Quick Guide: CVI Behaviors, Intervention Readiness Suggestions, and Working with a Baby with CVI

The EI team should collaborate with families on a Home Action Plan that includes goals, specific interventions, and activities and strategies to incorporate in daily routines. Here’s helpful information about how babies with CVI learn and respond to interventions to share with your team.

CVI Visual Behaviors
First, it’s important for your team to understand how CVI commonly presents. In particular, it’s key to make sure your team is familiar with the CVI visual behaviors, which can change, evolve, and improve over time, but never completely go away. These include:

- **Visual Attention:** This refers to a child’s ability to look and sustain gaze for recognition. For example, your child might focus on only one small area while unable to process or understand other items. We consider her ability to maintain gaze in cluttered and un-adapted environments, as well as her ability to maintain gaze while ill or tired.

- **Visual Recognition:** This is an assessment of your child’s abilities to visually recognize known items or known classes of items. Your child might immediately recognize her favorite toy or cup but might not recognize a similar, unfamiliar toy or cup.

- **Impact of Clutter/Crowding/Spacing:** This is an assessment of the number of objects your child can tolerate in a display. Sometimes spacing items out improves kids’ visual attention and visual recognition. Your child might have trouble with visual clutter — when too many things are in an environment, they might blend together. Or she might be able to identify items in a predictable line presentation but not when items are scattered on a table, because it’s too visually complex.
• **Visual Field Abilities:** This is an assessment of visual field awareness and abilities to recognize materials in all fields. Your child might not respond to items in a particular visual field or she might pay more attention to one side, with a visual deficit in another. Visual fields assessed include their left and right peripheral fields, upper visual field, and lower visual field.

• **Impact of Color:** This is an assessment of how your child reacts to different colors and black and white, how she uses color for visual attention and object recognition, and how she uses it as an overall strategy function. Many kids with CVI are reported to notice one color more than others. We try to see how color helps her understand the world.

• **Form Accessibility:** This is an assessment of the “accessible form.” Think about a common figure, like Donald Duck: Even though it’s a cartoon, we know it’s a duck. A child with CVI might have trouble making that recognition. Your child might see three-dimensional items but have trouble with photos, for example. Or she might see color but struggle with black and white or line drawings.

• **Visual Guidance of the Upper Limbs:** This is an assessment of reaching while maintaining visual attention, reaching accuracy, and looking while exploring an object. Your child might hold something in her hands but can’t look at it simultaneously, or she might gaze off into the distance while playing with an object. Or she might over- or underestimate her reach or reach tentatively.

• **Visual Guidance of the Lower Limbs:** This is an assessment of her ability to step accurately or to place her foot accurately, such as into a shoe or stepping up onto a curb or stool.

• **Access to People:** Your child might have difficulty looking at faces and difficulty with facial recognition. Some kids have trouble interpreting facial expressions. For example, you might smile, and she won’t smile back or look into your eyes. Many parents describe their child looking “through” them or past them.

• **Impact of Light:** This is an assessment of the distraction of light, need for light, light sensitivity, attraction to light, and need for backlighting. Your child might be so impacted by light that it’s just a visual target; other kids benefit from lighted objects for improved visual attention or recognition.
• **Response Interval:** This is an assessment of her degree of delay in visual attention and delay in visual recognition. Your child might take a long time to look at an object and a long time to understand what she’s seeing.

• **Impact of Motion:** This is an assessment of her need for motion to gain visual attention; the distraction of environmental motion; the inability to follow fast-moving items; impaired perception of motion (difficulties understanding the speed, distance or direction of motion of objects); and a phenomenon called **blindsight** (the ability to avoid objects while moving, without awareness of the obstacle). Your child might need an object to move to know it’s there. Or she might have trouble assessing distance and speed, such as a ball or car coming toward them.

• **Sensory Integration and Impact on Vision:** This is an assessment of the impact of competing sensory input on her vision use. Your child might not be able to listen or feel vibration while busy looking.

• **Visual Curiosity:** Think about going to the grocery store. A child is constantly learning about shapes and objects as she watches mom or dad load up the conveyor belt from her perch in the carriage. A child with CVI might not absorb those **incidental life lessons** due to their visual impairment. As such, this is an assessment of the accessibility of “incidental learning” for distance materials and events with and without compensatory supports and for all visual fields.

• **Appearance of the Eyes:** This is an assessment of alignment and eye preference. We assess whether both of your child’s eyes are working together. Are their eyes pointed straight when looking at something or does one eye turn in while the other turns out? Does your child favor or use one eye over the other? Does she alternate? This information is often validated by clinical optometry or ophthalmology examinations.

• **Movement of the Eyes:** This is an assessment of ocular (eye-related) motor skills. We look at the way both of your child’s eyes move in different directions: horizontally, vertically, and diagonally. We analyze the child’s shifting of their gaze from one place to another, and how she responds to a moving target.
Next two sections are adapted from *Babies With CVI* by Anne McComiskey

**Intervention Readiness Suggestions**

You and your team can help prepare your baby for interventions by doing the following:

- Help your baby feel comfortable, well supported, and calm.
- Plan an activity that is interesting to your baby.
- Include elements that are motivating for your baby.
- Assure that your baby has eyeglasses if needed.
- Alter your environment to decrease distractions.
- Adjust your environmental lighting.
- Provide movement and tactile stimulation, such as providing a brief massage before vision work.

**Working with a Baby with CVI**

- Talk to your baby in concrete terms (e.g., “The ball is on the table” rather than “The ball is here.”).
- Provide your baby with verbal cues before objects are moved.
- Inform your baby when you approach or leave.
- Work on tasks or actions from behind your baby using hand-over-hand guidance so that the baby can feel the natural movements of the action, while never forcing your baby’s hands.
- Provide a reason for your baby to move, such as a motivating visual object, so your baby is moving either to or for something when practicing movement interventions.
- Show your baby parts of any equipment that will be used during an activity.
- Be consistent, following a routine and schedule.
- Employ a beginning and end signal for activities. Incorporate the activity into other experiences as appropriate.
- Use real objects such as kitchen utensils or balls to make an activity meaningful.
- Work toward increased independence.
- Teach the individual steps of an activity first instead of the entire activity all at once.
• Encourage your baby to employ any usable vision he or she has during an activity.
• Avoid overstimulation, including distractions and competing sensory information.
• Change activities and positions every 15 minutes.
• Work in natural settings for meaningful results.
• Help your baby reinforce looking response with touch and verbal descriptions.
• Use adaptive devices to facilitate correct head and neck posture.
• Plan and use appropriate transitions between activities.
• Find an optimal position for stability and movement.
• Use repetition
• Create a controlled learning environment
• Create activities that enhance independence and promote communication.
• Encourage active learning through self-initiated discovery