Monocular Fixation in a Binocular Field

Learning Objectives:
1. Understand the levels of sensory fusion:
   - Monocular
   - Monocular Fixation in a Binocular Field
   - Biocular
   - Binocular

Learning Objectives:
2. Use activities in optometric vision therapy to develop each sensory level:
   - Equal vision skills in each eye.
   - Improve monocular fixation when both eyes are open.
   - Awareness of simultaneous perception.

Learning Objectives:
3. Learn techniques to decrease suppression.
4. Use activities that create luster.

How do you get luster?
- Use one eye at a time
- Goal: Equal vision skills in each eye
  - Fixation
  - Pursuit
  - Saccades
  - Focusing Abilities

Monocular Fixation in a Binocular Field (MFBF)
- One eye sees detail and the other eye sees the background in the same space.
- Goal: accurate perception of details with one eye and the perception of the background with the other eye.

MFBF
- Most Monocular Activities can be modified to MFBF:
  1. Change the occluder to a filter
  2. Change the target so it cannot be seen with the covered eye

Occlusion Types
- Complete: "pirate" patch, "Band-Aid" patch, occluder, hand
- Fully occluded! Then MONOCULAR
Most Monocular activities can be modified to MFBF:

- One eye can see the background only.
- There must be either cancellation or blur lenses used in these techniques.

Occlusion Types - MFBF:
- Translucent: light, but no detail
  - Bangarter foils
  - Fingernail polish
  - Removable tape
- High Plus
- Red Lens
- Green Lens
- Blue Lens
- Cyan Lens
- Polaroid Lens

MOST IMPORTANT CONCEPT
Which eye sees the detail?
Which eye sees the background?

RED plus GREEN = BLACK
RED plus WHITE = RED
GREEN plus WHITE = GREEN

Activities
- Accommodation
- Fixations
- Pursuits
- Saccades
Red lens turns the white background red. That eye cannot see the detail, as the red writing fades into the red background.

White Board/Red Marker

(MFBF) Activities

Rotating Pegboard with red numbers

- What is seen with red patch?
- What is seen with red/green glasses?

Think Pink

- Copier with pink setting
- Pinkalicious Pinkadoodles!
What is seen with a red patch?
What is seen with red/green glasses?

Red Letter Tracking
Red number charts

Computer Screen Document
- R194, G24, B52
- R250, G191, B143

Red books: coloring, soduko
Crossword Puzzles

Think Orange

White fish with red letters

Red/Green toy box trains

Sanet Vision Integrator

Button Boards: Sanet Vision Integrator (SVI)- Eye Hand, Rotations, Saccades with Red patch or Red/Blue Glasses

With a white background, the eye covered by the blue lens sees the target.

Use the blue lens on the amblyopic eye

Red detail on White background

- White board/Red marker
- Line scrubbing
- Pegboard
- Frankblau
- Red Pencil
- Copier with pink setting
- Red mazes
- Red dot-to-dot
- Red letter tracking
- Wayne directional sequencer
- Red coloring book
- Sudoku puzzles
- White fish with red letters
- Red/Red Rock tiles
- White Sherman Cards
- Red/Green Toybox train play set

MOST BINOCULAR ACTIVITIES CAN BE MODIFIED TO MFBF

JUST USE ONE SET OF TARGETS:
Utilizing common tools for MFBF Training: Perceptive

Modification: Green detail on White Background

Green highlighter or crayon

Red/Green toy box activities

What else do you have in the clinic that has Green print?

Green Background/White Print

Red/Red Rock Tiles

Franzblau

White Background Cards

Separate deck to use one color only

Green and Cyan Targets

Anti-suppression Therapy

MFBF Therapy

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MONOCULAR FIXATION IN A BINOCULAR FIELD (MFBF)

- Goal: accurate perception of details with one eye and the perception of the background with the other eye.

MONOCULAR FIXATION IN A BINOCULAR FIELD
- Anti-suppression
- Detail recognition

Green detail on White background
- White board/Green marker
- Green highlighter
- Workbooks
- Red/Green toybox activities

Cyan or BLUE print on White background

Vision Tap and Opto Apps

MFBI #2: BLACK background RED detail RED/GREEN glasses

Red lens = sees red target

(MFBF) Activities
- Hide and Seek Video

WORKSHOP Activity:
Tap-n-See Now Little Bear Sees

GOALS: luster, MFBF
2. iPad Activities:

1. Background set to Black
2. Image set to Red
3. Can change SIZE and SPEED

Red Detail on Black Background
- Black Felt with Red pom poms
- Black Felt with Red felt shapes and letters
- Tap-n-See Bear
- Specific Targets on Black Tranaglyphs

Green Detail on Black Background
- Black Felt with Green pom poms
- Black Felt with Green felt shapes and letters
- Marble Game

Anti-suppression Marble Maze

Red Background
- Black Print
- Franzblau
- Red Sherman Cards
- Red Perceptive Cards
- Red Carl's Cards
- Talking Pen
Sort out red background/black ink:

(MFBF) Activities
- Colored overlays

MOST IMPORTANT CONCEPT
Which eye sees the detail?
Which eye sees the background?
- A green filter only allows GREEN light through and blocks all others
- A blue filter only allows BLUE light through and blocks all others

(MFBF) #4: GREEN filter
RED/GREEN glasses

Red lens - sees red target

MOST IMPORTANT CONCEPT
Which eye sees the detail?
Which eye sees the background?
- A red filter only allows RED light through and blocks all other colors

Red Flashlight or White light through Red Filter = Red LIGHT

Red light/Green lens
Red laser pointers:

- The red light is blocked by the green filter.
- Use the red lens on the amblyopic eye.

Saccadic Fixator with R/G glasses:

Red filter + Red Light

Red Filter + White paper + Light
- Mazes with red filter
- Brock Posture Board
- Red light/Red ring
- Lite Track

MFBF #6: RED LIGHT
GREEN LIGHT
BLUE LIGHT

Also: flashlights, finger lights, hazard lights.

Saccadic Fixator with red/green glasses:

Red lens sees red target
RED background
RED LIGHT
RED/GREEN glasses
What do you see with a black background?

CAN YOU DO MFBF WITHOUT A PATCH OR GLASSES?

YES: TRY MIRROR SUPERIMPOSITION TECHNIQUES:

Clinical Consideration
- Alternate Red/Green or Red/Blue lenses with activities to fixate with each eye.
- Use flipper

Bioc (Biocular)
- Goal: to improve the ability of both eyes to alternately shift focus in an un-fused situation, which will facilitate anti-suppression and prepare the patients for simultaneous perception.

Biocular Activities that use Red/Green (or Red/Blue or Red/Cyan) glasses – are basically MFBF with alternation.
- For MFBF: select just one color combination of a binocular or anti-suppression activity. For example, only the perceptive cards that are red with black ink.

Clinical Consideration
- Alternate Red/Green or Red/Blue lenses with activities to fixate with each eye.
- Use flipper

Biocular Anti-suppression activities:

Red/Green Filters side-by-side

Add filters to computer screen

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- Polarized or Red/Green bar readers with the appropriate glasses
- Charts with Red/Green Targets

Sherman Cards
Perceptive Cards

Red/Red Rock

PERCEPTIVE

Carl's Cards

Red/Green Toybox

Biocular (Biloc)
- Anaglyphic projection: projected hars chart with overlays onto wall.

Green Tees
Red Tees
Also consider blue, cyan, pink, and orange.
Green Tees  Red Tees

Dichoptic Training and Suppression Control

Binocular: Fused Space

Red Light Red Ring

What does each eye see?

References


