



# Texas School for the Blind and Visually Impaired Outreach Programs

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## Inclusion for Students with Visual Impairment In Physical Education: Precautions and General Accommodations October 22, 2019 from 3:00-4:00 PM (CST)

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# Inclusion for Students with Visual Impairment in Physical Education: Precautions and General Accommodations

October 9, 2019

Facilitated by:  
Kristine Seljenes, CAPE, Phys Ed Instructor, TSBVI  
Scott Baltisberger, VI Education Consultant, TSBVI Outreach

## What is the Difference Between Blind and Visually Impaired?

- Blind = No Functional Vision
- Visually Impaired = **Some Usable Vision** (or technically... Any degree of vision loss, including total blindness, that affects an individual's ability to perform the tasks of daily life)

## The Effects of Vision Loss May Vary Greatly

Interfering with **every area** of human development:

- Affective Domain
- Cognitive Domain
- Motor Domain

Source: *Physical Education & Sports for People with Visual Impairments & Deafblindness*,  
(Dr. Leiberman, P. Ponchillia, & S. Ponchilla, 2013)

## Every Student is Unique

There is **NO** "One Size Fits All" Approach

You **MUST** Get to Know the Student!

## Where Do You Find Info on Your Student?

- Interview Student/Family
- Meet Service Providers (TVI, O&M Instructor)
- Read Reports
- Eye Exam, Adapted PE, Physical Therapy, Occupational Therapy, Functional Visual Evaluation/Learning Media Assessment (FVE/LMA)

## Medical Considerations and Safety as a Priority

- Some eye conditions may have precautions
- Retinal Precautions and Ventricular/Ocular Shunts
- Glaucoma
- Photophobia/Light Sensitivity

Consider hazards within every activity. Plan ahead! Be aware and modify for safety.

## What is Going to Make It Meaningful?



Figure 1: A student athlete runs toward a sandy pit on a running track. Two instructors stand nearby.

[“I Feel Included” Source](#)

## 3 Main Reasons They Are Behind in Motor Development

- Lack of **incidental** learning
- Lack of **motivation** to move
- Lack of the **self-confidence** to move

Positive **Experience**, **Exposure**, and **Practice** is needed in class!

Source: Leiberman, Byrne, Mattern, Watt, and Fernandez-Vivo, 2010

## Now What? Build a Relationship

- Create a culture of **Classroom Safety**
- Establish **Trust** *before* placing heavy demands

“Guide Technique” Video Source: TSBVI

[“Motor Development” Video Source](#)

## Instruct Peers Prior to Activities

Teach *asking permission* before touch and guide technique.

## 5 Areas of Focus for Success in Physical Education

- Interaction and Support
- Communication
- Environment
- Equipment
- Content

### Interaction: A Supportive Community

- Create a culture of acceptance
- P.E. is accessible for the student that is VI
- Fear is normal... Address it!
- Provide *guided experiences* for peers/paraprofessionals supporting the student that is VI
- Provide feedback on how they support and communicate with the student that is VI
- Foster Understanding
  - Experiential: peers/paraprofessionals wear blindfolds in P.E.
- Promote Awareness
  - Highlight athletes and sports designed for blind or visually impaired
- Support Self-Advocacy
  - Student should receive positive feedback for advocating for needs

### Interaction: Peer Partners

- Provide Clear Instructions for Safe Support
  - Game setup and rules
    - How to modify and how to keep safe/accessibility
  - Regular check-ins with student that is blind or visually impaired
- Encourage Self-Advocacy for Blind/VI Student
  - What do they need?
  - What do they not need?

This may be very challenging for the student: **Help make the list and to tell their peers!**

## **Interaction: Paraprofessionals**

- **Inclusion** versus Isolation
- Support the Student (without overstepping support)
- Be Aware of Your Intended P.E. Goals and Outcomes
- Use task analysis sheets, pictures of skills, IEP goals, etc.
- The student that is blind or visually impaired must still receive daily opportunities for:
  - Direct Instruction from physical educator
  - Direct Interaction with their peers in activities

## **Communication: Accessing the Lesson**

- Types of Instruction
- Pre-Teaching
- Tactile Graphics and Braille

## **Instructions: Verbal Communication**

- Be precise and clear
- Check for comprehension frequently
- Repeat back instructions
- Demonstrate skill
- Break skills down into manageable steps
- Allow time for processing

## **Instructions: Physical Guidance**

- Tactile Modeling
- Allow student to feel another person perform the movement
- Physical Guidance
  - Student's body is manipulated into positions
- Co-Active Movement
  - Instructor and student moving together

[Video Source](#)

## Instructions: Supported Practice Time

- Guided Practice
- Provide immediate feedback on skill performance
- Positive Feedback
  - Highlight success frequently
- Provide Additional Time for Practice
- Allow Processing Time
  - Wait and then wait some more!
- Use the Whole-Part-Whole Method

## Pre-Teaching

- Advanced Introduction of Key Terms and Concepts
- Provides a Framework for New Knowledge that May Also Involve Movement Information
  - Source: Pellett and Pellett, 2010
- Consider Allowing Student to Practice Key Skills/Movements in a Private Setting Prior If They Prefer

## Tactile Graphics and Braille



**Figure 2: A tactile graphic map**

- Court and Equipment Orientation
- Use tactile models
- Walk student around the court
- Allow student to tactually explore the equipment used
- Provide Game/Skill Descriptions in Braille
- Collaborate with the Service Providers (TVI, O&M, APE, PT, OT)

[Inclusion Video Source](#)

## Environment

- In Must **Feel Safe** for Everyone in the Gym
- Orientation
  - Time to explore and understand equipment/gym areas
  - Consistent language (example: cardinal directions)
- Consistency
  - Established areas
    - Example: warm-ups always occur on north end of gym
  - Move in Same Direction
    - Example: clockwise on track

Small details like these can build confidence and allows for more independent travel

## Environment – A Clutter Free Zone

Reduce Visual Clutter – “Less is More”



**Figure 3: A wooden board with black tape delineating the edges.**

Delineate Spaces

Example: Place mat around stationary boke

Increase visibility and remove trip hazards and head level obstacles

High Contrast

Choose high contrast colors

Example: between ball and court

Example: bright yellow spot on a dark blue floor



**Figure 4: A blue gym floor with yellow dots on it**



**Figure 5: A red and white target against a black background.**



**Figure 6: A dark blue ball with angular green shapes on it.**

## **Environment**

- Glare, Lighting, and Positioning
  - Sun and Glare
  - Student/Instructor Positioning
- Use Tactile Markers
  - Something that can be felt that helps identify student's location
    - Example: a textured plastic square on the wall across from locker rooms or a 3D sticker on a student's locker

## **Equipment**

You and the student must work together to determine what works best.

Some examples:

- Beeping balls, sound sources at targets (such as person clapping)
- Student feels equipment while you explain the parts and purpose
- Using a tee instead of a tossed ball



**Figure 7: A red beep kickball.**



**Figure 8: A sensory soccer ball.**



Figure 9: Three goalball balls.



Figure 10: A beep baseball.



Figure 11: A sensory Nerf ball, cut open to reveal noisemaker inside. Surrounded by scissors, tape, glue, a Sharpie, and an Exacto knife.



Figure 12: The electronic components for a beep baseball set.



Figure 13: A collection of pool floaties, multi-colored oars, and a blue target.



Figure 14: A ball on a black tee with a purple bat next to it.



Figure 15: A brightly colored basketball set created on trashcans.



Figure 16: A beep tennis set.



Figure 17: A tandem bicycle.

## Content

- Who is the whole student? (family, friends, community)
- Where are they currently in accessing curriculum?
- What does the student need most?
- How will the student access movement for **lifelong leisure**?
- What skills and strengths will they need for a career?
- Expanded Core Curriculum
- Teach the TEKS (make them accessible)!
- Include games for the B/VI in your curriculum
  - Examples: Goalball, beep kickball, beep baseball



Figure 18: A student approaches a beep kickball on the field.



Figure 19: Students play goalball. Photo Credit: Diana DeRosa/MacMillan Photography



Figure 20: A student plays beep baseball. An instructor signals the end of a play.

Include role models of athletes that are Blind/VI (help normalize Paralympic athleticism)

- Lex Gillette (Track and Field)
- Matt Simpson (Goalball)
- Brad Snyder (Swimming)



Figure 21: Lex Gillette in mid-air during a jump.



Figure 22: Brad Snyder swimming.

## References

- Dr. Laura Lieberman's [Inclusion Video Series](#)
  - Videos feature the following sports: tennis, beep kickball/baseball, volleyball, wrestling, basketball, soccer, track, swimming, and cross country.
- Sports Camps for the Blind
  - The Camp Abilities [website](#)
  - The Camp Abilities [YouTube Channel](#)
  - [United States Association for Blind Athletes](#)

## Additional References

- From Camp Abilities:
  - [Teaching Gross Motor Movements to Children with Visual Impairment](#)
  - [Staff Training Video on How to Work with a Student That is Blind](#)

[Institute on Movement Studies for Individuals with Visual Impairments or Deafblindness \(IMSV\)  
The College at Brockport, SUNY](#)

[Physical Education and Sports for People with Visual Impairments and Deafblindness, Dr. Leberman, P. Ponchilla, and S. Ponchillia, 2013](#)

## Reach Out for Support!

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## Thank you for joining us!



Figure 3: TSBVI logo



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Figure 4: IDEAs that Work logo and OSEP disclaimer

## PE for the Blind & Visually Impaired-Modifications & Accommodations

### Environmental & Equipment

\*\*\* Modifications can be Visual, Auditory, and/or Tactile \*\*\*

VISUAL ACCOMMODATIONS *Modifications to enhance use of vision and visibility of objects in the environment (Duffy, 2002; Sticken & Kapperman, 2010)*

- ❖ Keep the area CLUTTER FREE!
  - Pay attention to hazards that may be in the area
  - Allows your student to be more independent and to feel safer (not having to worry about tripping over a ball bag by entry door)
- ❖ Student Placement
  - How can they best **see** and/or **hear** the activity?
  - What can you do to give **optimal viewing**?
    - Use High Contrast for distinction (equipment to floor; court divisions, etc.)
    - Adjust Lighting as needed (Ponchillia, 1995)
    - Consider glare and light tolerance
      - Some may have a harder time with bright lights, some with low lights; some may have difficulty going from one extreme to the next (eyes don't adjust quickly)
      - Consider adjusting light
      - Move the light source, add shades or blinds to windows that create glare on courts)
      - Allow for use of sunglasses, sun visors, hats
    - Change direction student is facing for instruction (turn their back to the sun)
    - Change location of instruction
- ❖ Use consistent locations for common activities, such as a warm up stretch area/ cool down area to provide the student places they can travel to independently

### TACTILE MODIFICATIONS

- ❖ **ORIENT** the student to the room prior to student use (seek help from service providers O&M; TVI).
- ❖ Using softer balls, such as nerf balls or slightly deflated balls
- ❖ Using lighter or bigger bats
- ❖ Using large cones to mark the corners of the court/ field
- ❖ Common ways to orient to an area:
  - **Perimeter Search** (simple room, such as a wrestling room). *Begin on one wall/ corner and move around the walls; describing and feeling equipment along route*
  - **Systematic Search** (sequentially explore the items in a room). *In a weight room, explore all of the cardiovascular machines from one side to the other; then go through the strength machines. Relate locations to one another.*
  - **Grid Pattern Search** (Example: recreation room full of equipment: ping pong tables, pool table, air hockey). This technique may be useful for more congested areas. Using reference points throughout room to help relate items to one another.

- ❖ REFERENCE POINTS (Use these to help relate equipment and items to one another).  
*For example: the entrance door is on the south wall by the cane hooks; the cane hooks are next to the stand-up elliptical*
  - Teach landmarks and clues
    - Landmarks (Permanent or always present). *Examples: a fire extinguisher box outside weight room door, sidewalk ramp at road crossing to track, fixture on a wall across locker room entrance*
    - Clues (Temporary information) *Examples: lawnmower, popcorn smell at baseball field, sound of students on treadmills*
  - Use tactile cues for areas. *Example: Use a large mat around cardio equipment*
- ❖ Tactile Graphics or Bold-Lined Maps (Raised line drawings; keep simple and focus on message). *Example: For court lines and other large areas to make the explanation accessible prior to walking full space. With a USDA “My Plate” tactile graphic, eliminate the fork detail, show the divided areas on plate with labels.*
- ❖ Tactile Scale Models (3D models to feel how items are related to other items, especially when they are large or a distance apart)

#### AUDITORY ACCOMMODATIONS:

- ❖ Be aware of and eliminate distractions in the background (staff/ student side conversations, loud machines, etc)
- ❖ Give description of the sounds in the environment as they apply to the activity and area.  
*Example: “That was the sound of Steve making a basket”; Sally passed the ball to Frank and Frank is running towards the goal”, the bowling ball knocked down 6 pins on the left side”*
- ❖ Using sound sources for goals, nets, and target areas (as student tolerates/ prefers such as beeping machines, clapping, bells tied to nets, sound emitting balls)
- ❖

#### **Instructional Accommodations & Modifications**

##### **Providing assistance in Movement/ Moving through space:**

- ❖ Use Verbal Description
  - Should be clear, simple, and precise. *Example: When you enter the gym, there is a bench on the right and a wrestling mat at the center of the room. The mat is 20’ ahead/ on your left.*
- ❖ Use Sound Cues
  - Tap firmly a machine that a student is to approach stating “I am tapping the machine you are to use”.
  - Avoid vague references. *Examples: it’s here; over there*
  - Ensure obstacles are explained and minimal in route between student and sound cues (may do prior to student beginning movement)
- ❖ Use Human Guide Technique around tricky areas
  - Student uses C-grip slightly above elbow and the guide person walks a half step in front with arm relaxed, ensuring there are not obstacles in front and to immediate sides of student that can become trip hazards.
- ❖ Use a Guide Wire or Wall

- A cable or continuous wall that the student can maintain contact with for walking/ running

## Providing Instructions

- ❖ Identify yourself each time you initiate interaction *Example: “Hi, it’s Coach Kristine”*
  - Always ask BEFORE touch
    - Use a light touch and initiate touch in a neutral area, such as shoulder
    - Do not grab hands; allow them to reach for your hands for demonstrations
    - Gently assist in placing their hands in correct locations for modeling
- ❖ Call the STUDENT’S NAME prior to giving instructions *Example: Sally, please demonstrate 4 lunges with your right leg forward.*
  - Talk directly to student, not through another person (such as the paraprofessional)
  - Observe closely how they react to different interactions, equipment, and movements to determine best strategies for future lessons
- ❖ Use VERBAL INSTRUCTION
  - Precise language & common analogies
  - Avoiding extraneous talking (by self and by peers)
- ❖ CHECK FOR COMPREHENSION (frequently). *Example: “Show me how to \_\_\_\_\_”, “Explain what happens when a goal is scored in soccer?”*
- ❖ Use VISUAL INSTRUCTION
  - Use drawings/ pictures at correct size for best viewing
  - Use high contrast items/ equipment the student can see better

## TACTILE INSTRUCTION

- ❖ TACTILE MODELING & PHYSICAL GUIDANCE
  - Tactile Modeling (learner feels the teacher (or peer) performing a skill or part of a skill)
  - Physical Guidance (the teacher manipulates the student’s body through a movement or part of a movement)
    - *Make sure student is not averse to touch!*
    - *These techniques should decrease as the student becomes more proficient but this could need lots of repetition.*
    - *Be patient! Tactile comprehension takes longer than visual comprehension.*
  -
- ❖ Hand-Under-Hand Assistance
  - You ask them to feel what you are doing and they reach to your hand/ /body
  - The student can pull away at any time and has more control over the movements they are willing to participate in
- ❖ Hand-Over-Hand Assistance
  - You ask if you can touch their body part and guide their body through a movement
  - They are being manipulated through the movement and have less control *Example: “Hi Ben, it’s Coach Kristine. I am demonstrating the ready position for a lay-up”. Can I guide your hand so you can check out the angle of my knees, waist and neck and feel where my arms are as I set up?”*
  -
- ❖ CO-ACTIVE MOVEMENT

- Student and teacher move together to perform movement. *For example, backs to the wall and long leg kicks for swimming with your leg under the student leg both performing kick.*
- You follow the learner's movements in a reciprocating fashion or the learner may follow your initiated movement. "When I do this; s/he does it too!" & learns that s/he has some control over his/her world. – Jan Van Dijk

○

## PRE-TEACHING

The advanced introduction of key terms & concepts **before** those terms or concepts are introduced in the general curriculum. It provides a framework on which a student can build new knowledge during subsequent learning experiences (Pellett & Pellett, 2010).

*Consider: If the student need help with a Basic skill within a group game setting, can you offer to show them in private instead of in front of the whole group?*

It can be collaboration between service providers (TVI, O&M, Adapted PE, PT, OT)

### ❖ Major ADVANTAGED of pre-teaching

- Enhancement of learning time
- Engagement in PE class
- More independent functioning in PE class
- More time to learn the skills in a non-threatening environment
  - Student can try out movements prior to doing them among peers.

### ❖ Pre-teaching can results in:

- Increased motor performance
- Social and communicative opportunities with peers

\*\*\* With pre-teaching, students can become comfortable with movements within activities, and then they can concentrate on the OTHER aspects of the activity. These other aspects might include **performance** and **having fun while interacting with friends** and **gaining strength** and **confidence** in their body. \*\*\*

### ❖ Additional strategies for pre-teaching:

- Provide **Tactile Graphics** (f.e. raised line court boundaries; KISS principle)
- ❖ Provide **Braille/ Large Print instructions** (Alert the TVI to upcoming units for material assistance)
- ❖ Allow student to **Explore Equipment/ Areas** PRIOR to use (let them feel, ask questions, & explain surroundings precisely & sequentially; can ask O&M for help)

## FORMAT FOR PRE-TEACHING MOVEMENTS:

(a) Model and instruct (I do)	<ul style="list-style-type: none"> <li>• Provide clear, accurate, concise instruction for each word or concept</li> <li>• Self-talk to assist students in understanding the thought process</li> <li>• Guide students who do not have vision through the movements of the activity as part of the demonstration</li> </ul>
(b) Guided practice (We do)	<ul style="list-style-type: none"> <li>• Provide students the opportunity to demonstrate</li> </ul>

do)	<p>lesson objective with assistance</p> <ul style="list-style-type: none"> <li>• Monitor student performance closely</li> <li>• Students respond orally</li> <li>• Students may also give individual written responses</li> <li>• Provide error correction as needed</li> </ul>
(c) Independent practice (You do)	<ul style="list-style-type: none"> <li>• Provide students opportunities to independently demonstrate words or concepts learned</li> <li>• Closing and summary of learning</li> <li>• Review</li> <li>• Summarize</li> </ul>

### **LESSON FORMAT ACCOMMODATIONS & MODIFICATIONS**

This can very dependent on the needs of the student and can vary with every activity.

- ❖ **DURATION** (*How much can they process at one time? This determines...*)
  - Length of Activity
  - Amount of Turns/ Expectations (start small and build)
  - How much practice time
- ❖ **CONTENT**
  - What do they already know?
  - How much can they process?
  - How will they access the info?
  - How will they use this knowledge/ how will it benefit them in their future?
- ❖ **EQUIPMENT**
  - How do they interact with items?
    - *Think about: Textures, Weight, Color/ Contrast, Size, & Speed*
  - What is the student's ability to use the equipment?
    - *Observe how they use equipment first!*
- ❖ **OTHER**
  - What additional needs do I need to consider?
    - Endurance Levels, Medical Precautions, Behavior Needs

### **EQUIPMENT MODIFICATIONS & ACCOMMODATIONS**

#### **Adapted Targets and Goals**

- ❖ Visual Adaptations
  - Lower targets/ bring closer to make more visible
  - Change colors to colors that the student sees better (f.e. on a basketball backboard)
  - Weave bright ribbon into volleyball net
  - Increase size/ visibility of goal (use tape, flags, or cones)
  - High Contrast color of balls/ other equipment with the court/ field

- Increase size of targets/ bases/ balls (such as using a bright, contrasting colored Frisbee instead of a puck)
- Adjust weight, size and speed of moving objects (f.e. use balloons for ping pong, volleyball, or badminton; use bright colored frisbee instead of puck for hockey)
- Making sure the ball is a different color than the court
- 
- ❖ Auditory Adaptations
  - Add a sound source to goal (f.e. beeper, someone clapping/ calling student)
  - Use sound emitting balls
  - Buy specialized equipment and/ or use homemade (f.e. APH Portable Sound Source, Sports Edition versus boombox, fan, portable radio, wireless pet chimes or doorbells, bells)
- ❖ Miscellaneous Adaptations
  - Use softer balls (like Nerf balls or deflated balls)
  - Increase/ decrease size & weight of equipment (f.e. larger bat/ racket)
  - Use Velcro grips, tape, or preferred textures for easier gripping
  -
- ❖ Adapting Boundaries
  - Add high contrast tape to existing lines (on court edges/ playing fields; vinyl tape works well)
  - Use large orange cones for corners/ sidelines
  - Use a guidewire
  - Use textures (tape a string down for tactual boundary line)
  - Use auditory beacons
  - Provide Tactile Courts
    - Raised-line drawing (Use felt, Wikki Stix, Hi Marks (product that produces raised dots or lines))
  -
- ❖ Adapting Rules
  - Give verbal description/ announce activities/ what is occurring on the court
  - Increase/ decrease distances (f.e. serve a volleyball from 4' away)
  - Simplify activity or decrease complexity
    - Decrease number of players
    - Decrease difficulty in locating goal
    - Increase ease of scoring
    - Decrease chance of injury (walk instead of run)
  - Allow ball to bounce 2-3 times before returned (increase reaction time)
  - Have player play only offense or defense
  - Require each team member to touch the ball, puck before other side can score
  - Use a batting tee for baseball so ball is in same place
  - Instructor pitches ball (more slowly in kickball/ baseball)
  - Allow more room between offense and defense (10' boundary with no defender around player)
  - Use bounce or rolled pass with verbal warning (f.e. Steve, get ready for a ball pass. 1,2,3)
  - Have everyone simulate disability (f.e. all in blindfolds)
  -

## **OTHER KEY ELEMENTS OF LESSON PLANNING:**

- ❖ TEACH GAMES FOR BLIND (Goalball, Beep Kickball/ Baseball, Blind Tennis)
  -
- ❖ Provide Disability Awareness Instruction
  - Invite guest speakers
  - Review books and articles
  - Find videos
  - Provide simulations for peers to better understand perspective of student that is visually impaired
- ❖ Lieberman & Houston-Wilson (2009) suggest Three Stages:
  - Exposure to the Disability (*learn about someone active with same disability*)
  - Experiencing the Disability (*have students with sight experience activity without sight*)
  - Ownership (*become involved in helping/ working with student with visual impairment*)

## **References:**

Lieberman, L. J., Ponchillia, P. E., & Ponchillia, S. K. (2013). *Physical education and sports for people with visual impairments and deafblindness: Foundations of instruction*. New York, NY: AFB Press, American Foundation for the Blind.

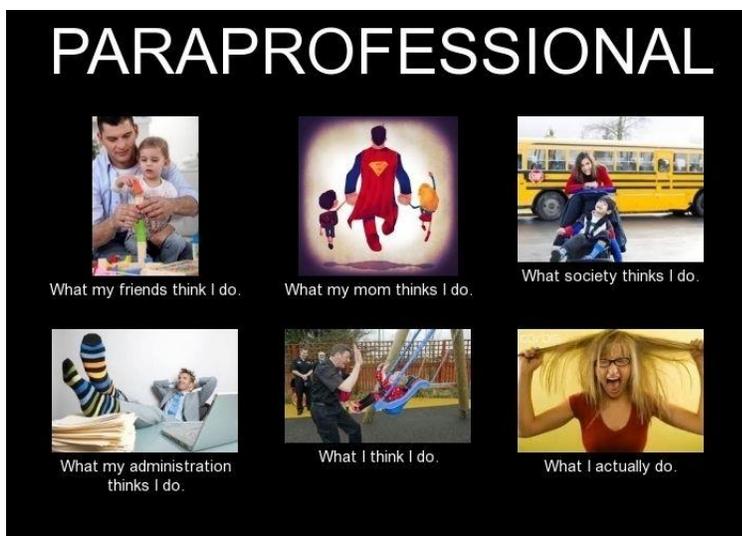
Conroy, P. (1970, January 01). Building Background Knowledge: Pre-teaching Physical Education Concepts to Students with Visual Impairments. Retrieved from <https://nfb.org/images/nfb/publications/jbir/jbir16/jbir060201.html>

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## Supporting Paraprofessionals & Peer Partners in PE

### Paraprofessionals

- ❖ Define basic concepts of PE
- ❖ Define their role in PE
  - To support and reinforce the instruction that is planned and carried out by the PE teacher
  - To assist and supervise the student as they practice the skills determined by the PE teacher
  - To communicate observations back to the teacher
- ❖ The paraprofessional should know
  - The techniques that the student is learning and why they are learning it
    - Provide the paraprofessional with task sheets, activity objectives, and skill checklists for recording observations
    - Utilize pictures and videos for clarity of movement
  - The ways in which the student can be corrected
  - Areas where the students may have difficulties during the day
  - Appropriate ways to monitor and support to student
  - How to use adaptive devices and equipment
- ❖ Discuss strategies for including the child in the unit
  - Direct the peers talk to the student, not through the paraprofessional
  - How the PE teacher envisions a safe and successful inclusion
  - Support as (minimally) needed to allow for positive interactions
- ❖ Review behavior management plans
- ❖ Review equipment and supply locations in the gym/ teaching area
- ❖ Discuss communication between paraprofessional and PE teacher
  - How you intend to give lesson plan objectives
  - How they prefer to be given feedback and information
- ❖ The paraprofessional enhances the dignity of the students by:
  - Modeling respect
  - Asking permission before positioning or handling
  - Allowing the student to make choices
  - Telling the students what is going to happen and what is happening around them



## **Peer Partners**

- ❖ At beginning of year, ask for student volunteers and gain parent permission
- ❖ Teach communication techniques for the student
  - Always introducing themselves and saying the student's name when approaching
  - How to best communicate with the student
- ❖ Teach human guide technique and to ALWAYS ask before touch
  - Use scenarios to aid in teaching these skills
  - Ask the O&M Instructor to come and teach proper guide technique
  - Demonstrate some activities and the proper way to assist the student
- ❖ Teach them what to do if they encounter:
  - A behavior and/or the student is off task
  - Feel uncomfortable at any time
- ❖ Give them time to ask questions BEFORE beginning the partnership to allow fears and concerns to be addressed
- ❖ Ask TVI and/ or O&M if they are willing to come assist for the first few sessions
- ❖ Supervise the interactions with students for the first few weeks/ during new units to ensure everyone is comfortable

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**Specific Eye Conditions with Corresponding Adaptations/Considerations**

#	Eye Condition	Effect on Vision	Adaptations/Considerations
1	Achromotopsia	colors are seen as shades of grey, nystagmus and photophobia improve with age	tinted lenses, reduced lighting, alternative techniques for teaching colors will be required
2	Albinism	decreased visual acuity, photophobia, nystagmus, central scotomas, strabismus	sunglasses, visor or cap with a brim, reduced depth perception, moving close to objects
3	Aniridia	photophobia, field loss, vision may fluctuate depending on lighting conditions and glare	tinted lenses, sunglasses, visor or cap with brim, dim lighting, extra time required to adapt to lighting changes
4	Aphakia	reduced depth perception, inability to accommodate to lighting changes	sunglasses, visor or cap with a brim may be worn indoors, extra time required to adapt to lighting changes
5	Cataracts	poor color vision, photophobia, visual acuity fluctuates according to light	bright lighting may be a problem, low lighting may be preferred, extra time required to adapt to lighting changes
6	Colobomas	photophobia, nystagmus, field loss, reduced depth perception	sunglasses, visor or cap with a brim, reduced depth perception, good contrast required
7	Color Blindness	difficulty or inability to see colors and detail, photophobia, central field scotomas (spotty vision), normal peripheral fields	sunglasses, visor or cap with a brim, reduced depth perception, good contrast required, low lighting may be preferred, alternative techniques for teaching colors will be required
8	Cortical Visual Impairment	fluctuation in vision, preference to touch over vision as the primary exploratory sense, may have more peripheral than central vision or vice versa	high illumination, bright contrast, repetition and routine very helpful, fluctuation in vision caused by fatigue, excessive noise, illness
9	Diabetic Retinopathy	sensitivity to glare, double vision, lack of accommodation, fluctuating vision, defective visual fields, floaters, possible retinal detachment	good lighting and contrast, tactile sensation is often poor and reflexes slow, reduced sensitivity in feet may inhibit awareness of level changes/drop-offs, diet can influence attentiveness
10	Glaucoma	fluctuating vision, peripheral field loss, poor night vision, photophobia, pain or headaches, eye redness	sunglasses, visor or cap with a brim, good lighting and contrast, stress and fatigue negatively effect on vision, medication should be taken regularly
11	Hyperopia (Far-sightedness)	difficulty seeing at close distances	may prefer physical activities that require distance vision

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12	Keratoconus	sensitivity to glare, distortion of entire visual field	good contrast and lighting, avoid glare, avoid activities that could cause corneal damage such as contact sports and swimming in heavily chlorinated water
13	Leber's Congenital Amaurosis	central and peripheral vision can be affected; loss of color vision and detail, excessive eye rubbing is characteristic	sunglasses, visor or cap with a brim, reduced depth perception, good contrast, fatigue can be a problem
14	Leber's Optic Atrophy	reduced central acuity, fluctuating vision, color vision may be impaired, visual perception may be impaired	high illumination, modify expectations to accommodate fluctuating vision
15	Macular Degeneration	central vision affected, photophobia, poor color vision	sunglasses, visor or cap with a brim, eccentric viewing using peripheral vision, visual fatigue may be a problem
16	Microphthalmia	photophobia, may have fluctuating vision	fluctuating vision may be frustrating and expectations may need to be adjusted accordingly
17	Myopia (Near-sightedness)	reduced vision at distances, detached retina possibility	high illumination with good contrast, observe precautions for retinal detachment, may not be interested in activities that require distance vision, especially physical education
18	Norrie Disease	bilateral blindness at birth	progressive neurosensory hearing loss, diabetes
19	Nystagmus	inability to maintain steady fixation, reduced acuity, visual fatigue, vertigo	gaze shift or head tilt to find 'null' point, stress and spinning or rhythmic movements may increase nystagmus, good lighting and contrast
20	Optic Atrophy	fluctuating vision, color vision may be impaired, visual perception may be impaired	high illumination, modify expectations to accommodate fluctuating visual performance.
21	Optic Nerve Hypoplasia,	decreased visual acuity which may vary from light perception to normal acuity, variable field defects, nystagmus	high illumination, modify expectations to accommodate fluctuating visual performance.
22	Ptosis	dropping eyelid(s), reduced acuity	position and placement for activities may affect visual efficiency
23	Retinal Dysplasia	field loss, blurred vision, scotomas or blind spots, possibly loss of central vision	high illumination, reduce glare, field loss may restrict physical activities and mobility in low light situations (bad weather or night-time), organized search patterns using a 'grid' to aid in locating objects or visual targets, may need to sit farther away to increase visual fields

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## Gross Motor Development Tips for Children With Visual Impairments

### A quick reference to help teach Locomotor Skills

#### Run

Arms in opposition to legs, elbows bent  
Brief period where both feet are off the ground  
Landing on heels or toes (i.e., not flat-footed)  
Nonsupport leg bent approximately 90°

- Use a guidewire or guide runner
- Use hockey sticks to teach arm swing motion
- Treadmill to hear rhythm and tactile modelling



#### Gallop

Arms bent at waist level at take off  
Step the lead foot forward; trailing foot comes adjacent or behind lead  
Brief period where both feet are off the ground  
Maintains a rhythmic pattern for four consecutive gallops

- Listen to rhythm of gallop to understand step sequence
- Sighted guide provides “physical rhythm” or cadence



#### Hop

Non-support leg swings forward  
Foot of nonsupport leg remains behind body  
Arms flex and swing forward to produce force  
Takes off and lands three consecutive times on preferred foot

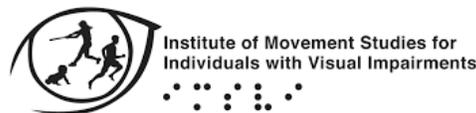
- Hop on a mini trampoline, transfer skill to floor
- Always surround the trampoline with floors mats



#### Leap

Take off one foot and land on the opposite foot  
A period where both feet are off the ground longer than running  
Forward reach with the arm opposite the lead foot forward

- Provide verbal guidance
- Rolled up mat to teach child to lift toes up and forward



## Horizontal Jump

Knees flexed, arms extended behind body  
Arms extend forcefully forward and upward  
Take off and land on both feet simultaneously  
Arms thrust downward during landing

- Use mini trampoline, transfer skill to floor
- Use submersible stool in pool, transfer to pool deck



## Slide

Shoulders aligned with line on the floor  
Side step with lead foot, slide the trailing foot next to lead foot  
A minimum of four continuous step-slide cycles to the right

- A minimum of four continuous step-slide cycles to the left
- Remove shoes to feel tactile line
- Stand on carpet squares and slide with child
- Use a guidewire
- Have child slide along a wall



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**Tactile Modeling:** The child touches a model (teacher, aide, or peer) who demonstrates a skill. Use tactile modeling or “Adapted Demonstration” to teach the component parts in the task analysis.

**Physical Guidance:** Involves the manipulation of the child; the instructor, aide, or peer actively touches and moves the child in some way. It is important to couple physical guidance with a verbal explanation or sign. Always discuss physical guidance before doing so.

## Sources and Recommended Reading

Lieberman, L. J., & Haibach, P. S. (2016). *Gross Motor Development Curriculum for Children for Visual Impairments*. Louisville, KY: American Printing House for the Blind, Inc.

Ulrich, D. (2000). *The Test of Gross Motor Development*. Dallas, TX: PRO-ED Publishers.

[www.aph.org/pe](http://www.aph.org/pe) and [www.campabilities.org](http://www.campabilities.org)

## Gross Motor Development Tips for Children With Visual Impairments

### A quick reference to help teach Object Control Skills

#### Striking a Stationary Ball

Dominant hand above non-dominant hand

Turns body sideways, nondominant shoulder facing the direction child is batting, feet parallel

Hip and shoulder rotation during swing

Transfers body weight to the front foot

- Sweep edge of palm along table, hit balloon attached to table
- Add a small ball to hit into balloon
- Use plastic pin to hit balloon then move to tee



#### Stationary Dribble

Contacts ball with hand about belt level

Pushes ball with fingertips (not a slap)

Ball contacts in front of or to the outside of the foot on the preferred side

Maintains control of the ball for four consecutive bounces

- Teach child to tap finger pads on table
- Transfer skill to balloon ball on a string then small exercise ball, then basketball
- Use music or clapping for timing



#### Catch

Hands in front of body, elbows flexed

Arms extend forward to meet the ball

Catch ball by the hands only

- Use bigger ball on a table, transfer to open area
- "1, 2, 3" ball is thrown, "Catch" ball arrives
- Use beanbag, transfer to ball



#### Kick

Rapid continuous toward the ball

An elongated stride or leap just prior to ball contact

Non-kicking foot even with or slightly behind ball

Ball kicked with instep of preferred foot (shoelaces) or toe

- Use a continuous sound emitting ball
- Rest ball on plastic ring or bean bag
- Portable sound source at wall for target
- Tap floor just behind ball with child's cane



## Overhand Throw

Windup initiated with downward movement of hand and arm

Hips and shoulders rotate such that non-throwing side faces the wall

Weight transferred by stepping with the foot opposite the throwing hand

Follow-through diagonally across body

- Child traces tactile arc on wall with ball
- Use a streamer to reinforce follow through
- “Throw the ball toward my voice”
- Cue “Touch Shoulder”



## Underhand Roll

Preferred hand swings down and back, chest facing cones

Strides forward with foot opposite the preferred hand toward cones

Knees bent to lower body

Releases ball close to the floor so ball bounces no more than 4 inches high

- Use a mat for a directional aid
- Use a small pliable cone to assist with lunge
- String a cord between two cones, depending on child’s height, for a “release ball” cue



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