Therapy thoughts with diagnosis

Post Trauma Vision Syndrome

Visual Midline Shift

Visual field deficits

Perceptual deficits

Oculomotor/vision deficits

I**. Post trauma Vision Syndrome**

1) Signs and symptoms may include:
    a. Eyes drifting outward
    b. Eyes not working together
    c. Double vision
    d. Blurred vision
    e. Light sensitivity
    f. Visual field loss
    g. Concentration difficulties
    h. Reading problems
    i. Poor spatial judgment/depth perception
    j. Possible midline shift

II. Visual midline shift—Altered Egocentric localization (AEL)

Neurological event following TBI or CVA

The ambient visual process changes its orientation with regard to the midline of vision

Both lateral and transverse midlines can be affected

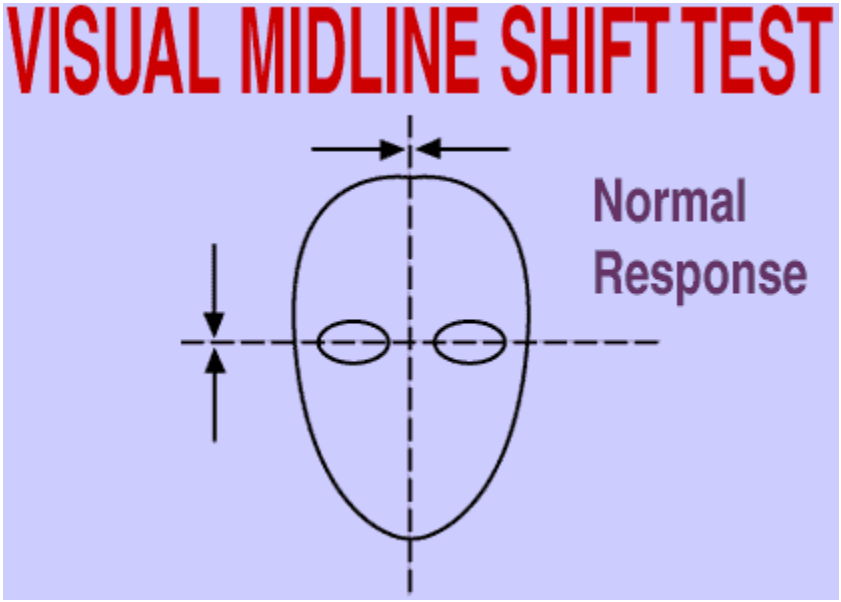
Symptoms of visual midline shift (VMSS)

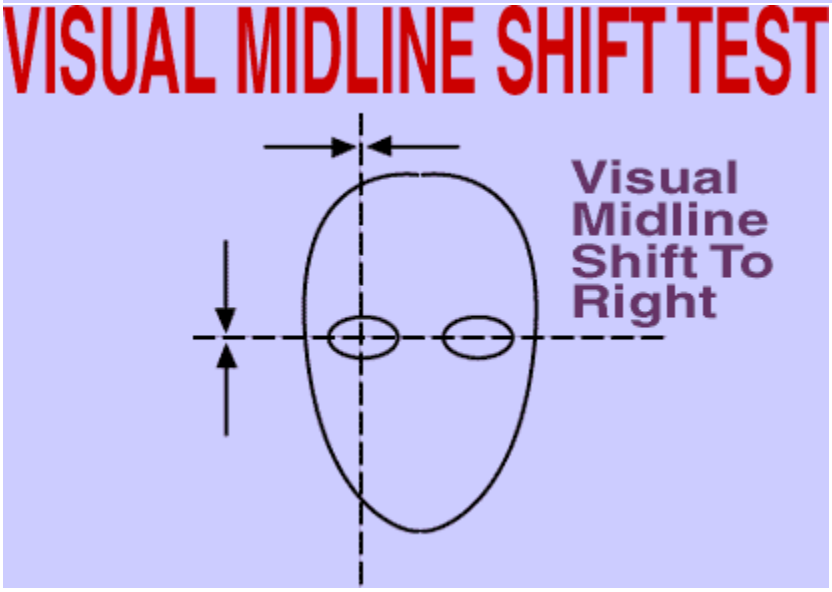
1) Dizziness and nausea
2) Spatial orientation difficulty
3) Constantly stays on one side of the hallway
4) Bumps into things when walking
5) Poor walking or posture: leans back on heels, forward, or to one side when walking, standing or seated in a chair
6) Perception of the floor being tilted
7) Associated neuromotor difficulties with balance, coordination and posture

Visual Midline Shift caused by:

1) Ambient vision dysfunction/dorsal pathway
2) Impaired extraocular proprioception
3) Impaired efferent copy
4) Tonic oculomotor imbalance
5) Spatial shifts caused by unilaterial hemispheric damage

6) Supranuclear gaze limitation
7) Other





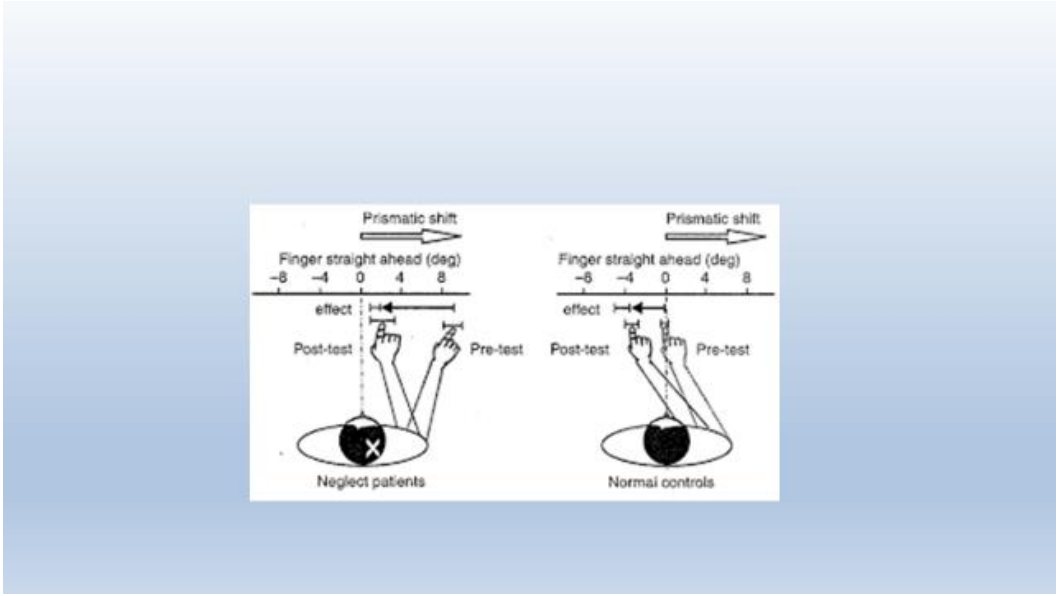
2 ways to test for visual midline shift

a. Have the patient look straight ahead—bring the wand in from the right, left, top, or bottom—have the patient tell you when the wand(target) is in front of their eyes
b. Have the patient look at the target—ex. Far right—have the patient follow the target until they think it is in front of the eyes
c. Therapeutic Effect: For lateral VMSS
    1) Base of prism in the direction of the field loss
    2) Start small powers—2 to 4
    3) Vertical defects
        a. Base in the direction of shift measured

b. For vertical may only need 1 to 3

4) Can use cancellation task with prisms on

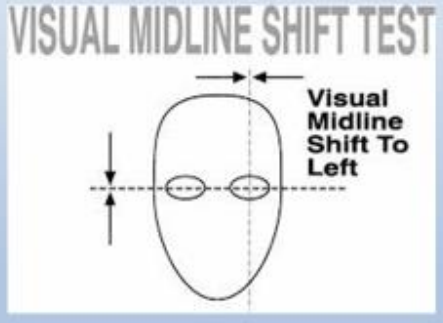
d. Compensatory Effect:
   a. Base of prism away from the field loss
   b. Move the egocentric point toward the actual midline
   c. Not usually the preferred method

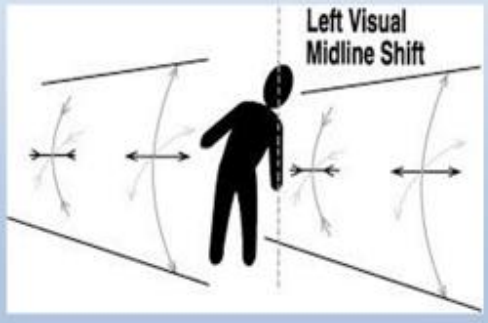


VMSS to the right

1) Shift of visual midline to the right
2) Shift of the image to the left
3) Feeling of being pulled to the right
4) Ground appears to slope to the right
5) Therapeutic Effect: Base of prism in the direction of the field loss(increased weight bearing on the right side)
6) Compensatory Effect: Base of prism away from the field loss

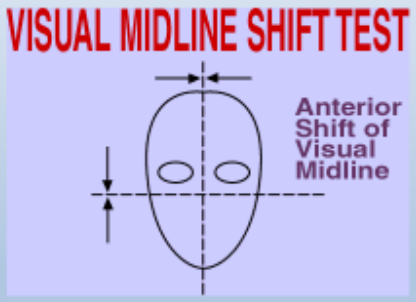
VMSS left shift

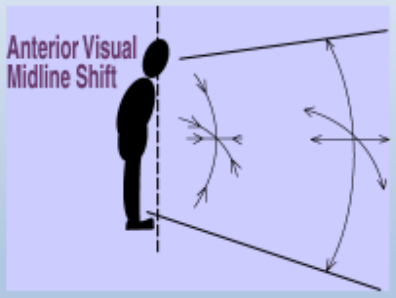




1) Shift of visual midline to the left
2) Shift of the image to the right
3) Feeling of being pulled to the left
4) Ground appears to slope to the left
5) Therapeutic Effect: Place the base of the prism in the direction of the visual field loss--increases weight bearing on the left side
6) Compensatory Effect: Place the base of the prism away from the visual field loss

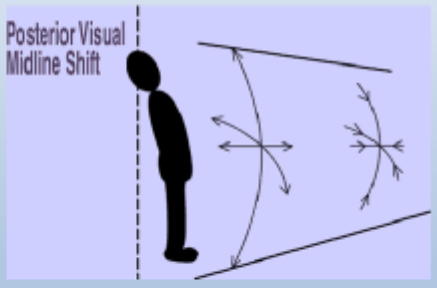
VMSS anterior





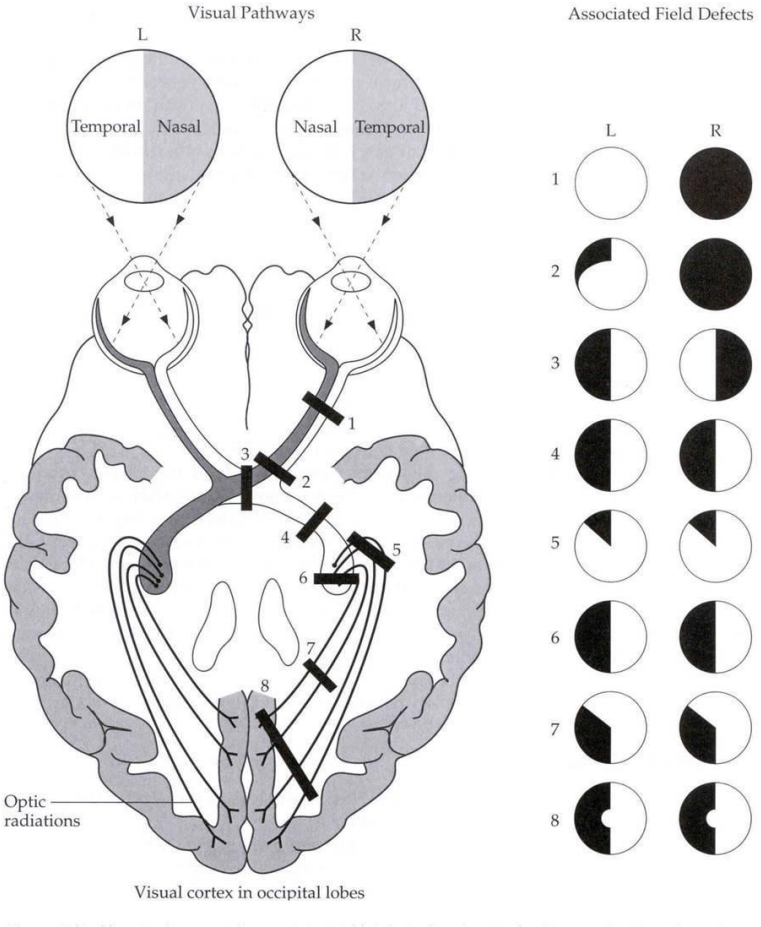
1) Shift of visual midline posterior
2) Shift of the image upward
3) Feeling of being pushed backward and smaller
4) Ground appears to slope downward
5) Therapeutic effect: Place the base of the prism in the direction of the visual field loss--increased weight bearing posteriorly, extension and an erect posture
6) Compensatory Effect: Place the base of the prism away from the visual field loss

VMSS posterior shift



1) Shift of visual midline anterior
2) Shift of the image downward
3) Feeling of being pulled forward and taller
4) Ground appears to slope downward
5) Therapeutic Effect: Place the base of the prism in the direction of the visual field loss--increased weight bearing forward
6) Compensatory Effect: Place the base of the prism away from the visual field loss

III. Visual field deficits—



a. Unilateral
b. Bitemporal
c. Hemianopsia
d. Quadranopsia
e. Pie in the Sky
f. Scattered Islands

I. How read them and how to take visual fields

1) the more posterior the lesion(stroke) the more congruous (similar) the defect
2) Occipital cortex lesions often spare the macula

3) The more posterior the defect rotate it 180 degrees and it will tell you where the lesion is at ie “Pie in the sky”(lower right—temporal)
“pie in the floor”—parietal
4) Chiasm lesion give tunnel vision

II. Confrontation—cover each eye, use 1 or 2 fingers—pediatric use distraction

III. Using the concept of extinction—checking for neglect vs scotoma

IV. Automation—Humphrey (mostly these are for glaucoma)

V. Using motion in the field

VI. Function returns before symptoms resolve

IV. Perceptual deficits—Unilateral spatial inattention

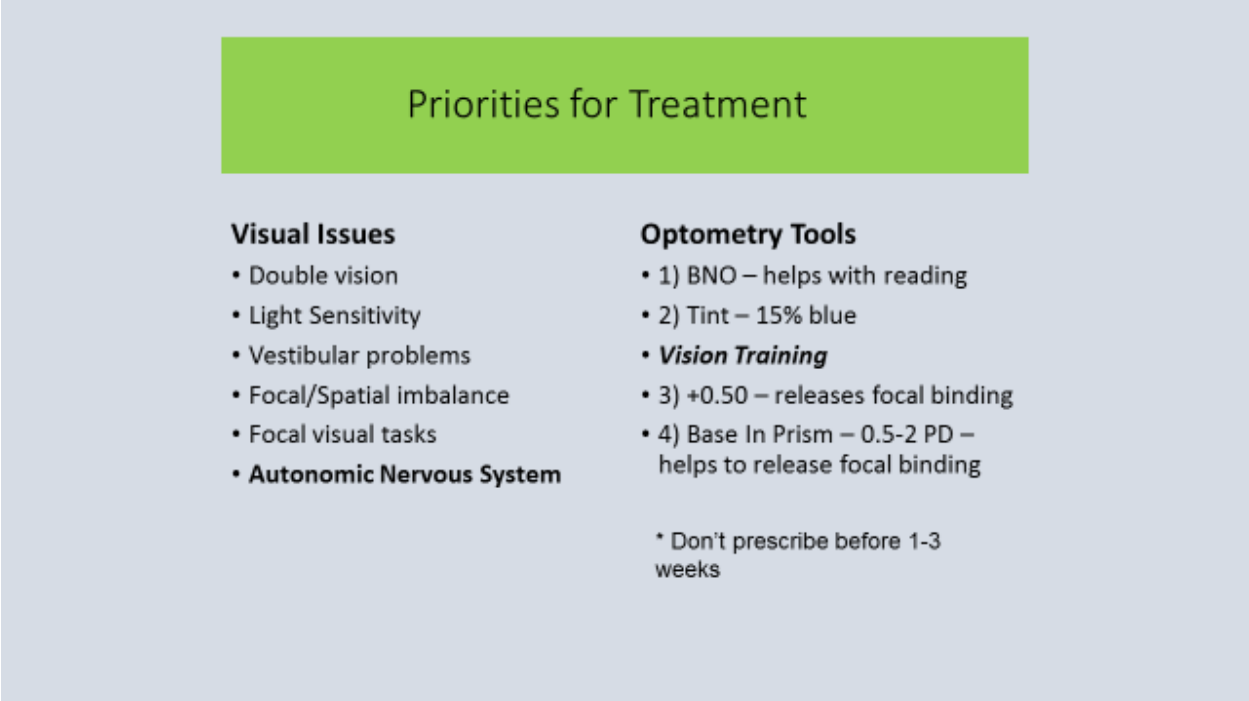
g. Lack of awareness—not being aware of people, things, or even body parts on the affected side usually left side but can occur on the right side (neglect)
h. Focused on the unaffected side—constantly turning toward the unaffected side (often the right side)
i. Confusion—with inside-out, right from left with clothing
j. Clumsiness—not being able to walk or navigate the wheel chair through a doorway without bumping the door frame
k. ADL’s eating—side of plate, shaving half their face, grooming,etc

Tests used to probe the unilateral spatial neglect

Star cancellation
Line bi-secting
Drawing clock
Copying picture
Other: observations

V. Oculomotor/Vision

1) Fixations—gaze stabilization
2) Pursuits
3) Saccades
4) VOR stabilization/OKN
5) Visual Spatial Awareness
6) Convergence
7) Multisensory environment—visual, auditory, vestibular, proprioception,



What do all the diagnosis have in common?

Simultaneously—we must balance and be aware of the **Autonomic nervous system** being out of balance and **It's spatial!!**

We have to understand sleep, autoimmunity (thyroid, diabetes), lifestyle along with –they do not know where they are in space therefore they do not know where it is in space.

It's a brain thang!!

Left hemisphere is dominant and language (95%+ of the time) and right is spatial.

Who has more difficulty getting better faster------Spatial!!!