Right hemisphere – STOP • Left hemisphere – GO

Two hemispheres: functions, testing, reflexes and milestones

NEUROTRANSMITTERS / HORMONES
- Serotonin
- GABA
- Norepinephrine
- Cortisol (wake)

INFORMATION PROCESSING
- Emotions
- Nonverbal communication

UNCONSCIOUS (SUBCONSCIOUS)
- Emotional states and feelings
- Intuition
- Creativity, imagination
- Personality, character

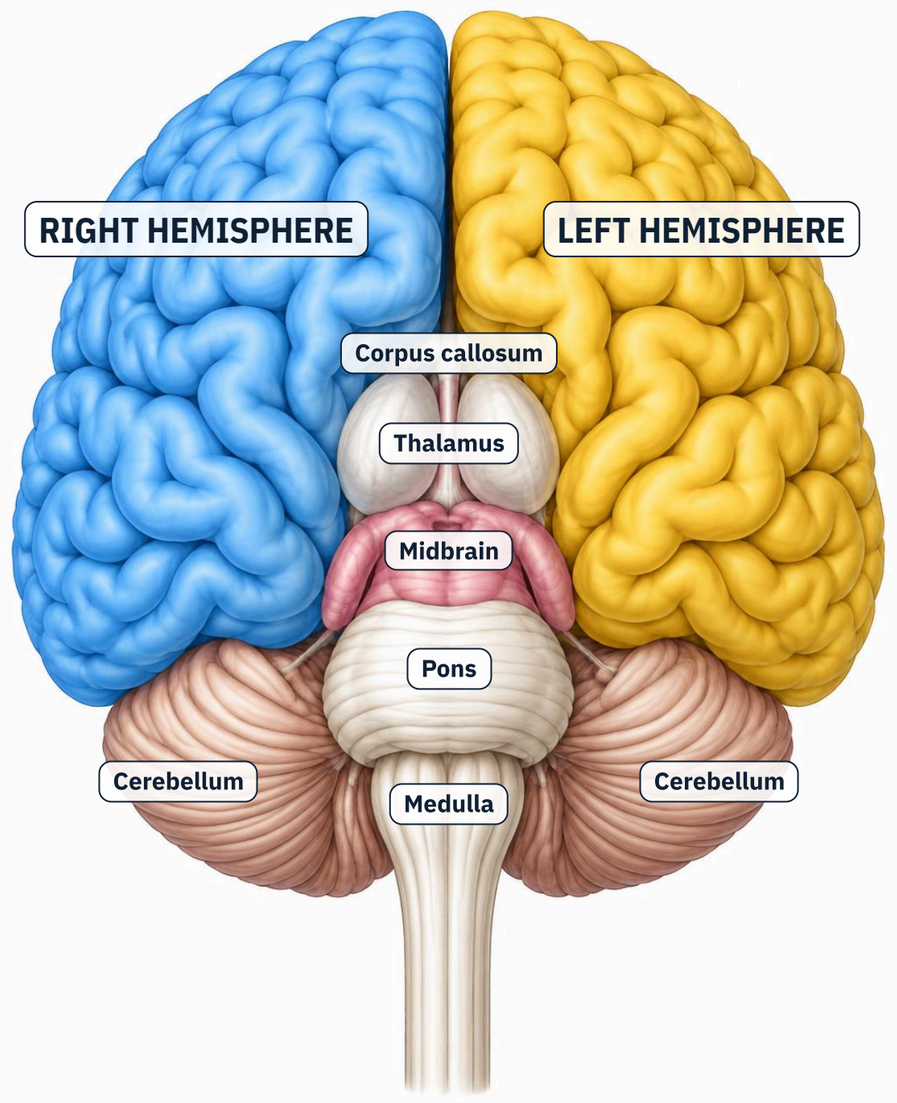
PHYSICAL FUNCTIONS
- Involuntary movement (smooth muscle)
- Motor control of the left side
- Primitive reflexes (incl. Moro)

SPACE AND TIME
- Spatial thinking
- Orientation in space
- Sense of time

PERCEPTION
- The whole picture
- Emotional colouring
- Faces and expressions

EMOTIONS
- Joy, sadness, fear, anger, surprise
- Empathy, compassion

MOTOR / SENSORIMOTOR
- Gross motor (body)
- Postural control
- Movement in space



NEUROTRANSMITTERS / HORMONES
- Dopamine
- Glutamate
- Acetylcholine
- Melatonin (sleep)

INFORMATION PROCESSING
- Logic
- Analysis
- Language and speech
- Sequential thinking

CONSCIOUS
- Planning
- Behaviour control
- Decision making
- Self-regulation

PHYSICAL FUNCTIONS
- Voluntary movement (skeletal muscle)
- Motor control of the right side
- Fine motor (hand)

TIME AND SEQUENCE
- Linear thinking
- Order
- Cause and effect

PERCEPTION
- Details
- Verbal information

EMOTIONS
- Emotion control
- Rational thinking

MOTOR / SENSORIMOTOR
- Fine motor (fingers)
- Precision of movement
- Bimanual coordination
- Tool use

Muscle testing by brain region

	Cerebellum	Pons	Medulla	Cerebral cortex
Key muscle	**Sternocleidomastoid**	**Masseter**	**Neck muscles**	**Frontalis**
Examples	• Balance • Coordination • Precision of movement • Muscle tone	• Speech • Swallowing • Eye movements	• Breathing • Heartbeat • Muscle tone • Body position	• Spatial orientation • Limb movement • Planning and organisation • Complex movements
Mainly controls	Speed and precision of movement	Speed and tone	Vital functions	Conscious movement

Primitive reflexes

ORAL REFLEXES
- Sucking
- Rooting (search)
- Jaw thrust
- Biting
- Swallowing
- Gag

NECK REFLEXES
- Tonic labyrinthine (TLR)
- Tonic neck (ATNR / STNR)
- Postural reactions
- First hand movements

SPINAL REFLEXES
- Moro (startle)
- Grasp
- Babinski
- Stepping (support)
- Crawling

Postural reactions and developmental skills

- Equilibrium and protective reactions
- Rolling over
- Sitting
- Crawling
- Hand coordination and object manipulation
- Social interaction

Developmental milestones

7 MONTHS
- Sits without support
- Begins crawling
- Two-hand grasp
- Explores objects
- Reacts to strangers

8 MONTHS
- Stands with support
- Crawls on all fours
- Passes objects
- Starts babbling
- Understands speech

9 MONTHS
- Pulls to stand
- Social smile
- Responds to sounds
- Purposeful hand movements
- Rolls over

10 MONTHS
- Walks holding support
- Sits up independently
- Simple gestures
- Active exploring
- Holds attention

11 MONTHS
- First steps
- Manipulates objects
- Understands simple words
- Imitation
- Emotional stability

12 MONTHS
- Walks
- Pincer grasp
- First words
- Imitation games
- Social skills