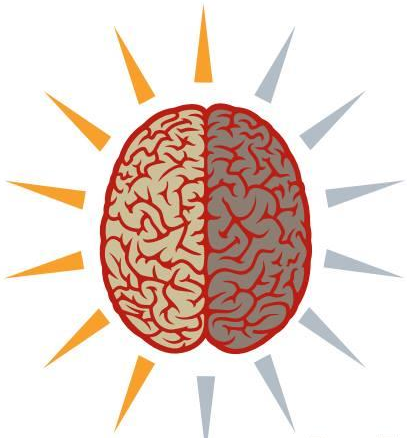


neuro-link

NEURO AGILITY

FLEXIBLE | FAST | FOCUSED

The Impact of Neurological Stress on People's Information Processing style and Neuro-agility as an Approach to Managing Mental Fatigue

Tiaan Vermeulen
Neuro-Link
tiaan@neurolink.co.za
www.neurolink.company

WHAT IS STRESS?

To lose brain / mind control.

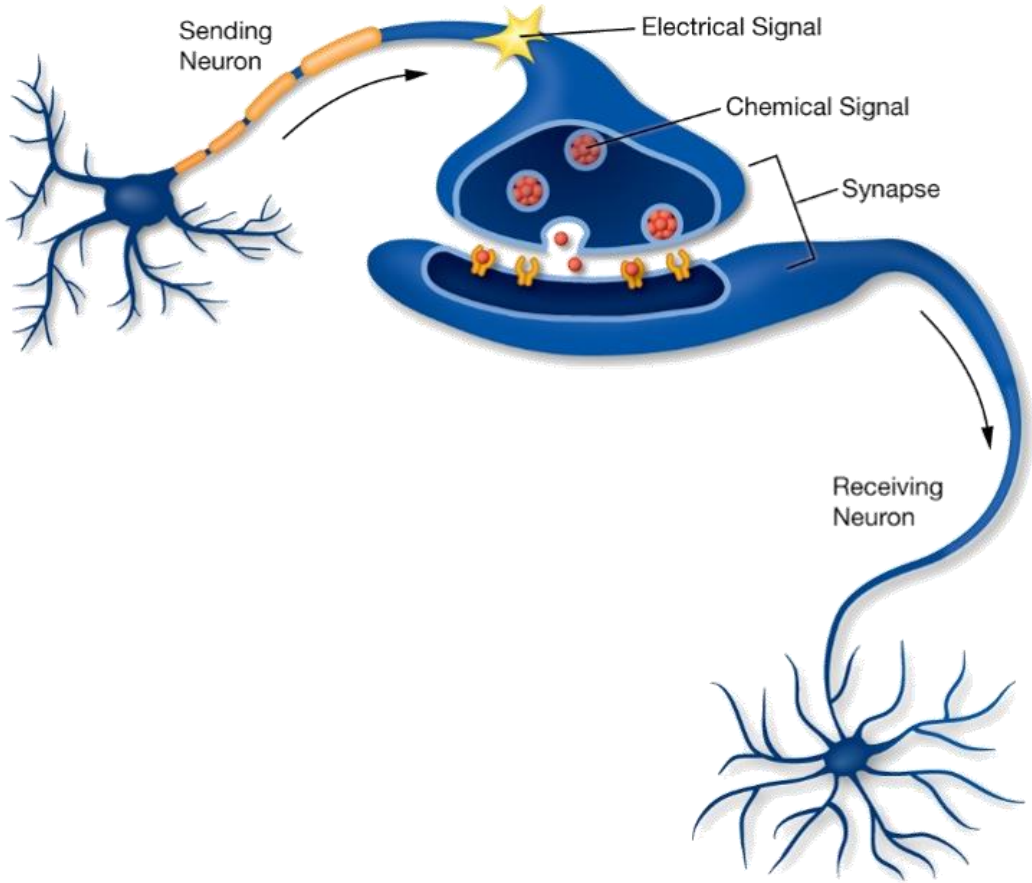
Continued stress causes a “switching off” effect, triggering people to regress into their natural default mode .

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

NEUROLOGICAL STRESSORS

Anything that disturbs the allostasis of the body and / or chemicals that decrease the likelihood that the neuron will fire an optimal electrical impulse.



NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

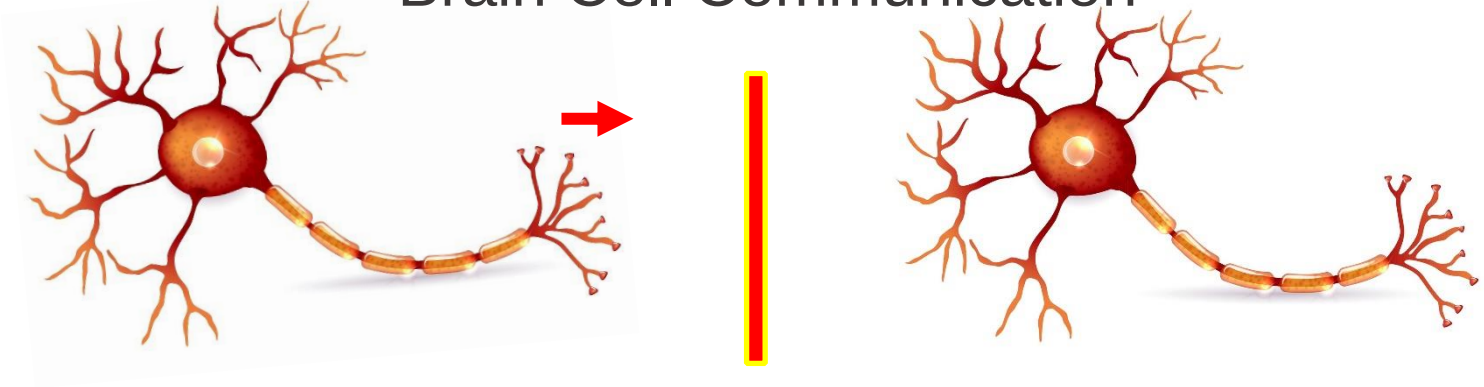
NEUROTRANSMITTERS

Inhibitory Effect

Continued stress cause chemicals that decrease the likelihood that the neuron will fire an optimal electrical impulse.

Cortisol
Negative Emotions / Stress / Fatigue

Brain Cell Communication



Suppressed Immune Function

Continued Negative Emotions, Stress, Fatigue = Bad Fuel !

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

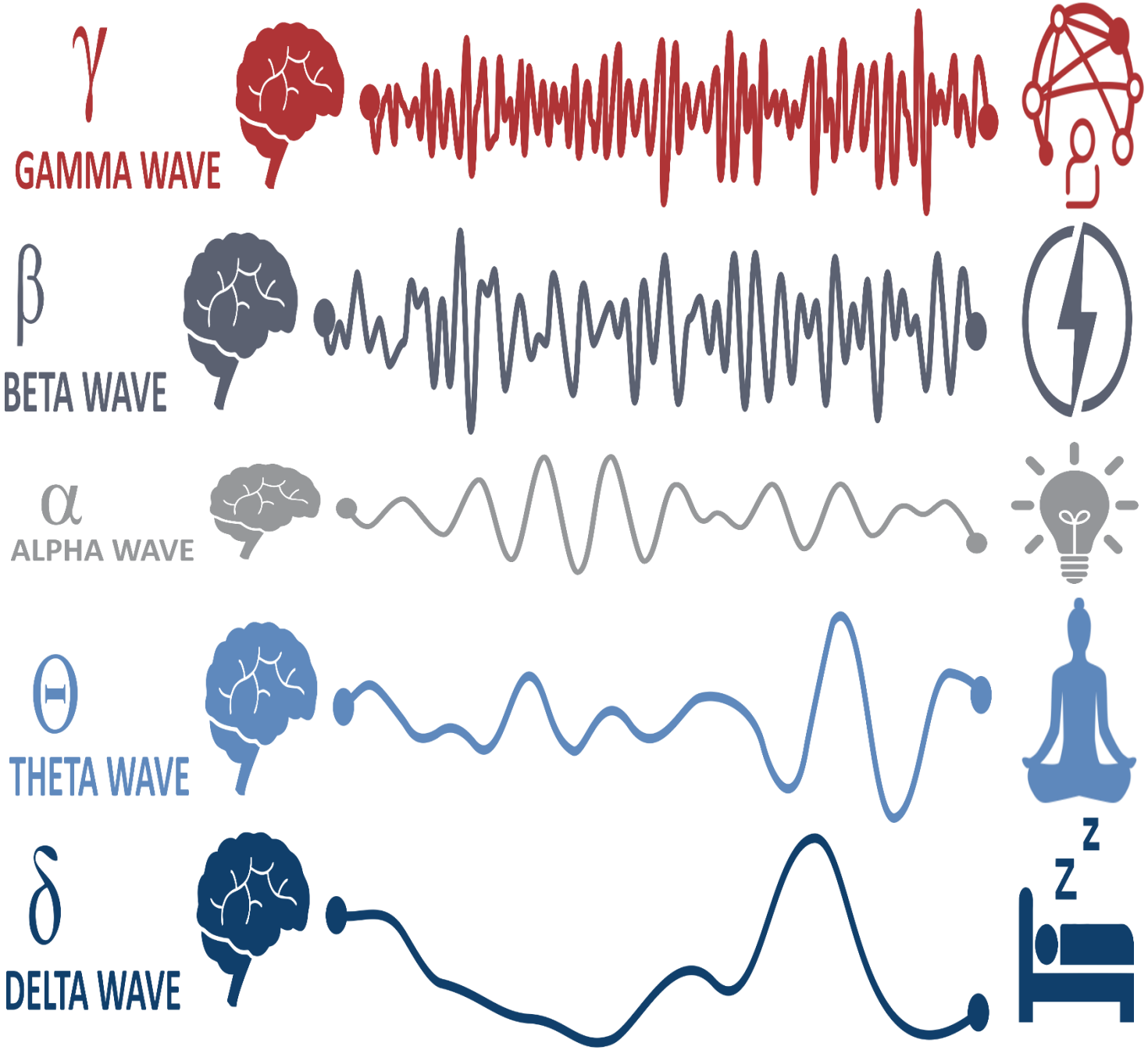
STRESS & BRAIN STATES

The electrical activity of the brain (the rate of neuron firing), creates rhythmic brainwave pulses that produce different brain states.

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

BRAIN STATES



NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

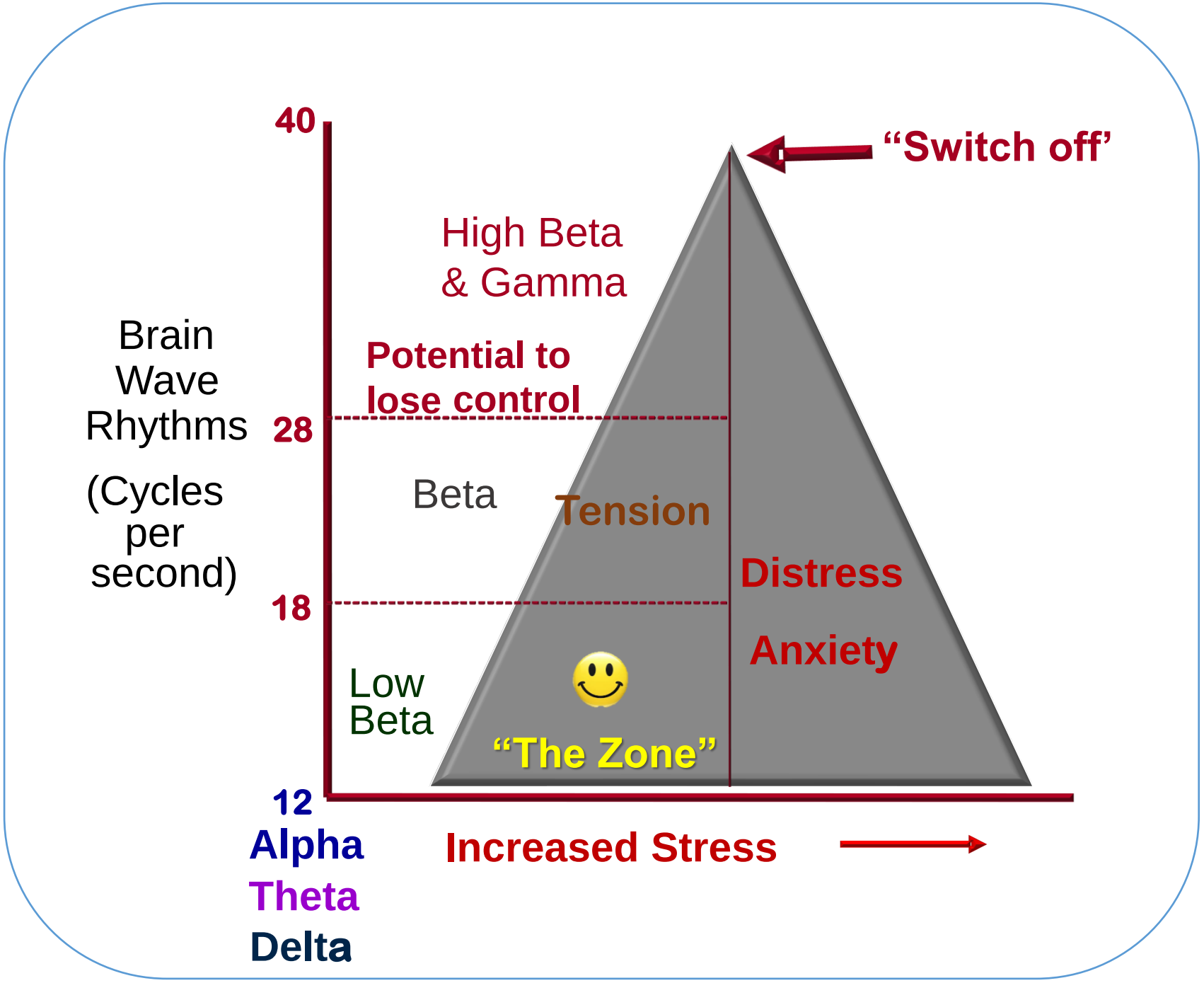
neuro-link

BRAIN STATES

BRAINWAVE STATE	WAVE FREQUENCY	CHARACTERISTICS
GAMMA	29-40 cps	STRESS !
BETA	13-28 cps	Practical / Alert / Performance / Doing
ALPHA	8-12 cps	Relaxation / The "Zone" / Thinking / Learning
THETA	4-7cps	Sub- Conscious / Dreaming / Creative Thought
DELTA	0,5-3 cps	Deep Dreamless Sleep Unconscious

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

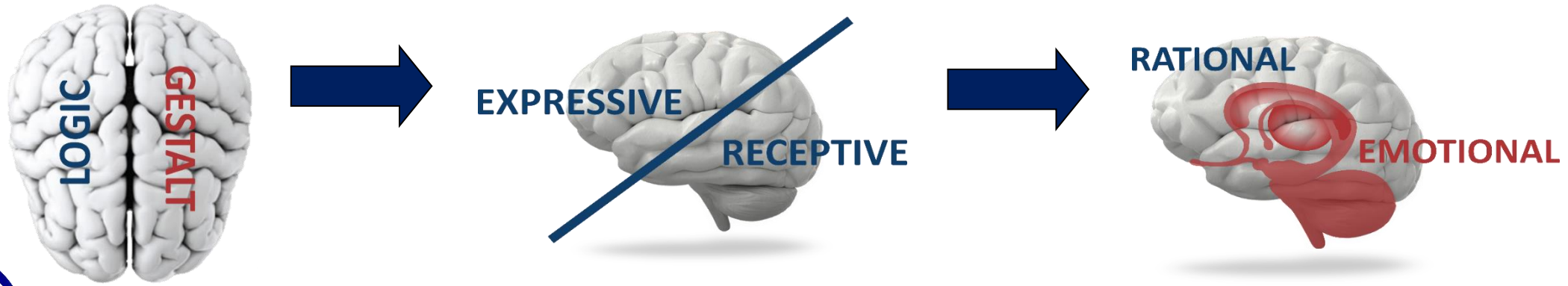


NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

DOMINANCE & STRESS

- All people have a unique predisposition towards which hemispheres, brain regions and senses will **lead** (dominate) when learning, thinking and processing information, being referred to as your natural default mode.
- When stressed, the body prepares itself by ensuring that enough energy is readily available. Insulin levels fall, adrenaline levels rise and more glucose is released from the liver.
- High blood glucose levels affect the brain's functional connectivity, which links brain regions that share functional properties, and brain matter, resulting in moving into a default mode.



NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

NEUROLOGICAL DOMINANCE

The hemisphere, eye, ear, or hand that
leads, while the other follows more passively.





NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

VARIOUS INFORMATION PROCESSING STYLES (example)

Leading right brain hemisphere

Leading (dominant) right ear

Leading (dominant) left eye

Leading (dominant) right hand

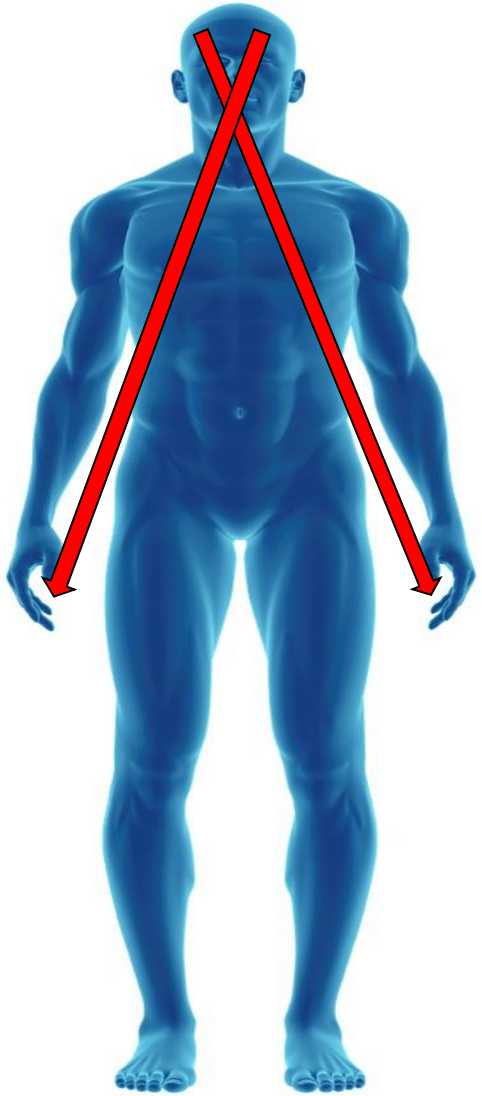
PLEASE NOTE:

- All the dominant senses are not necessarily on the same side.
- The dominant senses are not necessarily opposite the dominant (leading) brain hemisphere.

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

CROSS-LATERAL CONTROL



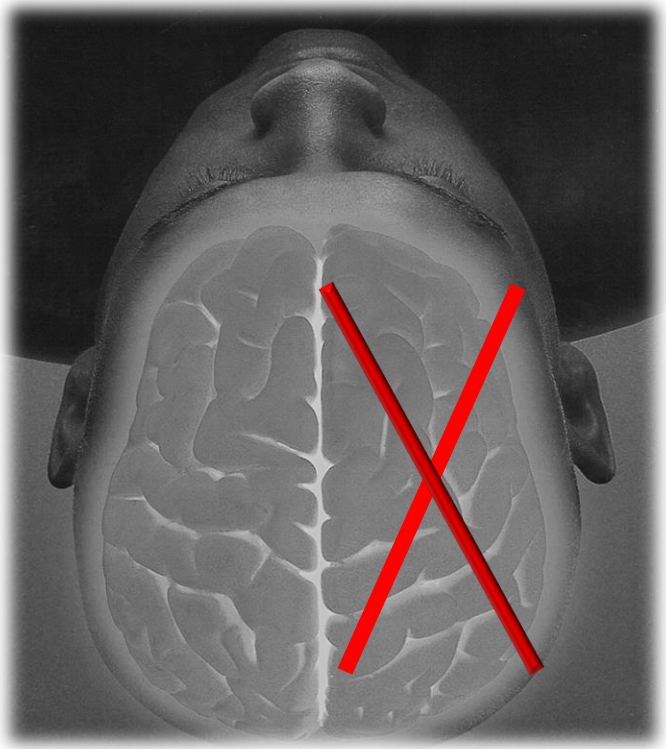
NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

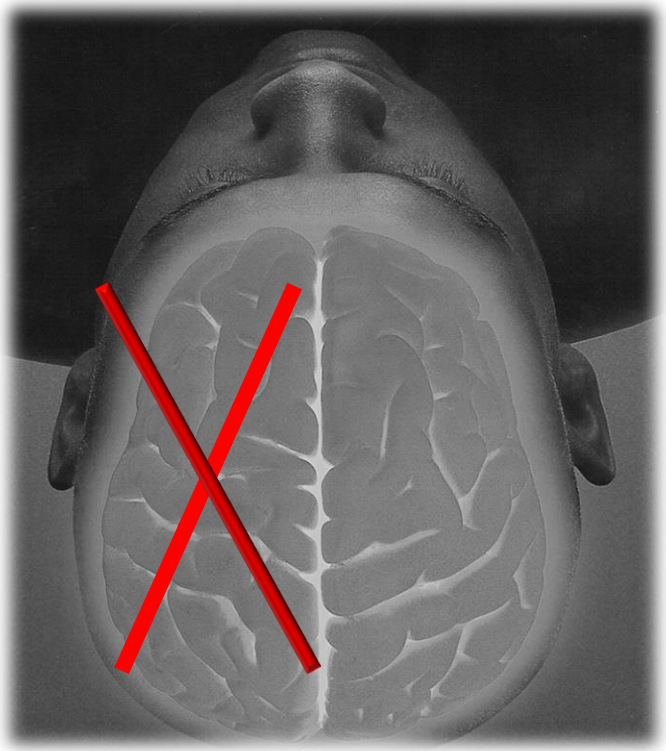
neuro-link

LEVEL 1 - LATERAL INHIBITION

Dehydration and stress chemicals start decreasing the likelihood that the neurons in the less dominant hemisphere will fire effective electrical impulses, triggering a left **or** right hemisphere "switching off" effect, resulting in a person functioning more from their natural default (dominant hemisphere) preference.

Left Hemisphere ⟹



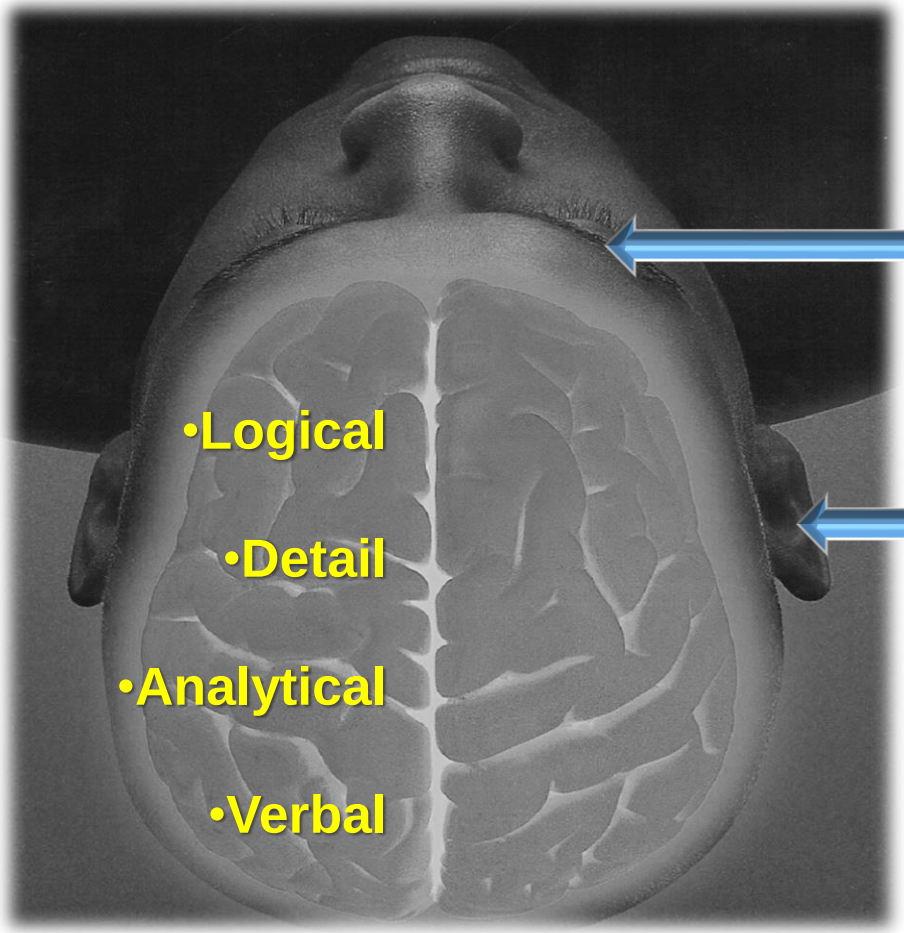


⟸ **Right Hemisphere**

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

PROCESSING FUNCTIONS OF SENSES ON THE RIGHT SIDE OF THE BODY



RIGHT HAND:
- Fine motor activities
- Written & verbal communication

RIGHT EYE:
- Look for detail
- Tracks from left to right
- Focuses on words

RIGHT EAR:
- Words & language
- Facts
- What is said
- Verbal content

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

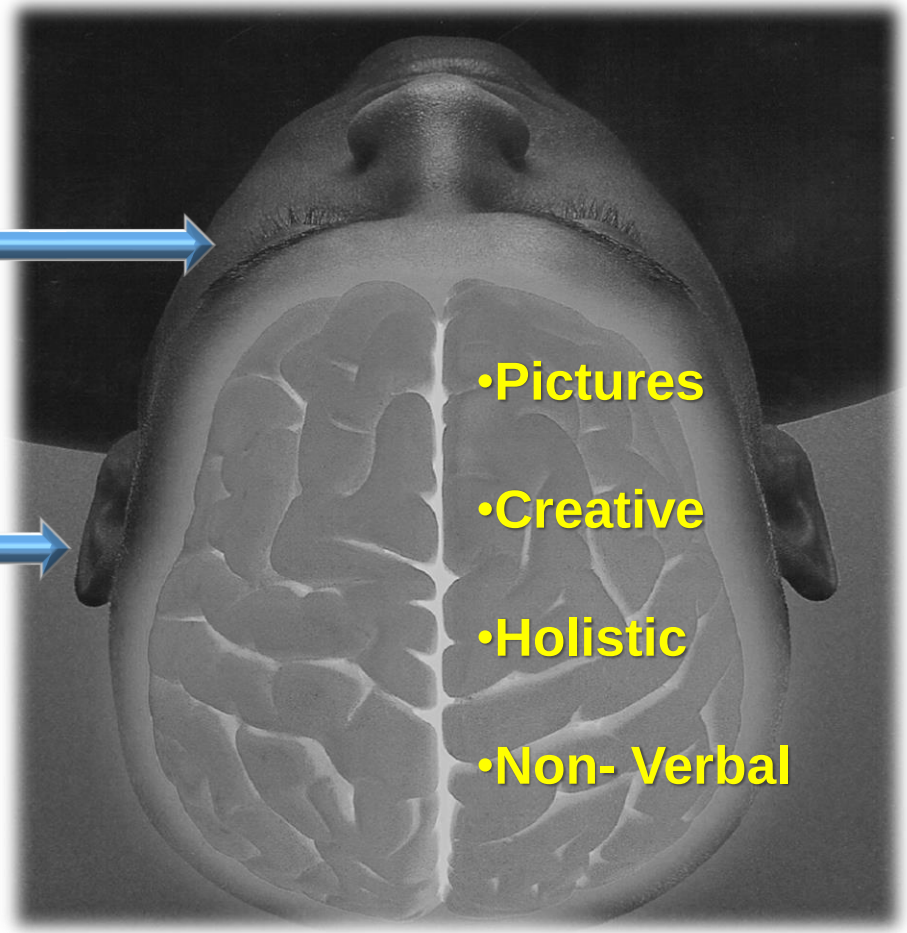
neuro-link

PROCESSING FUNCTIONS OF SENSES ON THE LEFT SIDE OF THE BODY

LEFT HAND:
- Gross motor activities
- Non-verbal communication

LEFT EYE:
- Seek movement & bigger picture
- Tracks from right to left
- Focuses on colour, shape, movements

LEFT EAR:
- Emotions
- Rhythm
- How things are said
- Non-verbal content



NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

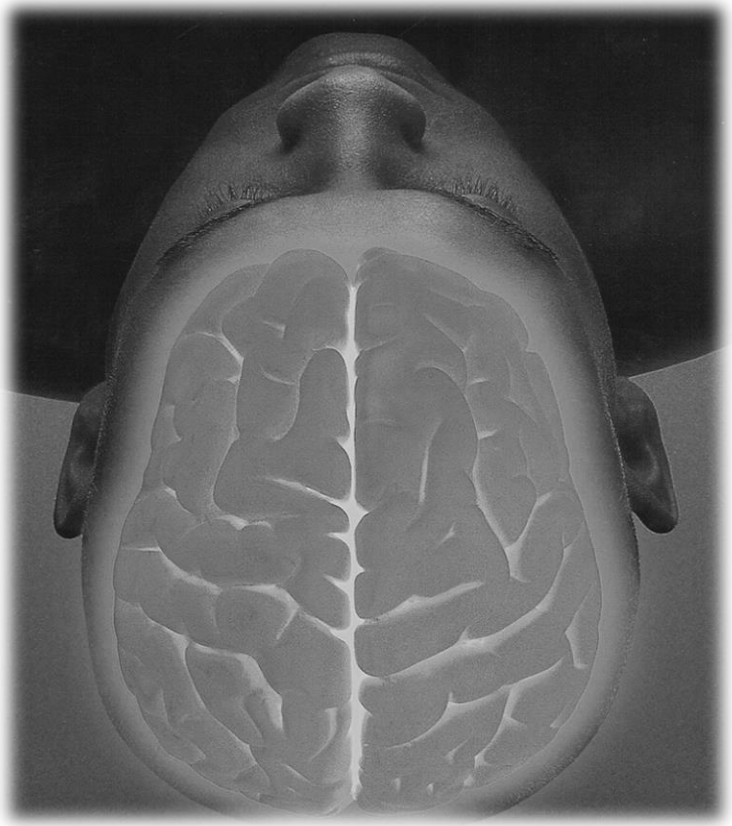
neuro-link

IMPLICATIONS OF LATERAL INHIBITION

Learning, thinking and processing functions of a person's preferred default hemisphere will be amplified during stress and the less preferred hemisphere's functions become more inhibited.

Observable behavior indicates that the person moving into a left hemisphere default preference tends to become more:

- Stuck in logic
- Over analyze
- Stuck in the detail
- Task / results oriented



Observable behavior indicates that the person moving into a right hemisphere default preference tends to become:

- Less structured. More fluid
- Less detail oriented
- Stuck in the big picture
- People / big picture oriented
- Less time conscious

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

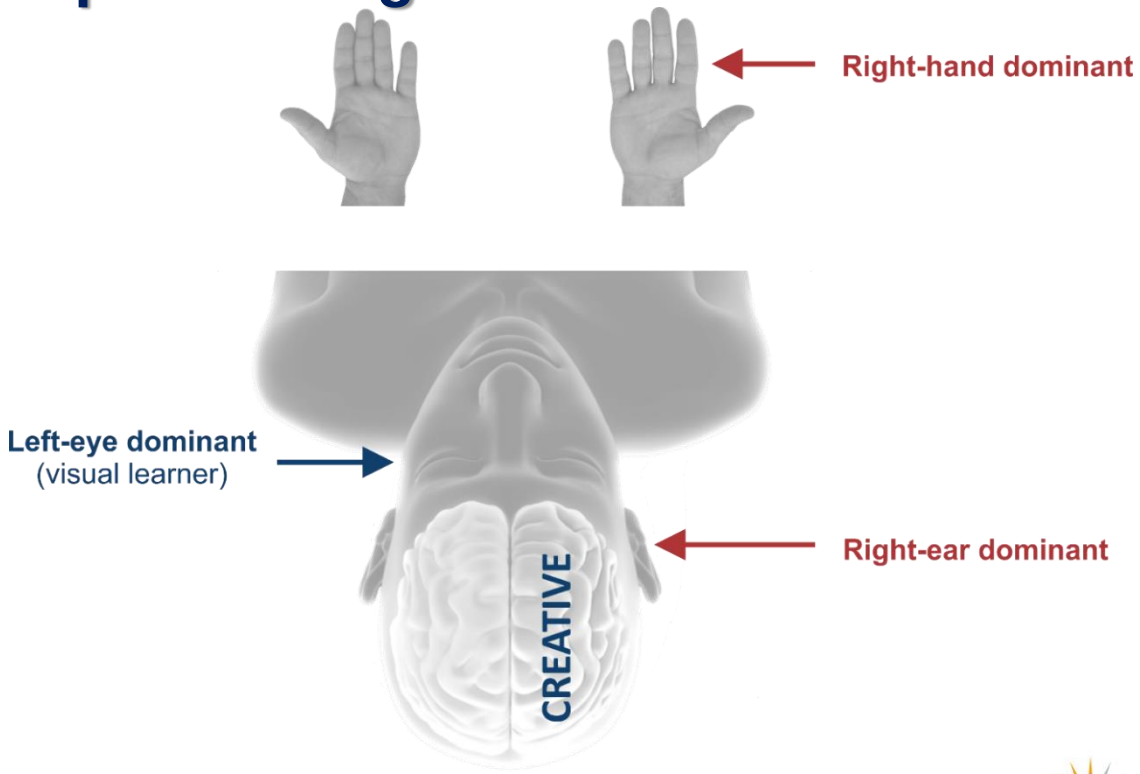
neuro-link

IMPLICATIONS OF NEUROLOGICAL STRENGTHS EVEN DURING STRESS / FATIGUE

Strength = when dominant (leading) senses are opposite dominant hemisphere

= ease, speed and flow with visual processing

- **Visual learner = looks <u>and</u> sees**
  - Look = eye processes visual impulses
  - See = brain receives and processes
- **Auditory learner = hears <u>and</u> listens**
  - Hear = ear processes auditory impulses
  - Listen = brain receives and processes
- **Hand = know <u>and</u> verbalize**



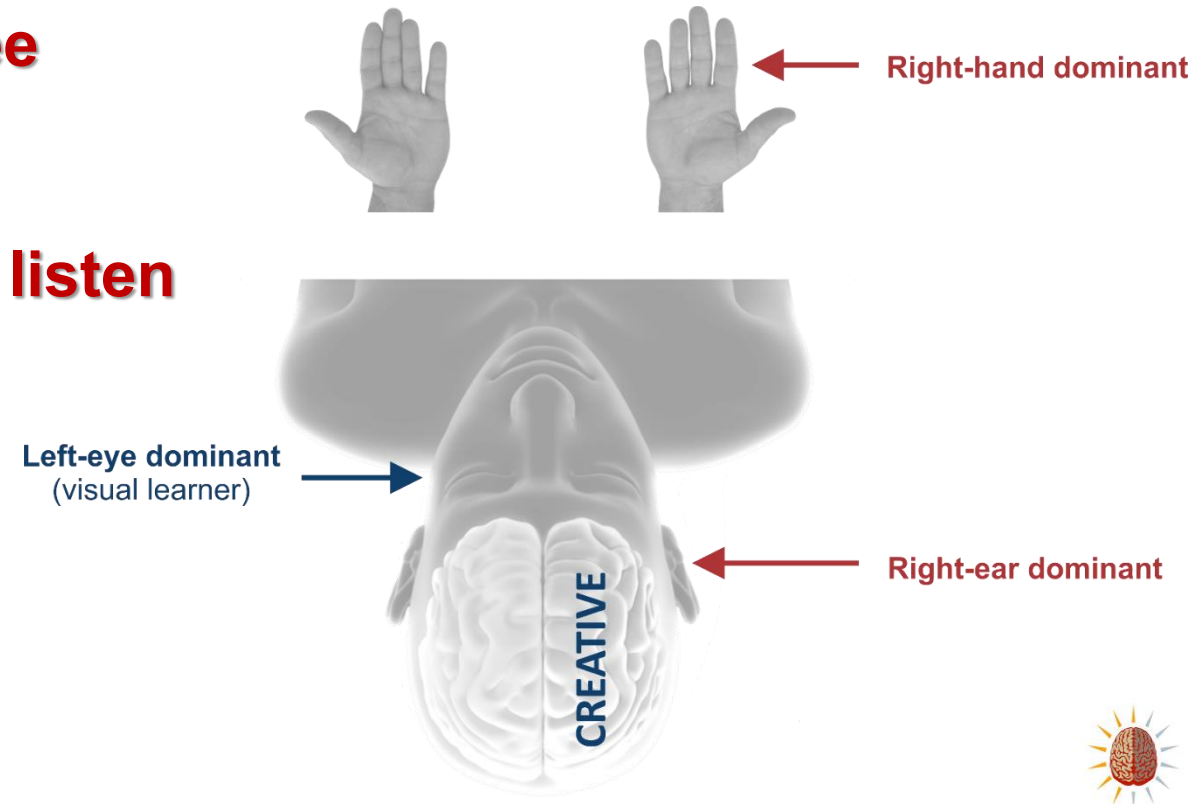
neuro-link

IMPLICATIONS OF NEUROLOGICAL HINDRANCES DURING STRESS / FATIGUE

Hindrance = dominant (leading) sense on same side as dominant hemisphere

= processes impulses slower – more difficulty / harder

- **Visual hindrance = look, but don't see**
- **Auditory hindrance = hear, but don't listen**
- **Hand = know but can't verbalize**



NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

LEVEL 2 –
EXPRESSIVE / RECEPTIVE INHIBITION

When stress intensifies, dehydration and stress chemicals start decreasing the likelihood that the neurons in the expressive, **or** receptive regions of the dominant hemisphere, will fire effective electrical impulses, triggering a front – back "switching off" effect, resulting in a person functioning more from their natural expressive **or** receptive default preference.

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

IMPLICATIONS OF EXPRESSIVE / RECEPTIVE INHIBITION

Expressive or receptive functions of a person's preferred default mode will be amplified during stress and the functions of the less preferred mode will be reduced.

Observable behavior indicates that the person moving into an expressive default preference becomes more:

- Expressive
- Extrinsic processing
- Verbal / non-verbal
- Talkative
- Outspoken
- More extroverted

Observable behavior indicates that the person moving into a receptive default preference becomes more:

- Receptive
- Intrinsic processing
- Reserved / absorbing
- Think before act
- Shy / quiet
- More introverted

neuro-link

LEVEL 3 - RATIONAL INHIBITION

When stress intensifies further, the rational regions in the cerebral cortex will be inhibited, triggering a “switching off” effect of the reasoning / rational centers of the brain, resulting in a person functioning in a more emotional (irrational) way.

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

IMPLICATIONS OF RATIONAL INHIBITION

Higher order learning and thinking functions of the cerebral cortex may be reduced. Regardless of a person's natural default preference, that person will mostly act irrationally in this state of stress.

Observable behavior indicates that a person moving into the emotional centers of the brain becomes more:

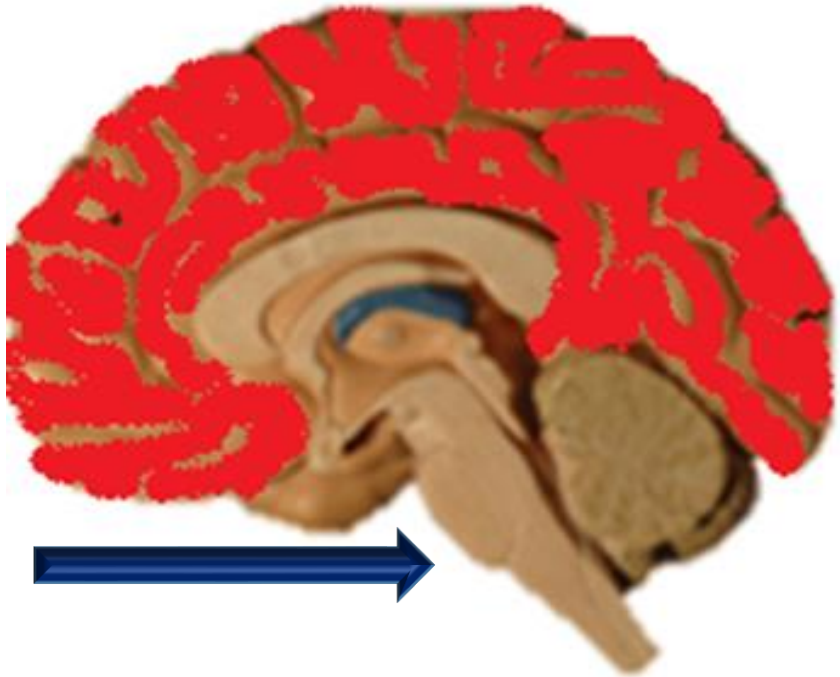
- Emotional
- Irrational – not reasoning clearly

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

LEVEL 4 – SURVIVAL INSTINCTS ACTIVATED

Acute stress activates the last level of the “switching off” effect, resulting in a person regressing into survival mode, triggering fight, flight and / or freeze responses.



Survival

Fight / Flight / Freeze

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

CONTINUOUS STRESS

Your Brain's Greatest Enemy!

Continuous bad feelings cause people to experience "dis-ease".

Continuous dis-ease leads to DISEASE!

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

GENERAL STRESS COPING SUGGESTIONS

General stress coping suggestions to help counteract stress:

- 6-8 glasses of water per day
- Regular breathing exercises
- Visualization exercises
- Mindaerobics
- Sufficient quality sleep
- Movement / exercise
- Healthy diet
- Practice mindfulness
- Emotional intelligence skills
- Practice spirituality
- Address causes of stress constructively
- Humanize your life and work environment
- Develop and maintain a growth mindset

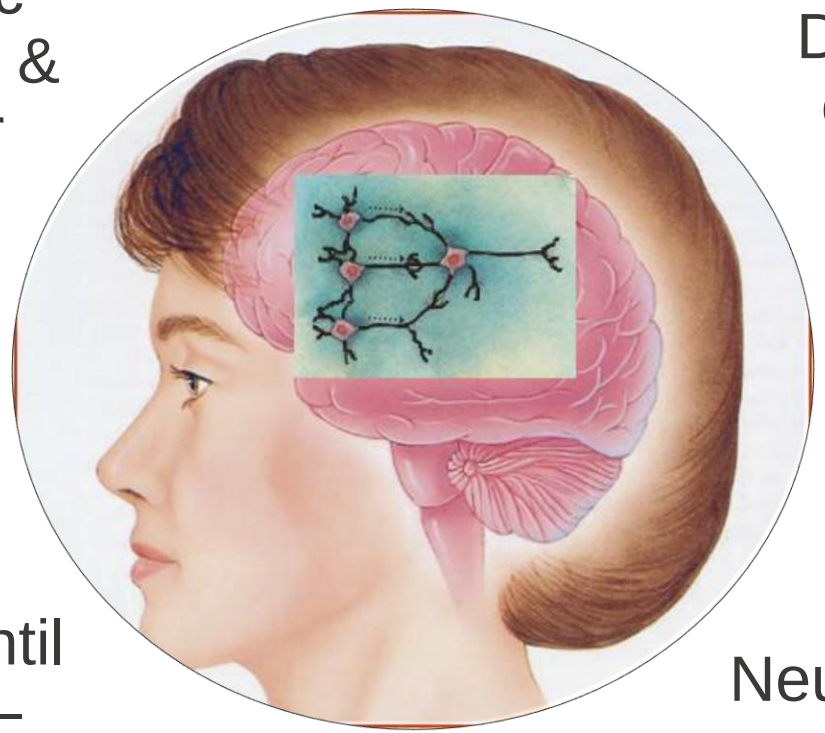
NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

NEURAL PATHWAYS (MINDSETS)

Automatic responses & behavior

Dendrites connect



Reinforced until permanent –

mindset is formed

Neural pathways are formed

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link

DISCOVER AND UNDERSTAND YOUR AMAZING NEUROLOGICAL DESIGN AND IMPROVE YOUR NEURO AGILITY

CONTACT US TODAY

TIAAN VERMEULEN
NEURO-LINK
tiaan@neurolink.co.za
012 020 0046
082 338 4240
www.neurolink.company

NEURO AGILITY
FLEXIBLE | FAST | FOCUSED

neuro-link