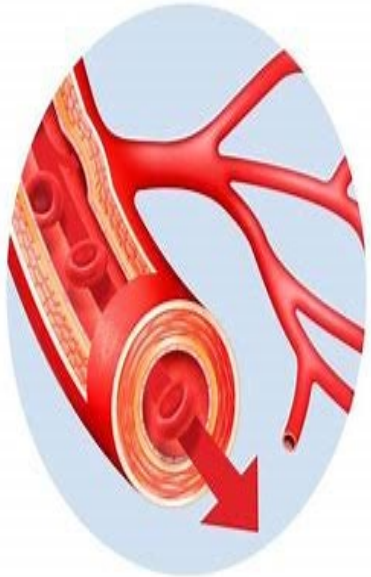
x GV 17
x UB 9
x GB 11, 19

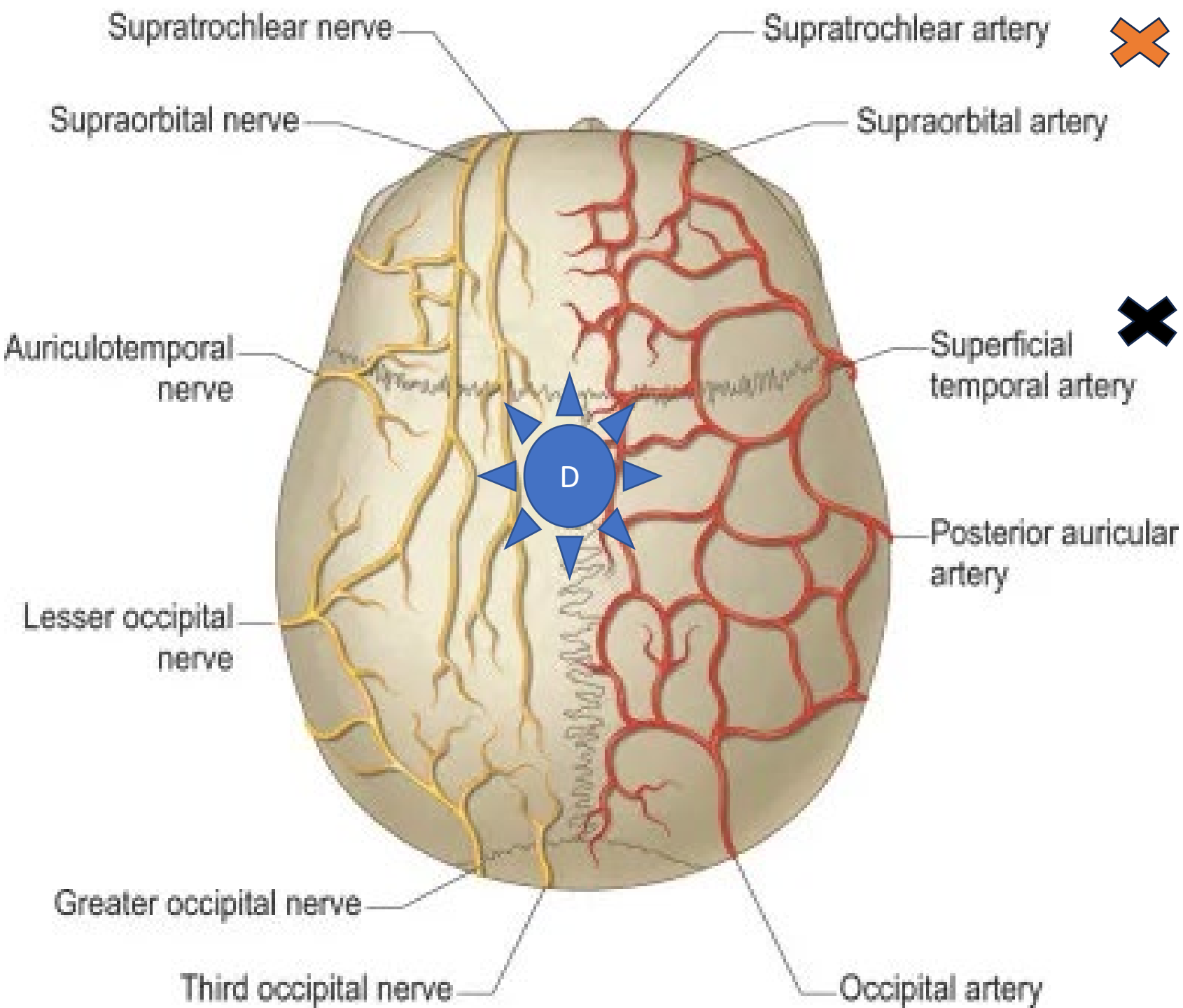
x GB 6, 7, 8, 9 10
x SJ 17, 18, 19, 20, 21

SCALP VASCULARIZATION

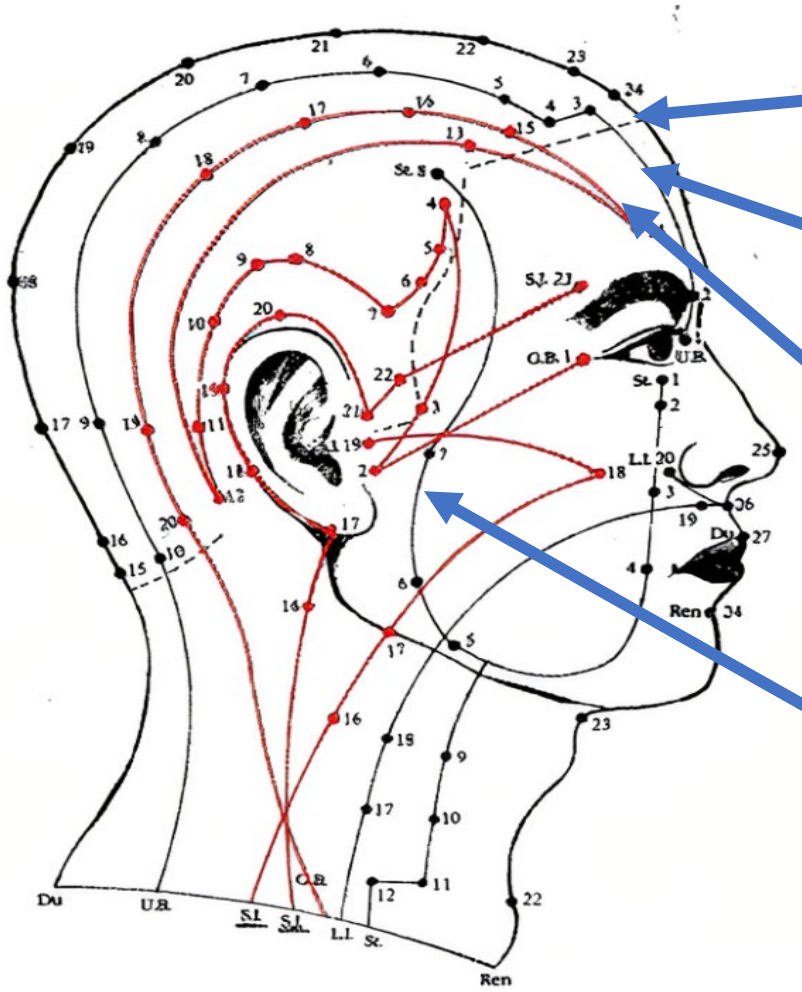
Supply via :

- **Ext. carotid a**
- **Ophthalmic a**





ACUPUNCTURE MERIDIANS & POINTS ON THE HEAD



GOVERNING MERIDIAN

TAI YANG MERIDIAN

SHAOYANG MERIDIAN

YANG MING MERIDIAN

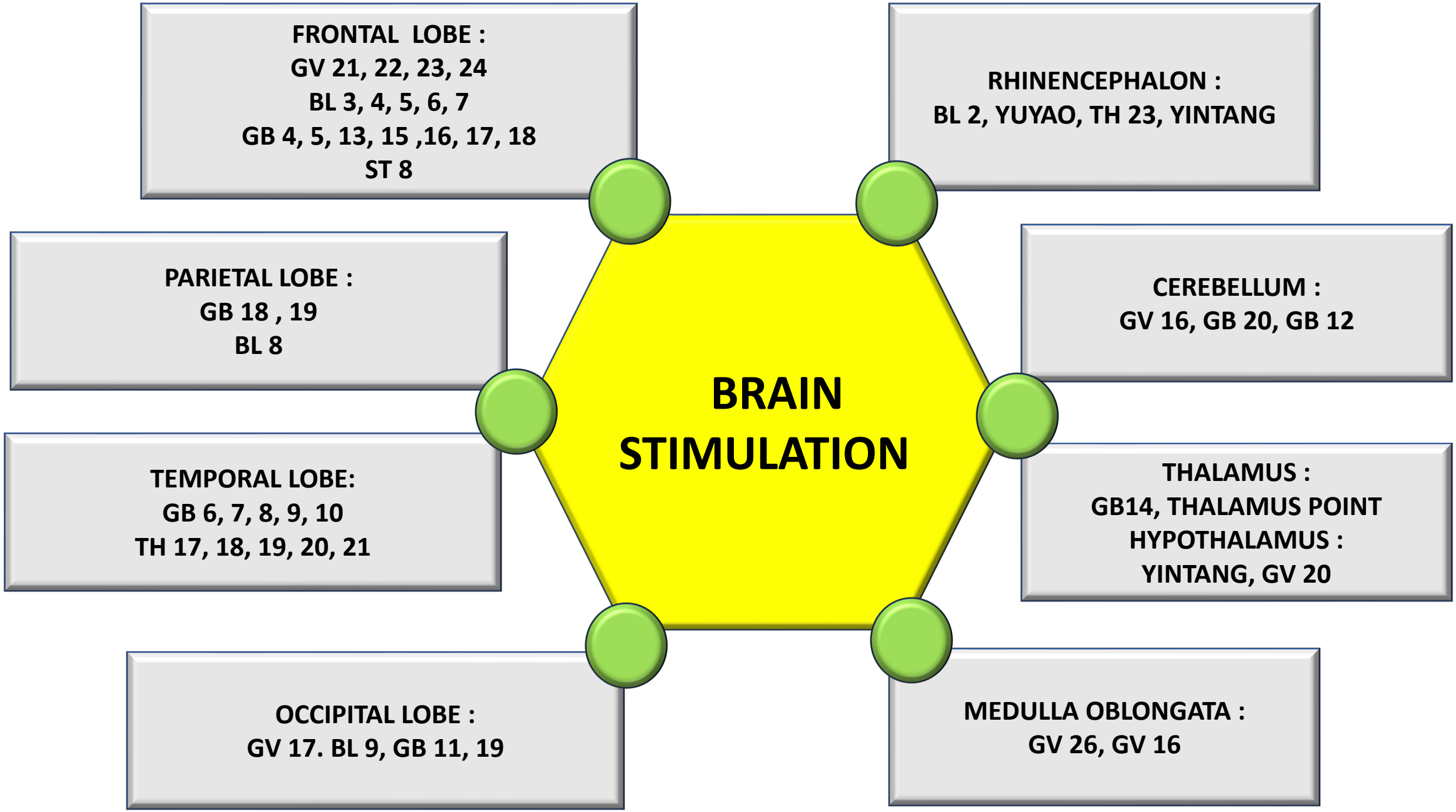
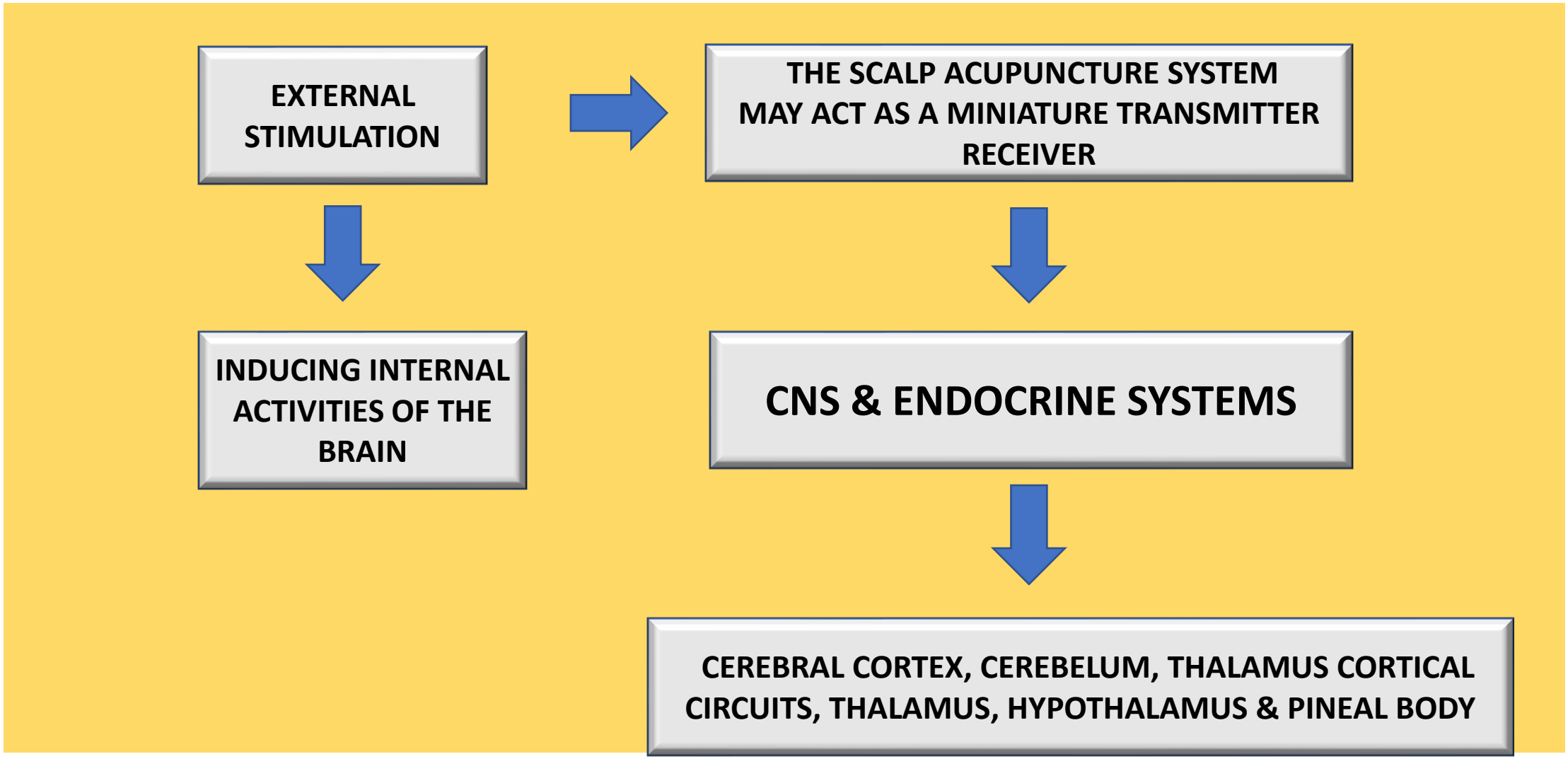
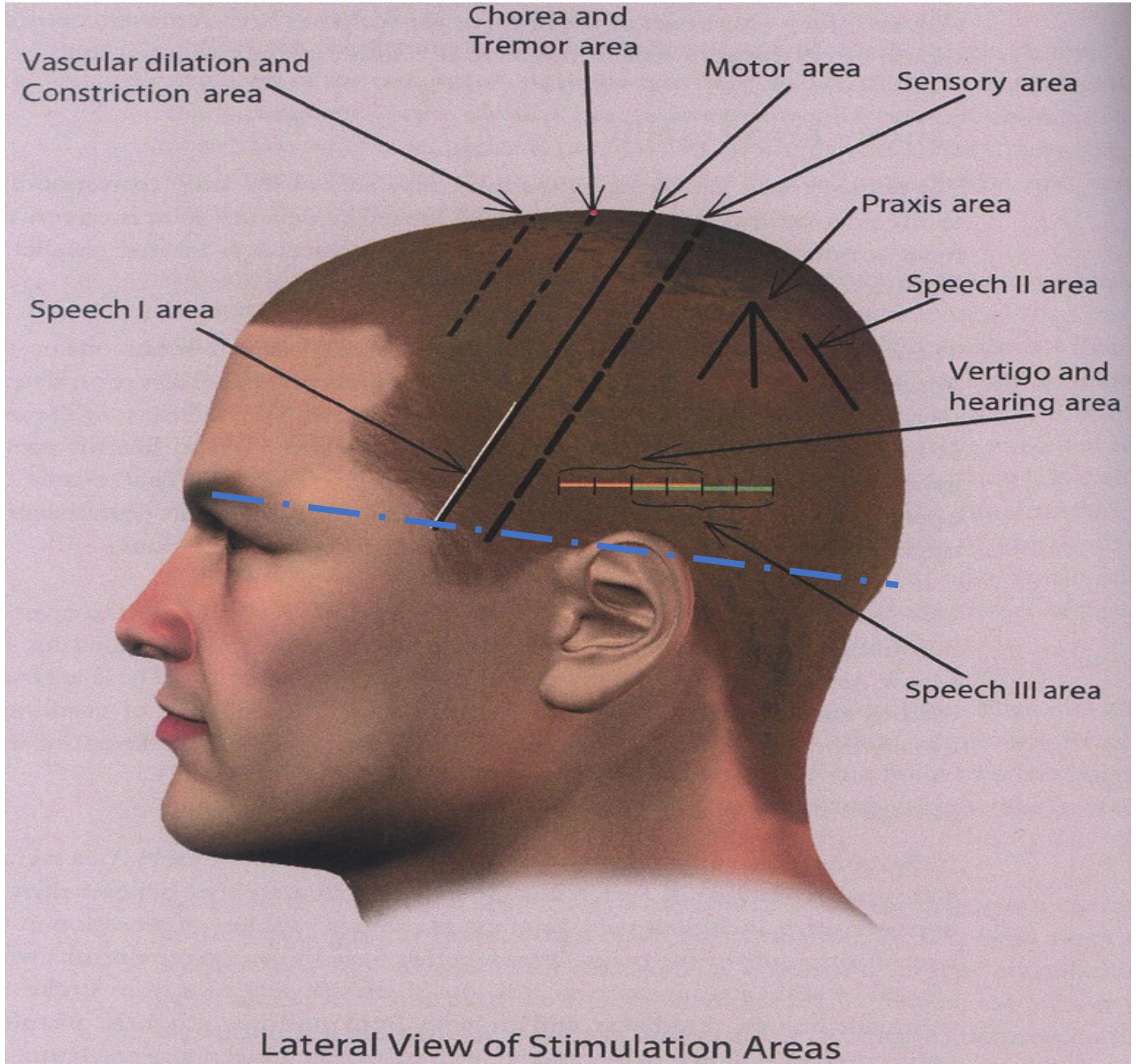
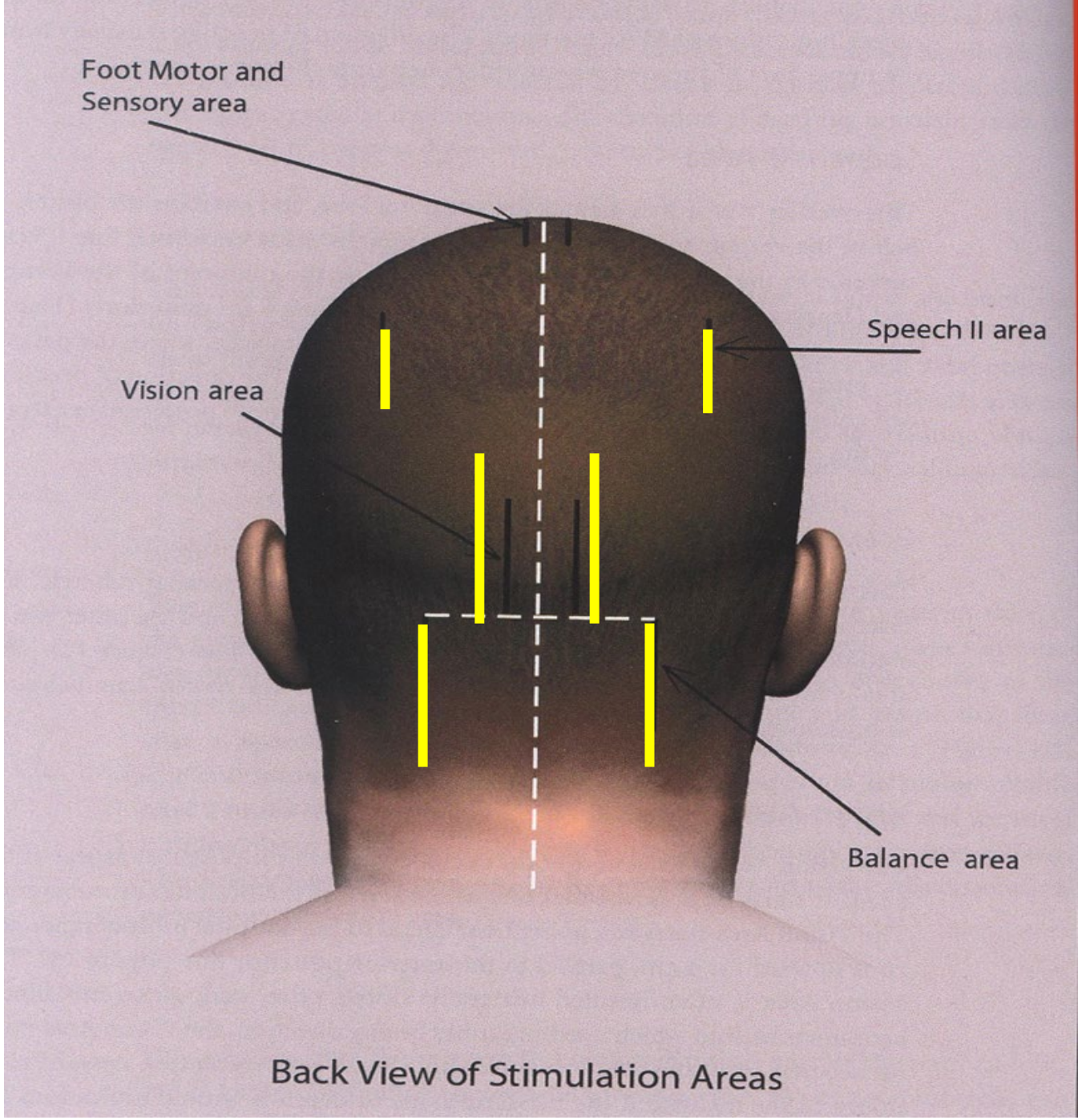

FRONTAL LOBE :
GV 21, 22, 23, 24
BL 3, 4, 5, 6, 7
GB 4, 5, 13, 15 ,16, 17, 18
ST 8
RHINENCEPHALON :
BL 2, YUYAO, TH 23, YINTANG
PARIETAL LOBE :
GB 18 , 19
BL 8
CEREBELLUM :
GV 16, GB 20, GB 12
BRAIN STIMULATION
TEMPORAL LOBE:
GB 6, 7, 8, 9, 10
TH 17, 18, 19, 20, 21
THALAMUS :
GB14, THALAMUS POINT
HYPOTHALAMUS :
YINTANG, GV 20
OCCIPITAL LOBE :
GV 17. BL 9, GB 11, 19
MEDULLA OBLONGATA :
GV 26, GV 16

DIAGRAM OF NEURAL MECHANISM OF SCALP ACUPUNCTURE

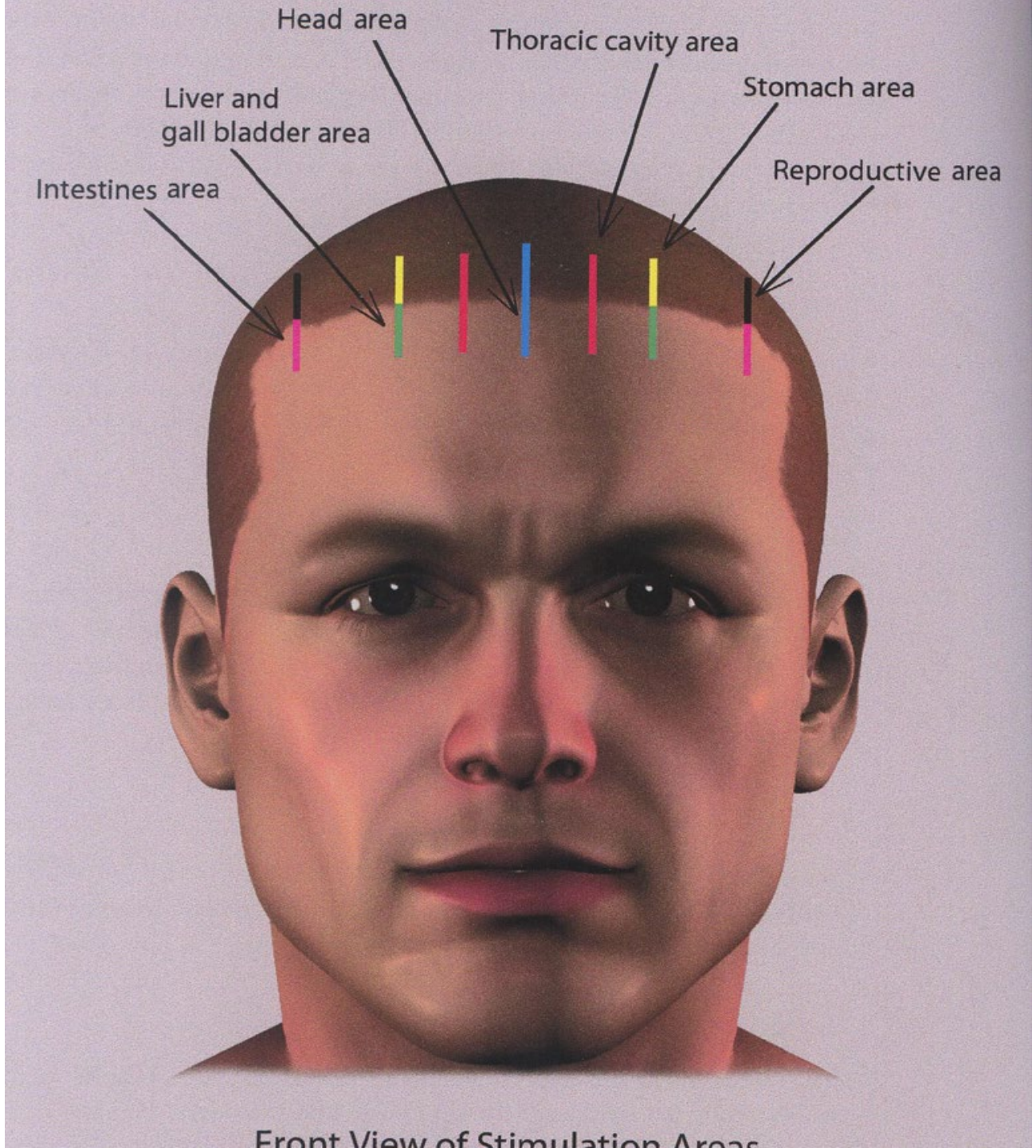


INTERNATIONAL SCALP ACUPUNCTURE

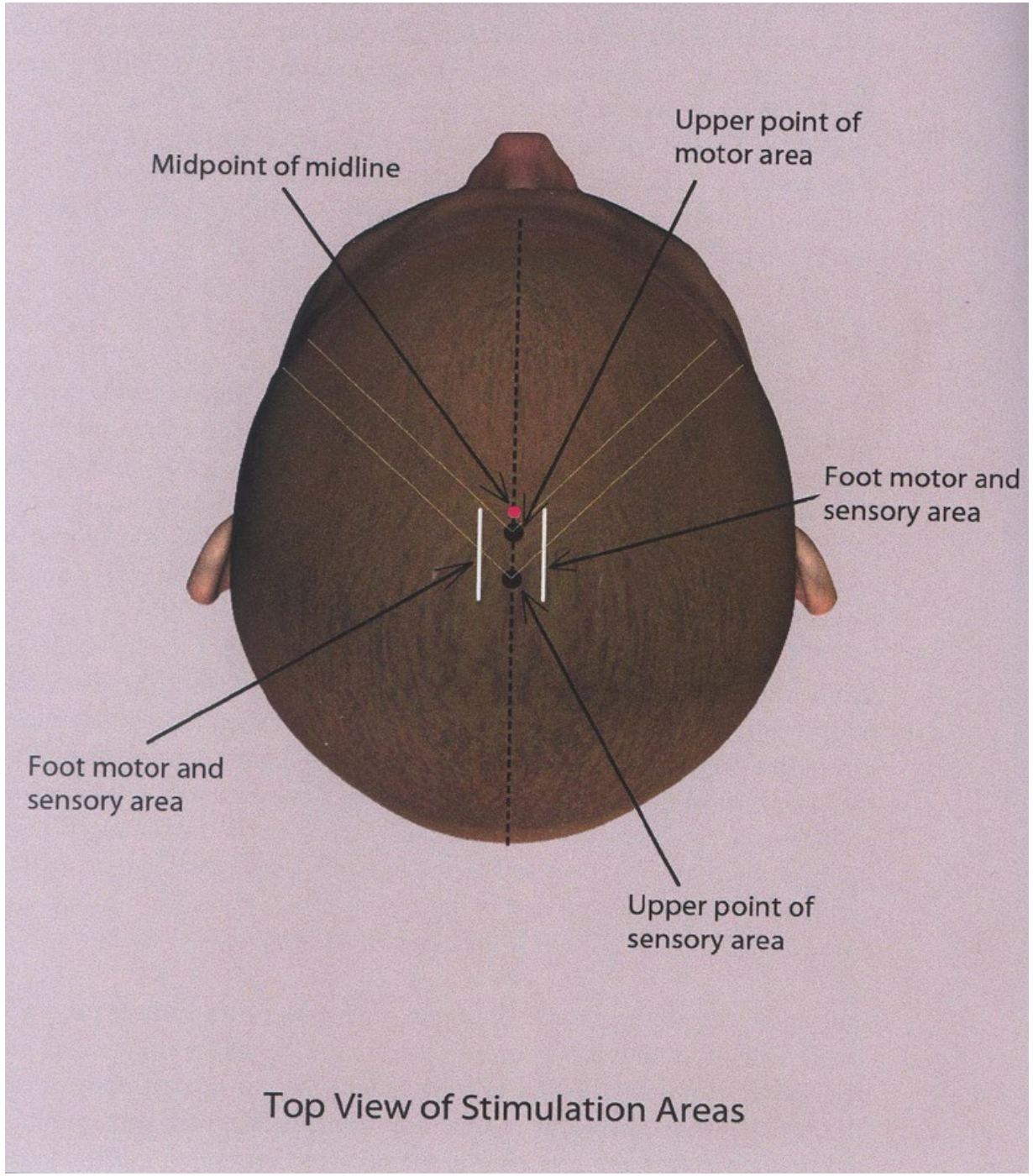




Back View of Stimulation Areas



Front View of Stimulation Areas



Top View of Stimulation Areas

Triple method

Adjacent method

Parallel method

Opposing method

Crossing method

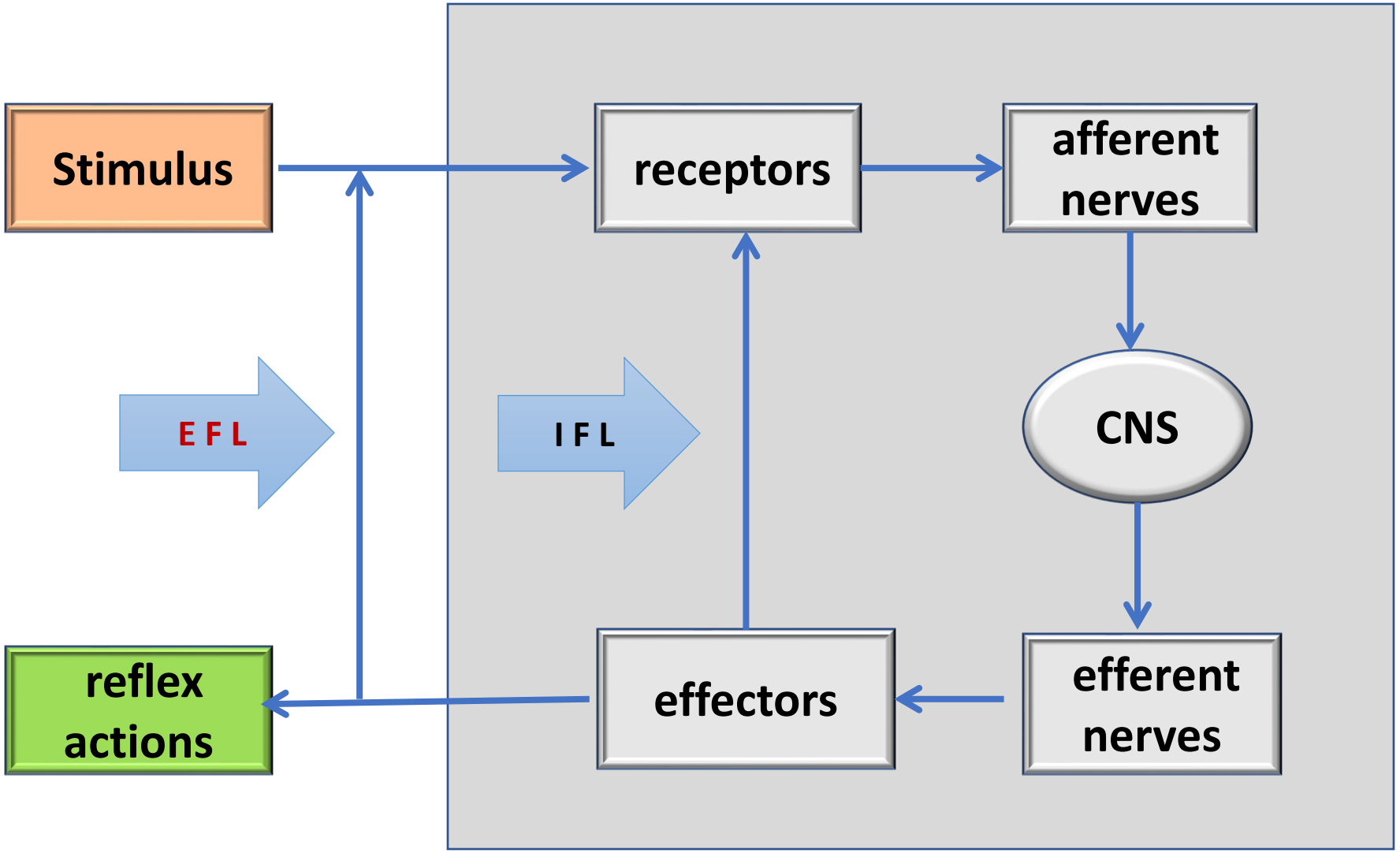
Relay method

Special Needling Methods

ZHU' SCALP NEUROACUPUNCTURE

One of the well-known investigators and researchers, pioners in contemporary scalp acupuncture as well as the founder of Zhu 's scalp acupuncture is Dr Ming Qing Zhu who developed the treatment zones and special needling techniques in 1969.

FEEDBACK SYSTEMS OF THE BODY REFLEXES

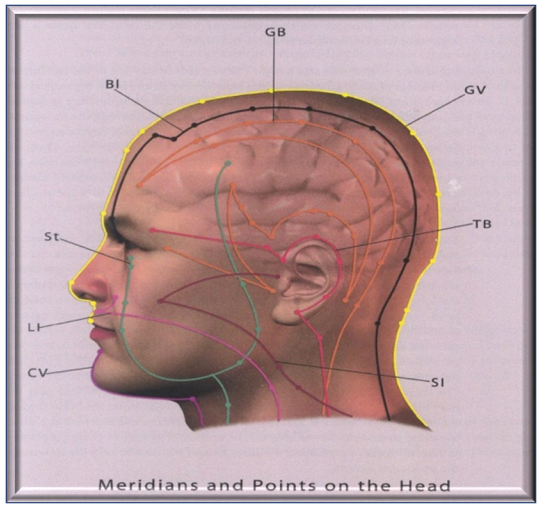


BASIC OF SCALP ACUPUNCTURE (Prof. Zhu)

I. The THEORITICAL BASIS

1. Mainly based on Chinese medical theories :

MERIDIAN SYSTEM



FOUR SEAS

BLOOD

QI

MARROW

FOOD

CUTANEOUS REGIONS

ECTODERM

NERVOUS SYSTEM

2. Augmented by Western medical theories

REFLEX PROCESS

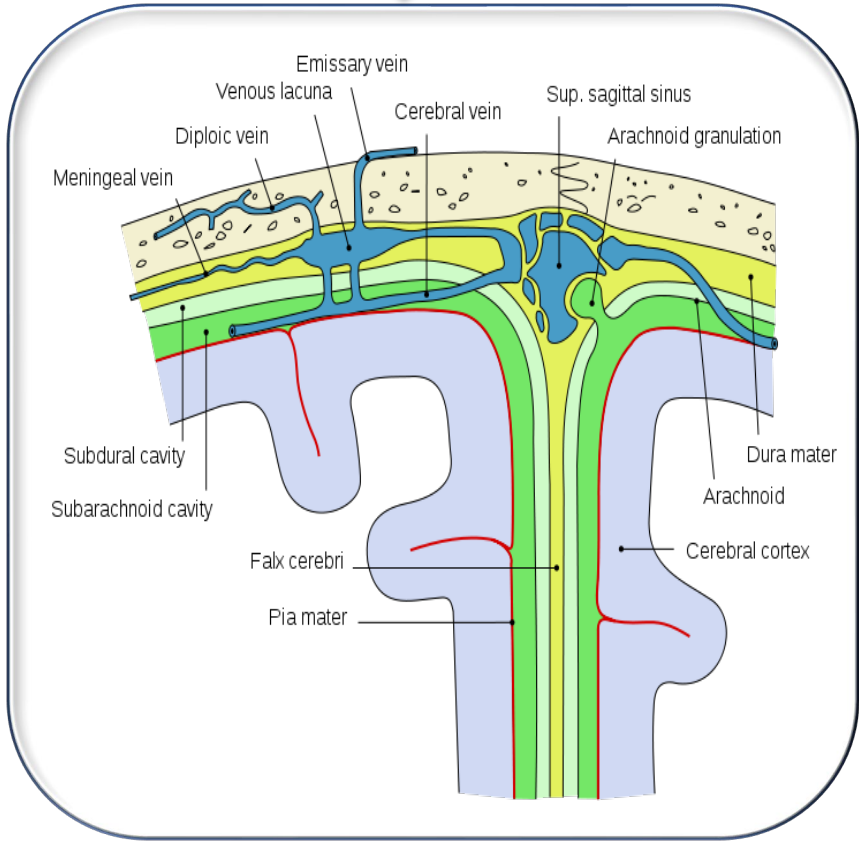
E F L
&
I F L

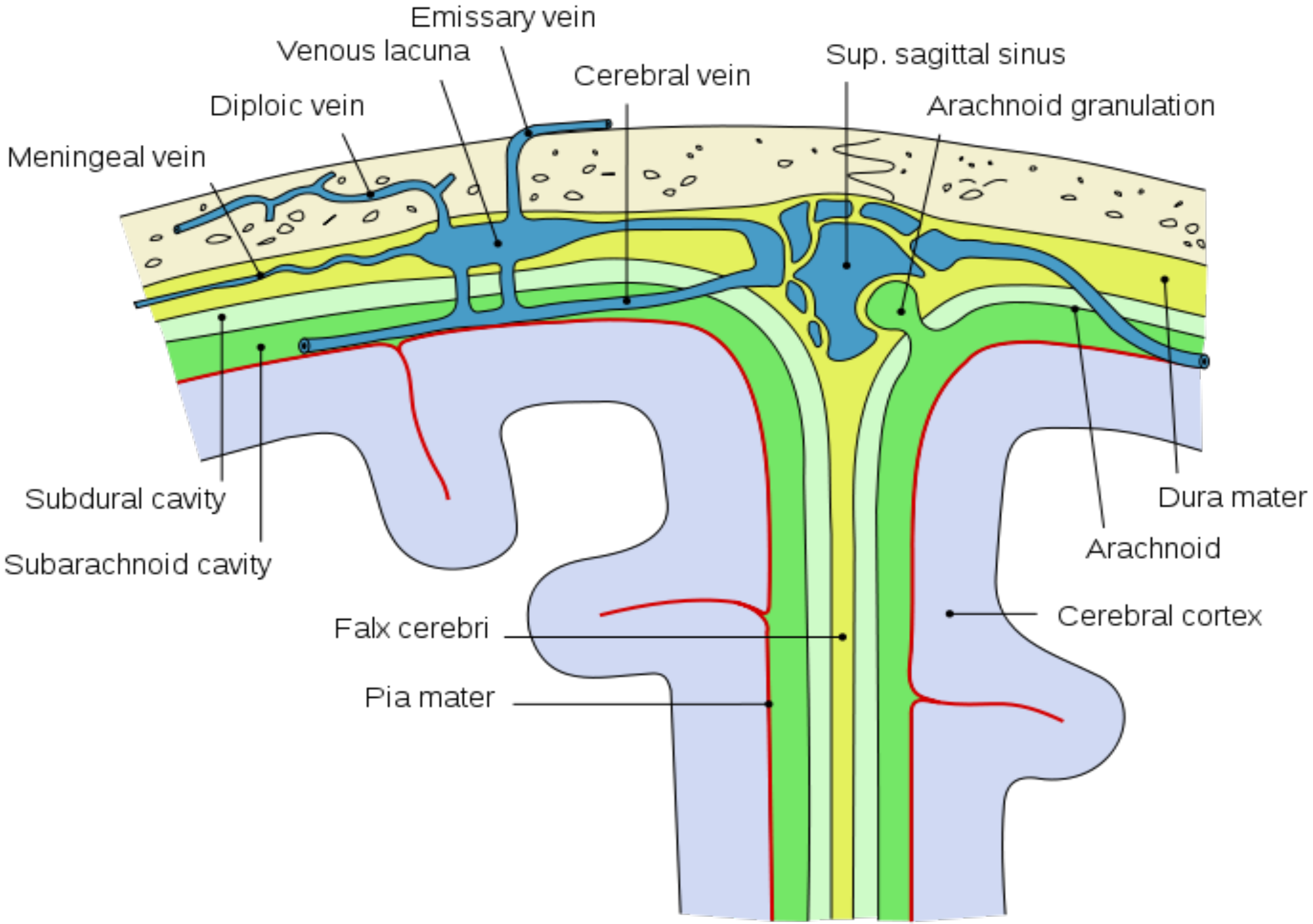
NEURO-ANATOMY PHYSIOLOGY

NERVOUS SYSTEM

ENDOCRINE SYSTEM

DIPLOIC HYPOTHESIS




Emissary vein
Venous lacuna
Cerebral vein
Sup. sagittal sinus
Diploic vein
Arachnoid granulation
Meningeal vein
Subdural cavity
Dura mater
Arachnoid
Subarachnoid cavity
Cerebral cortex
Falx cerebri
Pia mater

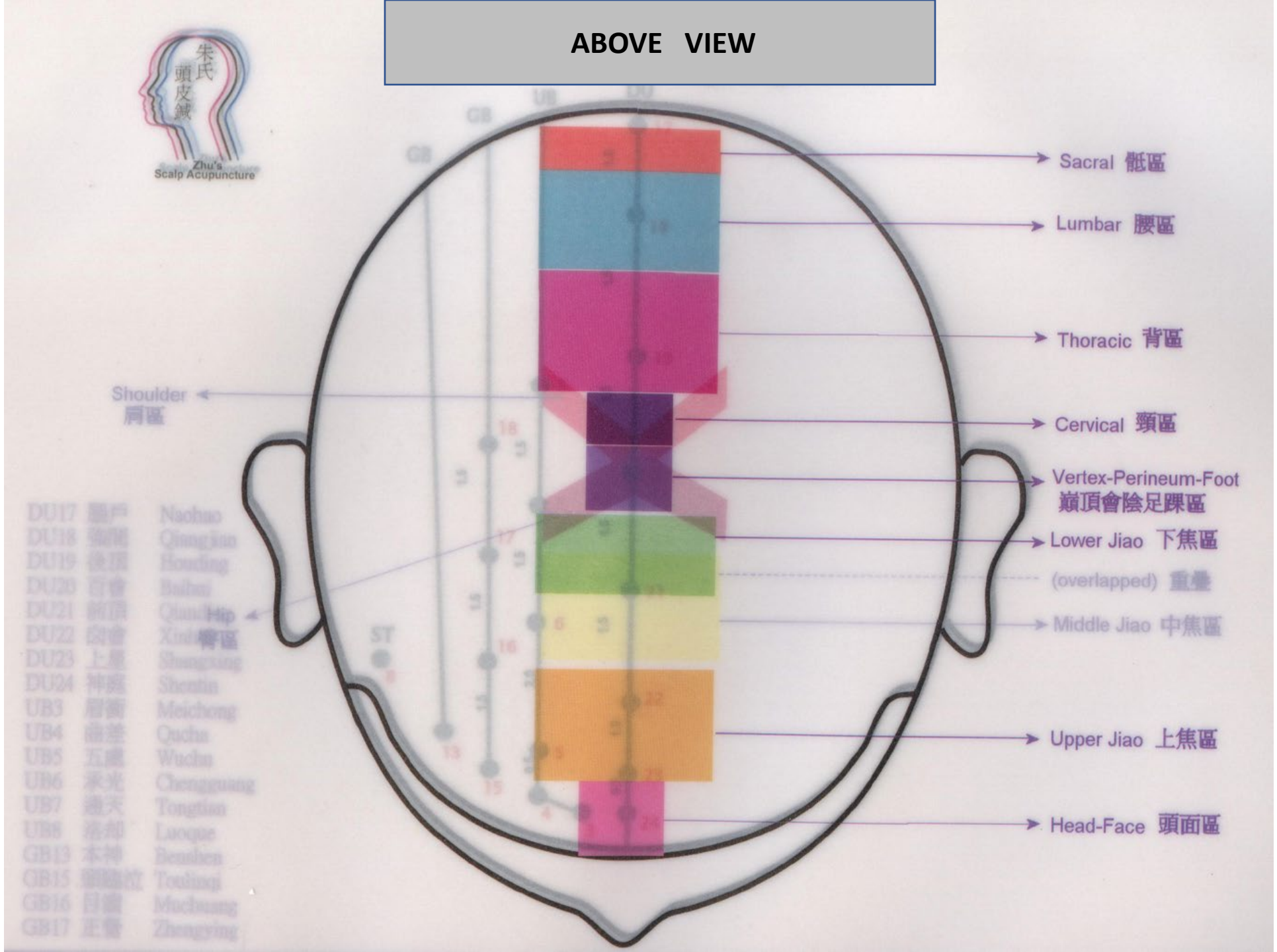
II SPECIAL TREATMENT ZONES OF Z S A

On the scalp along DU, UB and GB meridians consist of :

1. HEAD AND FACE AREA at DU 24
2. UPPER JIAO, from DU 23 toward DU 22
3. MIDDLE JIAO, btw DU 22 and DU 21
4. LOWER JIAO, btw DU 21 and DU 20
5. VERTEX, perineum and foot area, at DU 20
6. CERVICAL AREA, from DU 20 to DU 19
7. THORACIC AREA, from DU 19 to DU 18
8. LUMBAR AREA, at DU 18 as the center with 1 cun square.
9. SACRAL AREA, from DU 18 to DU 17

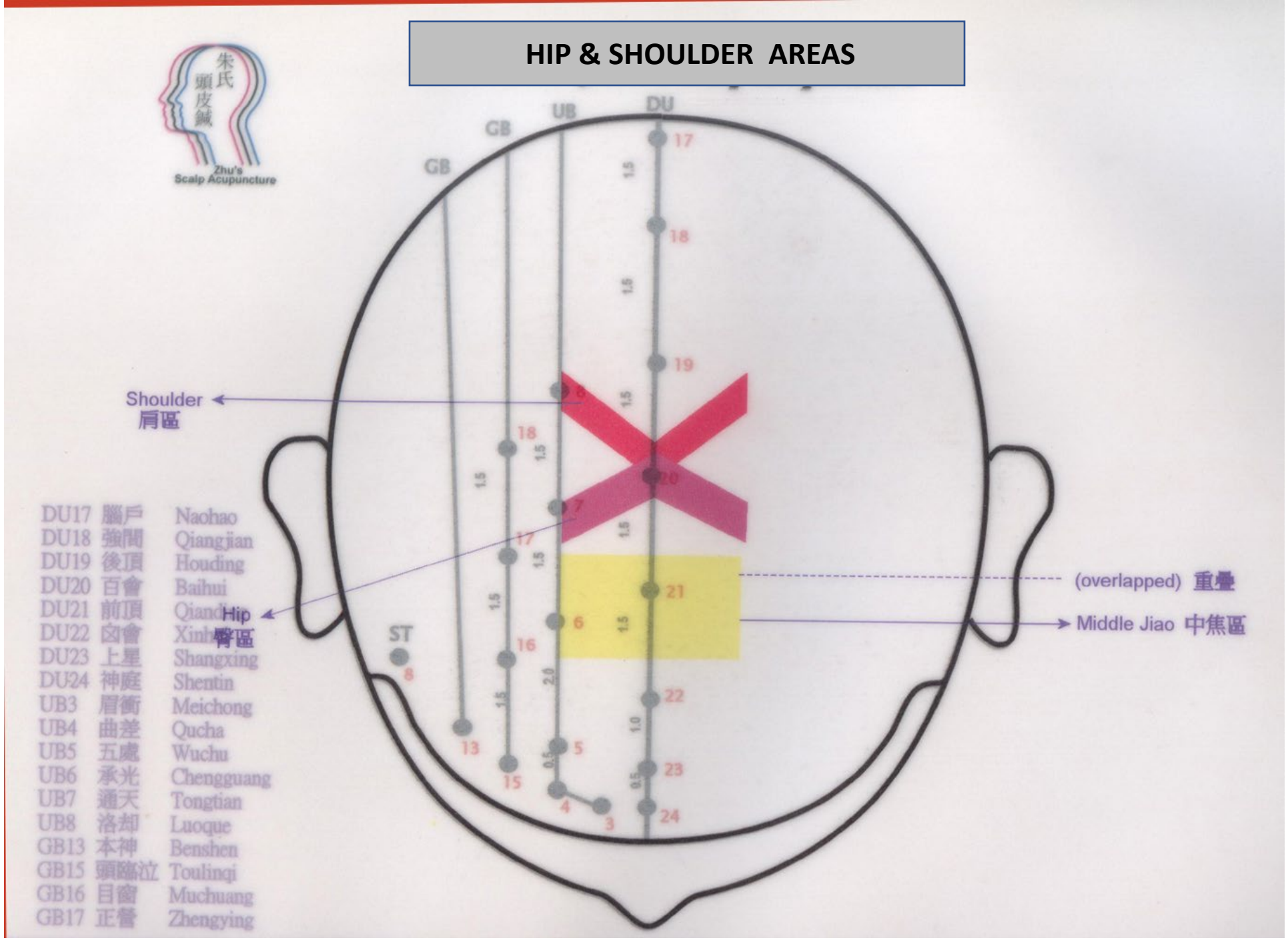
PROJECTION OF BODY PARTS ON ZHU SCALP AREAS

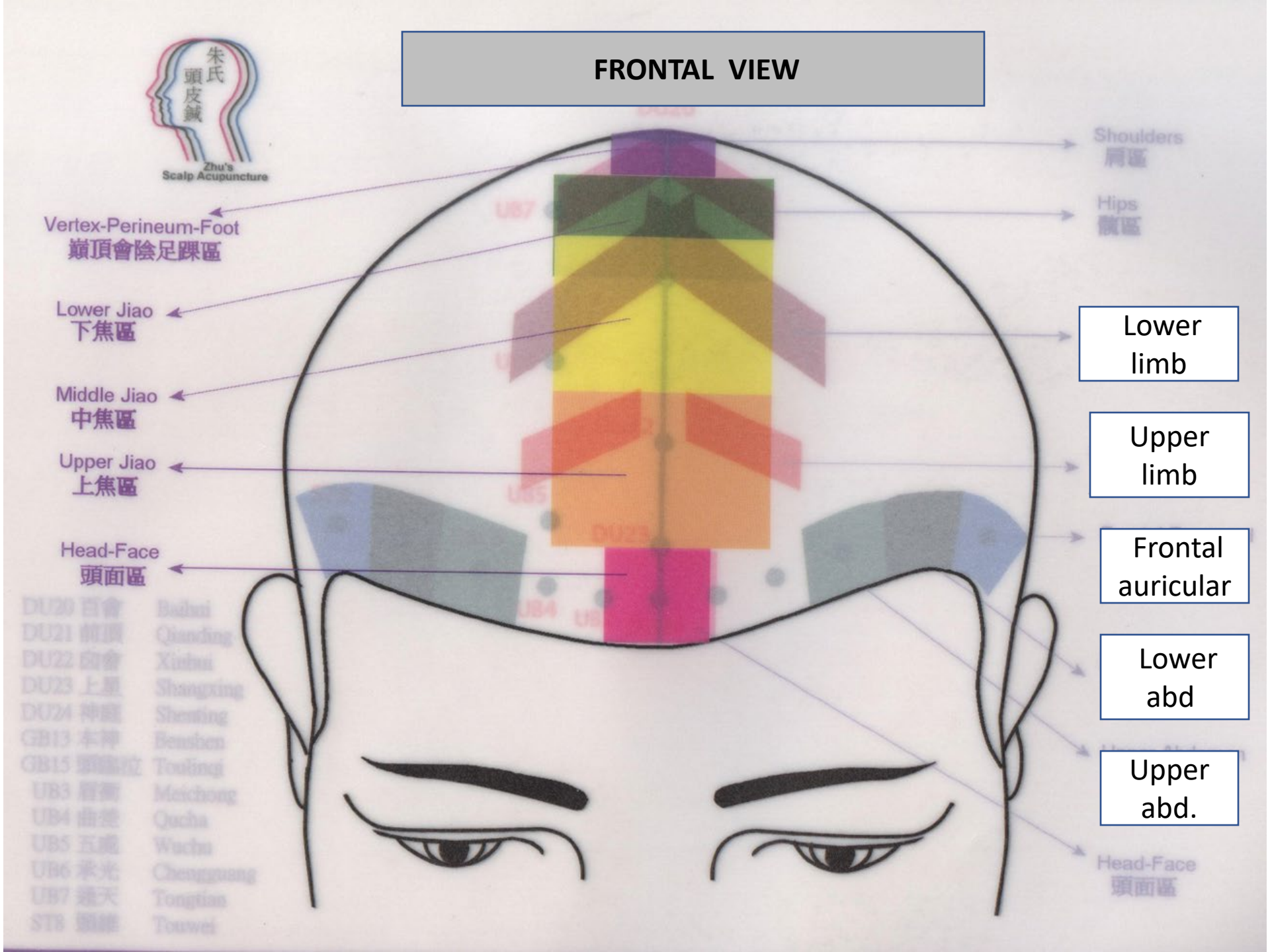
ABOVE VIEW


朱氏頭皮鍼
Zhu's Scalp Acupuncture
Sacral 骶區
Lumbar 腰區
Thoracic 背區
Shoulder 肩區
Cervical 頸區
Vertex-Perineum-Foot 巔頂會陰足踝區
Lower Jiao 下焦區
(overlapped) 重疊
Middle Jiao 中焦區
Upper Jiao 上焦區
Head-Face 頭面區
Hip 臀區

10. **HIP AREA, two bilateral areas from lateroanterior toward DU 20 with angle 45 ^{o} from DU meridian.**
11. **SHOULDER AREA, two bilateral areas latero posterior toward DU 20 with 45^{o} from DU meridian.**
12. **UPPER LIMB AREA, from DU 22 toward ST 8 bilateral.**
13. **LOWER LIMB AREA, from DU 21 toward UB 6 bilateral.**
14. **UPPER ABDOMEN AREA, 1 cun square with the center at GB 15.**

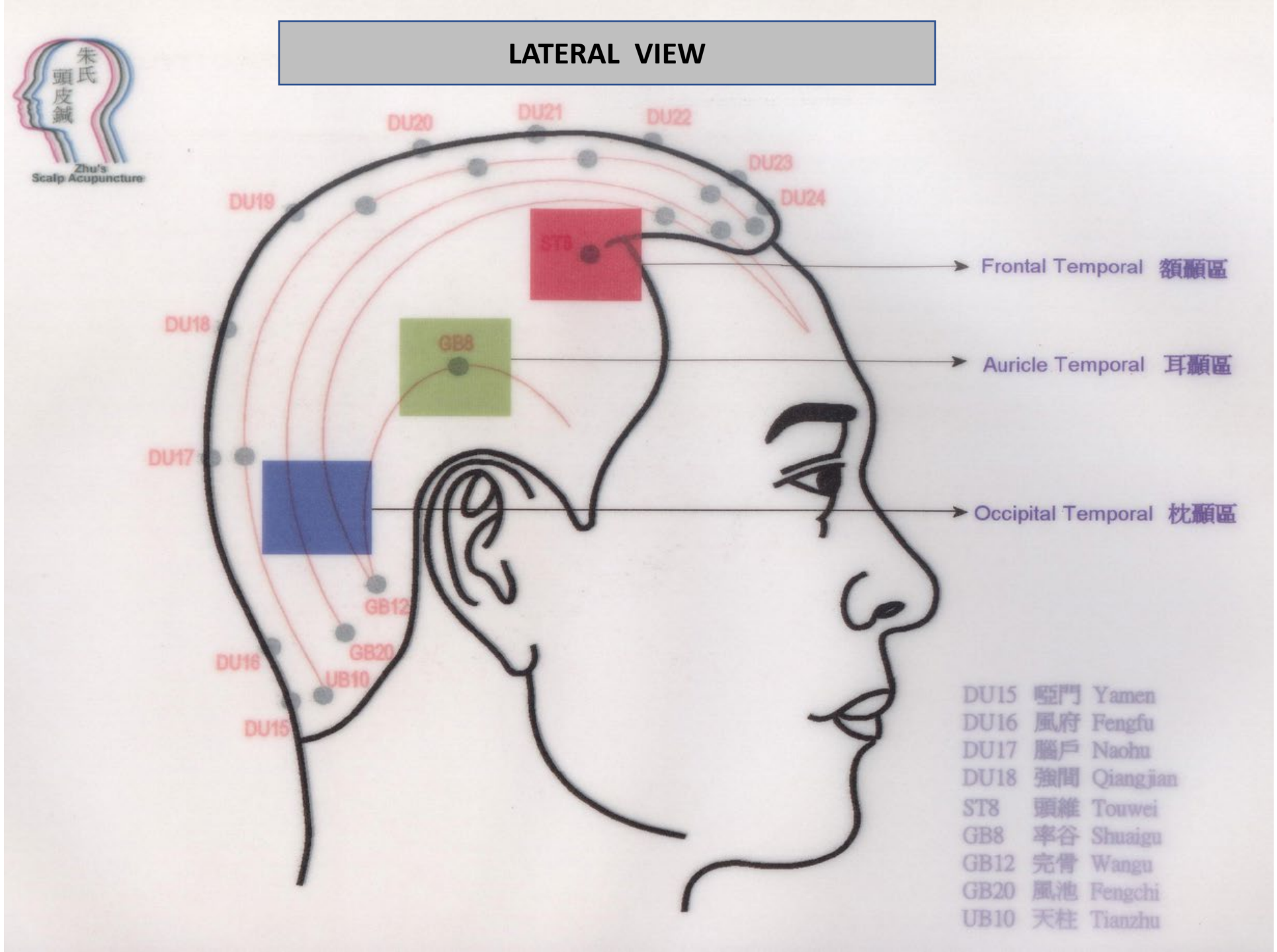
HIP & SHOULDER AREAS



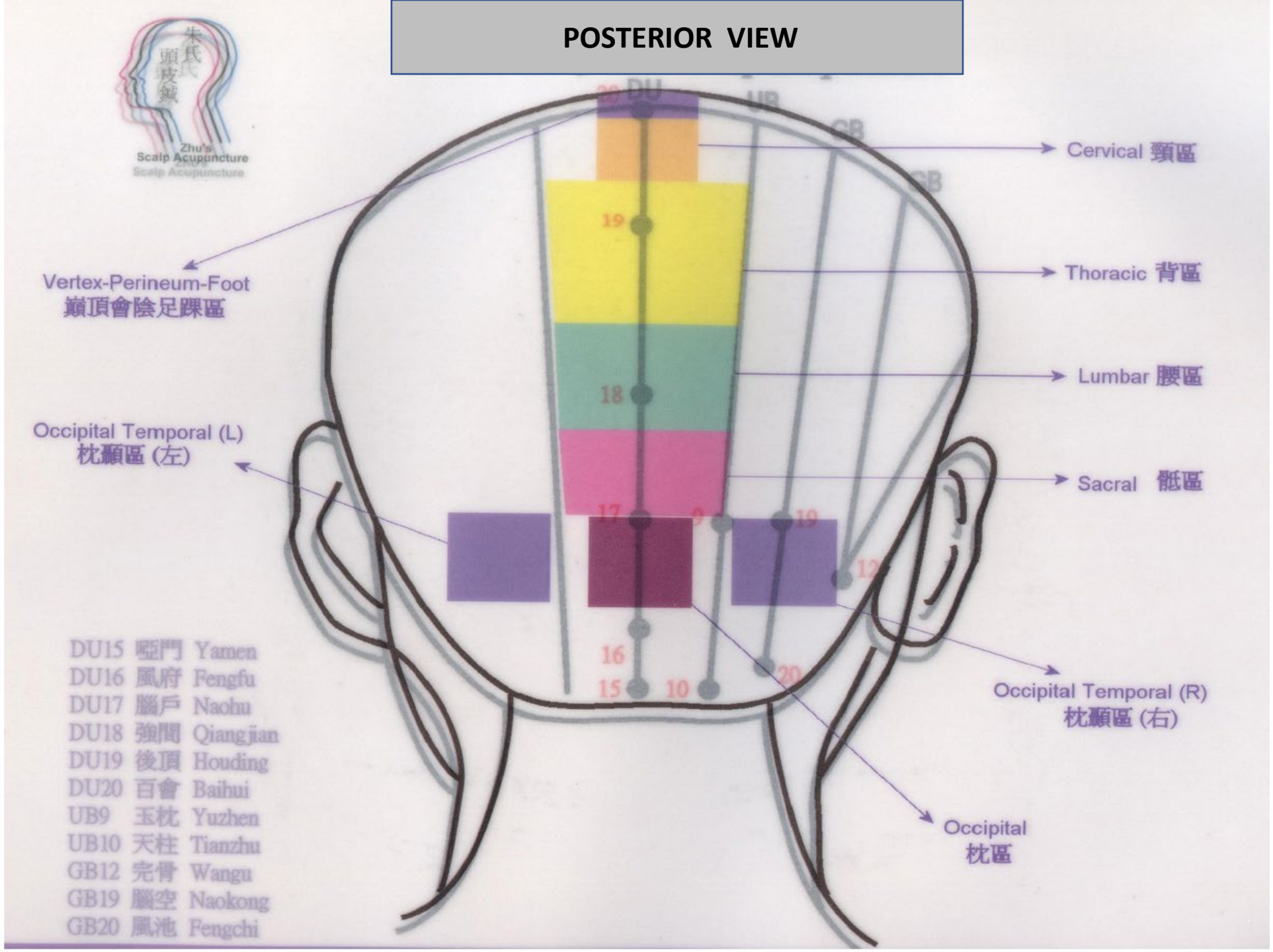

朱氏頭皮鍼
Zhu's Scalp Acupuncture
FRONTAL VIEW
Vertex-Perineum-Foot
巔頂會陰足踝區
Lower Jiao
下焦區
Middle Jiao
中焦區
Upper Jiao
上焦區
Head-Face
頭面區
Shoulders
肩區
Hips
髖區
Lower limb
Upper limb
Frontal auricular
Lower abd
Upper abd.
Head-Face
頭面區

15. LOWER ABDOMEN AREA, 1 cun square with the center at GB 13.
16. FRONTAL TEMPORAL AREA, 1 cun square with the center at ST 8.
17. AURICULAR TEMPORAL AREA, 1 cun square with the center at GB 8.
18. OCCIPITAL TEMPORAL AREA, 1 cun square with the center at midpoint between EOP and tip of mastoid bone.
19. OCCIPITAL AREA, 1 cun square with the center at EOP.

LATERAL VIEW



POSTERIOR VIEW



II. SPECIAL FILIFORM NEEDLES

- The length : 20 mm to 30 mm
- The gauge : 32 (0, 25 mm) to 36 (0.20 mm)

III. SPECIAL NEEDLING TECHNIGUE

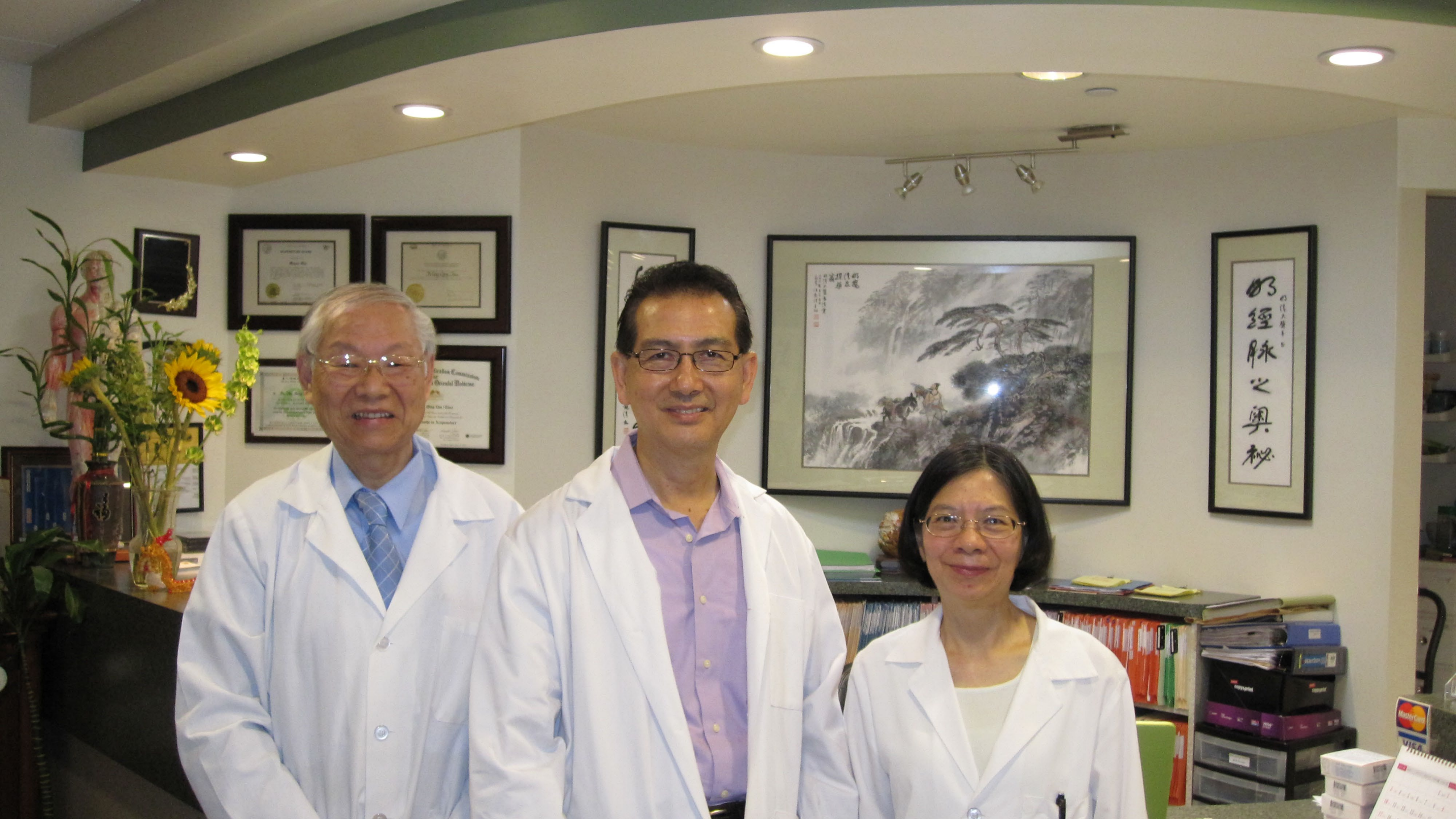
- Lifting and trusting : Jing Qi and Chou Qi techniques
- Small amplitude.

V. INDICATIONS :

- x Acute or chronic condition
- x Internal medicine
- x Pediatrics
- x Neurologic cases, mainly paralysis and musculoskeletal disorders.

VI. KEY WORDS OF THE EFFICACY

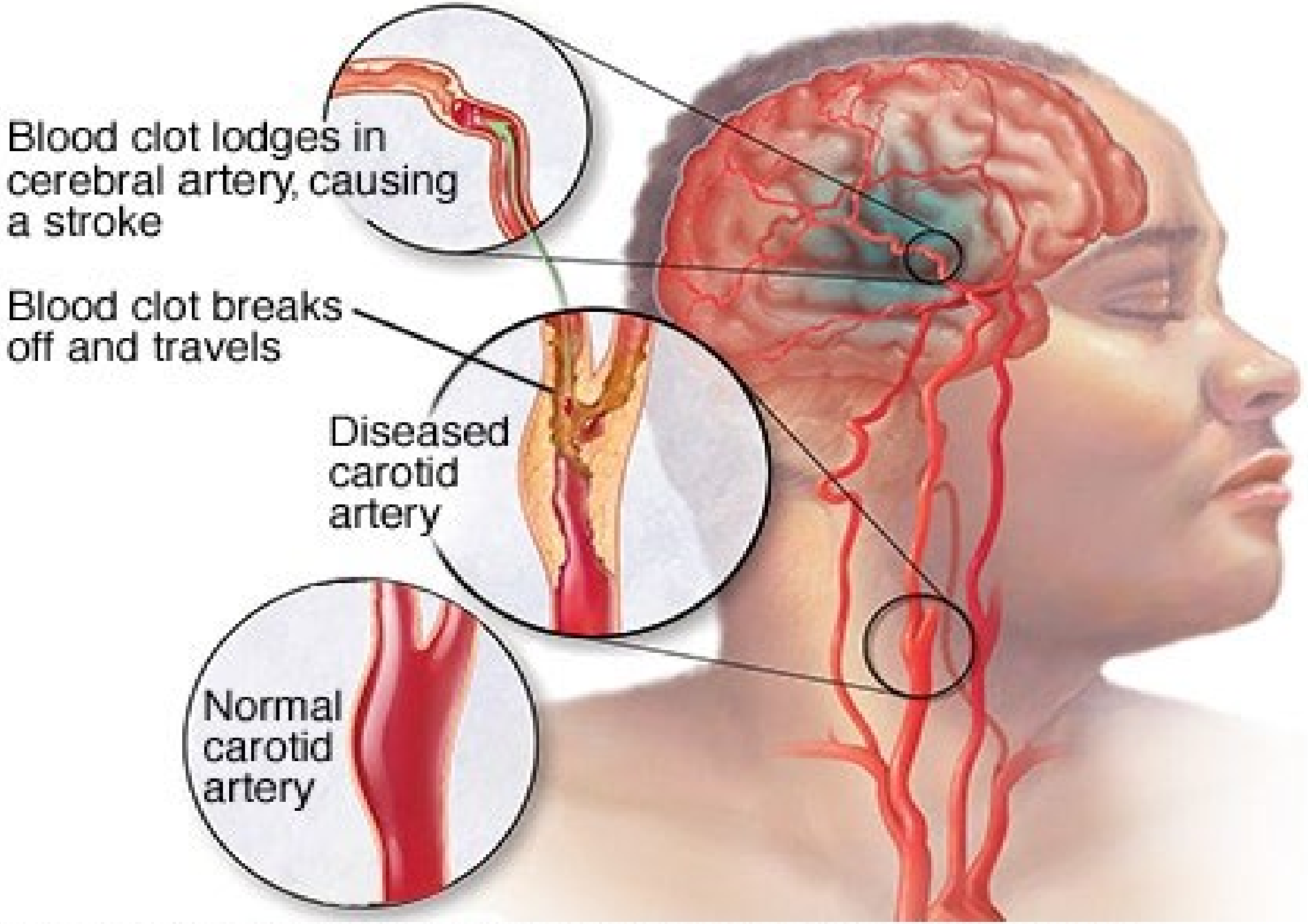
- √ Have the knowledge
- √ Build up the skill through 4 steps to achieve the results by : use of needle, use of mind, use of qi and use of daoyin.



STROKE
IN WESTERN MEDICINE

- **INTRODUCTION**

  Stroke is defined as a brain blood disorder in central nervous system (CNS) with rapidly developing clinical signs of focal or global disturbance of cerebral function, lasting more than 24 hours or leading to death, with no apparent cause other than that of vascular origin.



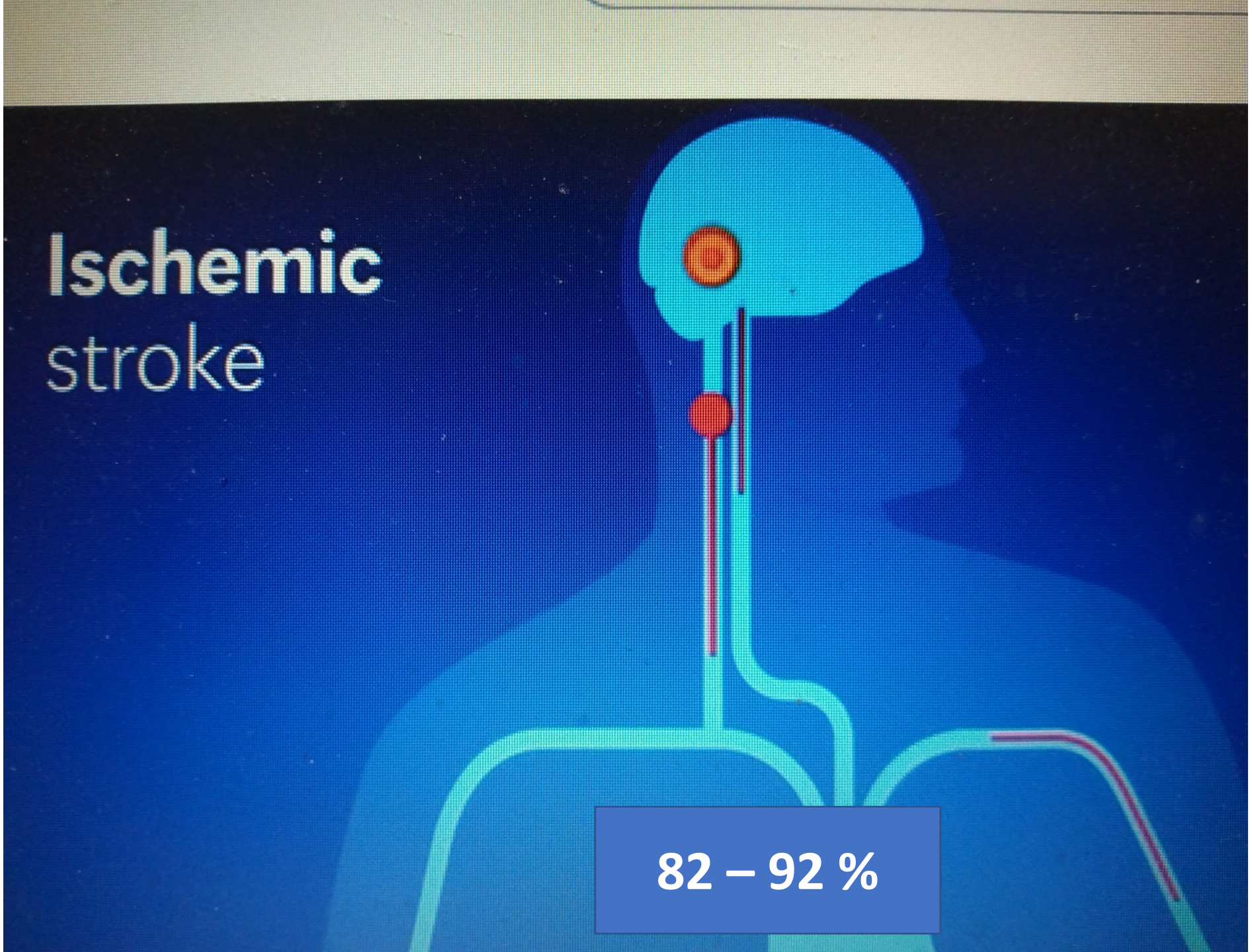
- **INCIDENCE**

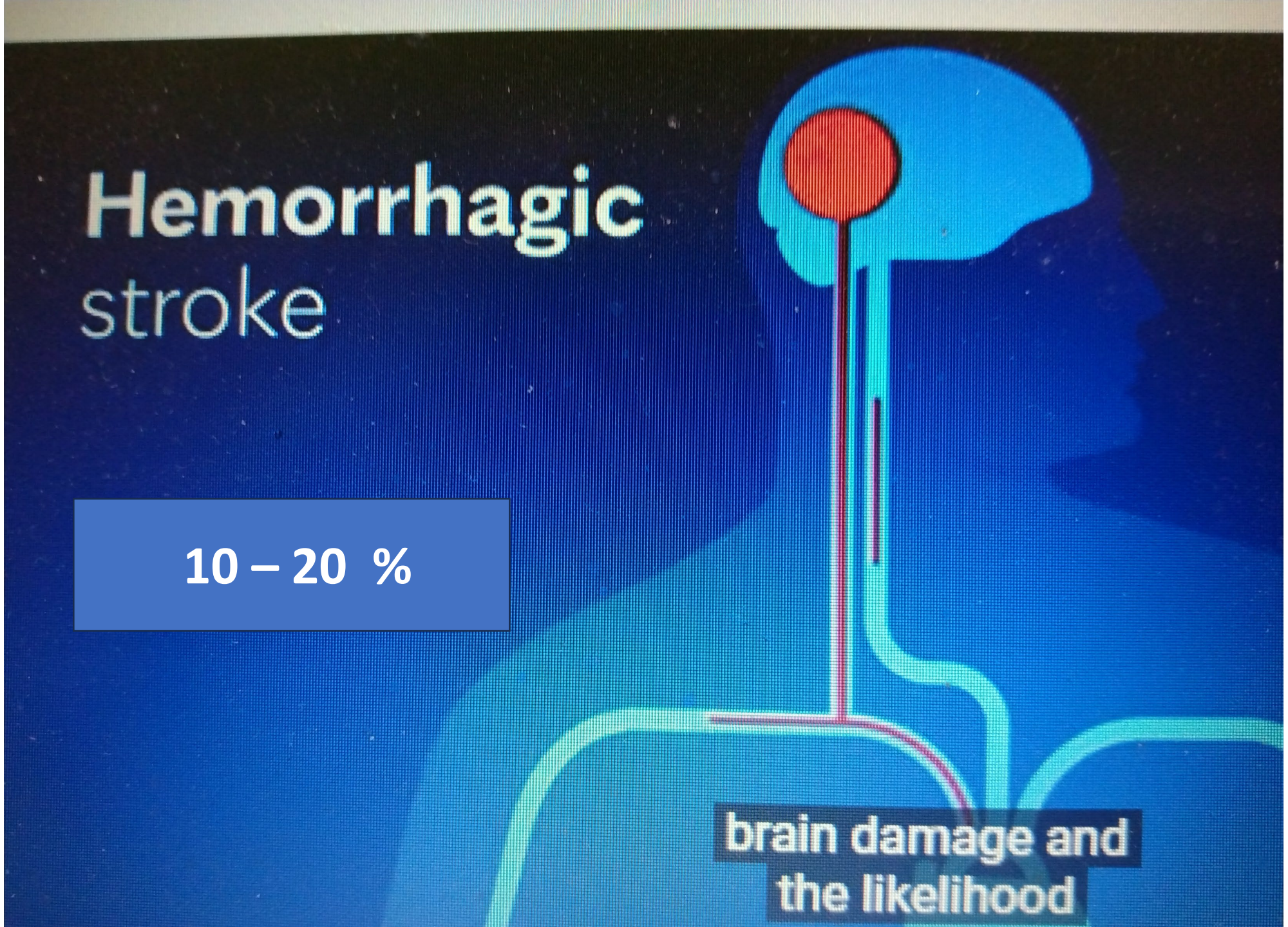
  According to the WHO, 15 million people suffer stroke worldwide each year. Of these, 5 million die, and another 5 million are left permanently disable, representing 11.8 % of total death worldwide.

  Strokes occur as the result of blocked artery to the brain known as ischemic stroke which is about 90 % of the stroke and the other stroke happens when a blood vessel leaks or burst causing the blood spills into the brain tissue or surrounding the brain, and this is called hemorrhagic stroke. Prompt treatment can reduce brain damage or the likelihood of death and disability, therefore someone who is experiencing stroke should seek emergency care right away.

❑ EPIDEMIOLOGY

- ✓ Stroke is the leading cause of disability and the fifth leading cause of death in U S. Each year is about 795,000 people in US experience new (610,000 people) and recurrent (185,000 people) stroke.
  82 to 92 % of stroke in U S are ischemic.
- ✓ In US age adjusted risk of death from stroke : black is 1. 49 that of white, Hispanics have a lower overall incidence of stroke than white and black.
- ✓ Men are higher risk for stroke than women; White men have a stroke incidence of 62. 8/ 100.000 with MR is 26, 3 %, while women with the incidence of 59 / 100,000 with MR is 39,2 %.
- ✓ Although stroke often is considered a disease of elderly person, one third of stroke occur in person younger than 65 y o. The risk increases with age, especially > 64, in whom 75 % of all stroke occur.


Ischemic
stroke
82 – 92 %


Hemorrhagic
stroke
10 – 20 %
brain damage and
the likelihood

- **BACKGROUND**

  Strokes, previously called cerebrovascular accident or stroke syndrome, is a nonspecific state of brain injury with neuronal dysfunction that has several pathophysiologic causes.

  Strokes can be divided into 2 types : hemorrhagic (10 %) and ischemic (90 %) strokes.

  Acute ischemic stroke is characterized by the sudden loss of blood circulation to an area of the brain, typically in a vascular territory, resulting in a corresponding loss of neurologic function.

❑ ANATOMY

✓ **The brain is the most metabolically active organ in the body, representing only 2 % of the body's mass, it requires 15 – 20 % of the total resting cardiac output to provide the necessary glucose and oxygen for its metabolism.**

✓ **ARTERIAL DISTRIBUTIONS**

The cerebral hemipheres are supplied by 3 paired major arteries, specifically, the anterior, middle, and posterior cerebral arteries.

Hemispheres

anterior

posterior

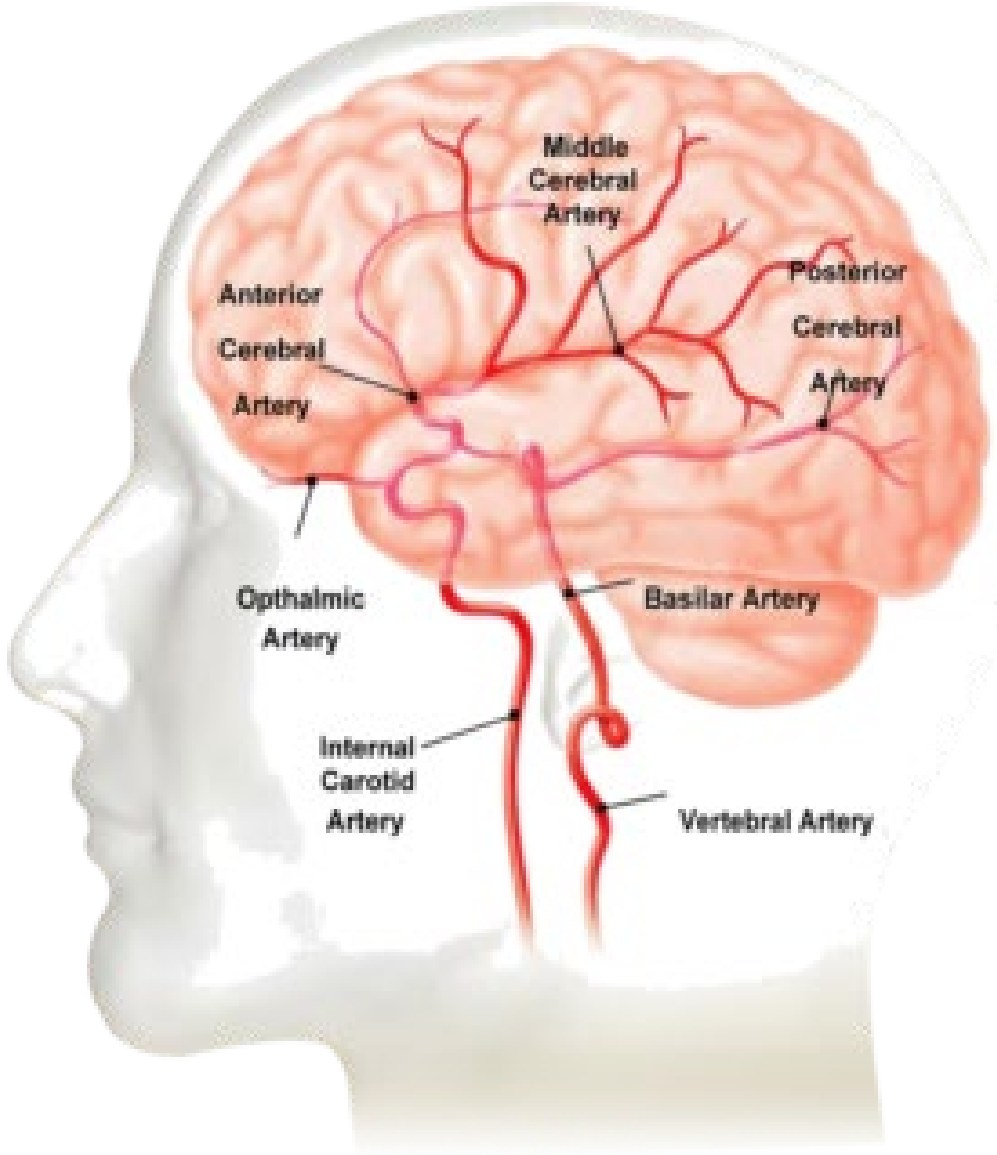
P C A SUPPLIES : THALAMI, OCCIPITAL & INFERIOR TEMPORAL LOBES

L M L

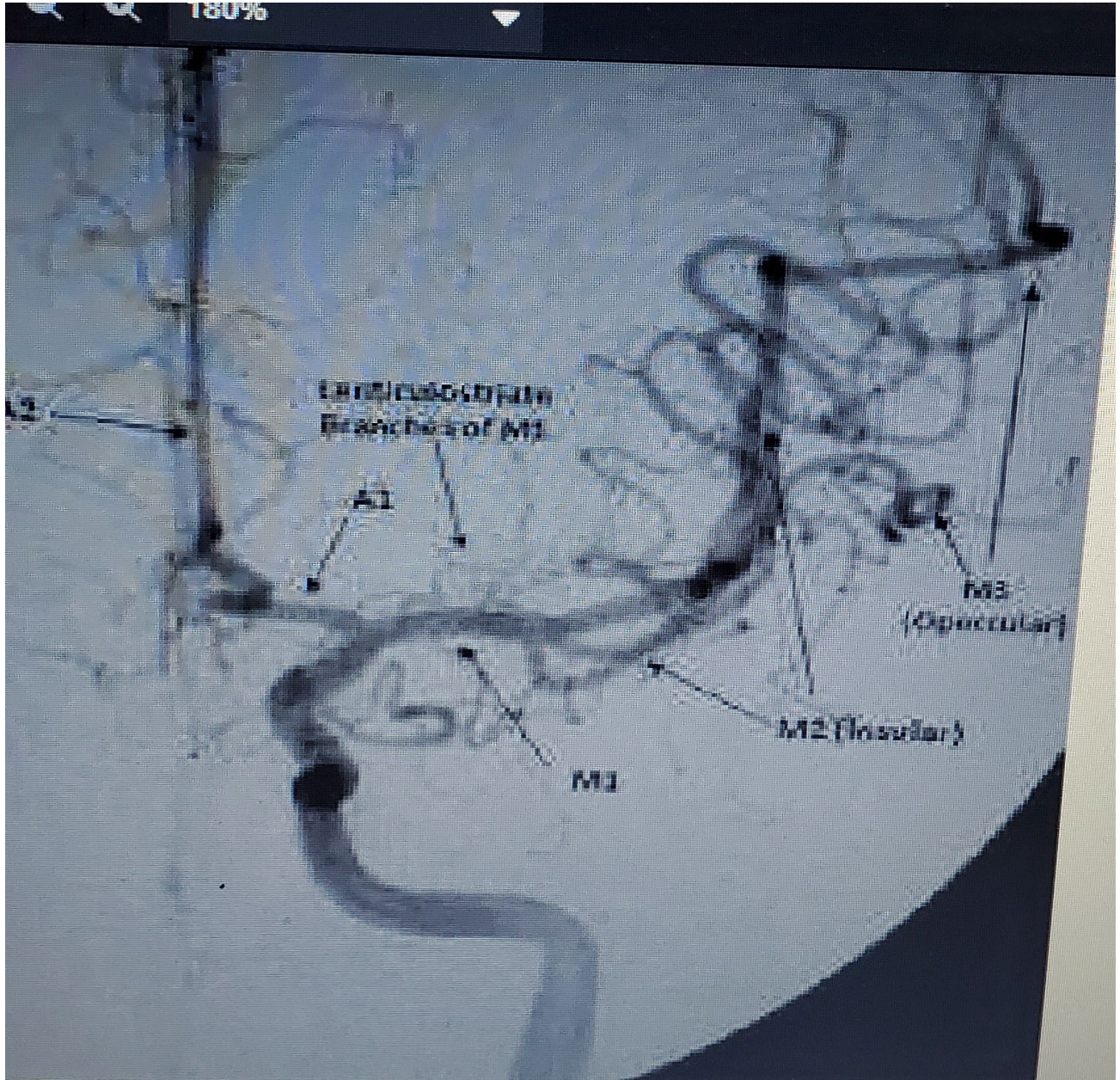
MCA SUPPLIES :
LAT. PORTION OF FRONTAL + PARIETAL LOBES & ANT / LAT PORTION OF TEMP. LOBES + G Pallidus, PUTAMEN & internal Capsule

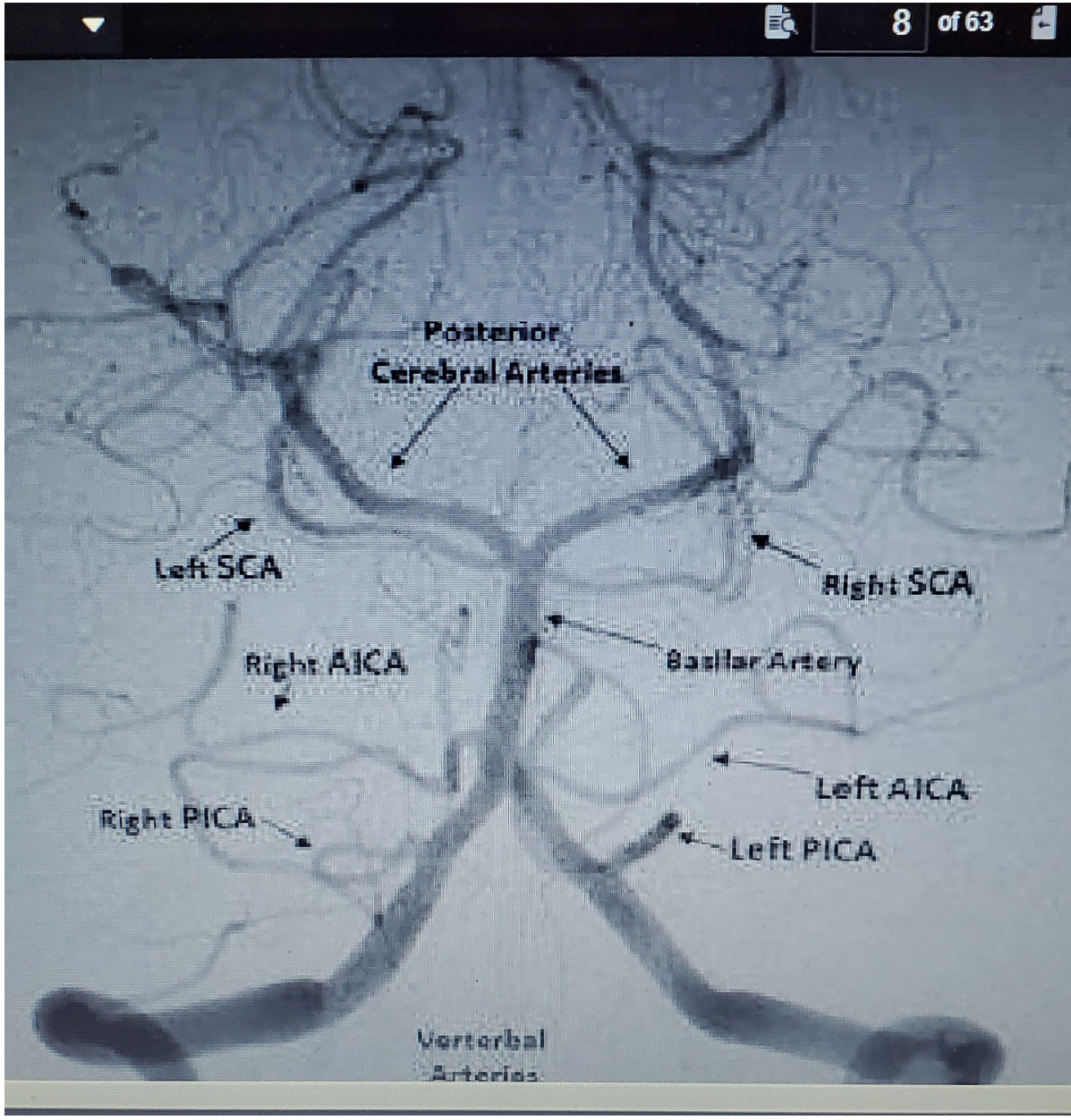
DOMINANCE SOURCE OF Blood Supply TO HEMIPHERES

ACA SUPPLIES :
MEDIAL PORTION OF FRONTAL + PARIETAL LOBES & ANT. PORTION OF B G + I C

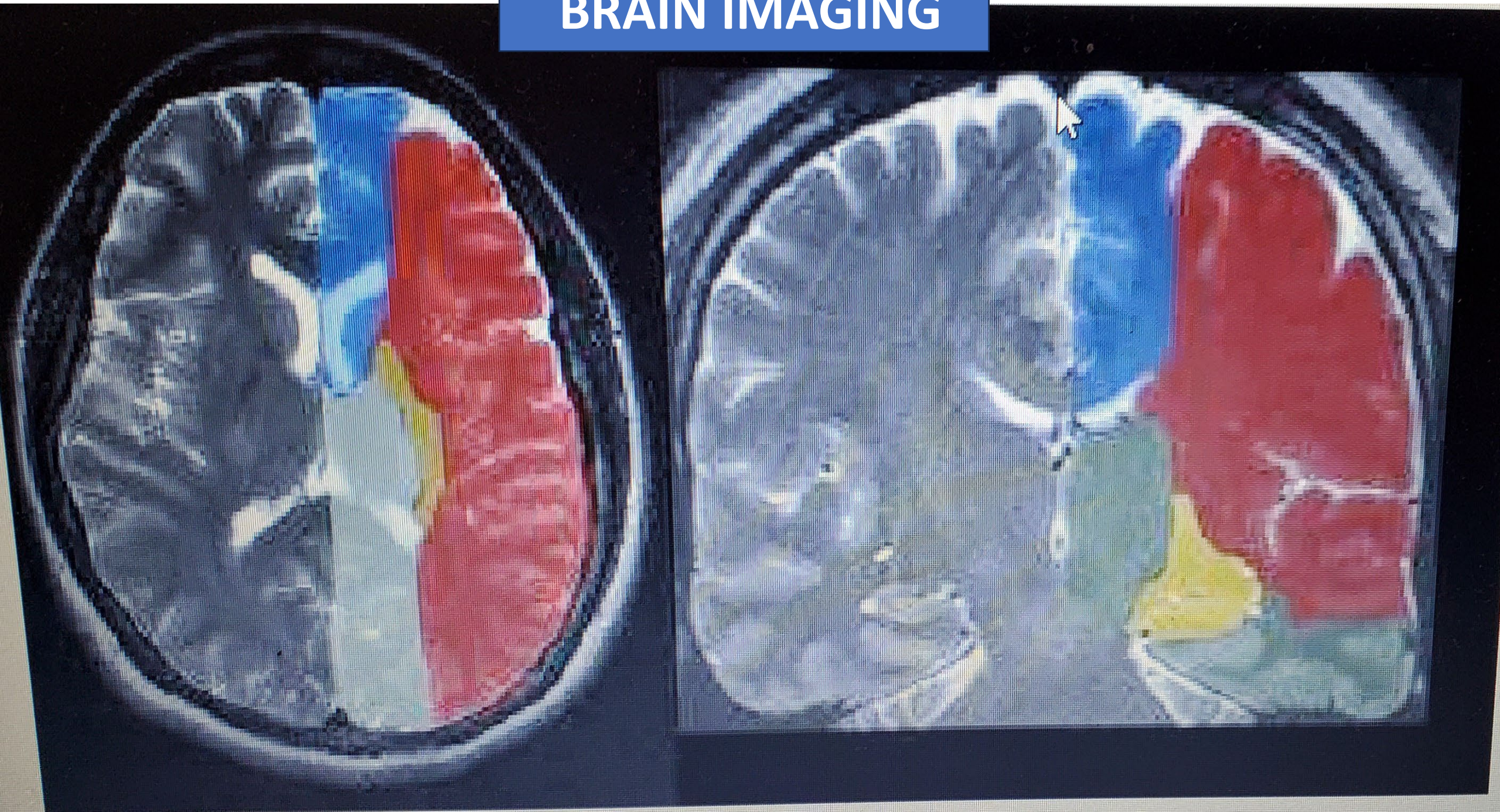


BRAIN ANGIOGRAPHY





BRAIN IMAGING



VASCULAR SUPPLY TO THE BRAIN

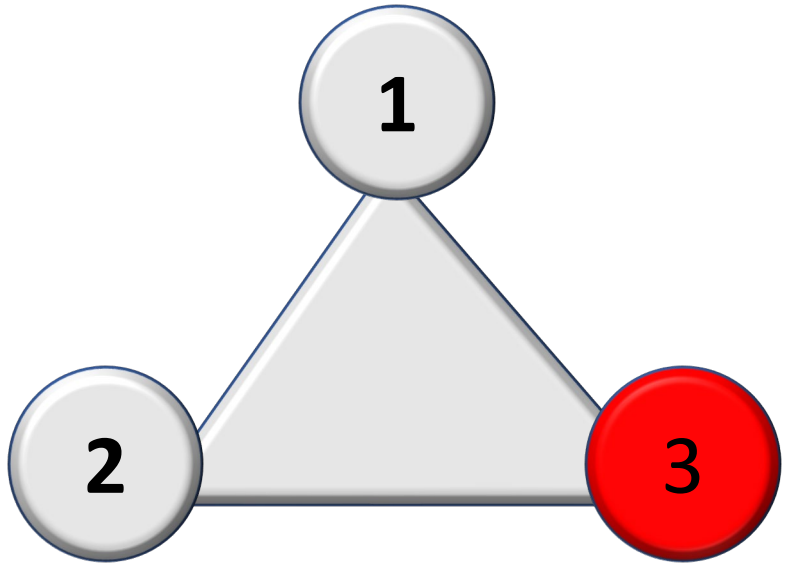
VASCULAR TERRITORY	STRUCTURE SUPPLIED
I. ANTERIOR CIRCULATION (CAROTID A)	
1. Anterior cerebral artery	➢ **CORTICAL BRANCHES : medial; frontal & parietal lobes** ➢ **MEDIAL LENTICULOSTRIATE BRANCHES : cauda head, globus pallidus , anterior limb of internal capsule**
2. Middle cerebral artery	➢ **CORTICAL BRANCHES : Lateral frontal & parietal lobes, lateral anterior temporal lobe** ➢ **LATERAL LENTICULOSTRIATE BRANCHES : globus pallidus, putamen, internal capsule**
3. **Anterior choroidal artery**	**Optic tract, medial temporal lobe, ventrolateral thalamus, corona radiate, post limb of the internal capsule.**

VASCULAR TERRITORY	STRUCTURE SUPPLIED
II. POSTERIOR CIRCULATION	
1. Posterior Cerebral A	➢ Cortical branches : occipital lobes, medial & posterior temporal & parietal lobes ➢ Perforating branches : brainstem, posterior thalamus & midbrain
2. Posterior inferior Cerebellar A	➢ Inferior vermis ; post and inferior cerebellar hemispheres
3. Anterior inferior Cerebellar A	Anteriolateral cerebellum
4. Superior Cerebellar A	➢ Superior vermis : Superior cerebellum

ISCHEMIC STROKE CATEGORIES
3 major subtypes

Large artery infarction
Due to in situ occlusion in carotid a, vertebrobasilar a, cerebral a, may also be cardioembolic

Small artery or lacunar stroke due to obstruction of single small vessels, typically in deep level with specific Vascular pathology



Cardiogenic emboli are common cause of recurrent stroke

❑ ETIOLOGY

- ✓ Ischemic strokes result from events that limit or stop blood flow, such as extra cranial or intracranial thrombotic embolism, thrombosis in situ or relative hypoperfusion.
- ✓ As blood flow decreases, neurons cease functioning.
- ✓ Irreversible neuronal ischemia is generally thought to begin at blood flow rates of less than 18 ml/ 100 g of tissue/ min, with cell death occurring rapidly at rates below 10 ml/ 100 g / min.

- **GENETIC AND INFLAMMATORY MECHANISMS, having important roles in the development of atherosclerosis, specifically in stroke.**

- **HYPERHOMOCYSTEINEMIA AND HOMOCYSTEINURIA , leading to the thromboembolic event and the common cause of death for the patients with homocysteinuria. Folic acid can lower the homocysteine**

- **AMYLOID ANGIOPATHIES increases the risk of stroke and dementia**
- **……**

- **RISK FACTORS : Identification of risk factors can uncover clues to the cause of the stroke ; provides the most appropriate treatment & sec. prevention plan**

NON MODIFIABLE CONDITIONS

- **PERSONAL : Age, race, sex, ethnicity**
- **PMH : Migraine headache (A study showed migraine with aura was a strong risk factor for any type of stroke ; SBP 180/ > ; BMI > 35kg/m2 ; diabetes**
- **F H : Stroke / TIA , M I & smoking.**

MODIFIABLE CONDITIONS

- **HTN (The most important)**
- **D M**
- **Cardiac Disease (A F, V D, H F, M S, PFO, atrial / ventricular enlargement)**
- **Hypercholesterolemia**
- **TIA**
- **Carotid stenosis**
- **Lifestyle issues (> > alcohol intake, tobacco use, illicit drug use, sedentary)**
- **Obesity**
- **Oral contraceptive**
- **Sickle cell anemia**

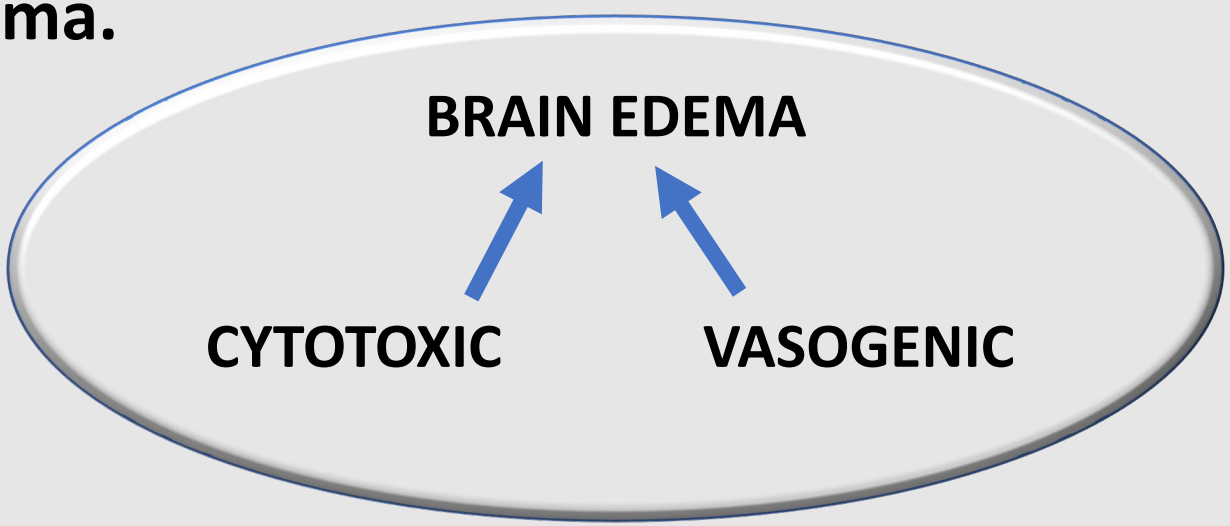
GUIDELINES FOR REDUCTION FOR REDUCTION OF STROKE RISK
AHA / ASA , 2014

SPECIFICALLY FOR WOMEN

- **A stroke risk score should be developed**
- **PMH with HTN before pregnancy, should take low dose of aspirin or calcium supplement to reduce risk of preecclamsia**
- **BP medication may be considered for pregnant women with moderately HTN (150 – 159 mmHg / 100 – 109 mmHg) ; For severe HTN (160/ 110 mmHg above) should be treated .**
- **Screened for HTN before starting to use BCP because of increased risk of stroke.**
- **Migraine headache with aura is encouraged to quit smoking**
- **Age over 75, should be screened for atrial fibrillation,**

❑ PATHOPHYSIOLOGY

- Acute ischemic strokes result from vascular occlusion secondary to thromboembolic disease.
- Ischemia causes cell hypoxia and depletion of cellular adenosine triphosphate (ATP). Without ATP, there is no longer the energy to maintain ionic gradient across the cell membrane and cell depolarization. Influx of sodium and calcium ions and passive inflow of water into the cell lead cytotoxic edema.



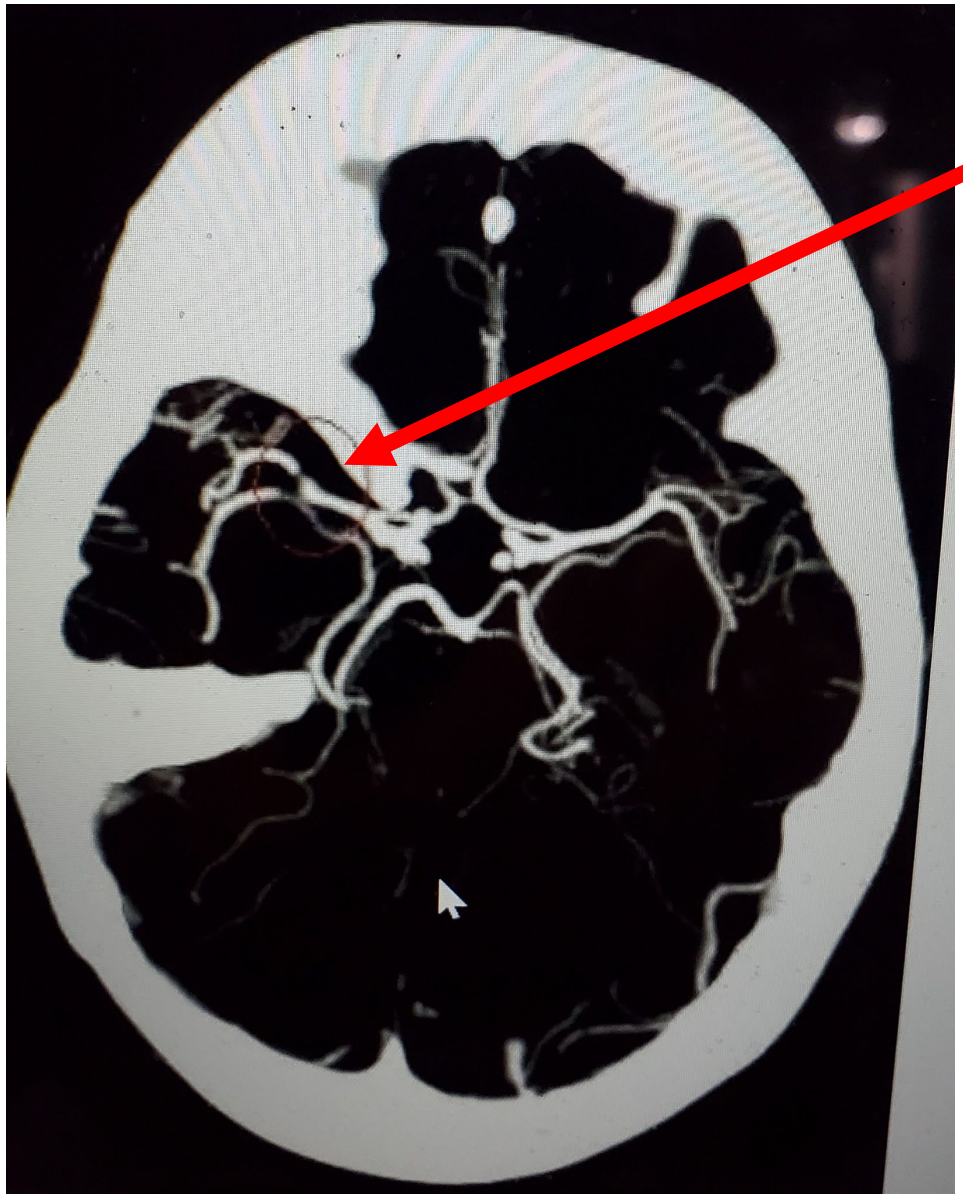
❑ ISCHEMIC CORE & PENUMBRA

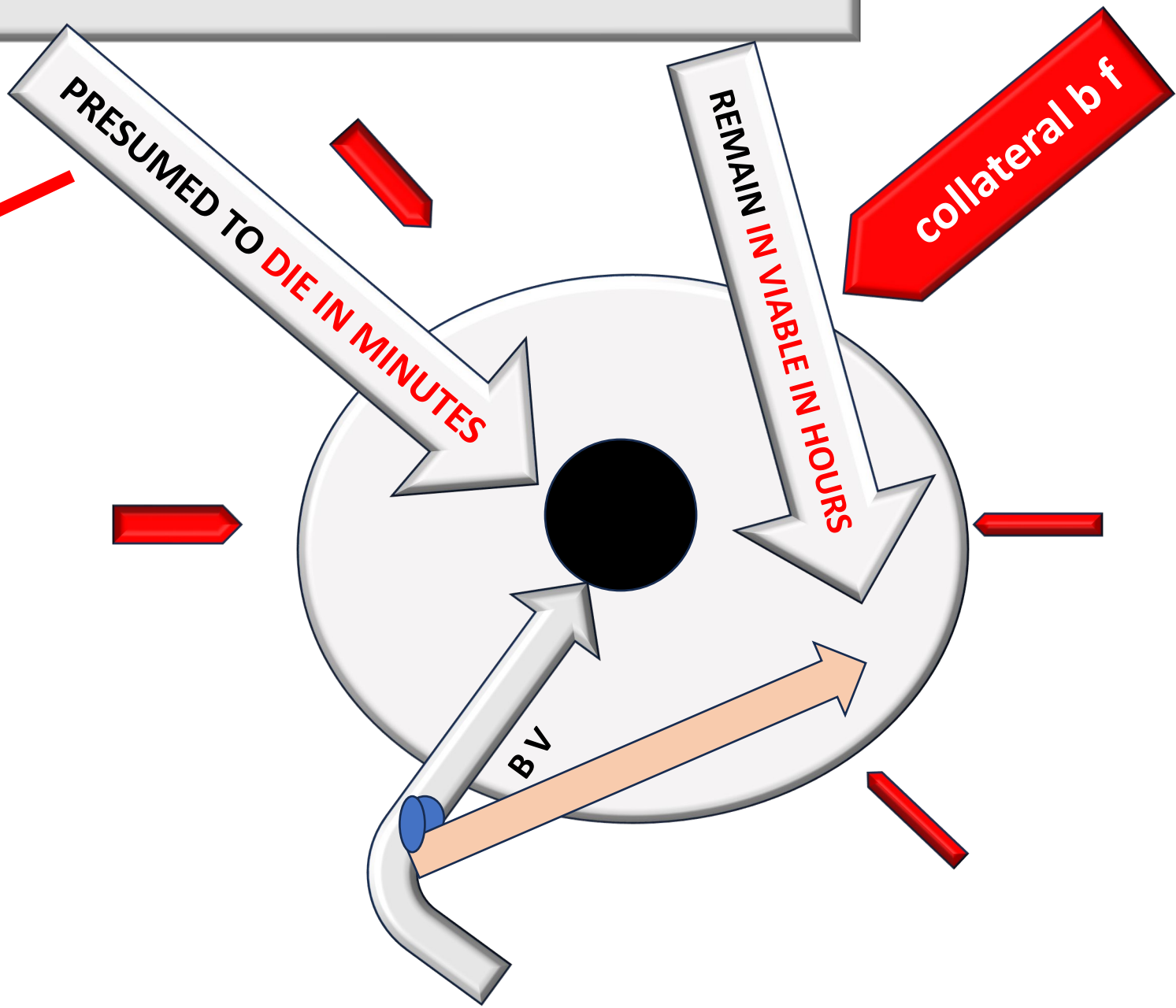
- An acute vascular occlusion produces heterogenous regions of ischemia in the affected vascular territory. Local blood flow is limited to any residual flow in the major arterial source plus the collateral supply, if any.

- Affected regions with cerebral blood flow of lower than 10 ml/ 100 g of tissue /min are referred to collectively as the core. These cells are presumed to die within minutes of stroke onset.

- Zones of decreased or marginal perfusion (cerebral blood flow < 25 ml/ 100 g / min are collectively called the ischemic penumbra.
  Tissue in the penumbra can remain viable for several hours because of marginal tissue perfusion.

ISCHEMIC CORE & PENUMBRA





ISCHEMIC CASCADE ON THE CELLULAR LEVEL

CEREBRAL ISCHEMIA

Depleted ATP → membrane ion transport system failed → disruption of cellular metabolism → Impairs Na – K PM Pump → increase Na influx → increase water content

→ CEREBRAL CYTOTOXIC EDEMA
Veri early onset

Impairs Na- Ca exchange protein → Influx calcium → increase → Increase N T / degradative enzymes, ect → cell membrane damage & other essential neuronal structure destruction

→ CEREBRAL VASOGENIC EDEMA due to Protein & water flood into ECS
Peak at 3 – 5 day,
Resolve over the next several weeks

Dysfunction of cerebral vasculature with BBB damage,
within 4 – 6 hrs post infarction

HEMORRHAGIC TRANSFORMATION OF ISCHEMIC STROKE

Estimated 5 % of uncomplicated ischemic stroke where an ischemic infarction is transformed into an area of hemorrhage which not always associated with neurologic decline. The conversion ranging from the development of small petechial hemorrhages to the formation of hematomas that produce neurologic decline and may necessitate surgical evacuation or decompressive hemicraniectomy.

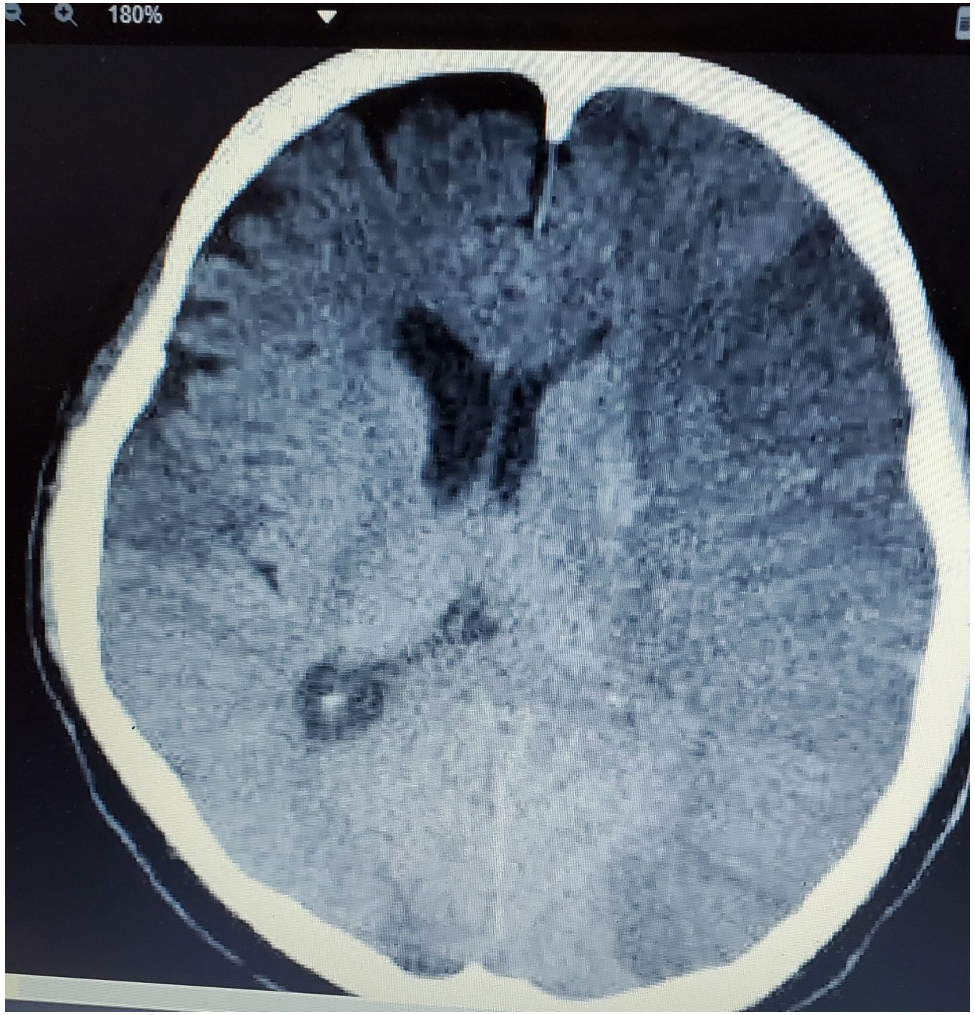
The proposed mechanisms of the hemorrhagic transformation include reperfusion of ischemically injured tissue, either from :

1. recanalization 2. collateral blood supply 3. BBB disruption

SPONTANEOUS HEMORRHAGIC transformation of an ischemic infarct occurs within 2 to 14 days postictus, usually within the first week.

Commonly seen following cardioembolic stroke and more likely to occur with larger infarct volumes and following the administration of rt PA in patients whose baseline noncontrast CT (NCCT) scan demonstrate area of hypodensity

NCCT SCAN



DIAGNOSIS / ASSESSMENT

Any patient presenting with acute neurologic deficit or any altered of consciousness is considered stroke

Emergent brain imaging is essential for evaluation of acute ischemic stroke, includes NCCT scanning (most commonly used, CT angiography, CT perfusion scanning, MRI, Carotid duplex scanning, digital substraction angiography, etc. (Lumbar puncture, Lab. Tests.

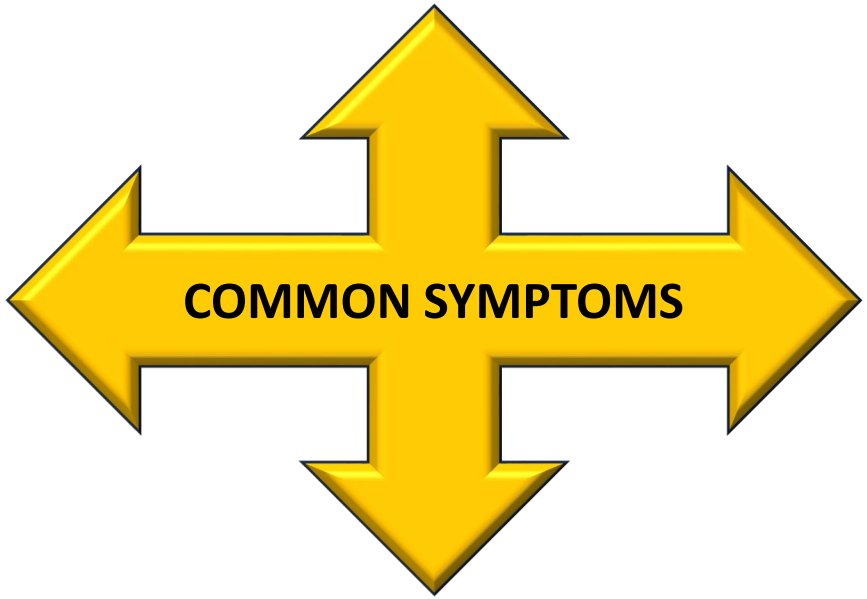
CLINICAL FEATURES

EYES DYSFUCNTION

- Visual loss (mono /binocular)
- Visual field deficits, diplopia
- Nystagmus

MOTOR DEFICITS

- Acute onset of hemi/mono/ quadri paresis
- Facial drop



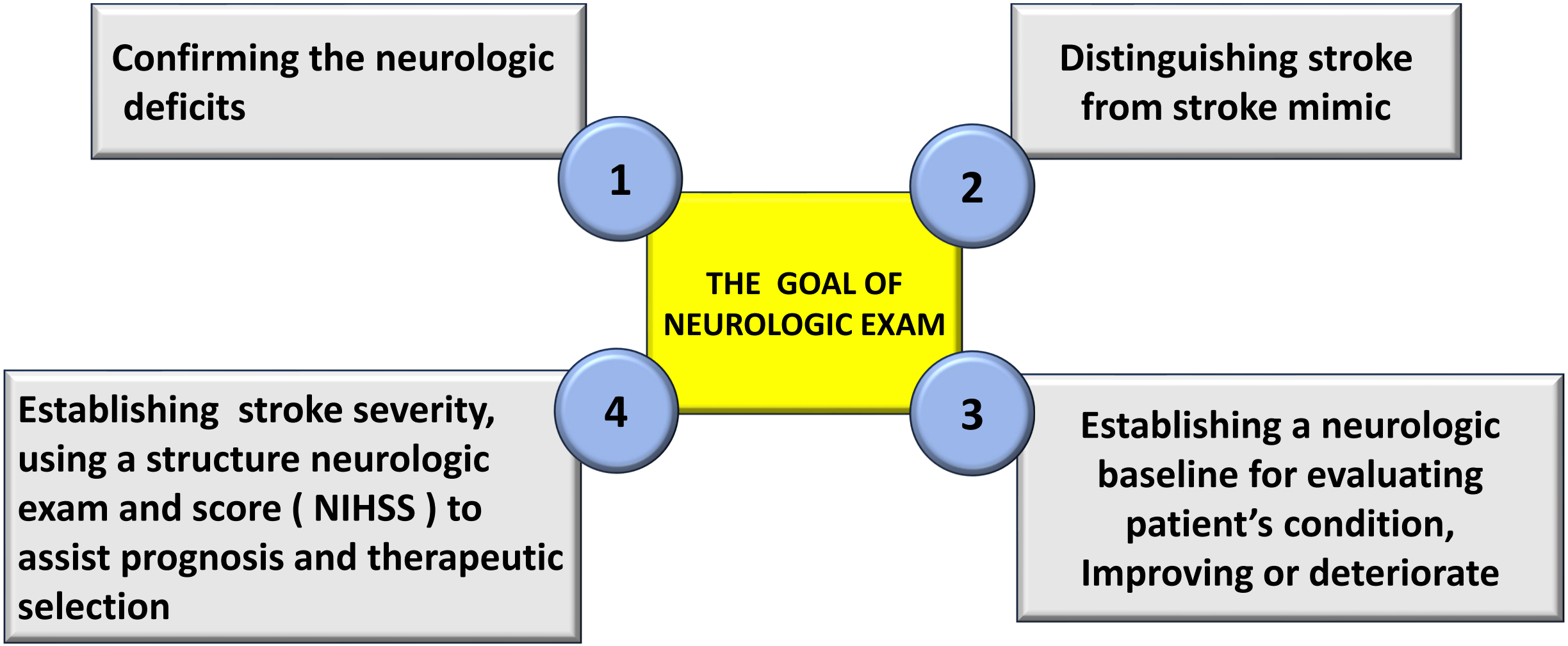
SENSORY DEFICITS

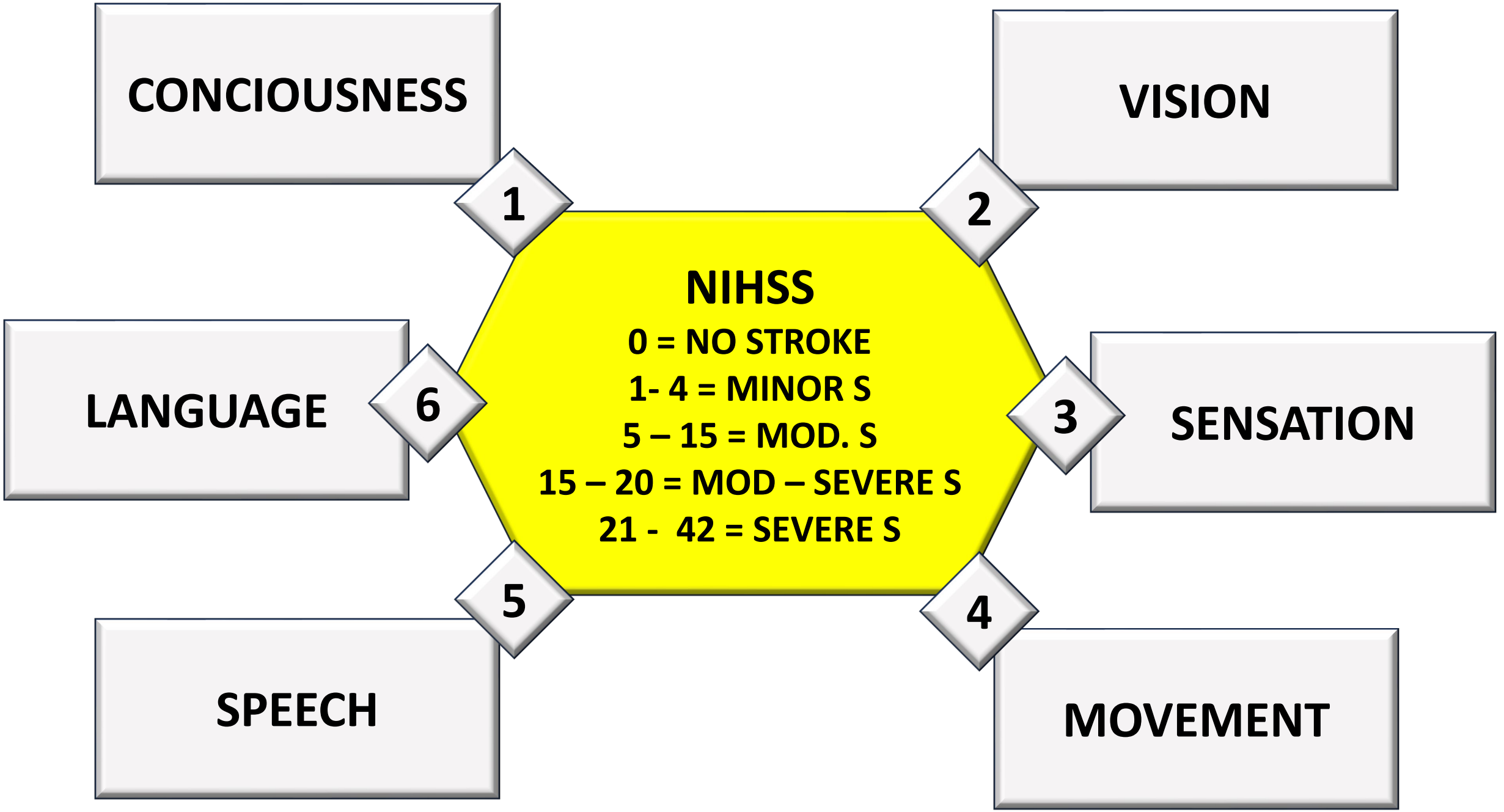
- Hemisensory
- Vertigo (rarely)

BRAIN DYSFUNCTIONS

- Dysathria, ataxia, aphasia, sudden subconcious

A BRIEF BUT ACCURATE NEUROLOGIC EXAM IS ESSENTIAL IN PATIENT WITH SUSPECTED STROKE SYNDROME



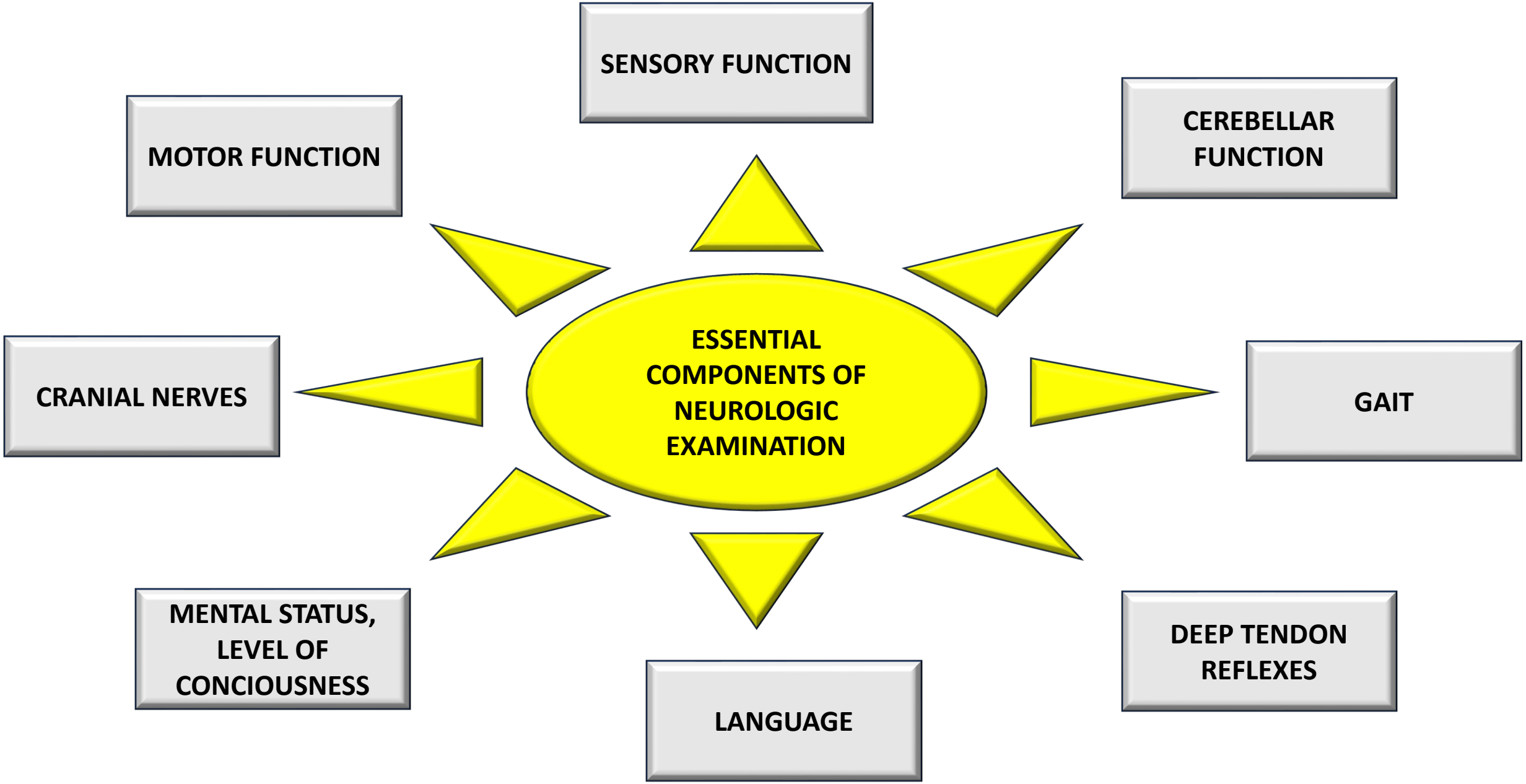

CONCIOUSNESS
1
VISION
2
NIHSS
0 = NO STROKE
1- 4 = MINOR S
5 – 15 = MOD. S
15 – 20 = MOD – SEVERE S
21 - 42 = SEVERE S
LANGUAGE
6
3
SENSATION
5
4
SPEECH
MOVEMENT

N0	INSTRUCTION	SCALE DEFINITION	SCORE
1A	LEVEL OF CONCIOUSNESS (L O C)	0 = ALERT , KEENLY RESPONSE 1 = NOT ALERT BUT AROUSABLE WITH MINOR STIMULATION. 2 = NOT ALERT , REQUIRES REPEATED / STRONG / PAINFUL STIMULATION 3 = TOTALLY UNRESPONSIVE, FLACCID / AREFLEXIC	
1B	L O C CHECKED BY QUESTIONING ON AGE / MONTH	0 = CORRECT ANSWER FOR BOTH 1 = 1 CORRECT ANSWER 2 = NO CORRECT ANSWER	
1C	L O C CHECKED BY COMMAND TO OPEN/ CLOSE EYES; GRIP OR RELEASE HAND.	0 = PERFORMES BOTH TASK 1 = PERFORMES ONE TASK 2 = PERFORMES NEITHER TASK	
2	BEST GAZE, TEST FOR HARIZONTAL EYE MOVEMENT	0 = NORMAL 1 = PARTIAL MOVEMENT OF ONE OR BOTH 2 = TOTAL GAZE PARESIS	
3	VISUAL FIELD	0 = NO VISUAL LOSS 1 = PARTIAL HEMIANOPSIA, 2 = COMPLETE HEMIANOPSIA	

N0	INSTRUCTION	SCALE DEFINITION	SCORE
4	FACIAL PALSY	0 = SYMETRICAL MOVEMENT 1 = FLATTENED NASOLABIAL FOLD/ ASYMETRY ON SMLING 2 = TOTAL OR NEAR TOTAL PARALYSIS ON LOWER FACE 3 = ABSENCE OF ONE OR BOTH SIDES OF UPPER & LOWER FACE	
5	MOTOR ARM	0 = NO DRIFT, THE LIMB HOLDS 90 / 45 DEGREES FOR FULL 10 SECONDS 1 = DRIFT, THE LIMB HOLDS 90 / 45 DEGREE < 10 SECONDS 2 = THE LIMB UNABLE TO HOLD / MAINTAIN THE ABOVE DEGREES (HAVE SOME EFFORT AGAINST GRAVITATION) 3 = NO EFFORT AGAINST GRAVITATION 4 = NO MOVEMENT	

N0	NSTRUCTION	SCALE DEFINITION	SCORE
6	MOTOR LEG	0 = NO DRIFT, HOLDING LEG 30 DEGREE FOR 5 SECONDS 1 = DRIFT, LEG FAILS BY THE END OF THE 5 SECONDS 2 = SOME EFFORT AGAINST GRAVOTATION BUT FAILS TO HOLD BY 5 SECONDS AND FALLS TO BED 3 = NO EFFORT AGAINST GRAVITATION, LEG FALLS TO BED IMMEDIATELY. 4. = NO MOVEMENT	
7	LIMB ATAXIA	0 = ABSENCE 1 = PRESENT IN ONE LIMB 2 = PRESENT IN TWO LIMBS	
8	SENSORY	0 = NORMAL / NO SENSORY LOSS 1 = MILD TO MODERATE SENSORY LOSS (LESS PAIN ON PINPRICK STIMULUS 2 = TOTAL SENSORY LOSS	
9	BEST LANGUAGE	0 = NO APHASIA / NORMAL 1 = MILD TO MODERATE APHASIA (LOSS FLUENCY OF FACILITY OF COMPERHENSION, SPEECH REDUCTION. 2 = SEVERE APHASIA / VERY HARD IN DIRECT COMMUNICATION/ MAY BE THROUGH FRAGMENTARY EXPRESSION. 3 = MUTE / GLOBAL APHASIA / NO USABLE SPEECH OR COMMUNICATION	

N0	INSTRUCTION	SCALE DEFINITION	SCORE
10	DYSATHRIA	0 = NORMAL 1 = MILD TO MODERATE DYSRTHRIA (SLURRED SPEECH AT SOME WORDS 2 = SEVERE DYSATHRIA / UNINTELIGIBLE SLURRED SPEECH	
11	EXTINCTION AND INATTENTION	0 NO ABNORMALITY 1 = VISUAL, TACTILE, AUDITORY, SPATIAL OR PERSONAL IN ATTENTION 2. PROFOUND HEMI INATTENTION OR EXTINCTION TO MORE THAN ONE MODALITY	


SENSORY FUNCTION
MOTOR FUNCTION
CEREBELLAR FUNCTION
ESSENTIAL COMPONENTS OF NEUROLOGIC EXAMINATION
CRANIAL NERVES
GAIT
MENTAL STATUS, LEVEL OF CONCIOUSNESS
LANGUAGE
DEEP TENDON REFLEXES

MANAGEMENT

EMERGENT PROTOKOL within 60 min.

- **Assess ABC & stabilize the ptn**
- **Complete the initial evaluation & assessment**
- **Initial reperfusion R/ if appropriate**

ISCHEMIC STROKE R/ :

- **Fibrinolytic R/ e.g. rt PA must be given within 3 hrs of stroke onset**
- **Antiplatelet agents**
- **M. thromboectomy**

COMORBID R/ :

- **Reduce fever**
- **Normolized BP**
- **Correct Hypoxia & hypoglycemia**
- **Manage C. arrhythmia & M. ischemia**

STROKE PREVENTION

PRIMARY PREVENTION

PMH with no stroke

- Platelet antiaggregants
- Statins
- Exercise
- Lifestyle intervention

SECONDARY PREVENTION

PMH with stroke

- Platelet antiaggregants
- Antihypertension
- Statins
- Lifestyle interventions

STROKE REHABILITATION

- A program of different therapies designed to help the patient relearned skills lost after a stroke, such as movement, speech, strength and daily living skills with the goals of regaining independence and improve the quality of life.

Clinical studies showed that stroke patients who participates in the program have better performance than most the patients who don’t have the stroke rehabilitation. Therefore, the stroke rehabilitation is recommended for all stroke patients.

THE REHABILITATION PLAN

- Overall, rehabilitation is centered around specifically focused and repetitive actions. Practicing the same thing over and over again.

The rehabilitation plan will depend on the part of the body or type of ability affected by the stroke, includes :

1. Physical activities (P A)
2. Technology assisted physical activities (T A PA)
3. Cognitive and emotional activities (C E A)
4. Therapies which are still being investigated (I T)

THE PLAN

1

PHYSICAL ACTIVITIES

- Motor skill exercises
- Mobility training
- Constraint induced therapy
- ROM therapy

2

TECHNOLOGY ASSISTED P A

- Functional E S
- Robotic technology
- Wireless Technology
- Virtual Reality

3

COGNITIVE & EMOTIONAL A

- T/ for cognitive disorders
- T/ for comm. Disorders
- Psychological Ev. & T/
- Medication

4

INVESTIGATIONAL T/

- Noninvasive brain stim.
- Biological T/
- Alternative medicine.

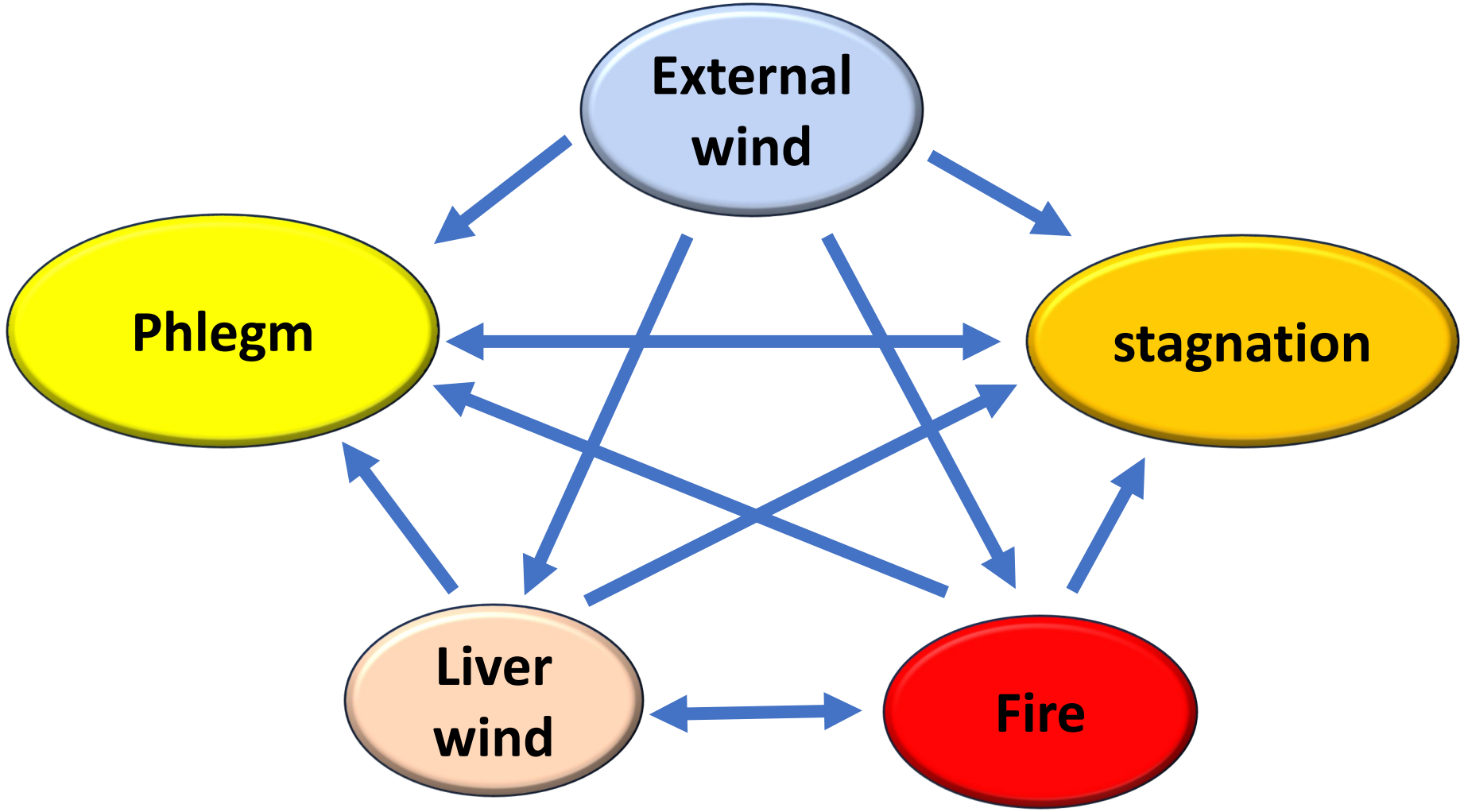
THE MANAGEMENT

- The sooner the stroke rehabilitation, the more likely to regain lost ability and skills.
- Commonly the stroke rehabilitation is started as soon as 24 to 48 hours after the stroke, while in the hospital.
- The duration of stroke rehabilitation depend on severity of the stroke and related complications. Possibly months or years post stroke.
- The rehabilitation setting will probably begin while in the hospital. Before leaving the hospital, the next setting will be the best determined by working with / among family, hospital social worker and the care team.

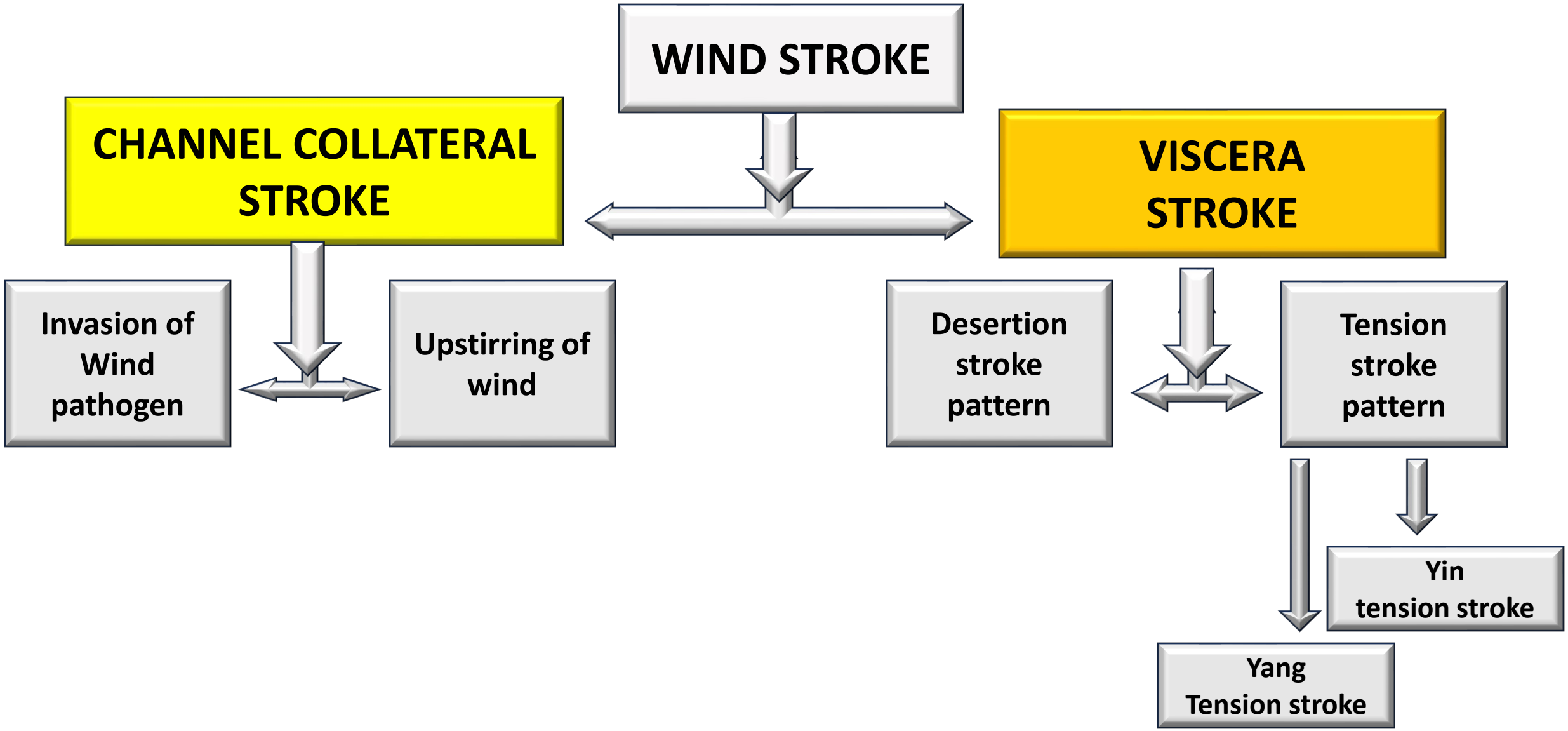
TCM VIEW OF STROKE, EQUIVALENT TO WIND STROKE

- In general, wind stroke occurs as the consequences of an inherent defect caused by internal wind and external pathogenic wind.
- Under certain circumstances, the above pathogenic factors which interacting with other factors such as phlegm, over heat, stagnation may lead to yin or qi weakness, liver fire, wind phlegm, phlegm dampness or blood stasis
- The result would be an imbalance between yin and yang , disturbance of the blood and qi circulation, liver and kidney yin def, stagnation of phlegm and dampness.
- All of these can lead to the sudden onset of wind stroke.

RELATIONSHIP AND INTERACTION OF THE FIVE PATHOGENIC FACTORS



PATTERNS OF WIND STROKE



PATHOGENESIS OF STROKE IN TCM

- **The etiology and pathomechanism of stroke is complex.**
  The predominating causative factors clinically as follow :

1. **Accumulating impairment with debilitation of the upright .**
   Naturally at the age of forty yin qi declines by half and the quality of daily life begin to debilitate , the life of elderly people generally undergo physical weakness. When they suffer from chronic disease, both original qi and blood become depleted, leading to malnourichment of the brain as the result of reduction of blood flow or obstruction of blood vessels.
   In the state of yin blood deficiency where yin fails to restrain the yang resulting in internal wind may occur.

2. **Internal impairment due to taxation**

Taxation causes yang qi to float upward, leading to wind yang stirring internally. Yang qi may then combine with pathogenic fire in its upward movement. In some cases phlegm turbidity and static blood can obstruct the blood flow in the brain. The stroke also can be occur when blood and qi rushing upwards due to sudden raging of liver yang.

3. **Spleen malfunction that fails to act in transportation and transformation with phlegm turbidity**.

- The spleen and stomach may be damaged due to excessive consumption of greasy and sweet food or alcohol ends up with the production of phlegm turbidity.

- Chronic depression or liver depression also often transforms into internal heat which combined with phlegm causes blood vessel obstruction.

- Long standing liver exuberance causes both depression and binding the qi dynamic that overacting the spleen which forms the phlegm .

TREATMENT MANAGEMENT
ZHU 'S SCALP ACUPUNVTURE

- **CVA divided into 3 stages :**
  1. **ACUTE STAGE :**
     - **In ischemic stroke : typical 2 weeks**
     - **In hemorrhagic stroke : 3 – 4 weeks**
  2. **RECOVERY STAGE : typical 3 month**
  3. **SEQUAELE STAGE : after 3 months**

ACUTE STAGE

TREATMENT PRINCIPLES

- Restore consciousness
- Stop bleeding
- Remove blood clot
- Improve blood supply to the brain cells
- Control cerebral edema
- Decompress intracranial pressure

THE TREATMENT

- Daily, 10 – 15 days as one course
- May repeat 1 – 2 courses as needed

➢ TREATMENT PRINCIPLES IN RECOVERY STAGE / TREATMENT :

- Resolving cerebral edema
- Every other day for 15 R/
- Restoring function of damaged areas
- May repeat 2 – 3 courses

- **TREATMENT PRINCIPLE IN SEQUELE STAGE /**

  THE TREATMENT :

  - Increasing physical activity
  - Every other day for 5 – 10 R/
  - Correct posture and gait,
  - Repeat the therapy course
  - Improving quality of life ,

    every 1 to 2 months interval
  - Regain daily independence
  - Regular daily daoyin

Δ IMPORTANT GUIDELINE

- The best therapeutic window → Day 1 – 7 after the onset even for hemorrhagic stroke
- Use appropriate acupuncture stimulation and Daoyin
- Be cautious with BP control, not too low
- Beware of overuse of anticoagulants
- Encourage patient to sleep less and to be more active

► Dr. Shi Xuemin ‘s acupuncture formula for stroke.

❑ **Main formula I** : Pc 6, DU 26 and Sp 6

➢ **Indications :**

- acute onset and unconscious patient
- open (flaccid) type as well as closed (spastic) type
- ischemic or hemorrhagic stroke

➢ **Function :** regulating the heart and spirit and waking up the patient, improving physiological function of the brain.

The formula above added with assisting points according to related symptoms.

- **Main formula II** :
  - **DU23, Yintang , DU 20, Pc 6** ; Ht 1, Lu 5, UB 40

Indications : Chronic condition, during rehabilitation period.

Curative effect of **XNKQ therapy**

(wake up the brain and open the orifice)

T**otal cases** ***recovery*** ***obvious*** i**mproved** and **no result** ***death.***

- ***The total effectiveness is 98.56 % .***

☼ In TCM, Wind stroke (zhong feng) divided into 2 types :

1. Closed syndrome described as :
   - tearing eyes
   - Urine retention
   - Clenched jaws
   - Constipation
   - Tightly clenched fists

Δ ACUPUNCTURE R/ : Moxa Ren 8; DU 26,
DU 20, 16, 14, Pc 6,7, 8, 9,
Ht 5, 7, Lu 7, Li 4, Lv 3, 2, GB 20, 34, 39,
ST 36, 40, SP 6, KD1, 3,

2. **COLLAPSE SYNDROME** described as :

- closed eyes
- open mouth
- hand loose
- incontinence of urine and feces

Δ ACUPUNCTURE R/ :

DU 26, 17, Ren 8 (Moxa), Ren 4, 6, 14,
LU 9, UB 23, Ht 7, SP 6, LI 4, KD 3, ST 36

∆ The goal to treat Acute stroke patient with acupuncture :

- Stimulating indirectly the medulla oblongata to deal with the ANS crisis : DU 26, DU 16
- To maintain the patient homeostasis by activating the neurotransmitters : LI 4, ST 36
- To increase oxygen uptake of the brain : DU 20 + Sishenzhong

- *To enhance brain blood flow : ST 9, GB 20, UB 2, Ren 22*

- *To reduce inflammation of the brain and cerebral edema : Yintang , DU 24, 25, LI 4, ST 36*

- *To control the fear and anxiety : Ht 7, shenmen (ear)*

REHABILITATION THERAPY IN TCM
A clinical study by Xia Guo & Bingjie Cheng

- **The experimental results show that the short term efficacy in the intervention group is better than that of the control group in recovery from injury during rehabilitation, degree of muscle spasm, self care ability in daily life and overall degree of damage.**

- **Compared with physical rehabilitation alone, acupuncture has better short term and long term clinical effect for stroke patients, improves motor dysfunction and the quality of life and independence.**

THE POINTS SELECTION

NEEDLE SELECTION

SCALP NEEDLE : 0.3 mm (diameter)
BODY ACUPUNCTURE : 0.25 mm x 40 mm
WAIST/ HIP : 0.25 x 75 mm

POINTS SELECTION

MILD PARALIZE STAGE

- **MAIN POINTS : PC 6, SP 6, DU 20,**
- **SUPPL. POINTS : LU 5, HT 1, UB 40**
- **MATCHING POINTS : GB 34, ST 36, LI 18**

SPASMODIC STAGE

- **UPPER LIMBS : SJ 10, SJ 4, SI 9, SJ3, LI 10, SI 5, etc (affected side)**
- **LOWER LIMBS : UB 40, UB 39, UB 37, GB34, KI 6, UB 57.**

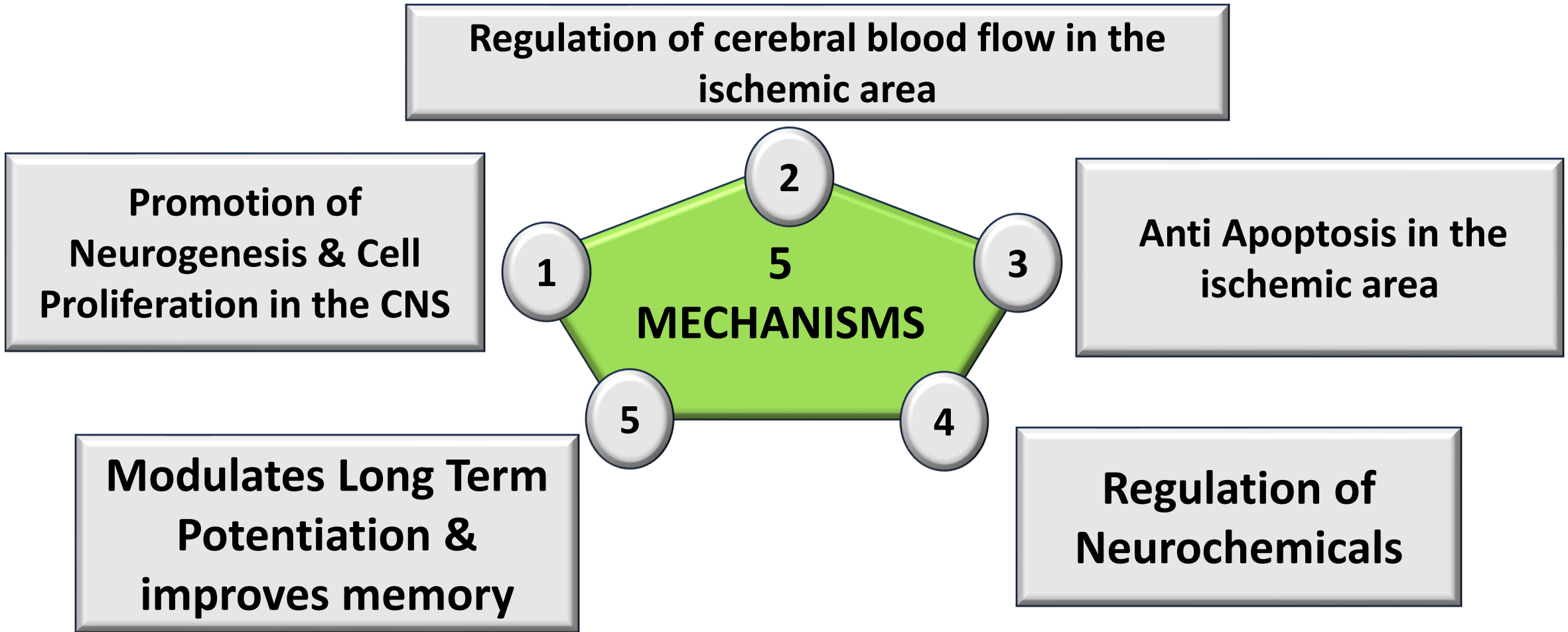
RECOVERY STAGE

- **ST 36, LI 10, SP 6 & others.**

STUDY CASE # 1
Preclinical research study

- **TITLE** : Mechanisms of acupuncture therapy in Ischemic Stroke Rehabilitation
  (A literature review of 40 preclinical studies in animals)
- Investigators : Lina M Chaves at al, from Taichung, Taiwan .
- Published in International Journal of Molecular Sciences, 28 October 2017
  (J. Mol. Sci.2017, 18,2270; doi : 10.3390/ijms 18112270)
- Website : www.mdpi.com/journal/ijms

The Mechanisms of Acupuncture Therapy in Ischemic Stroke Rehabilitation
CASE STUDY # 1



BASED ON MACROSCOPIC & CT / MRI CHANGES

SUBACUTE STATE (48 HRS TO WEEKS)

(Upregulating of early gene, stress signal drives apoptosis, inflammation cascade)

(neuroprotective mechanisms, neurotrophic factors)

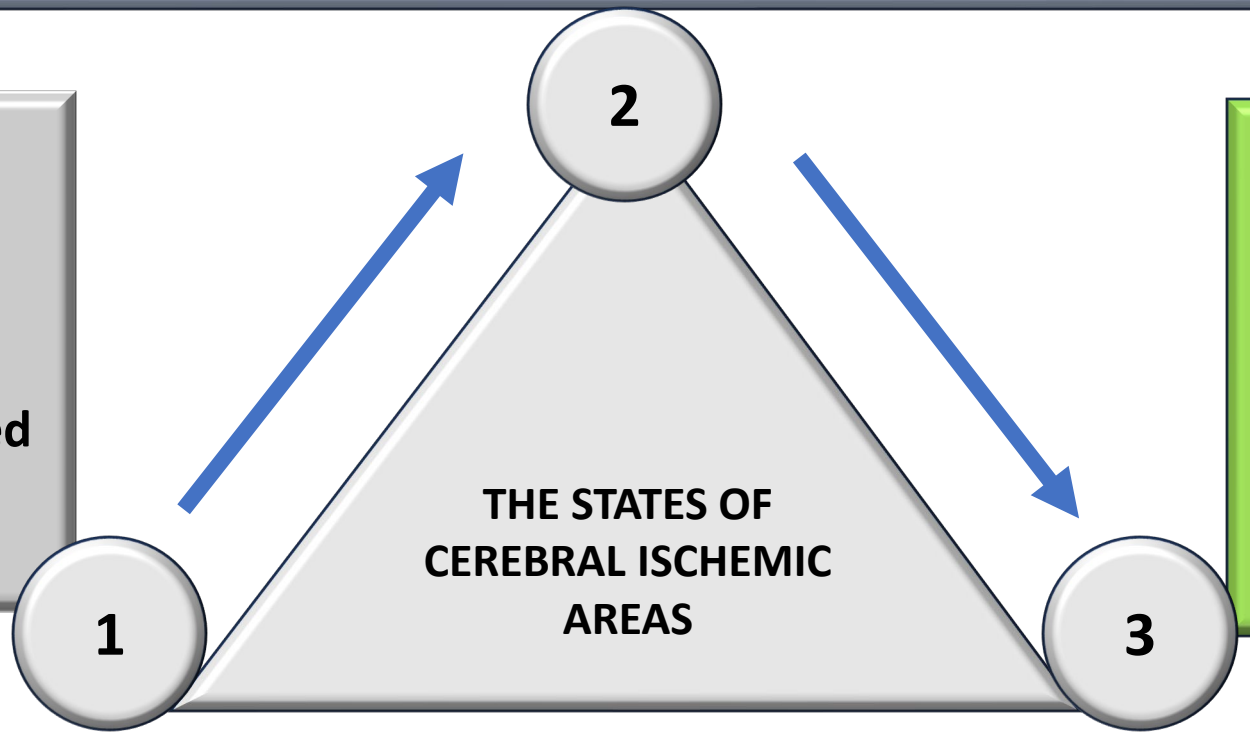
E A at DU 20 + GB 7 can improve brain F & motor recovery

ACUTE STATE

WITHIN 48 HRS

(Cell death)

E A at PC 6 + LI 11 is used for surviving neurons



CHRONIC STATE

WEEKS TO MONTHS

(recovery / repair)

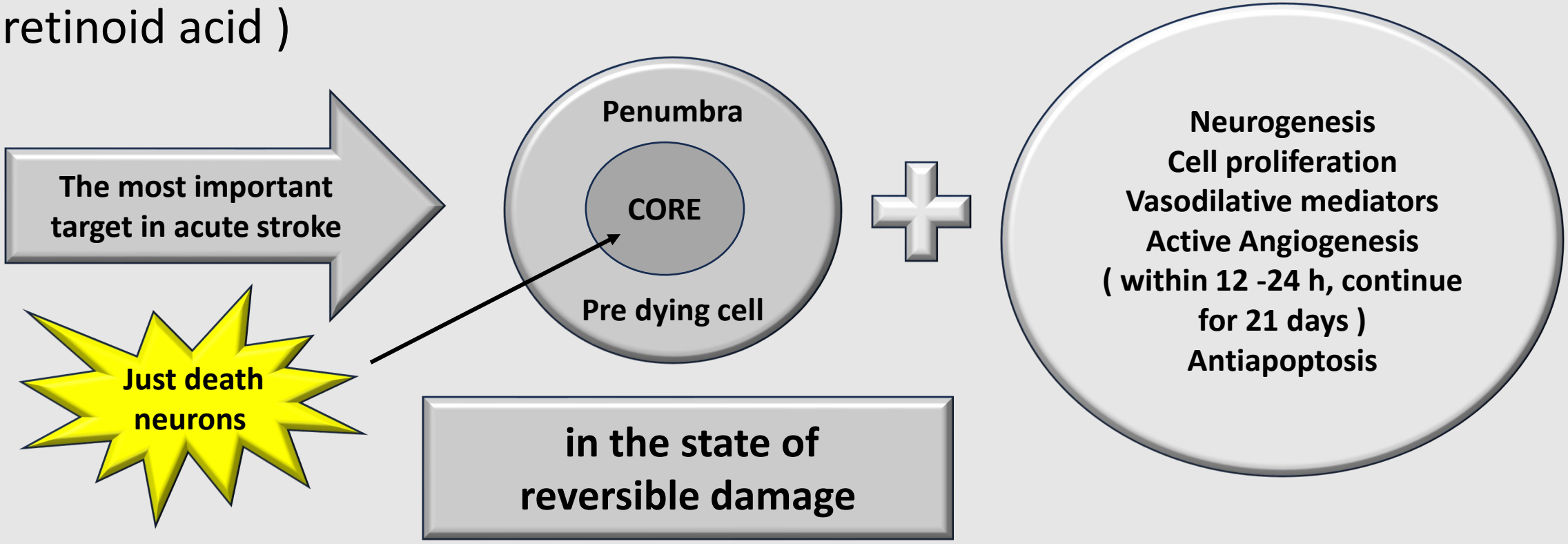
Neurogenesis

Angiogenesis

synaptogenesis

1. PROMOTION OF NEUROGENESIS & CELL PROLIFERATION

- Improves stem cell division, increasing NTF (BDNF, VEGF), upregulating NPS (retinoid acid)



EFFECTS OF ACUPUNCTURE IN THE REGULATION OF CEREBRAL BLOOD FLOW

ANGIOGENESSIS

E A at LI 4 enhances the expression of angiogenic factors, VEGF and angiogenin ! In the peri infarct cortex & inhibits the production of antiangiogenic factor endostatin.

VASOACTIVE MODULATION

Multiple dynamic responses to stroke develop in brain vascular structure :
x impaired release of NO & vasoconstriction

E A at GV 14, GV 20,GV 26 increase perfusion of the affected side by increasing N O

EEFECTS OF ACUPUNCTURE ON THE INHIBITION OF APOPTOSIS

- Apoptosis represents one of the most common mechanisms studied in stroke rehabilitation.

SPECIFIC APOPTOTIC PATHWAY

- **Manual stimulation at ST 36, LI 4, CV 17, CV 12, CV 6, suppresses Proptotic factors**
- **EA at GV 20, GV 26, CV 6, enhance the level of anti apoptotic factors, as well as inhibit apoptotic mediators .**

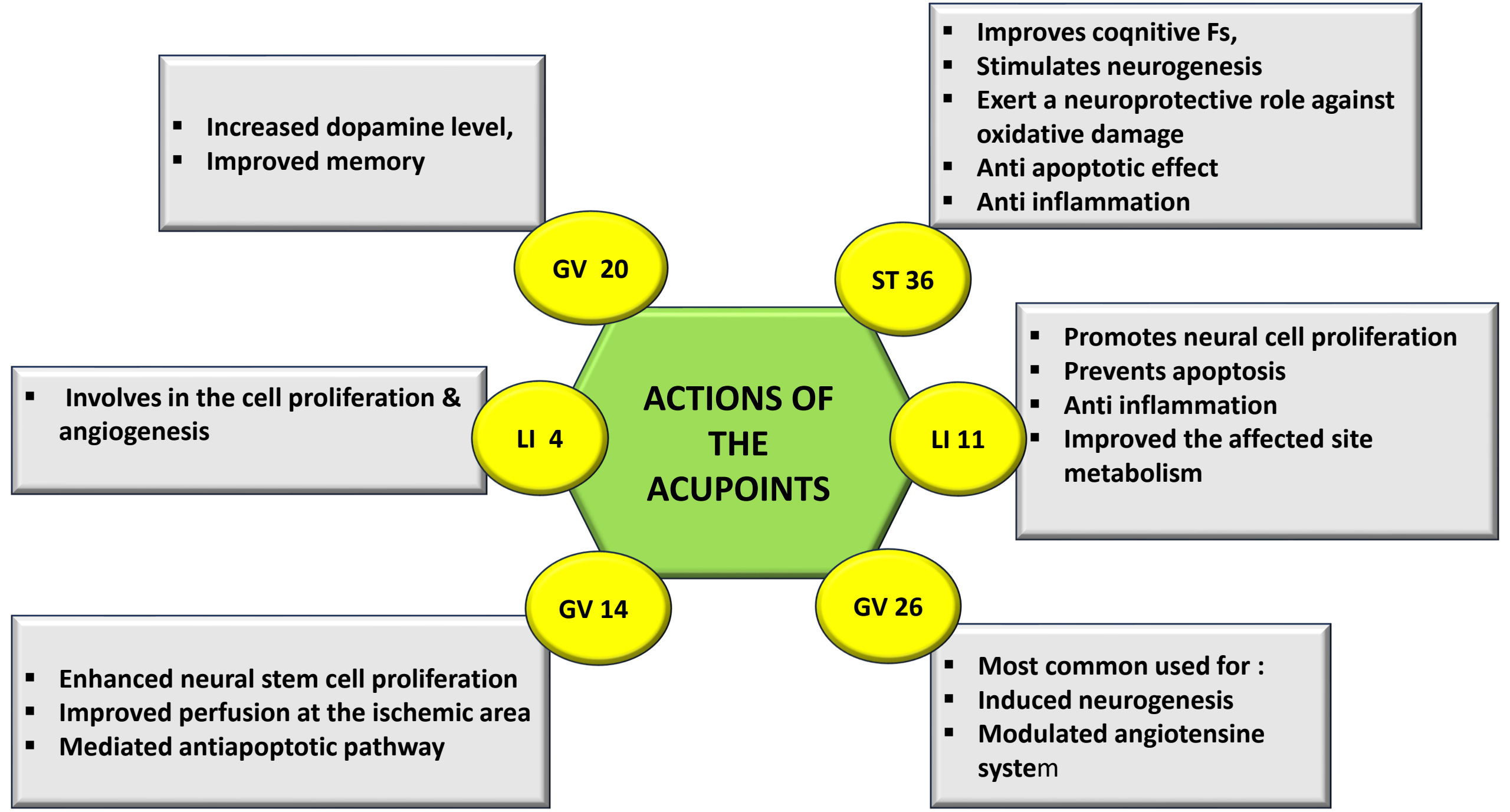
NON SPECIFIC APOPTOTIC PATHWAY

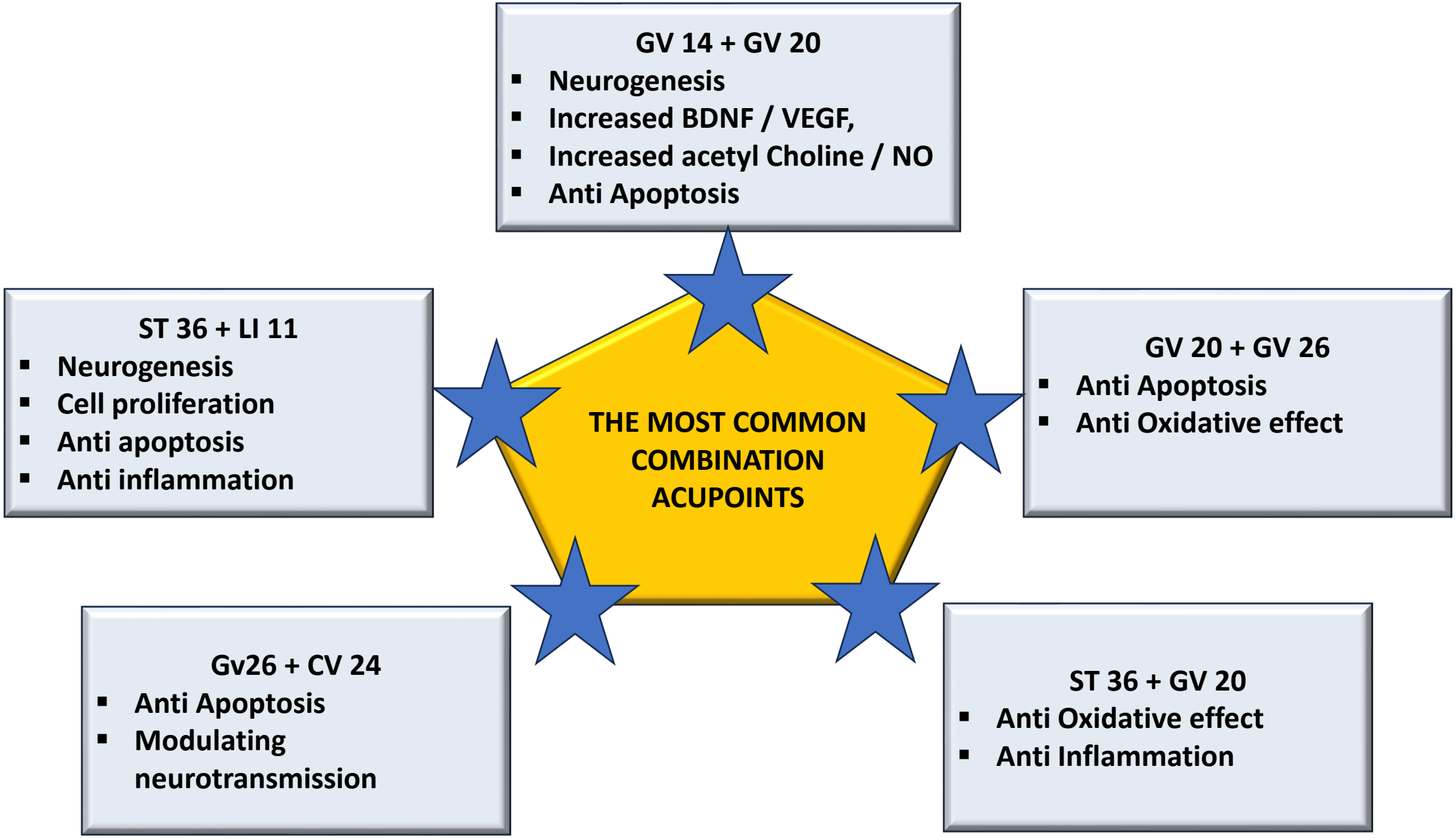
- **EA stimulation at multiple acupoints including ST 36, LI 4, LI 11, DU 14, GV 16, GV 20, GV 24, GV 26, CV 24, LU 5 & SP 6 ; upregulating of anti apoptotic related factors.**
- **EA at GV 26 + CV 24 prevented neuronal apoptosis.**

SUMMARY OF MAIN ACUPOINTS SELECTED IN THE REVIEWED STUDIES

ACUPOINT	FREQUENCY OF APPEARANCE
GV 20	**16**
ST 36	**16**
LI 11	**9**
GV 26	**7**
GV 14	**5**
L 1 4	**4**
CV 6	3
CV 17	2
CV 12	2
SP 10 , CV 24, LU 5, SP 6 , GV 11	
GB 7, PC 6	1

most frequently used acupoints


ACTIONS OF THE ACUPOINTS
GV 20
Increased dopamine level,
Improved memory
ST 36
Improves coqnitive Fs,
Stimulates neurogenesis
Exert a neuroprotective role against oxidative damage
Anti apoptotic effect
Anti inflammation
LI 4
Involves in the cell proliferation & angiogenesis
LI 11
Promotes neural cell proliferation
Prevents apoptosis
Anti inflammation
Improved the affected site metabolism
GV 14
Enhanced neural stem cell proliferation
Improved perfusion at the ischemic area
Mediated antiapoptotic pathway
GV 26
Most common used for :
Induced neurogenesis
Modulated angiotensine system


GV 14 + GV 20
Neurogenesis
Increased BDNF / VEGF,
Increased acetyl Choline / NO
Anti Apoptosis
ST 36 + LI 11
Neurogenesis
Cell proliferation
Anti apoptosis
Anti inflammation
THE MOST COMMON COMBINATION ACUPOINTS
GV 20 + GV 26
Anti Apoptosis
Anti Oxidative effect
Gv26 + CV 24
Anti Apoptosis
Modulating neurotransmission
ST 36 + GV 20
Anti Oxidative effect
Anti Inflammation

STUDY CASE # 2
Comparative clinical study

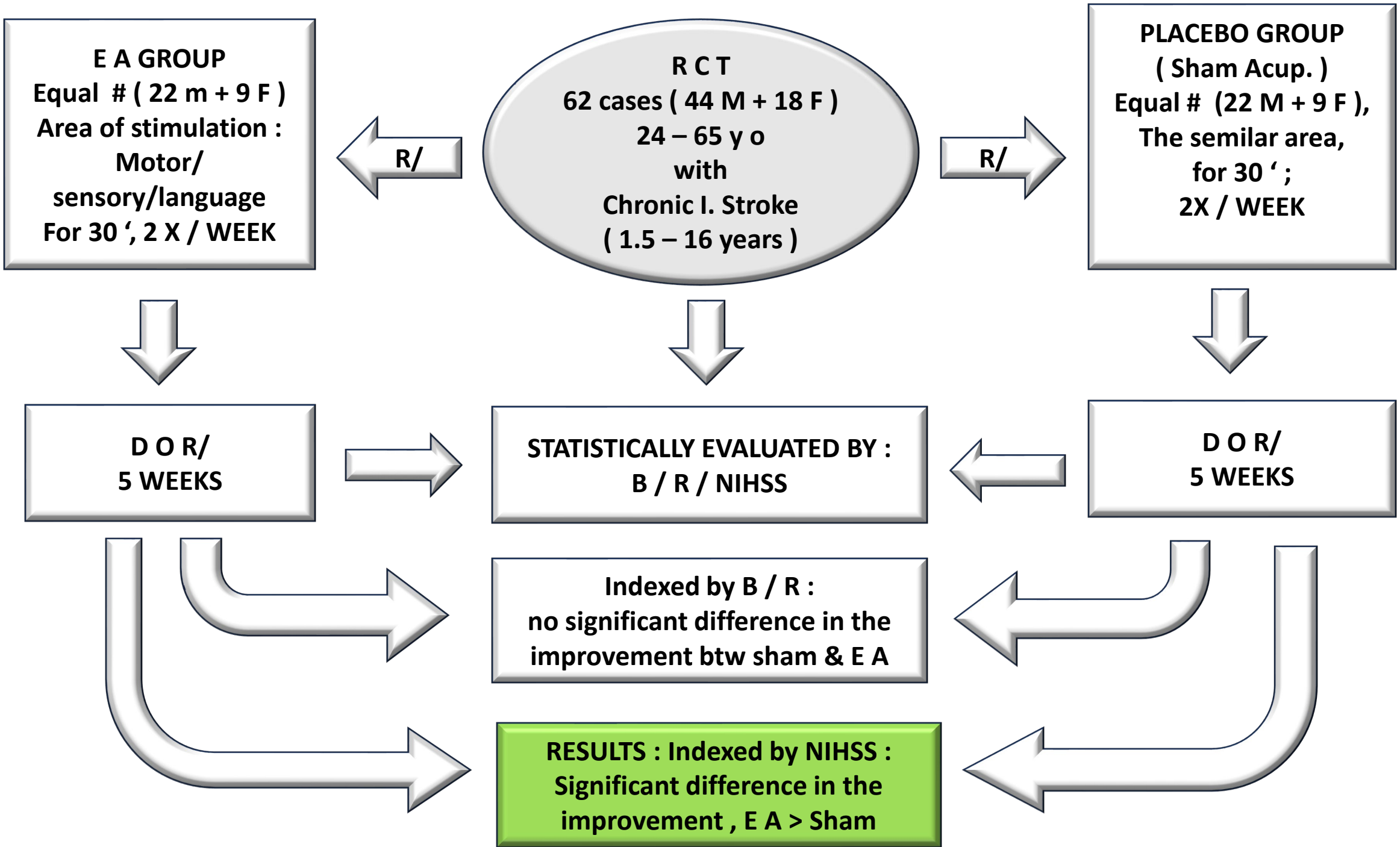
❖**TITLE** : **Clinical Effects of Scalp Electrical Acupuncture in Stroke.**
(A Sham controlled Randomized Clinical Trial)

❖ **Investigators :** Wu Tu Hsing MD, PhD at al. Department of Pathology, Division of Physical Medicine/ Institute of Orthopedics & Traumatology, University of Sao Paulo School of Medicine, Sao Paulo, Brazil ; Lab. of Neuromodulation, Spaulding Rehabilitation Hospital, Harvard Medical school; Boston, MA ; Berenson- Allen Center for Non invasive Brain stimulation, Dept. of Neurology, Beth Israel Deacones Medical Ctr, Harvard Medical School, Boston, MA.

❖ **Published in :** The Journal of Alternative & Complimentary Medicine, Volume19, Number 4, 2012, pp 341-346.

ABSTRACT

- **Objective :** to evaluate the efficacy of subcutaneous electrical stimulation of the scalp in spontaneous functional recovery of patients with chronic ischemic stroke.
- **Subjects and Methods :** 62 subjects with at least 18 months post diagnosed of ischemic stroke, randomized to receive 10 session of placebo or active low frequency of EA (2/100 Hz) using subcutaneous acupuncture needles over the scalp. Functional & neurologic states evaluated by Barthel, Rankin and NIHSS.
- **Results :** significant difference in functional improvement between placebo and active groups, with Larger improvement in functions in group after 10 session treatment with scalp E A as indexed by NIHSS but no significant difference btw 2 groups indexed by the other scales.


E A GROUP
Equal # (22 m + 9 F)
Area of stimulation :
Motor/
sensory/language
For 30 ‘, 2 X / WEEK
R/
R C T
62 cases (44 M + 18 F)
24 – 65 y o
with
Chronic I. Stroke
(1.5 – 16 years)
R/
PLACEBO GROUP
(Sham Acup.)
Equal # (22 M + 9 F),
The semilar area,
for 30 ‘ ;
2X / WEEK
D O R/
5 WEEKS
STATISTICALLY EVALUATED BY :
B / R / NIHSS
D O R/
5 WEEKS
Indexed by B / R :
no significant difference in the
improvement btw sham & E A
RESULTS : Indexed by NIHSS :
Significant difference in the
improvement , E A > Sham

STUDY CASE # 3
(Comparative & Integrated Clinical Study)

- **Title :** Clinical observation of acupuncture combined with modern rehabilitation in the treatment of limb motor dysfunction after ischemic stroke (A randomized controlled trial)
- **Investigators :** Hongyu Xie, MD at al.

  * A national famous and old TCM expert (National Chinese Medicine Human Education Department, China

  *Second Department of Acupuncture Rehabilitation. The First Affiliated Hospital of Anhui University of TCM, Hefei, Anhui Province, China.
- **Published in :** Medicine (2022) 101: 45.

ZHU'S SCALP ACUPUNCTURE + A

The scalp treatment area : upper limb area on the opposite side of the affected limb (fontanel point toward the head dimension), the top parietal perineal ankle area (Bahui as the center, the front and back sides of each side open 0.5 inch, and the lower jiao area (the front parietal toward Baihui 1 inch) were selected.

Selected Needle : 0.30 mm X 25 mm gauge
Angle of needle puncture : 15 to 30 degree, twisted rapidly through the scalp, using finger force.

Treatment frequency / courses : 5x / week for 2 weeks and 2 courses with total treatment of 20 sessions.
Duration of each treatment : 30 min. with each stimulation every 15 min.

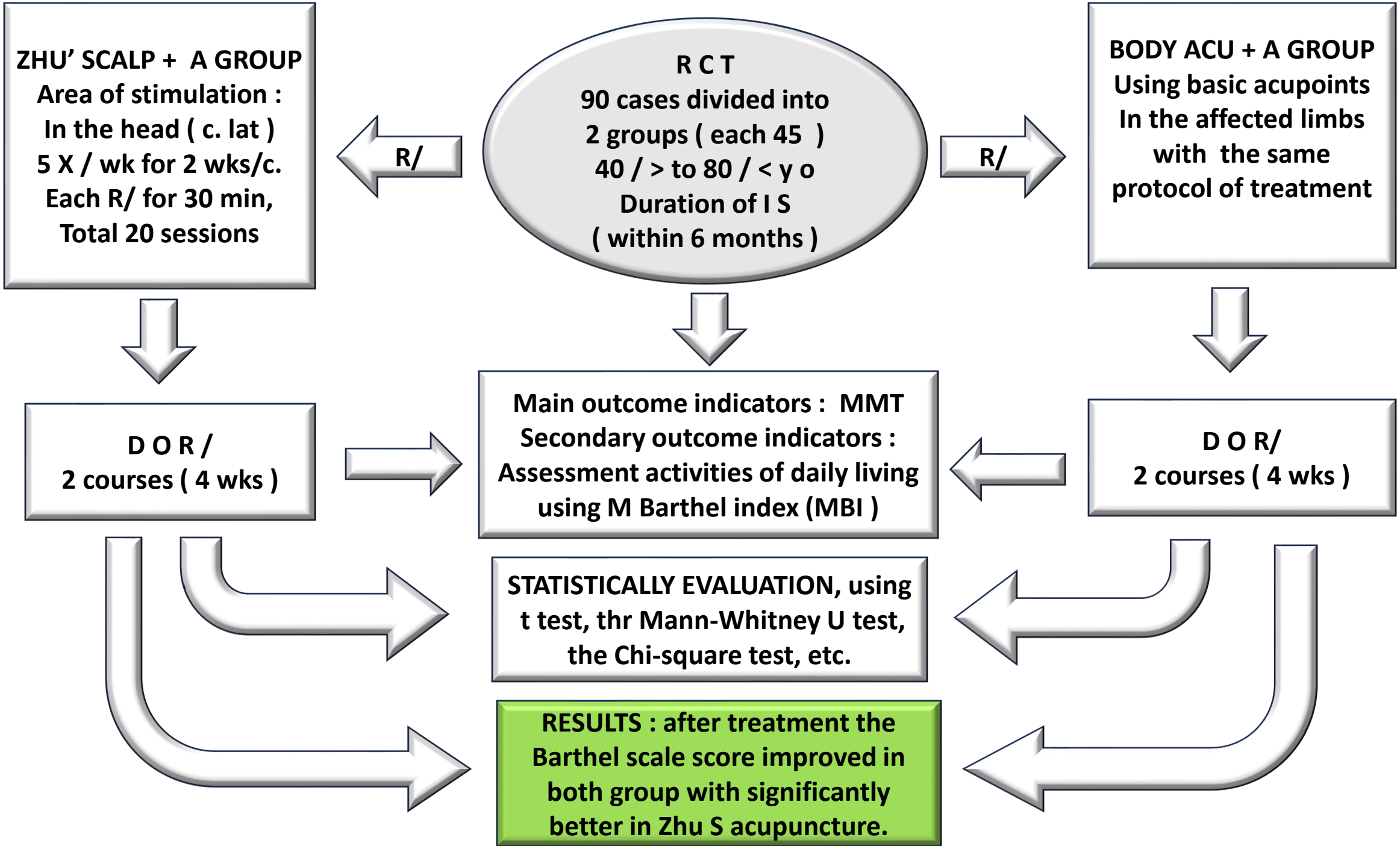
A (Basic medication, modern rehabilitation training, and basic lifecare instruction.)

BODY ACUPUNCTURE + A

Acupuncture points on the affected sides:

- **Upper Limb** : Hegu, Waiguan, Hand Sanli, Quchi, shoulder;
- **Lower limb :** Kunlun, Xiexi, Foot Sanli, Yanglinguan, Huanjiao.
- **Selected a millineedle** : 0.30 mm x 40 mm and puncture the acupoints quickly with depth of needling of 10 to 25 mm, retained for 30 min. with needling stimulation every 15 min.
- **A (the same as ZHU acupuncture group)**

Inclusion criteria : meeting the the diagnostic criteria of western & TCM for stroke disease, age range ; 40 /> to 80 /< y o, first onset and duration within 6 months, no other neurological diseases, not taken western / TCM sedative drugs or muscles relaxants recently, MMSE > 24, clear consciousness.
Exclusion criteria : no TIA / H stroke, others neurological disorders or other infectious diseases, etc.


ZHU' SCALP + A GROUP
Area of stimulation :
In the head (c. lat)
5 X / wk for 2 wks/c.
Each R/ for 30 min,
Total 20 sessions
R/
R C T
90 cases divided into
2 groups (each 45)
40 / > to 80 / < y o
Duration of I S
(within 6 months)
R/
BODY ACU + A GROUP
Using basic acupoints
In the affected limbs
with the same
protocol of treatment
D O R /
2 courses (4 wks)
Main outcome indicators : MMT
Secondary outcome indicators :
Assessment activities of daily living
using M Barthel index (MBI)
D O R/
2 courses (4 wks)
STATISTICALLY EVALUATION, using
t test, thr Mann-Whitney U test,
the Chi-square test, etc.
RESULTS : after treatment the
Barthel scale score improved in
both group with significantly
better in Zhu S acupuncture.

PHARMACOLOGY OF TCM
STROKE THERAPEUTICALS PROSPECTIVE AND DEVELOPMENT

- In China, stroke is treated by using TCM which has been developed over thousand of years and the therapeutic effects have been documented in a large body of almost exclusively Chinese literature. Nearly 50 journals included 47 journals of tcm and 2 journal of integrated traditional and Western medicine were published in China.

- In TCM, drugs for stroke therapy have been classified broadly into 4 groups according to their primary mode of action. More than 100 Chinese medicine have been used stroke prevention and therapy

- Article by Xiandi Gong and Nikoleus J Sucher. Dept of Biology and Biotechnilogy, Research Institute, HongKong University.

Published in VIEWPOINT, TIPS –May 1999 (Vol. 20)

Herbs for promoting the circulation of blood and removing stasis

1. Chuan Xiong (Rhizoma ligustisi)
2. Dan shen (Radix Salviae Miltiorrhiza)
3. Tao Ren (Semen Persica)
4. Hong Hua (Flos Carthami)
5. Yi Mu Cao (Herba Leonuri)
6. Hua Niu Xi (Radix Achyranthis Bidentatae)

HERBAL FORMULAS FOR ISCHEMIC STROKE

1. Dr. Huang Dong Du applied the R/ : **Yang Yin Hua Yu Fang** in treating 82 cases the overall effective rate reached 89 % which was superior to that of the control . (The actions : improving blood flow & nerve function, lowering blood lipid,
2. Dr. Zhao Li applied R/ : **Xi Xian Tong Shuan Wan** in treating 70 cases of cerebral thrombosis.
   The outcome based on the index of hemorheology and cranial CT scan showed that the treatment group were significantly different from the control group ($P < 0.01$)
3. Dr. Duan Qun Lu applied the R/ : **Zhong Feng He Ji** in treating patients with mixed type stroke along with the biomedicine with the overall effective rate reach 80 %.

R/ : Yang Yin Hua Yu Fang

INGREDIENTS	DOSAGE IN GRAM
Xuan Shen (Radix scropularia)	15
Sheng Di (Radix rhehmania REcens	15
Mai Dong (Radix Ophiopogonis)	10
Bai Shaoi (Radix Paeniae Alba)	10
Hong Hua (Flos Cartharni)	5
Dang Gui (Radix Angelica Sinensis)	5
Dan Shen (Radix et Rhizoma Salvia Miltiorhizae)	15
Di Long (Pheretima)	10

R/ : Xi Xian Tong Shuan Wan

INGREDIENTS	DOSAGE IN GRAM
Xi Xian Cao (Herba Siegesbeckia)	200
Shui Zhi (Hirudo)	100
San Qi (Radix et Rhizoma Notoginseng)	60
Dang Gui (Radix Angelicae Sinensis)	60
Hong Hua (Flos Catharmi)	60
Nan Xing (Arisaema cum Bile)	40
She Xiang (Moschus)	5
Bing Pian (Borneolum)	5

Grounded into powder and mixed with honey to make 250 pills

R/ : Zhong Feng He Ji

INGREDIENTS	DOSAGE IN GRAM
Dan Shen	30
Chi Shao (Radix Paeoniae Rubra)	15
Chuan Xiong (Rhizoma Chuan Xiong)	15
Huang Qin (Radix scutellariae)	15
Di long	10
Gao Teng (Ramulus Uncaria Cum Uncis)	10
Shen Jin Cao (Herba Lycopodii)	30
Wu Ling Zhi (Faeces Togopteri)	15
Pu Huang (Pollen Typhae)	15
Chuan Shan Jia (Squama Manis)	10
San Qi	15

PERSONAL CLINICAL EXPERIENCES

- CASE # 1

66 y o female with a chief complaint of right limbs paralyse post ischemic stroke for 7 months as the second episode with onset early morning. The first times happened about 4 months ago with the right limbs weakness Feeling neck pain and stiffness in the affected limbs, slurred speech, in depression, sometimes constipation. She has chronic diabetes with unstable BS and HBA1c about 7.00 , under medication of methformin ,500 mg, aspirin 81 mg /day. Atorvastatin 10 mg daily.

P E : BP was 148/72 mmHg, HR was 80 /m, reg.RR was 18/ m. BW was 140 lbs, B H was 5 ft 5 ‘ Ptn looks depressed, unable to move right arm and leg. Increased mm tones, hyperreflex, MMT < 3/5 for both flexor/ extensor mm, Babinsky reflex positive. Slurred speech. CT scan showed ischemic stroke due mca obstruction on the left cerebral cortex.

Tongue showed pink red scanty white coating, dry, and thin.

Pulses Slippery, weak on the third sites

Diagnosis in WM : Ischemic stroke with right limbs paralyse.

In TCM : R limbs Wei syndrome underlying Kid. Yin def.

TREATMENT MANAGEMENT

- **SCALP ACUPUNCTURE :** using foot motor & sensory line bilateral, DU 20 ,DU 21,DU 22, intermitten with motor and sensory lines on the left at sup. 1/5 and middle 2/5 regions.
- **BODY ACUPUNCTURE** :PC6, DU 20, 24, 26. LI 4, LI11, LU5, LI 15, SJ 14, started on the healthy arm with sick arm movement passively, followed by puncturing the same acupoints on the affected site .

  then puncturing the healthy leg at ST 31, 32, 36, 37, 40, GB 34 39,

  LV 3 SP 6 with the same procedures as on the upper limbs. Added

  Ht 5, Ren 23.
- Herbal R/ will be considered (Xue Fu Zhu Yu Tang)
- Needle retention for 30 ‘, POT : 2X/wk for 8 wks.
- Follow up : vital signs, the neurologic deficits . Western medicines are continued accordingly.. PT is recommended.

➢ THE OUTCOMES OF TREATMENT :

- After 2 months of treatment with irregular visits, the neurological deficits such as muscle strength / movements of the limbs relatively unchanged but psychologically feeling less depressed .
- Another 2 months with regular treatments, 2x / wk .
  The ptn was able to stand up and slow walking with assistant, the right arm could move the fingers and wrist as well as the elbow with more range of extension and flexion.. Her speech was improving.
- Unfortunately the ptn stopped continuing the treatment because of her husband passed away .

❑ CASE # 2

32 y o male suffered from left hemorrhagic stroke post football exercise. He was hospitalized and had brain surgery to save the ptn ' life. He had post surgery rehabilitation for about 7 months with slow improvement. He came to the clinic with right limbs weakness and limited movement of right arm associated with spastic elbow and the wrist joints in flexion, the right fingers in flexion as well, also limited extension and abduction of the right shoulder joints. Likewise the right ankle was in spasticity with inversion at rest or walking. He also complained of double vision. History of HTN is questionable. Medication with Atorvastatin 40 mg.

P E : BP : 110/ 70 mmHg HR : 72/m , reg.
RR :16/ m, BW : 270 lbs BH : 6' 1''
General appearance with quite normal mental state. Left scalp with scarred tiisue post brain surgery double vision positive with limited R lat. Rectus mm, Visual field showed defect vision at lower right quadrant. (partial right temporal hemianopsia)
RIGHT ARM : Limited ROM of shoulder joint, elbow & wrist. The fingers in constant graping state..increased DTR, mm tones, MMT 3/5
RIGHT LEG : limited extension and flexion of the knee joint and ankle joint with rigidity in eversion form .increased mm tones, DTR and MMT is 3/5.
DIAGNOSIS : Hemorrhagic stroke (W M)
limb Wei Syndrome / internal wind

TREATMENT MANAGEMENT

- **SCALP ACUPUNCTURE : Foot motor - Sensory lines , motor and sensory lines bilateral . DU 20 DU 21, DU 22 , intermitten with Needling at sup. 1/5 and middle 2/5 segments with manual stimulation for 5 minutes every 15 minutes, the needle retention for 30 minutes. Added Vision line .**

  2x /wk. 1 course of treatment consists of 6 wks. Breaktime for 1 wk. The treatment is continued for 2 courses then 1x / wk for 3 months, after all 1x in 2 wks. After the scalp needling, ptn is asked to walk about 15 minutes. Then continued with body acupuncture.

- **BODY ACUPUNCTURE :**
  - **Upper limbs : LI 4, 11, 15 , SJ 14, jian qian, LU 5, PC 6 , DU 24 on left arm then on the right arm. Added SI 3 toward LI 4, LI 5 toward SJ 4. Baxie.**
  - **Lower limbs : ST 36, 37, 40 , ST 41, GB 34, 39 LV3, on the left started then right side with the same points, Added ST 40 toward GB 40 and bafeng for 30 minutes needle retention.**
  - **Total treatment is 46 visits within 15 months, consist of :**
    the first 3 months, 2x /wk for 6 wks (1 course, breaktime 1 wk then continued 2nd course, another 3 months 1x/wk after that 1x / 2 wks.

- **THE TREATMENT RESULTS :**
  - **Each course of treatment showed the progress of improvement started with reducing the spasticity or rigidity of extensor and flexor mm of the limbs**
  - **Having the regular treatments with acupunctures for 46 treatments and with periodic Western medical check up along with regular exercise / P T, intensified by strong motivation / hope as well as family support, the patient sufficiently recovered with ability to move his limbs about optimal joint ROM and is able to do ADL independently except his diplopia .**

❑ CASE # 3

53 y o female with a main complaint of limited/ uncontrolled movement and spasm / pain of right upper limb and limping of lower extremity post hemorrhagic stroke due to hypertension for about 3.5 years . No diabetes or head injury but unknown HTN.

Ptn was collapse while having argument with her husband then hospitalized for one month, after recovery, she has an outpatient therapy included PT. with some improvement but still limited movements and coordination disorder of the right arm as the reason to come to the SBU clinic. She is under stressful and also suffers from chronic lower back pain.

She is on medication with metropolol 50 mg and atorvastatin 20 mg daily.

Radiologic finding showed vascular lesion of L MCA .

P E :Mental state looks normal and anxious

BP : 128/80, HR : 64 / reg. RR : 16/m

BW : 225 lbs , BH : 5' 1 "

NEUROLOGIC FINDINGS : right limbs indicates Increased DTR /mm tones and weak MMT 3 +/ 5

All fingers are in flexion/ spastic / about constant graping. When she was asked to move finger to touch nose showed abnormal (shaking hand and unable to touch the nose properly.

Limited flexion/ extension/ abduction .

the right limbs mm are in hypothrophy .

in lower limb , somewhat limping on walking

TREATMENT MANAGEMENT

- **SCALP ACUPUNCTURE : using the DU 20, foot motor & sensory line, motor, sensory and chorea lines. (sup. 1/5, middle 2/5). Added DU 21/ 22/ 24. During the needling stimulation, ptn is asked to walk / movement at wrist, elbow and shoulder joints and focusing mind on coordination activity (extension/ flexion of finger joints) for about 10 x.**
- **BODY ACUPUNCTURE : acupoints in the Yangming (Li /ST). Taiyin (LU/SP),**

  Shaoyang (SJ / GB) & Taiyang (SI / UB) mainly on reactive points on right limbs and lower back with EA.
- **Frequency of treatment is 2x /wk with NR for 30 minutes. One course consist of 6 wks. Total treatment for 51 visits.**
- **Western medication is continued properly.**

➢ RESULTS OF TREATMENT :

- After one course of treatment, ptn felt better, less pain with follow up on the joints ‘ ROM show more mobility, lesser spastic, improvement in movement coordination of the right arm included the fingers.
- When the patient is under stressful, the muscle spasticity increases, xiao Yao San is prescribed for her anxiety.
- The treatment is continued eventhough sometimes irregular visits and the ptn is satisfied with the treatments. More flexibility in the arm movement, better coordination and mm’s strength.
- Recommended for periodic medical check up, psychologic consultation and regular exercise as well as healthy diets.

❑ CASE # 4

26 yo male, a 3rd year kinesiology student who came to SBU clinic with a chief complaint of unable to walk for about 3 months.
The onset was gradual about 2 weeks after having a vacation out of states for about several weeks,
Never ever happened before . No fever/ infection/ lung / HD or abdominal pain/ diarrhea/ DM / vaccination/ head or spinal cord injuries. Normal digestive function with good appetite and energy level 7 – 8/10 and BW slightly decreased.
Emotionally feels anxious and somewhat difficult to fall asleep. No symptoms of yin def.
Patient has seen the MD / neurologist with complete physical examination and blood tests showed normal state of health but parese of the legs with diagnosis of idiopathic peripheral neuropathy.
Treatment : PT 2x/ wk , massage therapy and neurotropic vitamins. The treatment outcomes showed no improvement.

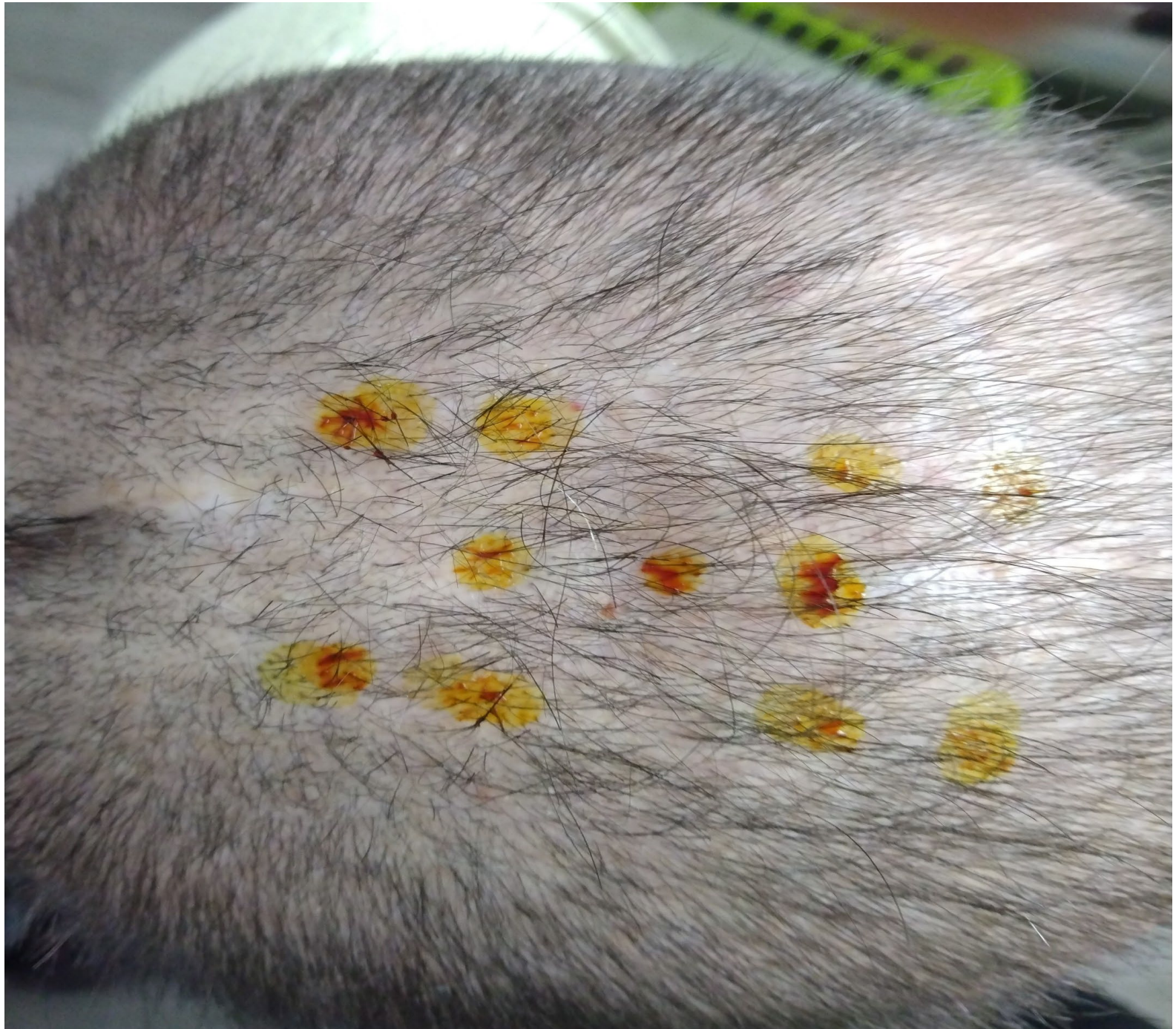
P E : General health looks normal
Vital signs : BP : 120 / 70 mmHg. HR 84 /m , reg.
RR 18 / m. bronchovesicular , BW : 165 lbs,
BH : 6'. 1"
General PE indicated unremarkable,
Neurologic tests showed no focal neurologic deficits, Muscle tones, DTR and MMT are normal
Back mm on palpation indicated intense and tenderness along thoracolumbar region.
tongue showed pink red, scanty white coating, normal size; pulse indicated slippery wiry, moderate.
Diagnosis : Leg wei syndrome due to channel collateral stroke .

TREATMENT MANAGEMENT

➢ **TREATMENT :**

- Body acupuncture : LI 4 . LV 3 PC 6, GB 34. GB 39, SP 6 & ST 36. Yintang.
  2 x/ wk. (1st week)
  2nd week. Added GB 20 , UB 12, UB 17, 18, 20 & 23, UB 40
- 3rd week : Scalp acupuncture : Foot motor and sensory line, motor and sensory bilateral added DU 21 asked ptn to stand up
- 4 th week : the same plus tuina with plucking along the spines.
  Ptn started to stand up and able to walk about 10 feet
- 5 th week to 8 wks with the same treatments, ptn felt better and stronger / longer to walk.
- 9 wk until having total treatment for 25 visits with significant improvement and recommended with periodic medical check up.

- **THE TREATMENT RESULT:**
  - After having 25 treatments with combination modalities include body and scalp acupunctures, complementary with tuina and regular walking exercises the patient recovered well in good health and can walk again normally. 2 years later the patient came back to visit the clinic in good shape.
  - Recommended to have medical check up periodicly.



SUMMARY

- The interest of people in East Asian Medicine mainly acupuncture treatment show on the rise in modern society because of the benefits which they experience with the treatment and thousands of modern scientific research studies demonstrated mainly for pain management and lately some evidences based findings in the treatment of stroke.

- in the past many thousand years according to various chapters of the Miraculous Pivot described head as converging area of all meridians network associated with various body region and functions. Since 1950 scalp acupuncture has been explored as the new therapeutic modalities .

- Acupuncture is recommended by WHO as an alternative and complementary strategy likewise NIH published a consensus statement that acupuncture as an acceptable alternative in a comprehensive management program for stroke care.

- The Classic Chinese Medical theories on Yin and Yang, Qi and Blood, ZangFu organs and the meridian systems as the foundation of East Asian Medicine as well as the comprehensive principles. methods and practices of acupuncture and scalp acupuncture are essentially helpful in making the diagnosis and treatment according to pattern of differentiation with good results in case of other medical systems fail or have to use pharmacologic treatments with undesirable side effects / complications in healing the disorders.

- The knowledge in pathogenesis of stroke, diagnosis , treatment / management included the rehabilitation in Western and East Asian Medicines are clinically useful to make the proper diagnosis and the therapeutic intervention to be promptly initiated or referred to E R for reducing the risk of disability and mortality rate and prospect for the integrated medical treatment and rehabilitation management in stroke patients.

- The Evidence from a Literature Review of basic studies indicates that five major different mechanisms are involved associated with the beneficial effects of acupuncture / E A on ischemic stroke rehabilitation. 1. Promotion of neurogenesis and cell proliferation in CNS 2. Regulation of cerebral blood flow in the ischemic area 3. anti apoptosis in the ischemic area 4. Regulation of neurochemical and 5. Improvement of longterm potentiation and memory after stroke.

- Based on the modern scientific research studies show that some body and scalp acupuncture points are beneficial with supportive evidence from preclinic and clinical research in animal and human in treating stroke cases that can be applied on the clinical ground.

- Clinical studies and personal experience in treating patients with ischemic stroke show some improvement, certainly further clinical studies are required to validate the acupuncture, scalp acupuncture and herbal formulas or possible integrated medical approach as the effective treatment and rehabilitation management and prevention for stroke in the future.

REFERENCES

1. Yun Tao Ma at al : Biomedical Acupuncture for Pain Management : An integrated Approach. Elsevier, Churchill Livingstone, 2005.

2. Lixing Lao PhD, MB, LAc : Simposium on Acupuncture in Pain Management; Research and Clinical Implication, Sept.17, 2022.

3 Bifang Zhuo at al : Possible Effects of Acupuncture in Poststroke Aphasia.

4. Xia Guo and Bingjie Cheng : Research article with title " Clinical Effects of Acupuncture for Stroke Patients Recovery '. Published 14 February 2022. Journal of Healthcare Engineering.

5. Z H Cho at al : Neuro acupuncture , Volume I, Neuroscience Basics. 2001, Q Puncture Inc.

6. Wang Fu Chun : Scalp Acupuncture Therapy. 2007 by People's Medical Publishing House.
7. Joseph Y Wong, MD, FRCP (C), PhD, CAFCI : A Manual of Neuro Acupuncture, Volume II : Neurological Disorders. First Canadian Edition 2001.
8. Jason Jinshun Hao & Linda Lingzhi Hao : Chinese Scalp Acupuncture, BLUE POPPY PRESS, 2011.
9. Ming Qing Zhu : A handbook for Treatment of Acute syndrome with Acupuncture and moxibustion . 8 Dragons Publishing Hongkong , Chinese Scalp Center of USA 1992.
10. Ming Qing Zhu : Zhu's Scalp Acupuncture ' Atlas, Valley Graphic s Printing Inc. 2007.
11.. Huang Pei xin & Liu Mao Cai : The Clinical Practice of Chinese Medicine , Stroke & Parkinson's Disease. PEOPLE 's MEDICAL PUBLISHING HOUSE. 2007.

12. Paul A. Young at al : Basic Clinical Neuroscience , 2nd Edition 2008. Wolters Kluver/Lippincott William & Wilkins. Pp 47-48

13. Edward C. Jauch , MD,MBA,MS,FACEP : Ischemic stroke, Medscape, updated July 14, 2022.

14. Lina M Chaves at al : Mechanisms of acupuncture therapy in Ischemic Stroke Rehabilitation ; The Journal of Alternative & Complimentary Medicine, Volume19, Number 4, 2012, pp 341-346

15 .Wu Tu Hsing MD, PhD at al. :Clinical Effects of Scalp Electrical Acupuncture in Stroke (A Sham controlled Randomized Clinical Trial) ; The Journal of Alternative & Complimentary Medicine, Volume19,Number 4, 2012, pp 341-346

16. Hongyu Xie, MG at al : Clinical observation of acupuncture combined with modern rehabilitation in the treatment of limb motor dysfunction after ischemic stroke (A randomized controlled trial) ; : Medicine (2022) 101: 45.

17. Wu Tu Hsing MD, PhD at al. :Clinical Effects of Scalp Electrical Acupuncture in Stroke (A Sham controlled Randomized Clinical Trial) ; The Journal of Alternative & Complimentary Medicine, Volume19,Number 4, 2012, pp 341-346

18. Xiandi Gong & Nikoleus J. Sucher : pharmacology of tcm stroke therapeuticals prospective and development. VIEWPOINT, TIPS -May 1999 (Vol. 20)

19. Huidong Jia at al : Combination of stem cell therapy and acupuncture to treat ischemic stroke : A prospective review, stem Cell Research & Therapy, (2022) 1387. https//doi.org/10.1186/s13287-022-92761-y