



TCM SCALP ACUPUNCTURE

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SCALP ACUPUNCTURE

- A therapeutic treatment that needles specific areas of the scalp, often used in neurological, musculoskeletal & psychological disorders
- Styles of scalp acupuncture
 - Based on cerebral anatomy/physiology
 - Based on meridian theory & acupoints

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WHY THE SCALP?

- New therapy based on the theory of TCM, acupuncture techniques, clinical experience, holographic theory, & modern knowledge of the representative areas of the cerebral cortex.
- The scalp is the area where the Zang Fu, meridians, Qi, & blood connect; it has a close relationship with the human body's physiologic functions & pathologic changes.

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WHY THE SCALP?

- Mu Point Theory
 - Treating over the area is effective for treating the condition (EX: Ren12)
- Meridian System Theory
 - The meridians directly or indirectly connect with the scalp & brain.
- Cerebral Cortex Theory
 - Treatment is based on representative areas & functions of cerebral cortex.
- Holographic Theory
 - On the scalp, a representative image of the human body is created.

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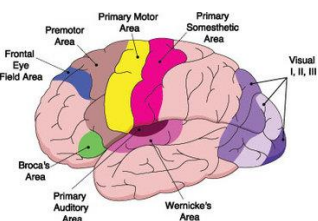


INTERNATIONAL STANDARD SCALP ACUPUNCTURE

World Health Organization

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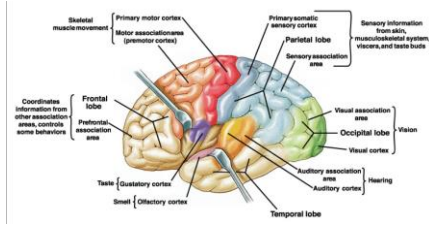
REVIEW OF BRAIN ANATOMY



- Motor
- Sensory
- Sight
- Hearing
- Smell
- Taste
- Internal organs
- Eye movements
- Balance
- Motor Speech
- Sensory Speech
- Reading Center
- Writing

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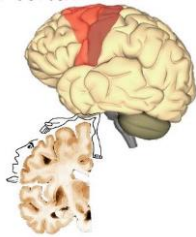
FUNCTIONAL AREAS OF THE CEREBRAL CORTEX



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MOTOR AREA

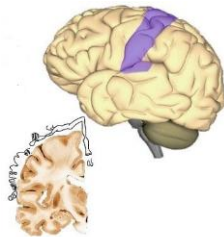
- Anatomy
 - Precentral gyrus, Paracentral lobule
- Physiology
 - Controls muscle contraction, but Extraocular, Frontal & Masticatory muscles bilaterally.
- Reflex Image
 - Upside down, but face is upright



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SENSORY AREA

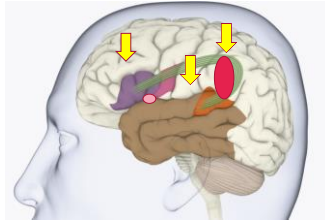
- Anatomy
 - Postcentral gyrus, posterior side of Paracentral lobule
- Physiology
 - Feeling the nerve pulses coming from corresponding area of opposite side.



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SPEECH AREA

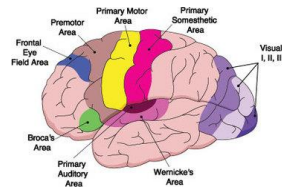
- **Wernicke's Area**
 - Sensory Speech
 - Can hear, but can't understand
- **Broca's Area**
 - Motor Speech
 - Can't speak
- **Angular Gyrus**
 - Anomic Speech
 - Sees words, can't understand them. Loss of writing ability



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VISUAL AREA

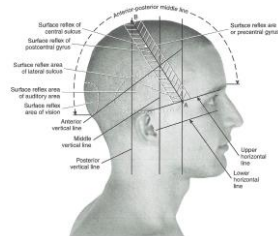
- Occipital Lobe: Visual
- Medial Surface
 - Primary visual cortex (striate cortex)
 - Input: Thalamus (lateral geniculate nucleus)
 - Contralateral representation
- Rest of lobe
 - Visual Association Cortex. (Interprets visual stimulation)



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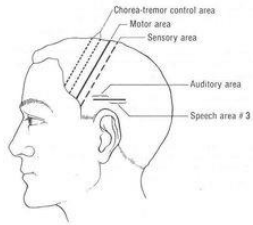
SCALP ANATOMY & STANDARD SCALP LINES

- Standard Lines on the scalp
 - Anterior-Posterior midline
 - Eyebrow-Occipital line
- Anatomical Landmarks
 - Ear apex
 - Parietal tubercle
 - External occipital protuberance
 - Frontal hair line (or angle)



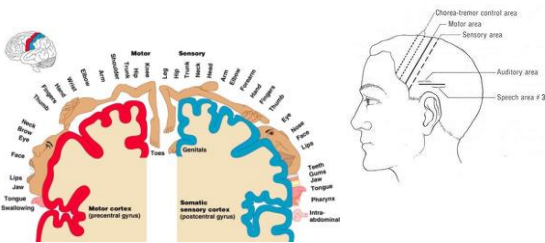
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SENSORY & MOTOR AREAS



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SENSORY & MOTOR AREA



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PRINCIPLES FOR SELECTING SCALP AREA

- Select stimulating area according to the disease
- Use contralateral stimulation for unilateral limb diseases
- Use bilateral stimulation for bilateral limb disorders
- Use bilateral sides for:
 - Internal (zang) diseases
 - Whole body diseases
 - Disorders where position cannot be distinguished
- Can be accompanied with other related stimulating areas

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CLINICAL APPLICATIONS

- Nervous System Disorders
 - Cerebral diseases (cerebral thrombosis, cerebral hemorrhage causing paralysis, numbness, aphasia)
 - Various nerve pains (trigeminal neuralgia, sciatic pain)
 - Other common diseases (low back & leg pain, frozen shoulder, nocturnal urine)

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CEREBROVASCULAR DISEASES

- Cerebral Thrombosis
 - Shorter the case history, the better the clinical result
 - Location of thrombosis & therapeutic effect
 - Severity of limb paralysis & therapeutic effect
- Cerebral Embolism
 - Treat Motor area, Sensory area, Foot motor & sensory area
- Cerebral Hemorrhage
 - 2 types: hemorrhage of internal capsule (basal ganglia), hemorrhage of cortical branches of cerebral artery
 - Clinical Course: applying scalp acupuncture at an earlier date (after patient is stable) produces better outcomes

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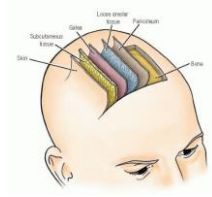
DISEASES OF PERIPHERAL NERVES

- Facial Paralysis (Bell's Palsy):
 - Lower 2/5 of Motor area
- Herpes Zoster:
 - Sensory area, Foot motor & sensory area
- Neuralgia (Sciatica):
 - Upper 2/5 of Sensory area, Foot motor & sensory area
- Headache
 - Top HA: upper 2/5 of Sensory area
 - Frontal & Temporal HA: lower 2/5 of Sensory area
- Hypertension
 - Upper 1/2 of Vascular dilation & constriction area (bilateral)

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5 TISSUE LAYERS OF THE SCALP

- **S** = Skin
- **C** = Connective Tissue (*Subcutaneous*)
- **A** = Aponeurosis (*Galea Aponeurctica*)
- **L** = Loose Areolar Tissue (*Sub-Aponeurotic*)
- **P** = Pericranium



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SENSORY NERVE SUPPLY

- **Supratrochlear Nerve**
 - Branch of ophthalmic division of CNS
 - Supplies scalp in medial plane at frontal region up to vertex
- **Supraorbital Nerve**
 - Branch of ophthalmic division of CNS
 - Supplies scalp at the front, lateral to ST nerve distribution, up to vertex
- **Zygomaticotemporal Nerve**
 - Branch of maxillary division of CNS
 - Supplies scalp over the temple region
- **Auriculotemporal Nerve**
 - Branch of mandibular division of CNS
 - Supplies skin over temporal region of scalp
- **Lesser Occipital Nerve**
 - Branch of cervical plexus (C2)
 - Supplies scalp over lateral occipital region
- **Greater Occipital Nerve**
 - Branch of post ramus of 2nd cervical nerve
 - Supplies scalp in median plane at the occipital region up to the vertex

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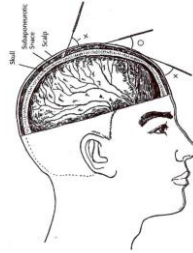
VASCULAR SUPPLY OF THE SCALP

- **Supratrochlear & Supraorbital A & V**
 - 2 branches of ophthalmic artery which is a branch of internal carotid artery
 - Accompanies the corresponding nerves
 - STV & SOV drain the anterior region of the scalp & form Facial V
- **Superficial Temporal A & V**
 - Terminal branch of Ext Carotid Artery
 - Ascends in front of the auricle
 - Supplies scalp over temporal region
 - Travels with auriculotemporal Nv & divides into A & P branches
 - STV forms ant division of RMV, forms part of common facial vein, drains into IJV.
- **Posterior Auricular A & V**
 - Branch of external carotid artery
 - Ascends posterior to the auricle
 - PAV helps form Ext Jugular Vein
- **Occipital A & V**
 - Branch of external carotid artery
 - Accompanies the Gtr Occipital Nv
 - OV terminates in suboccipital venous plexus

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NEEDLING INSERTION

- Posture:
 - Sitting or lying
- Insertion of Needle:
 - Clean local area
 - 1" - 1.5", 28-32 Gauge
 - Swiftly insert need at 30-degree angle to scalp (gets to lower layer of cap-shaped aponeurosis)
 - Push needle along direction of stimulation to needed depth



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POSITIONING

- Position of the patient
- Position of the practitioner



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NEEDLING RETENTION & MANIPULATION

- Needle retention and manipulation
 - Withdrawal
 - Acupressure on scalp
 - Electrical acupuncture on scalp
 - Precautions
- After arrival of Qi, manipulate the needles during retention every 10-15 minutes
 - Rotate a needle at small amplitude but rapid (~200 twists per minute) for 1-3 minutes

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REINFORCING AND REDUCING

- Reducing method:
 - After inserting a needle into the loose connective tissues, lift the needle forcefully in rapid motions, then thrust the needle back gently
- Reinforcing method
 - After inserting a needle into the loose connective tissues, thrust the needle forcefully in 3 rapid motions, then lift the needle back gently
- Reinforcing & Reducing along or against a channel
 - MS-1, MS-5, MS-2, MS-3, MS-8, MS-9, MS10, MS-11, MS-12, MS14

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NEEDLING TECHNIQUES

- Needle Manipulation:
 - Twirl only (**No Thrusting**)
 - Fix needle at same depth
 - Frequency; ~200x/min, continue 1-2 min, retain needle for 5-10 minutes, repeat stimulation 2-3 times
- E-Stim:
 - Frequency: 200-300 Hz
 - Stimulating intensity: based upon patient reaction
- Removing Needles:
 - Withdraw needling slowly while twirling.
 - If no heavy sensation, remove quickly
 - Press cotton ball over needle hole to prevent bleeding
- Course of Treatment:
 - Daily or every other day
 - 10 sessions as one treatment course

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CHOOSING SIDES

- For disorders above the neck, needle scalp lines on the same side
- For disorders below the neck, needle the opposite side
- For disorders on both sides, needle the lines bilaterally
- For internal or general disorders (reproductive, digestive, etc) needle bilaterally

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PRECAUTIONS

- Stimulation intensity should be comfortable
- Follow CNT Guidelines to prevent infection
- If doctor feels needle resistance OR patient feels pain, withdraw the needle a bit, and redirect
- **Contraindications:** high fever, acute inflammation, heart failure
- For cases of hemi-paralysis d/t cerebral hemorrhage, wait until bleeding stops & condition is stable before using scalp acupuncture
- For cases of cerebral thrombosis, scalp acupuncture should be used as early as possible

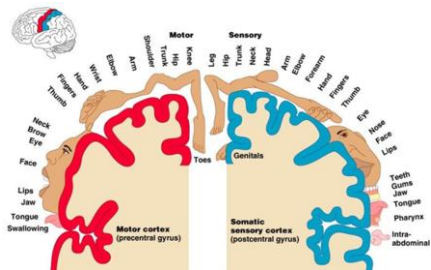
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PRECAUTIONS

- Do not treat infants whose fontanel is not closed
- Do not treat patient with injury or post-operative wound or tumor
- Use caution for patients at acute stage of cerebral hemorrhage, heart failure and weak constitution
- Avoid scars, sores and hair follicles.
- During treatment, watch patient closely to avoid acushock.
- Prevent bleeding on withdrawal
- Always count the needles

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MAP OF CEREBRAL CORTEX



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CHANNELS OF THE HEAD

- There are 8 channels going up to the *head* directly:
 - BL
 - SJ
 - GB
 - ST
 - LV
 - Du Mai
 - Yang Wei Mai
- There are 6 channels reaching the *face*:
 - LI
 - SI
 - HT
 - Ren Mai
 - Chong Mai
 - Yin Qiao Mai

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POINT LOCATION REVIEW

- DU24
- BL3
- GB14
- GB15
- ST8
- DU20
- DU21
- Sishencong
- GB7
- GB6/5/4
- BL7
- GB16/17/18
- DU17
- DU18
- BL9
- BL10

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DISTANCE FROM THE ANTERIOR HAIR LINE

- BL3: 0.5 cun
- BL4: 0.5 cun
- BL5: 1 cun
- BL6: 2.5 cun
- BL8: 5.5 cun
- GB15: 0.5 cun
- GB16: 1 cun
- GB17: 2.5 cun
- GB18: 4 cun

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INTERNATIONAL STANDARD OF NOMENCLATURE FOR SCALP ACUPUNCTURE (ISNSA)

- There are 14 locations of scalp lines, 25 lines in total
 - 3 single lines
 - 11 pairs of lines
- General locations of the lines
 - Forehead Area: 4 locations, 7 lines: MS1-4
 - Vertex Area: 5 locations, 9 lines: MS5-9
 - Temple Area: 2 locations, 4 lines: MS10, 11
 - Occipital Area: 3 locations, 5 lines: MS12-14

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INTERNATIONAL STANDARD OF NOMENCLATURE FOR SCALP ACUPUNCTURE (ISNSA)



World Health Organization



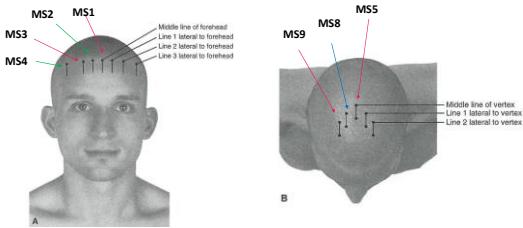
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INTERNATIONAL STANDARD OF NOMENCLATURE FOR SCALP ACUPUNCTURE (ISNSA)

- TCM standard lines of scalp acupuncture are based on following principles of point selection:
 - Select points from the area you wish to treat
 - Draw a line from point to point
 - Determine the meridian this line is on.
- ISNSA includes the following elements:
 - English alphabet & numbers (Ex: MS1)
 - M = Microsystems & S = Scalp

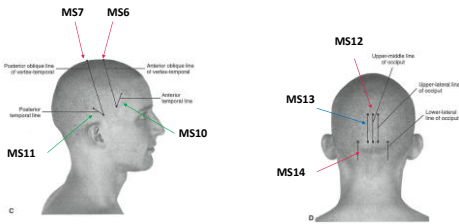
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FOREHEAD & VERTEX AREAS



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TEMPORAL & OCCIPITAL AREAS

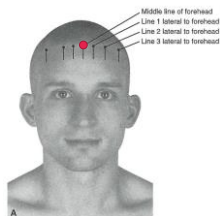


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FRONTAL REGION

MS-1: Middle Line of Forehead

- **Location:** Front of head, 1 cun line from DU24, straight down along meridian
- **Indication:**
 - Neuropsychiatric disorders; epilepsy;
 - Problems of head, nose, tongue & throat; headache; insomnia; dizziness, red, swollen or painful eyes;

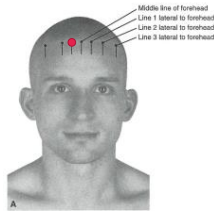


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FRONTAL REGION

MS-2: Lateral Line 1 of Forehead (Thoracic Area)

- **Location:** Front of head, 1 cun line from BL3, straight down along meridian
- **Indication:**
 - Upper Jiao disorders
 - Diseases of Heart, Lungs & Bronchi
 - Allergic asthma; bronchitis; angina pectoris; heart diseases; palpitations; flustered

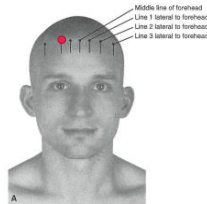


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FRONTAL REGION

MS-3: Lateral Line 2 of Forehead (Stomach, Liver & Gallbladder Area)

- **Location:** Front of head, 1 cun line from GB15, straight down along meridian
- **Indication:**
 - Digestive Disorders: acute & chronic gastritis; gastroduodenal ulcer; gastrointestinal ulcer; diarrhea or constipation; dysentery
 - Liver & Gallbladder Disorders: hepatitis; cholecystitis

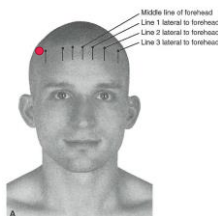


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FRONTAL REGION

MS-4: Lateral Line 3 of Forehead

- **Location:** Front of head, 1 cun line from a point 0.75cun medial to ST8, straight down along meridian
- **Indication:**
 - Reproductive System, Bladder & Kidney Disorders:
 - Female: Dysfunctional uterine bleeding; uterine prolapse; irregular menstruation
 - Male: impotence, spermatorrhea; seminal emission; premature ejaculation
 - Urinary System Disorders: acute cystitis (frequency & urgency of urination); polyuria

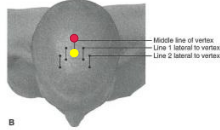


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VERTEX REGION

MS-5: Middle Line of Vertex

- **Location:** From DU20 to DU21, along the midline of head
- **Indication:**
 - Local: headache; dizziness; hypertension
 - Mental Disorders: fainting; syncope; asphyxia; mania; epilepsy; aphasia from apoplexy; insomnia
 - Lumbar & Leg pain, numbness or paralysis
 - 2 Lower Orifices Disorders: cerebro-cortical polyuria, nocturia (infant); anal prolapse

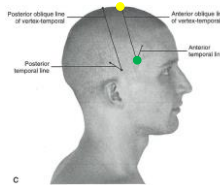


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VERTEX REGION

MS-6: Anterior Oblique Line of Vertex-Temporal (Motor Area)

- **Location:** From GV21, obliquely to GB6, divided into 3 parts
- **Indication:** Mobility impairment
 - Upper 1/3: Lower limb problems: pain, numbness, paralysis,
 - Middle 1/3: : Upper limb problems: pain, numbness, paralysis,
 - Lower 1/3: UMN paralysis of face; motor aphasia; uncontrolled salivation; impaired speech, cerebral artery stenosis.

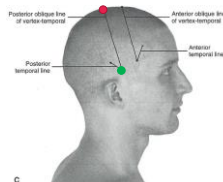


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VERTEX REGION

MS-7: Posterior Oblique Line of Vertex-Temporal (Sensory Area)

- **Location:**
 - From GV20 obliquely to GB7, 15. cun parallel & posterior to MS6, divided into 3 parts
- **Indication:** Sensory impairment
 - Upper 1/3: Low back pain; numbness & sensory disorders
 - Middle 1/3: Upper limbs pain & numbness
 - Lower 1/3: Pain & numbness in the face; migraine HA; trigeminal neuralgia; toothaches

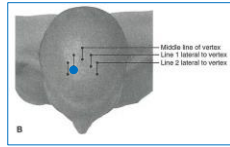


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VERTEX REGION

MS-8: Lateral Line 1 of Vertex

- **Location:** 1.5 cun lateral from midline of vertex, 1 cun ant to GV20, running 1.5 cun from BL7 forward along the meridian
- **Indication:**
 - Local: headache; dizziness, tinnitus, blurred vision
 - Lumbar, Leg & Foot Disorders, such as pain, numbness, paralysis

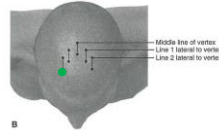


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VERTEX REGION

MS-9: Lateral Line 2 of Vertex

- **Location:** 2.25 cun lateral from midline of vertex, level with GV21, running 1.5 cun from GB17 forward along the meridian
- **Indication:**
 - Local: headache; dizziness, migraine
 - Shoulder, Arm & Hand Disorders: paralysis, numbness, pain

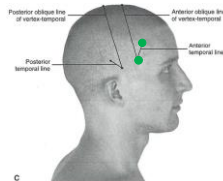


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TEMPORAL REGION

MS-10: Anterior Temporal line

- **Location:**
 - Within temporal hairline, running from GB4 to GB6
- **Indications:**
 - Head & Facial Disorders: migraine; motor aphasia; trigeminal neuralgia; outer canthus pain; tinnitus; epilepsy; peripheral facial paralysis; oral cavity disorders (gingivitis, tonsillitis)
 - Throat disorders

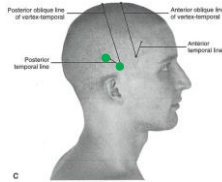


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TEMPORAL REGION

MS-11: Posterior Temporal line

- **Location:** Lateral side of head, superior to ear apex, running from GB8 to GB7
- **Indications:**
 - Head & Facial Disorders: migraine HA; tinnitus; deafness; vertigo

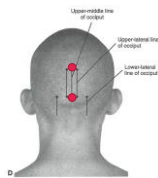


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OCCIPITAL REGION

MS-12: Upper-Middle Line of Occiput

- **Location:** Midline of occiput, from DU17 (EOP) to DU18, running 1.4 cun upward
- **Indications:**
 - Local: occipital HA; dizziness; blurred vision; stiff neck
 - Mental Disorders: epilepsy; mania-depression,
 - Eye Disorders: blurred vision; keratitis; conjunctivitis

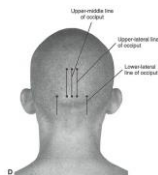


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OCCIPITAL REGION

MS-13: Upper-Lateral Line of Occiput (Visual Area)

- **Location:** 0.5 cun lateral to midline of occiput, (DU18 to DU17), running 1.5 cun upward
- **Indications:**
 - All Eye Disorders: cortical blindness; cataracts; near/far-sightedness; glaucoma
 - Athlete's foot; lower back pain

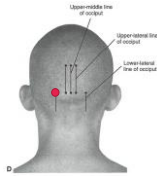


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OCCIPITAL REGION

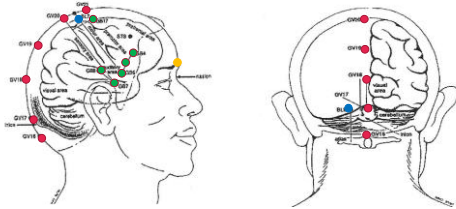
MS-14: Lower-Lateral Line of Occiput (Balance Area)

- **Location:** 2 cun long from BL9 to BL10, straight downward
- **Indications:**
 - Equilibrium disorders from cerebellum disease; loss of balance; incoordination; dystaxia; ataxia
 - Dysfunction of brain stem; numbness & paralysis of limbs; head & nape pain; dizziness; headaches



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SCALP ACUPUNCTURE LINES & BRAIN FUNCTIONAL ZONES



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CLINICAL APPLICATIONS
-STROKE

- Restore sensation and motility
- Improve muscle tone
- **Treatment**
 - MS-5, 6, 7, 8, 9
 - Retain the needles & exercise, 2-4 hrs
 - Acute stage: daily treatment for 10 days
 - Recovery stage: 1-2x/week for 3 months
- **Prognosis**
 - Paralysis caused by cerebral thrombosis recovers better than embolism & hemorrhage
 - Within first 3 months (esp w/in 1st month) recovers better than chronic cases.
 - Single affected area in the brain recovers better than multi-areas

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CLINICAL APPLICATIONS
-EPILEPSY

- Reduce attack duration and frequency
- Treatment
 - Needle according to affected areas
 - Rapid manipulation or E-Stim with dense-disperse waves for 20-30 minutes

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CLINICAL APPLICATIONS
-HYPERTENSION

- Temporary control of Blood Pressure
- Treatment
 - MS-1, 2, 5
 - Mild stimulation, retain for 1 hour

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CLINICAL APPLICATIONS
-ASTHMA

- Temporary control of Blood Pressure
- Treatment
 - MS-1, 2,
 - Retain for 30-60 minutes
 - Manipulate needles every 10 minutes

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CLINICAL APPLICATIONS
-DIAPHRAGM SPASM

- Treatment
 - MS-3
 - Mild stimulation of needles
 - Deep inhalation & exhalation for 20-30 min

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CLINICAL APPLICATIONS
-FROZEN SHOULDER

- Treatment
 - Middle section of MS-6
 - Treat opposite side for one-sided pain
 - Treat bilateral for pain in both shoulders
 - Have patient exercise during needle retention

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REFERENCES

- Liu, Yuxing; *Scalp Acupuncture Theory and Clinical Applications*.
Academy of Oriental Medicine at Austin

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METHODOLOGY

- Examine scalp in detail for any defects prior to Tx.
- For paralyses, find the reflex zones in the region of the scalp zones contralateral to the paralysis.
- Examine both zones, as TrPts occurring on both sides should also be needed on both sides, regardless of the localization of the paralysis.
- Needle to the periosteum.
- Locate TrPts by running thumb over suspected area w constant pressure
- Treatment is carried out at short 1 – 2 day intervals.
- Co-treatment with physiotherapy is important

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PRINCIPLES OF POINT SELECTION

- Select a point from the diseased area
- Select a point based on a differential diagnosis
- Select a point based on the symptoms
- Select a point of the contralateral side of head, if the disease is unilateral
- Select a point on both sides of head if disease is bilateral, of internal organs, or is difficult to distinguish

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SCALP ACUPUNCTURE -INDICATIONS

- Used for dysfunction of respiratory, vascular, digestive, reproductive, endocrine, immune & neurological systems.
- Very useful for CNS disorders, pain control & acute conditions
 - SA adjusts function of cerebral cortex, improving circulation of brain & vascular system
 - SA adjusts excitatory & inhibitory state functions of cerebral cortex
 - SA effectively stops pain & stops itching
 - SA can adjust functional disorders of corticovisceral syndrome,

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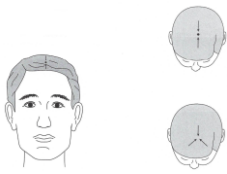
SPECIALIZED NEEDLING TECHNIQUES

- Opposite Needling
 - Up – Down: ↑↓ MS-1, 2, 3, 4, 12, 13, 14
 - Back – Forth: →← MS-5, 8, 9
- Threading method: MS-6, 7, MS-12, 13
- Relay Needling: multiple needles to cover a long line
- Triple Needling: ↘↓↙ MS-1, 5, 12, DU20

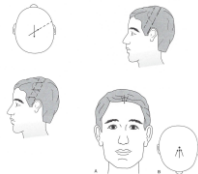
64

SCALP ACUPUNCTURE NEEDLING -MULTIPLE INSERTIONS

NEEDLING AGAINST INSERTION



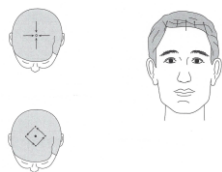
NEEDLING ACROSS INSERTION



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SCALP ACUPUNCTURE NEEDLING -MULTIPLE INSERTIONS

NEEDLING GROUP INSERTION



- Removing Needles
 - Close hole with a clean cotton ball to prevent bleeding.

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LENGTH & FREQUENCY OF TREATMENT

- Severe Symptoms & Acute Condition
 - 3 – 5 days per course, extending to 7 – 10 days to maintain effect
- Mild Symptoms & Chronic Condition
 - 2 – 3 times per week,
 - 10 – 12 treatments per course.

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- Avoid hair follicles, scars, infected areas
- Temporal area will react more to needling
- Angle of insertion should be 15-30d
- If patient complains of pain, stop & slightly withdraw, then adjust angle

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ARRIVAL OF QI

- Patient may feel warmth, heat, numbness or radiation.
- Qi may be noted in a wide area & may appear on limb (same or opp side).
- It may be noted in joints/muscles, or in an area about 1.5 cm wide along meridians

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NEEDLE SENSATIONS

- Needles can be retained up to 24 hrs & stimulated during that time.
- Fast needle rotation will provide better & stronger needle sensation.
- Inserting into vessels can cause local burning pain.
- Some patients can have a delayed needle sensation.

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TIME FOR A BREAK!!!



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