

# A Curriculum of VT, based on Development

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The logo consists of a large light blue circle with a dark blue horizontal oval in the center. The text 'OP SIS' is written in white capital letters inside the dark blue oval.

OP SIS

# Broken Bits

Diagnoses

- > broken bits of visual skill.
- > bits activities in VT?

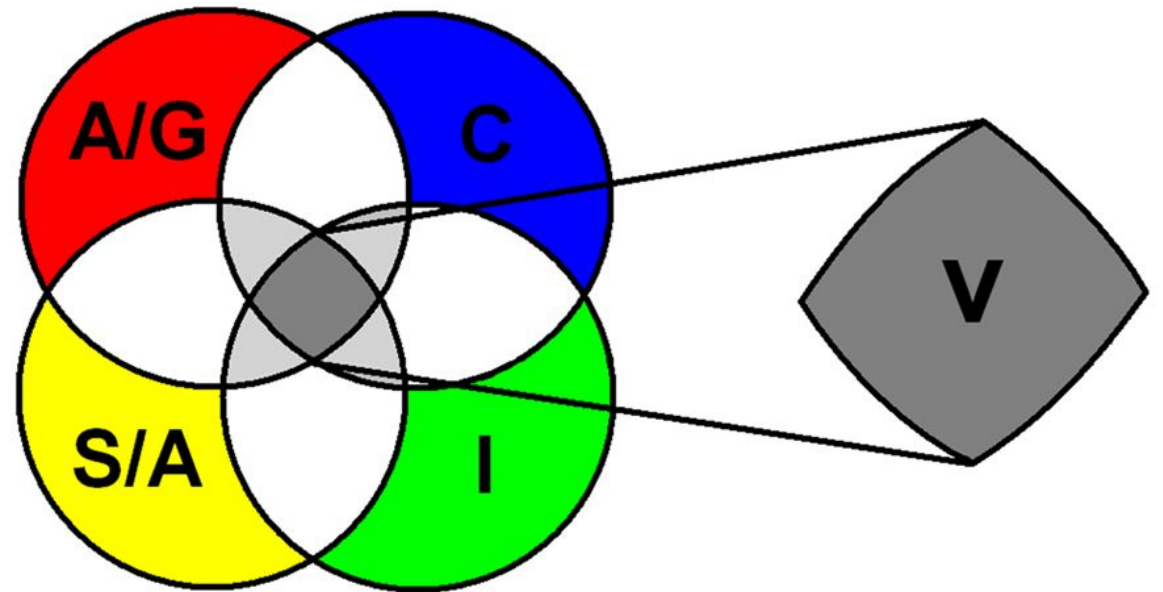
Skeffington?



# Vision pervasive

Visual process -> directed action of the whole person.

A VT curriculum based on development rather than diagnoses.



# Gesell - Developmental Diagnosis 1941

‘Every individual organises his space world in obedience to the laws of development, general for the species and unique for himself’.



# Development

- In order to move with intention, it is necessary that we develop an understanding of space.
- To understand space we must experience the volume of space through movement.
- The process of development is informed through meaningful experience - movement.



# Directing Action – Understanding space

- Blueprint.
- Interact with their environment.
- Learning the visual process to direct action.
- Developing the posture and movement skill to move with voluntary control, leading to automaticity of action.

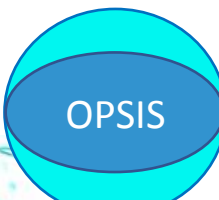


# Development

The primitive reflexes are survival reflexes, part of the CNS and are the starting point for movement patterns.

They are meant to be retained,

- In the maintenance of posture and muscle tone;
- To restart movement pattern learning if it has been lost;
- As the basis of fight and flight.



# Development

- In utero a baby has spontaneous and reflexive movements.
- The spontaneous movements reduce around 3-4 months after birth as actions become more purposeful.





# Development

- Reflexive movements

Automated movement patterns that develop during gestation, that the baby uses in the first year of life to learn more complex patterns of movement, through midbrain and cortical learning.



# Development

- Directs movement using the appropriate postural skill and muscle tonus, together with postural reflexes and equilibrium responses.
- Works to gain voluntary control of his movements, particularly his head, limbs and his eye movements.



# Primary and Secondary Variabilities (Hadders-Algra M. 2000 A and O)

Primary Variability



Selection

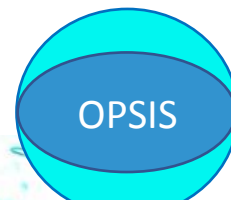


Secondary Variability

# Primary and Secondary Variabilities (Hadders-Algra M. 2000 A and O)

Mature situation – task constraints: ability to adapt each movement exactly and efficiently to task specific conditions, or multiple motor solutions or strategies for a single task.

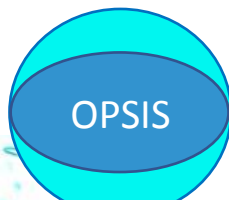
May not reach mature movements until teenage years.



# Development

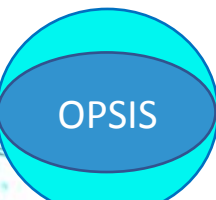
He develops from being reflexive with spontaneous movements, to having a CNS that has

- primitive reflexes,
- postural reflexes,
- voluntary control of movements, and,
- mature movements ie automatic, reflex like, control of movement patterns.



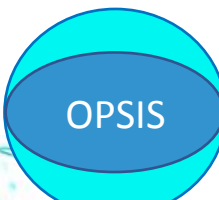
# Development

- There will be a spectrum of available movement patterns depending on development, task, state of the person, eg fatigue, sugar intake.
- In our examination of the patient we are probing their visual process directed action, looking at their development and ability to apply their movement pattern learning.



# Lack of Development

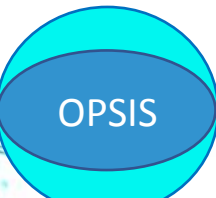
- It is a lack of learning from the primitive reflexes from birth that leads to the lack of development.
- Developmental Delay.
- If there has been a lack of development of eye movement skill then there is likely to be a lack of development in general motor skill too.



# Visual Training

‘Visual training procedures are NOT directed towards, nor determined by, inadequacies as observed or measured in such optometric investigations as the analytical examination’.

Kraskin 1965 VT in Action



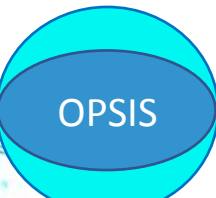


# Visual Training

‘Visual training procedures are NOT directed towards, nor determined by, inadequacies as observed or measured in such optometric investigations as the analytical examination’.

‘Visual training procedures are not determined by other empirical observations but emerge as a result of some base model of vision’.

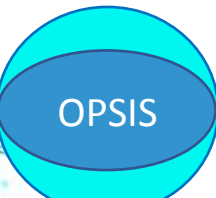
Kraskin 1965 VT in Action



# Planning VT

So why carry out an assessment and analytical?

- Diagnosis?
- A guide to VT planning?



# Planning VT

So why carry out an assessment and analytical?

- Diagnosis?
- A guide to VT planning?

Leads to 'Broken bits' VT.

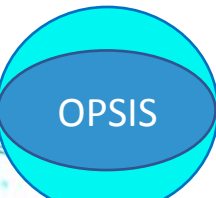
# Planning VT

So why carry out an assessment and analytical?

The visual process seen in directed action.

- Posture;
- Performance; Participation;
- Patterns of behaviour;
- Adaptations that have been developed up to this point;
- Confirms patient's problems in optometric terms, and helps determine a suitable Rx.

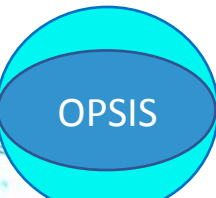
Leads to whole person VT – pervasive vision.



# VT planning

I am going to look at a possible curriculum of VT for development, one curriculum for all patients, but dependent on patient need so with additional VT for some patients.

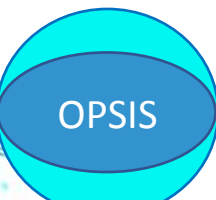
Start at the starting point of development.



# Development

To be able to direct action and move through space to explore, the baby first needs core strength to lift his head and to learn to look.

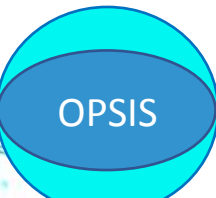
This is learned from the actions of Tonic Labyrinthine Reflex (TLR).  
The TLR is used all through life in the maintenance of posture.



# Learning from the Primitive Reflexes

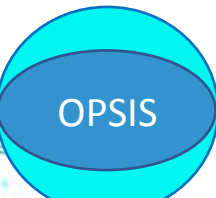
Tonic Labyrinthine Reflex (TLR) – muscle tone, core strength, learning to look.

Lack of learning leads to...



# Tonic Labyrinthine Reflex (TLR) – muscle tone, core strength, learning to look.

- Poor balance
- Inefficient posture – tires quickly
- Ungainly gait
- Spatial and body awareness problems
- Lack of ball skill
- Disorganised with little sequencing skill
- Can't sequence for sports eg swimming, bike riding
- Difficulties with stairs
- Hypotonus – floppy and jerky movements – dislike of sports
- Lacks core strength
- Low energy
- Won't try
- Gives up
- Apathy
- Vestibular problems – poor sense of balance, motion sickness
- Oculomotor difficulties
  - poor spatial awareness
  - difficulties with depth perception and figure/ground





# Learning from the Primitive Reflexes

Asymmetrical Tonic Neck Reflex (ATNR) – ATNR response has a movement in each limb at the same time when turning the head.

Aim is to learn to be able to move limbs individually, eg one at a time, on head movement.

Learning to point both eyes at a near target. Fundamental to the establishment of reaching and grasping and hand-eye co-ordination.

Lack of learning leads to...



# Asymmetrical Tonic Neck Reflex (ATNR)

- Poor balance
- Inefficient posture
- Poor gait
- Spatial awareness problems
- Lack of ball skill
- Disorganised with little sequencing skill
- Difficulties with swimming, bike riding etc
- Segmented in thought and action
- Handwriting poor
- Hand/eye co-ordination difficulties
- Asymmetry R/L
- Interferes with the development of crawling and creeping, especially any cross pattern.
- Ipsilateral movements
- Directionality and laterality poor
- Mixed laterality
- Poor R/L integration
- Poor sensory integration
- Difficulty crossing the midline, especially on pursuit movements – inaccurate
- Poor Auditory/visual integration

# Learning from the Primitive Reflexes

Spinal Galant – used together with ATNR during birth. The baby develops the voluntary control to cross the midline with his eyes and his limbs.

Wriggly – lack of learning affects ability to concentrate, and also to be still.

Lack of learning leads to...



# Spinal Galant

- Hypersensitivity
- Jumpy
- Squirming
- Fidgety
- Demanding
- Impulsive
- Poor concentration
- Short attention span
- ADHD
- Tactile
- Restless
- Difficulties with short term memory
- Flitting about
- Easily distracted
- Extra ticklish
- Non-responsive – in their own world
- Hip rotation to the side when walking
- Possible precursor to scoliosis
- Bedwetting?

# Learning from the Primitive Reflexes

Tonic Labyrinthine Reflex (TLR)

Asymmetrical Tonic Neck Reflex (ATNR)

Spinal Galant

Baby works on all at the same time, vision is pervasive.

All three work together to enable the baby to rotate within his own axis and develop righting reactions.



# Learning from the Primitive Reflexes

Moro – Baby startle. Survival reflex - basis of fight and flight. Should be in mature form by four months. Responds to changes in light, temperature, sound, touch – oversensitive. Anxiety, and unwillingness to try.

Also learns equilibrium responses.



# Learning from the Primitive Reflexes

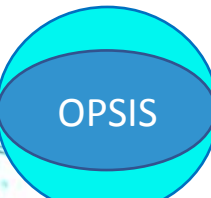
Moro – Baby startle. Survival reflex - basis of fight and flight. Should be in mature form by four months. Responds to changes in light, temperature, sound, touch – oversensitive. Anxiety, and unwillingness to try. Also learns equilibrium responses.

Mature Moro (Strauss) – Aware of changes but doesn't respond – has learned that the changes are not a threat.

Lack of learning leads to...

# Moro – Baby startle

- Tight
- Hypersensitivity
- Anxious
- Irrational fears
- Vigilant
- Learned Helplessness
- Vestibular related problems – balance, coordination, motion sickness □ physical timidity
- Dislike of change
- High energy use
- Demanding
- Impulsive
- Oculomotor problems
- Poor Pupil response due to over stimulation of sympathetic
- Allergies & Immune system problems eg asthma and eczema
- Adverse reactions to drugs
- Poor Stamina – all or nothing
- Poorly developed CO2 reflex
- Disregulated



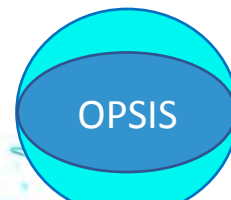


# Learning from the Primitive Reflexes

Symmetrical Tonic Reflex (STNR) - acts 6-9 months old when the baby has the core strength, postural control and movement ability to be able to time and sequence movements to learn to crawl.

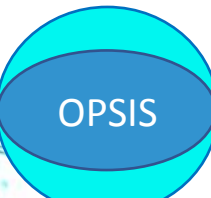
Learns how to co-ordinate both eyes to align at different distances.

Lack of learning leads to...



# Symmetrical Tonic Reflex (STNR)

- Poor balance
- Inefficient posture
- Ungainly gait
- Spatial awareness problems
- Difficulties changing focus – poor accommodation and/or accommodative facility
- Lack of ball skill
- Difficulties with swimming, bike riding etc
- Sequencing difficulties
- Segmented in thought and action
- Handwriting poor
- Hand/eye co-ordination difficulties
- Slumps
- Asymmetry Anterior/Posterior
- Page/blackboard difficulties
- Lack of proprioception
- Misunderstanding of stop/start
- Simian walk (ape like)
- W leg position when sitting on the floor
- Poor hand/eye co-ordination – messy eater and clumsy child
- Difficulties with changes in BV eg blackboard copying



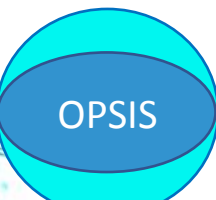
# Vision Training

Tonic Labyrinthine Reflex (TLR) – muscle tone, core strength, learning to look. Aim is for visually directed movements.

Revisiting activities of normal childhood life.

TLR activity, with looking at near +

- Hopping
- Skipping
- Balance board
- Walking Rail

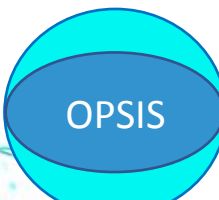


# Vision Training

Asymmetrical Tonic Neck Reflex (ATNR) – ATNR response has a movement in each limb when turning the head. Aim is to learn to be able to move limbs individually, eg one at a time, on head movement. Learning to point both eyes at a near target.

ATNR activity, with visualisation of movements before making and as being made ie images of achievement and anticipation +

- Tummy crawling
- Hot Lizard
- Bear walking



# Vision Training

Spinal Galant – used together with ATNR during birth. Wriggly – lack of learning affects ability to concentrate, and also to be still.

Spinal Galant activity, with visualisation of movements before making and as being made +

- Bean bag toss
- Look, ready, touch, back



# Vision Training

Moro – Baby startle. Survival reflex - basis of fight and flight. Should be in mature form by four months. Responds to changes in light, temperature, sound, touch – oversensitive. Anxiety, and unwillingness to try.

Needs a safe surprise, and to feel safe before starts.

Moro activity with visualisation of movements before making and as being made +

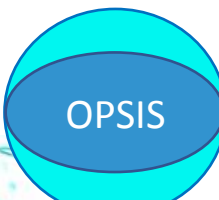
Climbing frames, soft play as confidence grows.

# Vision Training

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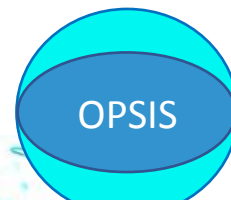
STNR activity with looking from distance to near and back +

- Marsden Ball



# Vision Training

- Randolph shuffle
- Infinity walk
- Walking and breathing
- Hands and Arrows
- Motor equivalents
- Bi-manual lines
- O dotting
- Phys Dip
- Thumb rotations
- Pointer in the straw
- Eye control
- Space matching + visualisation series
- Lens work
- Coin circles
- Hart Chart
- Brock string
- Jump reading
- Flippers





# Vision Training

- See three coins
- Walking rail with prisms
- Vectogram series
- Cheiroscope
- Fusion images near and distance
- Cake tin rotations
- Handwriting
- Spelling with Visualisation
- Parquetry Blocks
- Mazes
- Bar Reading
- Dinosaur card
- Jump ductions
- Hearts
- Learning tables with the Marsden Ball



# Questions?

