

The Siesta Hut Blog

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Learning about Vision Therapy

I recently attended a conference about vision therapy. I summarized the following information for a presentation I am giving to my OT colleague's this week. I hope you find this information useful and interesting.

VISION THERAPY CONFERENCE

Interesting Facts:

The goal of vision therapy: clear (20/20) vision, comfortable, single binocular (no double and both eyes seeing the same thing)

Ways to fix lazy eye: patching, surgery, vision therapy and atrophy therapy which doesn't help encourage binocular vision

Ocular Alignment:

- Exophoria - eye goes out at resting point
- Esophoria - eye goes in at resting point

Infant C = 6-12-month sensorimotor exam for free; 9 months is the best

7 out of 10 juvenile delinquents have vision problems which are affecting performance in the classroom - California Department of Youth Authority

American Optometric Association:

- 1 out of 4 children have an undiagnosed vision problem that interferes with their ability to read and learn
- 60% of children with learning disabilities have undiagnosed vision problems

Components of Vision:

- Oculomotor
 - Pursuits = smooth eye movements
 - Saccades = eyes are jumping while moving
 - Function = reading, sports (tracking a ball)
 - Treatment = word finds, mazes, dot-to-dots, tracing, hidden pictures, letter cancellation, Marsden Ball
- Binocularity
 - Eye teaming
 - Suppression (shutting 1 eye down)
 - Double vision (both eyes working and moving differently)
 - Function = navigating unlevel ground or stairs; scanning the environment; writing; pouring
 - Treatment = Near/Far GTVT Charts, Red/Green Bar Readers, Red/Green TV Filters, Marsden Ball
- Accommodation
 - The automatic adjustment of the eye seeing at different distances

- Amplitude - getting it clear (a problem for farsighted individuals who usually pass the Snellen chart)
 - Sustenance - keeping it clear (print comes into & out of focus, especially with fatigue)
 - Facility - changing focus from one distance to another
 - Function: ability to take notes in school shifting from whiteboard to notebook; shifting focus from speedometer in the car to traffic signs; ability to read directions on recipe and then setting the time/temperature on oven
 - Treatment = Near/Far Hart Charts
- Vergence Skills
 - Convergence
 - Required for near work; common to have difficulty with both accommodation and near work
 - Function - sewing; reading a pill bottle; dialing a phone
 - Divergence
 - More strenuous/harder than convergence
 - Changing alignment at change in distance; affects how quickly we can change our viewing distance
 - Function - playing board games; measuring ingredients; reading labels at the grocery store
 - Treatment = Flashlight Mazes, Brock String, Aperture Rule
- Depth Perception
 - Binocular
 - Stereopsis or 3rd degree function
 - Requires 2 eyes working together
 - Brain uses retinal disparity to compare information from 2 different points of view
 - Lack of stereopsis leads to difficulty with coordination
 - Function - driving; stairs; getting into bathtub; pouring liquids
- Peripheral vision
 - Important in moving about, speeds performance
 - Many times amblyopic (lazy) eye maybe better at peripheral awareness
 - Visual fields overlap
 - Symptoms
 - May look like an eye movement disorder (doesn't track in certain quadrants)
 - Bumping into things
 - Decreased night vision
 - Spatial insecurity
 - Decreased body image
 - Dry eye & low blink rate
 - Function - riding a bike; sports (balance, awareness of other player while playing sports)
- Visual Fields
 - Visual field deficit - a partial or complete loss of vision in the central or peripheral range of vision
 - Homonymous hemianopsia
 - Homonymous quadratanopsia
 - Visual neglect - a more severe form of visual inattention, often paired with a visual field deficit
 - Function - walking, driving, riding bike, cooking, shopping, writing
 - Treatment = putting items in the ignored/lost visual field (including people that are talking to them, use activities with a wide field of view)
- Visual Midline Shift Syndrome
 - A neurological event that often corresponds with hemiplegia & hemiparesis

- The ambient visual process attempts to create a balance by expanding a concept of space of the unaffected side and compressing the concept of space on the other side
 - The individual will lean or tilt their head away from the neurologically affected side
 - Yoked prisms can move the image to midline
- Visual Perception and Processing
 - Visual information and processing speed
 - Figure ground perception
 - Visual closure
 - Form constancy
 - Size and shape discrimination
 - Visual memory
 - Treatment = beading tasks, pick up sticks, yard games, interactive video games, pattern play, hidden pictures, mazes, dot-to-dots, word searches, cutting tasks
- Things to look for when there may be a vision issue:
 - Headaches
 - Dizziness
 - Double vision
 - Fatigue
 - Difficulty reading (errors, decreased speed, loss of place)
 - Red, sore, itchy eyes
 - Jerky eye movement, one eye moves in or out more than the other
 - Head tilt or covering one eye when reading
 - Avoiding near work
 - Low self esteem
 - Temper flare ups/aggression/irritability
 - Vertigo