Optometric and Physical Therapy for Neuro- Rehabilitation

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The Web of Life

- Systems theories of Dr Fritz Capra: self organizing systems that are all networked: cannot tell the whole from any parts.
- Systems theory: self regulation is non-linear
- Principles: regeneration of dissipative structures : Auto Poiesis, Non Equilibrium, directed by cognition or "Mind"

Structures

- Structural coupling with environmental stimuli changes connectivity by cybernetic feedback loops driven by auto poieis to create new pathways.
- The evornmental inputs trigger change but does not direct it.
- Connectivity can change with every perception such as emerging vision each moment.

Cognition

- Mind is a process of cognition
- Cognition allows a process where by brings forth the world.
- That is the idea of consciousness as the ground for all life
- It allows us to realize there is no such thing as absolute observation, only approximations
 Light stimulation, lenses, prisms and vision therapy can alter networks and change many systems in the timing and the signals absorbed

Balance

Factors less commonly associated with balance are inner gases and fluid pressure, hormonal secretion, bite position and function, atmospheric pressure and **visual perceiving of the space**. In more technical terms, ocular-vestibular reflex and kinesthetic awareness create the body's response to gravity. These determine our vertical position in space.

Balance

- ✓ Cranial balance
- \checkmark Autonomic balance
- ✓ Thorax (core) balance
- ✓ Peripheral balance
- ✓ Visual balance (binocular, prescribing, ambient/focal,body)

Postural Function and Vision

- The work of Darell Boyd Harmon and the role of posture in vision
- High order of vision connected to lower order of gravitational mechanisms.
- Torso-head with vestibular system-visual system with the fovea as its center
- Neck as transducer of actions for the trunk head-vision

Excessive Postural Demands

- Along the Y axis in relating to gravity
- Orientation: Vision related to gravity and balance interacting with C2,C3, C4.
- Localization related to the 2 halves of the body to center and localize
- Shifts create myopia, astigmatism, and hyperopia





The Interactions of Neural Systems

- The Visual leads through spatial perception
- The Vestibular
- The Spinal
- The Somatosensory
- All are coordinated for efficient function

Cranial-Neck-Vestibular-EOM-





Optometric Test of posture

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Frontal and back chains

- Phoriaes
- Vergences
- Asymmetric
 accommodation flexibility
- Asymmetric vergence flexibility
- #20,#21

- Right and left chains
- Retinoscopies /Brückner test
- Asymmetric alternate cover test

15

- Asymmetric Phoriaes
- Head turn

Apparent motion of visual point target induced by vibratory stimulation of extraocular muscles, neck and posture of the ankle muscles

		<u> </u>	D 1 1 1	
Extra	Inferior	Superior	Right	Left Lateral
ocular	Rectus	Rectus	Lateral	Rectus
muscles			Rectus	Right
	1		Left Medial	Medial
		↓	Rectus	Rectus
Neck	Sternocleid	Splenius	Right	Left
muscles	omastoid	· •	trapezius	Trapezius
		↓	-	\rightarrow
Leg	Tibialis	Soleus	Right	Left
muscles	Anterior		Fibularis	Fibularis
	T		(Peroneus)	(Peroneus)
		🔸	L.Tibialis	R.Tibialis
			Posterior	Posterior 16

AND PELVIS				
Base of the yoked Prisms	Eye movement	Pelvis Shift		
UP	Down	Tilt upward		
Down	UP	Tilt downward		
Right	Left	Rotation right		
Left	Right	Rotation left		
	-	17		

Diagnostic Criteria

- Patient Symptoms
- Medical History
- Visual Field Measures: Kinetic (FDT also)
- Pupil Testing, HRV
- Binocular Vision Testing
- Ocular Motility





Grading Standardization Alpha-Omega Pupil					
GRADE	RELEASE Time	FLUCTUATION	AMPLITUDE		
Normal	≥ 7 seconds	Trace	Trace		
1+ AO	4-6 sec	Moderate	Mild		
2+ AO	2-3 sec	Marked	Mild-Moderate		
3+ AO	1-2 sec	Mild-Moderate	Moderate		
4+ AO	<1 sec	Mild	Large		
21	3	*	• @ CSO 2012	•	







6

Pupilography

- Uses in diagnosis of optic nerve function
- Early predictor in glaucoma
- Informs whether problem is neurological or circulatory
- Can be used for functional diagnosis and efficacy in vision an photo-therapy
- · Affects on visual fields, including yoke prism

Possible Implications

- Nasal retina signals the hypothalamus (temporal does not)
- Habitual posture affects eye positions and light exposure, is head up, eyes down
- Using Pupil analysis in postural restoration and in prescribing lenses, tints and yoke prisms
- Stimulate different portions of retinal to evaluate focal and ambient color stimulation

Science of The Heart

- Heart Rate Variability
- Entrainment, Coherence, Autonomic Balance
- Head-Heart Interactions
- Emotional Balance and Health

Heart Rate Variability





Entrainment and Coherence

- Clarity of thought and emotional balance The quality of being orderly, consistent, and intelligible (e.g.a coherent argument)
- Synchronization between multiple systems A constructive waveform produced by two or more waves that are phase or frequencylocked (e.g., lasers)
- Ordered patterning within one system

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Physiological Coherence

- A state characterized by:
- High heart rhythm coherence (sine wave-like rhythmic pattern)
- Increased parasympathetic activity (Vagal Tone)
- Increased entrainment and synchronization between physiological systems
- Efficient and harmonious functioning of the cardiovascular, nervous, hormonal and immune systems

EM Field of Heart

Optometric and Physical Therapy Neuro-Rehabilitation to Rectify Body Self Organization

Management of Patients With Visual Spatial Incoherence Based on Network Physiology *

"Everything flows and nothing stays" Heraclitus

Network Physiology: How Organ Systems Dynamically Interact

 "Network Physiology study how diverse physiologic systems in the human organism dynamically interact and collectively behave to produce distinct physiologic states and functions".
 Mas dee, 2015, 10111-001214. Published online 2015 Nov 10. doi: 10.1171/promet.proce0.01214 Network Physiology: How Organ Systems Dynamically Interact

 "Network Physiology aims to develop theoretical framework and a system-wide network approach to understand how horizontal integration of physiological systems, each with its own complex structure and mechanisms of regulation, leads to global behavior and distinct physiologic functions at the organism level". *

LOS One. 2015; 10(11): e0142143. Published online 2015 Nov 10. doi: 10.1371/journal.pone.0142143

Network Physiology from 1930

In the central gray (...), particularly the vestibulocerebellar nucleus and its mediated control of muscle tonus, both postural and to some extent static, is found the respiratory center which controls the rate and depth of the act of respiration. (...). In the other words the dominant factor in circulation of the blood becomes one of the tonus of the muscle involved in the act of respiration, which is itself controlled by a mass of nerve cells in the central gray. Incidentally, this mass of nerve cells is chemically controlled, being activated by the proportion of CO2 in the blood stream.

The Syntonic Principle, Spitler page 53

Action Of The Physiological Network

Brain - 'executive network';

Predicts the future "based on internal models of the world and of the body, models which reflects laws of nature that ensure the survival of each animal". Alain Berthoz

Action Of The Physiological Network

Brain – 'executive network'; Anticipate the consequence of action (own and others), "it's not a reactive machine; it's proactive and investigates the world".

Alain Berthoz

Action Of The Physiological Network

Brain - 'executive network' saves time;

- "Species that passed the test of natural selection are those that figure out how to save a few milliseconds in capturing prey and anticipating the action of the predators,*
- Simulates elements of environment and choosing the best way home,**
- Has ability to memorize great quantities of information from past experience and use them in stressful situation". Alain Berthoz

Action Of The Physiological Network

- "Don't confuse process of learning with it's fruit knowledge (correct information). *
- The most essential properties of human thought and sensibility are dynamic processes - ever adapting relationships among the brain, the body, and the environment.
- Thought and sensibility are nothing more than states of cerebral activity induced by certain relationships among the physical world, the hormonal and neuronal brain (networks), and its memory of thousands of years of culture". ** Alain Berthoz

Action Of The Physiological Network

- "The main problem posed by the command and control of movements is that of inertia and those considerable forces that oppose these movements in the water, in the air, and on the land.
- Relationship between perception and action: the mechanical properties of bodily masses. How to put mass into the 'predictable, controlled' motion? Mass = Inertial Moment". * Alain Berthoz

Biological Creation

- Skeleton Architecture; "limbs of animals and man have enormous "*degrees of freedom*" and consequently nature has to find tricks to simplify the work of the brain". Alain Berthoz
- 'However we need predicable, flexible thorax and pelvis for reciprocal systemic shift to control inertial moment equally on body's both sites, and stable, predictible reference center cranium'. *

Biological Creation

Sensory Receptors; "brain doesn't process sensory cues independently. Each time commits to an action, it makes assumptions about the state of certain receptors as the action unfolds based on kinesthesia*. Kinesthesia is the result of cooperation between several receptors, and it requires the brain to coherently reconstruct movement in the body and in the environment ('metaphysical processing')**. When no coherence, perceptual and motor disturbances results as well as illusions – solutions the brain devises to deal with discrepancies between sensory information and its internal perception". Alain Berthoz

Biological Creation

• Central Nervous System; "prewiring motor synergies is another way to simplify neurocomputation, and simple kinematic relationships connect the geometry of movement dynamics". * Alain Berthoz

Coherence Quality Evaluation Protocol (CQEP)



Coherence Protocol - Vision

<u>Vision</u> as a noun: the faculty or state of being able to see.

• "she had defective vision" wikipedia

Coherence Protocol - Vision

 <u>Neuromechanical</u> function of vision is an evolution of the linear approach. It's considering system positions and conditions through the quantitative measurable approach in order to rectify body's function. This approach considers sequential process of testing and applying different modalities to change visual input for the system output i.e. for better equilibrium, cervical ROM, etc.

Coherence Protocol - Vision

Information Management; Colored to Vision

Coherent Vision is a comprehensive information integration and management of allocentric and egocentric processing, through networks integration inside of the network webs to organize any network loop for body systems to perform requested multisensory tasks at the given moment.

Coherence Protocol - Vision

How To Recover Multi-Sensory Activity Coherance?

• Incoherent Perception - Perceptual Closure. Thalamo-cortical circuits accounting for perceptual coherence through synchronization of neuronal oscilators, LGN is located in the thalamus.*

Coherence Protocol - Vision

Difficulty in Integrating Information (integration capacity or never double-single/focal withouth meaning). Coherance depend on endogenous factors and on the action we plan. Brain is not interested in the physical variabilities of classical mechanics or which stimuli are specific to which receptor, in and of themself. The brain seek to reconstruct variables relevant to the behaviour and action of the organism. The same movement variable can be calculated or estimated by several combination of receptors, in addition to any specialized receptors – REDUNDENCY *.

Droulez and Darlot " The geometric and dynamic implications of the coherance constrains in threedimensional sensorimotor coordinates"

Coherence Protocol - Vision

- Altered Interdependence in the Communication Network (proprioception + environmental info + space as a target),
- Altered Interconnection Existing in the Vision Network Cycle (interdependence of the communication and its importance for vision processing. Based on sequential testing and agregated information, vision network can be screened), *

Coherence Protocol - Vision

- Interruption of Information Circularity (feedback) as a key element of self-organization (i.e. test are matching – incoherance)
- Altered Flexibility due to reduction or impairment of the ability to implement alternative or partial connections to fulfill the functions when an event limits or prevents communication. This effects resilience in relation to information fluctuations.

Treatments

- Modification of spectacle Rx.
- Use of Yoke Prisms
- Vision therapy
- Syntonic Phototherapy
- Focal Color Stimulation
- Photo-Biomodulation
- SIX prism

Modify Rx with Principles

- Reduce cylinder and adjust axis to +/- 20 degrees from axis 90 and 180
- Use spherical equivalent and prescribe to reduce antisometropia when possible
- Use maximum plus to orient the right eye for near and the left for far
- Adjust Rx relative to increased range of motion in neck, balance, hip, legs, etc.

Use of Yoked Prisms

- Yoked prism to expand or contract ambient space to treat midline shifts: typically .5 to 2 diopters
- Yoked prism for hemianopsia typically 6 to 8 diopters
- Yoked prism with 3 diopter axis 125 and 2 diopter axis 55 to release C1 and C2 spinal fixations

Focal Syntonics

- Application of Syntonic colors at the insertion point in each intra-ocular muscle and to influence each cranial nerve.
- This also results in shifting the cranial bones, dura matter from the occipital bones to the base of the spine.
- Postural shifts and restoration on balance is frequently seen







Focal Application

- Molimed single light torches: single colors
- Syntonac Focal light set: in Syntonic Filters
- Focal modifies the cranial strains

Multi-Radiance Application

- Medical TX Head
- Biophotomodulation



Treatment : coMra Therapy

- Delta laser
- Geometric presentation of red-yellow , violet/ blue –green LED's
- Pulsed Infra-red
- Pulsed Magnetic Fields
- Ultra-sound



- Optic neuropathy protocol 5 minutes each eye
- Application on Delta 5 minutes on the tumor site at 50Hz. (no ultra-sound)
- 6 Sessions: esotropia reduced from 40D to 9 at far and 14 at near with diplopia only interemattent
- 6 sessions esotropia gone verticle greatly reduced , Tx DC

Rival to the Thalamus

- [Trigeminal nerve has relationships with the different systems:
- Reticular activator system (the system that helps us to react to an aggression) RAS
- Limbic system
- Postural system: action like a gyroscope
- Neck muscles, MLF
- Spinal cord, VSR
- Oculomotion or occlusion



Trigeminal Network

Figure 2. Schematic of an integrated network model including the TSNC in the pathophysiology of dystonia. The TSNC has direct projections (red) to motoneurons in the facial motor neurons (FMN), trigeminal motor neurons (TMN), and upper cervical motor neurons. Projections to muscles most commonly affected by dystonia are indicated bythe hatched arrows. Ascending projections fromthe TSNCtothemotor cortex viathethalamus, andtothesuperior colliculus(SC) andthereticular nuclei alsomodulate excitability via descendingtractstomotor nuclei(blue). Excitatory inputs to the cerebellum and inhibitory inputs via the inferior olive (IO; green) contribute to cortical and bulbar descending modulation of motoneurons innervating muscles affected by dystonia via cerebellar outputstothered nucleus, reticular nuclei, basal ganglia, andmotor cortex viathethalamus. TSNC projections to motoneurons by outputs to the motor cortex (via the thalamus), the superior colliculus, red nucleus, and the pedunculopontine nucleus (PPN). Connections from pedunculopontine nucleus to spinal cord are not shown in the simplified figure

Sensory Integration Prism

- Results of 20 years research by Italian Optometrist, Marco Grasso
- Prism power of 0.07 base down
- Original research :
- "Sensory and postural benefits due to Collicular reorganization using decimal prisms"
- an der Hochschule Aalen, 01.07.2018

Theory

<u>Paradigm</u>

- Sensory prisms modify visual information and create an immediate response along the trigeminal nerve. If the organization of visual skills is not able to support the system during the reception of information we have effects on the sensory system and from this on the motor system (neck, shoulders, TMJ).
- In this sense, the device acts along the way of the upper colliculum and the cerebellum, modifying the perception of visual stimulus with relevance on proprioception, sensory integration and activity of extraocular muscles.
- That allows the system to organize the visual skills to coordinate the receptors and to obtain an ability to fix and maintain the attention and at the same time an openness to integrate the different information.

5th Cranial Nerve

- [Trigeminal nerve has relationships with the different systems:
- Reticular activator system (the system that helps us to react to an aggression) RAS
- Limbic system
- Postural system
- Neck muscles, MLF
- Spinal cord, VSR
- Oculo-motor or occlusion

Access to Superior Colliculus

- Focal Syntonic treatment
- Global Sytonic treatment
- SIX prisms

Active Syntonics

 Integration of the whole system by facilitating the benefits of syntonics with reciprocal, alternating movement of the extremities reinforced by other senses including proprioception, auditory, vestibular etc.



Active Sy

 Gaze facilitation in specific stance positions

 adding the benefits of syntonics in specific gazes



Cranial lesions as the subsection to each biotype

- 7 main types: flexion, extension, torsion, sidebending rotation, strain/displacement(superimposed upon any of the above: vertical and lateral), compression, intraosseous lesions.
- Main cranial lesions are described in diagrams
- Quadrants in each diagram will be found to be in external rotation(flexion component) or internal rotation (extension component)
- Upper quadrants represent position of the sphenoid, lower quadrants- position of the occiput
- Maxilla position can be indirectly related to sphenoid (in torsion it might be in ER or IR, in side bending rotation it's postion is more predictable), temporal bone to occiput(direct correletion)

Cranial lesions - cont.

- Position of maxilla can be checked by a patientarched versus flat roof of the mouth
- Position of the temporal bones can be estimated through the active movement of the mandible
- Keep in mind that any TMJ discomfort, clicking etc. will impact proper temporal bone position prediction
- Reference: "Osteopathy in The Cranial Field"-Magooun









Gazes related to the cranial strain

- Left Torsion
- L side Bending rotation
- Right Torsion
- Side Bending rotation

See handouts







CAROM after right upper gaze in left late stance with 2D prism at 135°



Syntonic Phototherapy

Non-coherent, non-polarized, broadband filtered light delivered through the eyes.

Adjusting the physiological system to affect visual function and treat vision problems at their source.

"Syntonic" -- means balancing the sympathetic and parasympathetic nervous systems.

Balancing the autonomics treat vision problems at their source

All restorative therapies benefit from balancing the ANS and Endocrine Systems







Syntonic filters are applied to:

- Enhance Base In responses
- Enhance Base Out responses
- Stimulate Accommodation
- Relax Accommodation
- Increase Alertness
- Enhance oculomotor control
- Speed
- Reduce visual crowding
- Reduce visual discomfort
- Reduce visual distortion
- 91



Importance of Biotypes

- Dr. Harry Riley Spitler said no study is more important than proper typing for makeup and temperament for prescribing color
- From the Greeks to 7000 yr. old Ayurvedic
- Function determined by structure and action of the ANS, endocrines, and thalalmus in Syntonics
- Structure is an expression of inner nervous equilibrium

Spitler and Kretchmer

- Asthenic-Pyknic-Syntonic as ANS dominance
- Personality-Facial & Body Signs-Functional Tendencies-Elements-Dominant Frequencies
- · Mental and physical dominance
- Balance by activation or inhibition of sympathetic or parasympathic
- Facial characteristics for action and eyes for the mind
- Facial changes over time: mouth, jaw

Morphological Analysis

- Asthenic-Syntonic- Pyknic
- Facial and Bodily Signs and Characteristics
- Functional Tendencies
- Personality Characteristics
- Elements and Filters
- SEE :The Syntonic Principle by H.R.Spitler, M.D.

Systems and Dysfunctions

	Asthenic	Pyknic
Visual	Esophoria	Exophoria
GI	Hi metabolism	Low Metab.
Respiratory	Dizziness	Asthma
Heart	Hypotension	Hypertension
PH	Acidosis	Alkalosis
Endocrine	Hyperthyroid	Hypothyroid



- Structure affecting function
- See handouts





Coherence Protocol - Vision

Incoherent Relationship with Space;

- sense of loss and orientation in space,
- inability to select the area of attention, with head and trunk search,
- difficulty in understanding and recognizing one's position in relation to objects in the environment,
- altered transverse spatial proprioception with perceptual misalignment and altered orientation requiring COM compensation and lower extremities for directionality of movement. This causes insecurity, instability and tension,
- often the search for visual attention must be aided by the auditory stimulus (lower colliculus).

Coherence Protocol - Vision

• Spatial Perception Challenge Test informs us about the position of the system in space and possible deficiency, <u>mismatch</u> of the information between space (ambient) and how the subject relates to it. Based on challenged fusion in the sagittal plane this test describes adaptation and indicates <u>resilience</u> of body self-organization. We are not testing eye alignment (esophoria or exophoria) but information coordination and comprehension (early or late), behavior and direction of challenge (trend indicator).















Awareness Ability for Information

Integration Capacity Test



Awareness Ability for Information



Coordination Capacity Test





Coherence Protocol - Vision

Oculomotor Control in Standing;

- difficulties with harmonious movements,
- subject disengage the eyes during pursuits,
- subject need several saccades to pick up the target to follow, *
- difficulties to differentiate eye movements from head movement- even in a small range of eye movement (like 20cm diameter) sometimes shifting their weight by following the target (VOR),
- sense of having less balance, or sense of loosing balance in certain directions of the eye movements (OKT),
- losing sense of where they are during the pursuits (as being only in central vision/attention) often holding their breath.

Space Selection Test



Coherence Protocol - Vision

After evaluation and usage of the SiXDEVICE;

 a. subject reports that vision is more clear,
 b. eyes movement seems smoother, less strenuous, and is easier to differentiate
 between eyes and the head movement,
 c. improve sense of general security, and
 equilibrium,

d. breathing is more relaxed.

Coherence Protocol - Vision

• Perception of the Ground - feet "loading"; asymmetrical sensation, one more than other, or different parts are felt more vivid i.e., anterior-posterior.

After evaluation and usage of the SiXDEVICE; subject is sensing more symmetrical support or gained awareness of the inhibited limb.

Coherence Protocol - Vision

Rotation of the Neck and Mouth Opening (TMJ ROM); a. limited ROM: decreased total rotation of the neck – sum of both directions or unidirectional limitation, b. opening of the mouth is limited and often there is a trusion (lateral shift) of the mandible while opening.

After evaluation and usage of the SiXDEVICE; a. ROM is better, or the movement quality is smoother, less tension, more efficient - harmonious, b. rotation does not interfire with or reduce stability of the system,

c. greater freedom of mouth opening with less lateral deviation.



APPLICATIVE INTEGRATION Vertical Mandibular Opening

Coherence Protocol - Vision

• Walking;

- a. fixed gaze and looking down,
- b. asymmetrical gait pattern, lack of reciprocation,
- c. skewing to one side, with or without conscious correction,

d. dyspraxia - problems with peripersonal space, self orientation in the space and to it.

Coherence Protocol - Vision





Coherence Protocol - Vision

After evaluation and usage of the SiXDEVICE;
 a. gaze directed to predict space,
 b. less bumping into obstacles, better
 organization in and to the space- keeping straight
 and balanced direction, walking with purpose,
 c. balanced gait pattern with alternating
 reciprocal shift,

d. fluid movement of the body during walking – harmonious – with higher efficiency, and easier to navigate between obstacles.

Coherence Protocol - Vision

• Postural changes;

After evaluation and usage of the SiXDEVICE; Subject feels more erect, lighter, has more symmetrical organization of the body without excessive use of force.

 '<u>Posture</u> is a controlled sum of ever changing inertial moments coherent with information network in the gravity field'.



Coherence Protocol Cranium

as a Reference for a Descending Systemic Control













33



Coherence Protocol - Cranium

Optimum cranial mobility is **'Primary'**. Mobility of the osseous components of the cranium has influence on three of the body's righting mechanisms:

Coherence Protocol - Cranium

- The sphenoid is the anchor for five of the six muscles controlling each eyeball (<u>the ocular</u> <u>righting mechanism</u>).
- The **temporal** bone houses the semi-circular canals (*the vestibular righting mechanism*).
- The occiput provides attachment for the four pair of highly-innervated capitis muscles in the suboccipital triangle (<u>perception</u> - <u>the head-</u> <u>on-neck righting reflex</u>).

Suboccipital muscles

- The occiput provides attachment for the four pair of highly-innervated capitis muscles in the suboccipital triangle (<u>perception</u> - <u>the head-on-</u><u>neck righting reflex</u>).
- Gary Hack D.D.S. discovered a previously unknown ligament directly attaching the posterior arch of the atlas to the dura mater of the brainstem and cerebellum - myodural

 $bridge. \ (et al 1995. "Anatomic relation between the rectus capitus posterior minor and the dura mater" Spine 20 (23): 2484-2486)$

136

138

The structures numbered in this dissection are as follows; 1. Posterior arch of the atlas: 2. Posterior occipital bone; 3. Rectus capitus posterior minor (RCPMI); 4; Dura mater of brainstem and cerebellum. The arrows indicate the myodural bridge attaching the posterior arch of the atlas to the dura mater of the brainstem & cerebellum. It is not difficult to see that any misalignment of the atlas with respect to the skull could traction the dura mater of the brainstem and cerebellum area



Suboccipital muscles

Researchers at Michigan State University, College of Osteopathic Medicine, suggest "that the function of the RCPMI muscle is to provide static and dynamic proprioceptive feedback to the CNS, monitoring movement of the head and influencing movement of the surrounding musculature."

Coherence Protocol - Cranium

Maximizing the mobility of the superficial soft-tissues of the cranium and the osseous cranial components allows vestibular, ocular, and perceptual righting mechanisms to function as open information channel. Together with coherent vision are influencing systemic balance – homeostasis, Coherent Communication Network

Coherence Protocol - Cranium

With this the following changes can be seen:

- The occiput is more level on C-1 = balance,
- The descending postural result reduce rotation of the spine,
- More level and de-rotated sacrum,
- · More level and de-rotated pelvis,
- Functional leg-length imbalance is reduced,
- Body weight is more evenly distributed.*

Coherence Protocol - Cranium

- The improved mobility of the temporal bones and the sphenoid contributes to better functioning of the vestibular and ocular righting reflexes.
- It also results in a more level pelvis with greater stability in the SI joints, which improves the weight-bearing balance in the lower extremities.

Coherence Protocol - Cranium

- These changes produce beneficial feedback in the proprioceptive mechanisms, further contributing to better balance, and sustained postural and functional changes in the neuromusculoskeletal system.
- Applied Kinesiology techniques are used to assess function and evaluate treatment outcomes.
- Sutural restrictions can be used to identify the inhibited function of specific muscles.

Thank You For Your Attention!

Questions ?

Michal Niedzielski, MPT PRC