

Disabilities- Overview

Part 2: Sensory Processing Impact on Performance & Strategies For Successful Outcomes

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1

Objectives:

- Participants will have a general understanding about the types of sensory processing challenges our riders experience and the impact on the rider's engagement in lessons.
- Learn about tools and strategies available to adapt the lessons and the environment to improve the rider's successful outcomes.
- Understand appropriate goal areas based upon the rider's strengths and challenges.

2

As PATH Intl. professionals and volunteers it is important to **understand** a variety of disabilities and how their sensory processing differences impact their ability to engage in lessons.

Then, we need to **help** them adapt in our sensory laden environment.

3

What is a Sensory Processing Disorder

Sensory processing is the process of our brain taking in information from all of our senses, processing the information, and responding to the information.

Sensory processing disorder (SPD) is a medical diagnosis that can present alone or in conjunction with other diagnoses. SPD happens when any of of the stages of sensory processing are disrupted and result in maladaptive responses.

4

Our Senses- part 1

- **Gustatory:** The sense of taste from receptors on our tongue.
- **Tactile:** Our sense of touch, as perceived through receptors our skin.
- **Auditory:** Our sense of sound, as perceived through our ears.
- **Olfactory:** Our sense of smell, as perceived through our nose.
- **Vision:** Our sense of sight, as perceived through our eyes.

5

Our Senses- part 2

- **Proprioception:** Our sense of body position received from sensors in our joints, muscles and tendons.
- **Vestibular:** Our sense of movement received from receptors in our inner ear.
- **Interoception:** Our internal sense of what is happening inside of our body which include pain, temperature, hunger, heart rate, bowel, bladder, and breathing.

6

Sensory Processing Disorders can exist alone or with other diagnoses, such as:

- Attention Deficit Hyperactivity Disorder (ADHD)
- Gifted
- Autism Spectrum Disorders
- Anxiety Disorders
- Learning Disabilities
- Traumatic Brain Injury
- Oppositional Defiant Disorder (ODD)
- Bipolar Disorder
- Schizophrenia
- Genetic Disorders
- Fragile X
- Prematurity

7

Sensory Modulation Disorders

According to the Star Institute, there are 3 patterns of Sensory Modulation Disorder.

- **Sensory Over-Responders** have "a predisposition to respond too much, too soon, or for too long to sensory stimuli that most people find quite tolerable."
- **Sensory Under-Responders** have "a predisposition to be unaware of sensory stimuli, to have a delay before responding, responses are muted or responds with less intensity compared to the average person."
- **Sensory Cravers** are "driven to obtain sensory stimulation, but getting the stimulation results in disorganization and does not satisfy the drive for more."

<https://sensoryhealth.org/basic/subtypes-of-spd#under>

8

Sensory Over-Responders

- Their responses are bigger than expected to typical sensory cues due to their fight, flight, freeze or fawn system is more easily triggered.
- They may avoid situations that are uncomfortable or new including:
 - strong smells
 - sticky or unfamiliar textures
 - having their feet unsupported or new movements
 - noisy environments
- Their behavioral response are telling us they are overwhelmed by the situation in a way that may not be in their control. Our response should be supportive.

9

Signs of Tension or Stress in the Rider

- Increased bouncing or fidgeting
- Increased vocalizations or talking
- Increased voice volume
- Rigid behaviors
 - refusing to do tasks out of order
 - refusing or seeking out a specific volunteer
- Crying
- Trying to get off the horse
- Pulling at or intense chewing on clothing
- Increased behaviors (i.e. hitting, kicking) when touched or talked to

10

Strategies for Riders who are Over-Responders

During the lessons:

- Use calming music- slow, quiet, steady rhythm
- Minimize talking- give directions in a short, clear way using a calm voice
- Use visual picture cards or model desired actions
- Noise reducing headphones
- Consistent routines or a visual schedule
- Practice basic calming skills during lessons
 - Belly Breathing- [Teaching Belly Breathing](#)
 - Squeeze hands and Shake
 - Stretching- can be used at the start as warm ups and as an activity (i.e. copying seated yoga poses)

11

Strategies for Riders who are Over-Responders

- Allow riders to visit the facility before the first day to allow them to see, hear and feel items before the first lesson.
- Encourage Riders practice wearing their helmets and designated clothing at home before the first lesson.
- Match the rider with a calm, quiet volunteer
- Inform the volunteer about the most effective calming strategy for the rider. This may include, but is not limited to:
 - Verbal cues: "gentle hands," "belly breath"
 - Modeling: Squeeze and Shake, Deep Breaths
- Use Social Stories
 - [Clearwind Farm Social Story](#)
 - [Cheff Social Story](#)

12

Visual Schedules and Choice Boards

<https://livingwellwithautism.com/assets/docs/riding.184115524.pdf>

13

Sensory Under-Responders

Their responses are absent or less than expected in a situation. They often need stronger sensory intensity in order to notice what is happening around them.

Characteristic include:

- Appearing quiet or passive
- Having poor body awareness, bumps into objects
- Responds to sensory sensations slower, delayed or not at all.
- Being uncoordinated or clumsy
- Handling objects with too much or too little force
- Being hard to engage in conversation or play

14

Strategies for Under-Responders

They notice and respond best to sensory experiences that have more intensity and variety.

- Change the speed and direction more frequently
- Use upbeat music with varied rhythms
- Games that have changing speeds or directions: Musical Cones, Red Light Green Light (Woah and Go), etc.
- Match the rider to a horse with a bouncy or fast gait.
- Use a high energy volunteer
- Try reins of different textures
- Try different saddles

15

Sensory Cravers (Seekers)

Sensory Cravers add extra sensory input into their daily routines.

Riders may

- be “on the go”
- rock their body or pace back and forth
- fidget
- touch people or objects excessively
- chew intensely on objects
- make repetitive or loud noises
- bump into people or objects

They are often drawn to new and exciting experiences. They may have a hard time sitting still and may be drawn to unsafe activities that have strong sensory input (i.e. climbing).

16

Strategies to use with Sensory Cravers

- Allow them to hold fidgets when possible
- Explore different textures of reins
- Match the rider with a fast or bouncy horse
- Trotting or fast walk
- Use hands on activities with different textures- i.e. different texture or styled balls for shooting baskets
- Obstacle courses
- Oral chewies (when safe)
- Limit the time standing in one place

17

Strategies:

- Use 1-2 step directions along with gestures
- Set up the lessons to reduce auditory and visual distraction
- One person gives directions, allow extra time for responses
- If the rider has difficulty articulating what they are saying, try “tell me again” or “show me”
- Learn each rider’s body language and communication style
- Consistent rider teams (rider, horse, sidewalkers) helps to develop relationships

18

Strategies

- Using a quieter voice volume will encourage a rider to listen
- Clear communication prior to changes in routines and schedules
- Be patient
- Consider different learning styles- visual, auditory, hands-on, whole body, etc.
- Check with parents- they are a great resource

19

Sensory Processing in Horses

Sensory processing is different in horses in a variety of ways. Horses:

- see in low light better than a human.
- have red/green color blindness.
- have a wider visual range to the sides, which makes them less central focused.
- hear sounds that humans cannot, mostly in the higher frequency ranges.
- have a highly sensitive sense of smell.
- have a very sensitive sense of touch.
- Their sensory differences can vary by their breed, age, and even coat color.

20

Consider the Horse and Rider in Assigning Riding Pairs

- Riders who are fearful of movement/over-responsive will do better with a smoother, predictable gait. They may also do best with shorter horse.
- Riders who are Under Responsive or who are sensory seeking may do best on a faster horse with a bouncier gait.
- Sensitive horses will do best with Under Responsive riders.

21

Goal Writing

Long term goals: measurable across a season or a year

Short term goals: measurable across a few weeks or a session

SMART Goals:

- **Specific-** What is the target area we are trying to change?
- **Measurable-** How do we planning to document and show progress?
- **Attainable-** Can it be achieved by the rider?
- **Realistic-** Is this goal important to the rider?
- **Time-Bound-** What time frame are we working within?

22

Sensory Related Goal Areas:

- Hold the reins during the session
- Engage in (specific) lesson activities
- Use a calming tool or strategy when dysregulated
- Remain on the horse for the duration of the lesson with a calm body

23

Goal 1 Example:

The rider will hold their reins correctly from one end of the arena to the other end 4 times during the lesson for 4 consecutive lessons.

24

Goal 2 Example:

The rider will engage in a lesson activity two times.

25

Questions?



26

Resources:

- Clearwind Farm Social Story: <https://issuu.com/larakatz/docs/socialstory>
- Cheff Social Story: <https://static1.squarespace.com/static/59e8ed226f4ca35dfd5ebd3/t/671932742227973fdbdce353/1729704577776/1+Ride+A+Horse+at+Cheff+Social+Story.pdf>
- Harkla (sensory resources): <https://harkla.co/>
- The Star Institute (sensory resources): <https://sensoryhealth.org>
- Rørvang MV, Nielsen BL, McLean AN. Sensory Abilities of Horses and Their Importance for Equitation Science. Front Vet Sci. 2020 Sep 9;7:633. doi: 10.3389/fvets.2020.00633. PMID: 33033724; PMCID: PMC7509108.

27
