CHAIRSIDE
NEURO-OPTOMETRIC
REHABILITATION

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FUNCTIONAL APPROACH

• Previous Activities
• Work
• Hobbies
• Rehabilitation Goals
• Patient Goals
• Mobility Limitations

FUNCTIONAL APPROACH

• What visual system exists?
• What can be remediated?
• What needs to be rehabilitated
• How can existing visual skills be used more efficiently?
• Can any visual skills be developed to improve daily activities?
LOCATION OF INSULT

• Visual Field Defect?
  • Frontal
  • Temporal
  • Parietal
  • Occipital
• Double Vision?
  • Brain Stem

FRONTAL

• Motor Planning
• Emotions
• Reality
• Eye Movements
• Visual Attention
• Fluid Speech
• What is it?

TEMPORAL

• Texture
• Motion and Form
• Object Identification
• Face Recognition
• Sequencing
PARIETAL

- Spatial Orientation
- Body Image
- Depth
- Anticipatory
- Procedural Learning
- Where and How

OCCIPITAL

- Visual Acuity
- Color Vision
- Pursuits

BRAIN STEM

- 10 Cranial Nerves
  - Diplopia
  - Balance
- Regulates
  - Heart Rate
  - Breathing
  - Eating
BEYOND THE STANDARD EVALUATION

- Visual Field
- Threshold
- Modified
- Visual Motor
  - Eye Movements
  - Cover Test
  - Accommodation
  - Convergence
- Spatial Localization
  - Oculocentric
  - Egocentric
  - Allocentric

CHAIRSIDE TREATMENT

- Refractive
- Prism Application
- Occlusion
- Chair-side Home Rehabilitation
- Optometric Vision Therapy

ACTIVITIES FOR HOME

- Pen/Cap
- Eye Stretch
- Saccades
**PEN/CAP**

- **Procedure**
  - Place cap in patient's hand.
  - Hold Pen 10 inches in front of patient.
  - Patient looks at tip of pen and places cap on pen.
  - Don’t look back and forth
  - Repeat using different locations for pen

- **Materials**
  - Pen with cap

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**EYE STRETCH**

- **Set Up**
  - Place 12 targets on ceiling, walls and floor at all clock positions 1:00 – 12:00

- **Procedure**
  - Imagine watching a bug crawling from 12:00 to 1:00 slowly, then to 2:00, 3:00 etc.
  - Repeat counterclockwise
  - Repeat shifting from 12:00 to 6:00, then 3:00 to 6:00, then diagonal directions

- **Materials**
  - 12 targets

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**SACCADIES**

- **Set up**
  - Hold 2 targets 10" apart horizontally

- **Procedure**
  - Quickly look back and forth between targets for 15 seconds counting how many fixations can be made.
  - Repeat 5 X record number

- **Materials**
  - 2 Pencils with Animal Erasers
RECOMMENDATIONS

• Rehabilitation Team
• Where to place training materials
• Lighting
• Positioning
• Fixate first then reach
• Fixate only one target when training mobility
• Monitor symmetrical head and body posture when using vision for reading and viewing
• Home
• Reduced Screen Activity
• Participate in more hand/eye activities
• Encourage best posture and good breathing
• Set up stations of activities

PLACING LEARNING MATERIALS

• Consider primary or secondary gaze of best visual skills
• Not in area of VFD
• Slanted or flat

LIGHTING

• Natural
• Incandescent
• Fluorescent
• Visor
• Reduced glare
• Tinted lenses
**FIXATION**

- Dot items reached for with red nail polish dot
- Fixate dot while reaching
- Teach eyes to guide reach and mobility

**POSTURE**

- Improves visual function
- Improves breathing
- Allows for better hand/eye coordination

**DIGITAL DEVICE**

- Passive versus Active thinking
- Blue light exposure
- Brain needs to heal
- Some apps for hand/eye coordination and reaction time
### HOME ACTIVITY STATIONS
- When home alone
- Easy to follow instructions with pictures
- Recording chart

### ACTIVITIES FOR HOME
- Jigsaw Puzzles
- Card Games
- Concentration
- Solitaire
- Sudoku
- Word Search
- Crossword Puzzle
- Balloon Tap
- Balloon Volley
- Ping Pong
- Ball Dribble
- Reading
- Books on Tape

### JIGSAW PUZZLES
- Start Easy
- Large 10 piece
- Good Contrast
- Figure ground
- Closure
- Visual memory
CONCENTRATION
- Visualization
- Visual memory
- Hand/eye fine motor control

SOLITAIRE
- Scanning
- Hand/eye coordination
- Strategy
- Enlarged print cards

SUDOKU
- Easiest
- Enlarge
- Fill in part of puzzle
- Visual memory
- Saccades
- Hand/eye coordination
WORD SEARCH

- Enlarge puzzle
- Start with familiar words that are easy
- Hand/eye coordination
- Saccades
- Figure ground

CROSSWORD PUZZLES

- Simple ones
- Enlarge
- Familiar words
- Fill in part of each word
- Hand/eye coordination
- Fixation
- Localization

BALLOON TAP

- Begin with large fully filled balloon
- Decrease size and air as skill improves
- Tie string and hang where can be tapped
- Write letters and numbers on balloon
- Call out number or letter as taps.
- Tap to beat of metronome
- Eye movements
- Hand/eye coordination
- Reaction time
DUST & VACCUM

- Dust safe areas
- Hand/eye coordination
- Judgments beyond reach
- Fixation and eye movements

BALLOON VOLLEY

- Requires 2 people or can volley against a wall.
- Volley balloon back and forth between players.
- Deflate slightly to increase difficulty
- Eye movements
- Reaction time
- Hand/eye coordination

PING PONG

- Use bright yellow colored ping pong balls
- Larger paddle if needed
- Eye movements
- Hand/eye coordination
BALL DRIBBLE

- Rubber ball
- Both hands, right, left then alternate
- Bounce to beat of metronome
- Reaction time
- Eye movements
- Hand/eye coordination

READING

- Simple book
- Large print
- Hi-lite side VFD is on
- Interesting topic
- Visual thinking
- Saccades

BOOKS ON TAPE

- Topic of interest
- May need special amplification for some
- Short stories
- Discussion after finished
- Visualization