

# Eye Movement Patterns

## Eye Movement Activities

### **Purpose:**

The purpose of this activity is to accurately use the eyes free of head or body movement in all positions of gaze.

### **Goal:**

The goal of this activity is to be able to move the eyes in the full range of all possible movements and positions of gaze without the head or body moving and without losing fixation.

### **Materials:**

- Wand or pencil with topper as target
- If the patient wears glasses, these may be taken off for this activity to encourage the full range of movement in the eyes. The wand may be blurry but clarity isn't necessary for this activity.

### **Set up:**

- Patient standing with feet shoulder-width apart and arms relaxed at sides, head straight, facing forward.
- Helper will stand a few feet in front, facing patient. Helper should hold wand at a comfortable distance from patient (they should see a single object when pointing eyes to wand), approximately 8 inches from the face. **(See Figure A)**

### **Activity:**

#### *First Sequence - Diamond Shape:* **(Video marker 0:00 - 0:56) (See Figure B)**

- Move wand as far to left as patient can see the target. Hold the position for five seconds, then move to the right and hold for five seconds, again making sure the head is held straight forward and eyes stay on the target. Move the wand above the nose so the patient must look up without raising their chin, again holding for five seconds. Now move the wand down below chin to approximately chest level and hold for five seconds.
- Repeat this diamond shape in various pattern rotations (up/down, right/left or left/down, right/up, etc.) several times.

#### *Second Sequence - Nine Points:* **(Video marker 0:57 - 1:31) (See Figure B)**

- After patient can easily perform the Diamond Shape with smooth tracking and without losing fixation on the target, add these points: up to right, up center, up to left, left side (level with eyes), center directly in front of nose, right side (level with eyes), down right, down below chin and down left.
- Repeat these nine points of gaze using various rotations, several times, at an easy speed. Follow the wand with the eyes only, from start to finish without losing fixation on the target.

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# Eye Movement Patterns

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## Third Sequence - Circles/Figure 8's & To the Nose

### *Circles/Figure 8's:* (Video marker 1:32 - 2:44)

As helper moves the wand in a circle pattern, patient follows with eyes, not moving head or body.

Helper can make “8” shapes, “S” shapes or any rounded movement at an even pace (not too slow or too fast). Repeat the patterns several times. Helper should also move the wand toward and away from patient in these rounded motions.

### *To the Nose:* (Video marker 2:45 - end)

Helper moves wand from center point (in front of nose) to the nose as patient follows with eyes.

(See Figure C) Patient should follow the target to the nose and away from the nose. Always end the movement in the away position. This should only be repeated twice per session.

### **Observation:**

It is the role of the helper to guide, monitor, record, and redirect the patient when necessary if they are not doing the activity in the manner detailed above or if any of the following observations are noted:

- Body balance – Is the patient swaying or do they feel dizzy? Do they lose their balance as they follow the moving target?
- Body position - Does patient keep feet shoulder-width apart, or do they ‘roll out’ on the edges of their feet, turn feet in or out, or shift weight from one foot to another?
- Eye movements – Are the eye movements jerky? Does the patient lose fixation (**See Figure D**), shoot ahead or lag behind the target?
- Midline – As the wand crosses the midline, does the patient fail to follow the target or lose fixation and then find the target again?

### **Simplified Options:**

- If it is difficult to get the patient to follow a wand or pencil topper, try using a penlight or small flashing light or a novel object that captures their attention.
- If the patient’s eyes are not following the wand, ask them to touch the top of the wand to encourage their eyes to point to the correct location.
- Lying on the floor or sitting may help make this activity easier. Once they are able to follow the target while sitting or lying on the floor, move to a standing position.

### **Challenge Options:**

- Move head slowly from right to left several times while keeping eyes on a stationary target that is at near, then fixate at a target in the distance and repeat.
- Using a mirror, watch eyes while moving head up/down and right/left.

# Activity Pictures

## Eye Movement Patterns



Figure A - Set up



Figure B - Left Gaze



Figure B - Right Gaze



Figure B - Upward Gaze



Figure B - Downward Gaze



Figure C - To the Nose



Figure D - Losing fixation