
Effective Collaboration Between Physical Therapists and Teachers of Students with Visual Impairments Who Are Working with Students with Multiple Disabilities and Visual Impairments

Erica M. Stearns

For almost 20 years I have worked as a physical therapist assistant in various settings, including long-term care, acute care hospitals, short-term rehabilitation, and the school system. For the last three years, I have also worked as a teacher of students with visual impairments. Initially, it seemed as if those professional worlds would be quite separate, but each day in my practice as an educator I am realizing how well both roles complement each other.

POSITIONING AND PHYSICAL FUNCTIONING

Part of a physical therapist's job is to determine which seating systems, braces, or other pieces of equipment help promote optimal functioning to allow individuals to perform well in their daily lives, adjustments that can help the students to access the curriculum in the best way possible. Proper positioning from a physical therapy standpoint can help maintain good skin integrity, prevent muscle tightness, provide support, and help reduce abnormal muscle tone.

Teachers of students with visual impairments realize, from a different perspective, how crucial positioning and physical functioning can be to these students. For example, it is common for a student who has multiple disabilities and is dependent for mobility to undergo several positioning changes throughout the school day. These changes may include time spent on different surfaces such as a mat table or in various pieces of equipment like standers or supportive classroom chairs. Teachers of visually impaired students take this into consideration when making

recommendations about where to present materials and position assistive technology as these changes take place throughout the day. We must also understand how a student's physical strengths and deficits contribute to that student's ability to utilize their vision in different situations. Reviewing a student's physical therapy evaluation can provide important information about physical strengths, deficits, and limitations. Through direct consultation, a physical therapist or physical therapist assistant and the vision professional can establish what a student's unique vision and physical needs are and the challenges each student faces. Together, the two professionals can come up with strategies to make sure that the student's overall needs are being met in order for that student to function optimally from a physical and a visual standpoint throughout the day.

Having a basic understanding of each other's roles is important, and the objective of each specific activity needs to be understood. There are times when students may be working on increasing overall head and neck strength as part of a physical therapy objective, requiring them to have less support in order to practice lifting their muscles against gravity. A student with poor trunk and head control may find it challenging to visually fixate and attend to materials while they are working so hard to stabilize their bodies. During these moments, vision goals may be secondary to physical therapy goals. When vision is the focus, having the proper support is imperative in order to have the stability and energy to function well visually.

WORKING TOGETHER TO DETERMINE THE BEST INTERVENTIONS

Collaboration between the physical therapist and teacher of visually impaired students can help determine the best intervention methods for the student, especially during the most visually challenging activities of the day. In

some cases, braces may be necessary and can help improve a student's overall level of stability and support and can, therefore, allow the student to channel more energy into visual activities. Examples of when braces can be useful would be when a student appears to be experiencing problems during ambulation or to have overall balance issues. Sometimes a student may be experiencing muscle weakness that may cause a toe to catch on the floor or weak trunk muscles that may make it difficult for him or her to maintain sitting in one place for too long. A physical therapist can help determine the right tools to correct this weakness and help stabilize the body.

Some students require the use of a wheelchair that can be tilted forward and backward in order to allow them to change positions. This can help to unweight (or shift weight from) certain parts of the body and assist with head control. Vision professionals can work with therapists and other staff members in understanding that as positions change, the student's center of vision will change as well and materials will have to be adjusted accordingly. A desktop computer screen may have initially been set up in a classroom for a student who is seated in a neutral position in his or her wheelchair. That same screen may suddenly become inaccessible when the student is tilted backward.

COMBINING KNOWLEDGE ABOUT PHYSICAL LIMITATIONS WITH VISUAL ABILITIES

There are two specific examples from my own practice in which consultation with the physical therapist has been beneficial in helping me to gain information to help students with multiple disabilities and visual impairments. I was recently asked to perform a functional vision assessment on a student who had suffered a traumatic brain injury at a young age, leaving her unable to move her legs and restricting movements in her entire upper body. This student spent the majority of her academic classes in her wheelchair.

Although she could occasionally move her head and neck to a neutral position, she frequently kept her head rotated to the left, resting it in her headrest. Consultation with the physical therapist helped me to understand how much strength and range of motion the student had in her head and neck. It also helped me to understand which positions were the easiest for her to maintain. I was able to provide the physical therapist with information about the student's vision that explained why the student could not see well on her right side and why that should be considered when providing instruction.

When I first observed her in several classes, I realized that most of her technology was positioned too low for her to see and was often in the center. When staff had her engage in activities using the monitor, she would often cry. We first had to assess her to make sure she was able to see images on the screen at all. After making the determination that she was able to view two-dimensional objects and pictures on a screen, we made some slight adjustments to the monitor height and positioned the technology to her left. After the adjustments were made, the teacher reported that the crying had ceased.

Sometimes students may have disorders that make it difficult to control their body movements, which may affect their ability to use their vision while in certain positions. I received a referral for a student who was diagnosed with cortical visual impairment and who also had a movement disorder that would cause spontaneous involuntary movements and moments of both increased and decreased stiffness in different parts of the body. The challenge was to try to figure out if certain obstacles to accessing the curriculum were the result of visual issues, physical issues, or a combination of the two. For example, when testing visual fields, the student did not always move her head past midline towards the left, but would sometimes shift her eyes and appear to use her peripheral

vision only. Other times, she was able to move into full left neck rotation. Overall, this student would predominately look to her right when viewing, but I did not want to automatically assume that this was her preferred visual field without further investigation. It was important to rule out the possibility that she might be able to see as well or better in other visual fields, but that she had difficulty accessing those fields due to a physical disability.

From my physical therapy experience, I knew that some positions help the body to relax more than others. For instance, placing a student in a position that takes away the student's burden of having to fight gravity, such as a supine position, often allows him or her to move more easily. For this reason, I worked with the physical therapist to help assess the student in multiple positions including supine, prone, in a wheelchair, and in a stander. We found that there were definitely positions in which the student was able to relax better than others and, as a result, the amount of time she was able to visually attend to materials and objects increased. We also discovered that in certain positions, the student was able to track objects into specific visual fields with greater ease than in others. This ease was observed when the student was prone and was able to stabilize her head nicely by placing her chin on a pillow. Although she was able to lift her head against gravity, tracking objects into her superior field was not as successful in this position as it was in supported sitting or standing. Particular positions or even sudden loud noises may trigger reflexive patterns for some students that make it difficult to hold specific postures or move voluntarily in precise ways. It may not be that the student does not have the visual ability to track objects or attend in certain fields; it may be the result of a physical inability to do so.

I explained to the physical therapist that some of the hallmarks of cortical visual

impairment, especially in its earliest phases, are decreased ability to visually attend to objects, decreased visual fields, and the inability to use vision functionally in complex and overly stimulating environments. The staff did a wonderful job with setting up a quiet, low-contrast learning environment, but the constant movement the student had to endure seemed to be creating a complex and highly stimulating environment. These bodily movements were most likely exhausting for the student and quite possibly made it very challenging for her to visually attend to materials and objects.

The physical therapist revealed that by learning more about cortical visual impairment she was able to modify a portion of this student's walking program and improve her ability to walk further distances. Initially, they were having the student ambulate with an iPad attached to the walker, which proved to be distracting. They made a change and gave the student the iPad during rest times only, when she was completely stopped. The physical therapist reported that this improved the student's ability to walk further and seemed to increase her overall level of focus.

DISCUSSION

Usually, most professionals working in a school setting are specifically trained for a particular job. There can be a disconnection among disciplines as each staff member focuses on their specific specialties and objectives. I often look back on the times when I worked with low vision students as a physical therapist assistant and how my focus was strictly on how the student was able to function physically to access his or her education. Experience in both fields has allowed me to see that these two disciplines truly need to work hand in hand to give our students the best opportunities for optimizing physical functioning and vision. There is much to be gained from the collaboration of these two disciplines.

In-service training sessions are a great way to educate others about the roles we play as part of an education team and how we can assist one another to help our students. Professional workshops and continuing education classes can provide insight into various topics specific to physical therapy and vision that many other disciplines may benefit from. Ongoing communication between disciplines is important either through face-to-face meetings, phone conversations, or e-mail messages. Getting a physical therapist's input on positioning during an assessment has helped me determine how the student appears to use their vision best. Physical therapists are aware that vision leads movement, and they will often ask questions about ways to use motivating visual stimuli to initiate gross motor tasks for students with impaired vision. I find observing the sessions of other therapists and teachers to be helpful. I invite members of the different educational teams I am involved with to observe my vision sessions and ask questions. As an itinerant teacher of visually impaired students, it has been especially helpful to establish a rapport with others, which makes ongoing collaboration easier. The use of any of the strategies described in this paper will help maintain effective collaboration between physical therapists and teachers of visually impaired students in order to help students who have multiple disabilities and vision impairment.

Erica M. Stearns, M.Ed., teacher of students with visual impairments and physical therapist assistant; mailing address: 966 Pleasant Street, Worcester, MA 01602; e-mail: emstearns@gmail.com.