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OPEN THE BOUNDARIES:

TELEHEALTH TIPS AND CREATIVE TREATMENT IDEAS FOR THE PEDIATRIC PATIENT

Introduction

The COVID 19 pandemic has stimulated creative, “outside of the box” type thinking to provide effective, safe patient care. One important way to achieve this is through telehealth communications. The American Physical Therapy Association (APTA) has long advocated telehealth to address health services issues and has recently highlighted its importance to safely deliver rehabilitation services during the pandemic.¹ This form of delivery to the pediatric population provides unique challenges for the therapist.

In addition to the technological requirements needed for telehealth, working with a pediatric patient requires the caregiver to provide the hands-on treatment under the guidance of the therapist. Because the treatment is conducted in the home setting, it also requires the use of alternative and accessible rehabilitation tools and equipment. This article provides recommendations for successfully providing rehabilitation services for the pediatric patient through telehealth communications, based on the experiences of two physical therapists.

Telehealth Communication Considerations

Delivery of pediatric services have most typically occurred with the therapist providing the treatment. However, the recent pandemic has called for a means of social distancing in a practical way. Therefore, therapists had to quickly learn a safe and secure way of communicating with the child and their caregivers. Main considerations of the telehealth communications were:

- Compliance with the Health Insurance Portability and Accountability Act (HIPAA), providing adequate encryption for personal health information (PHI).²
- Use of highest bandwidth internet connection to minimize dropped calls
- Importance of a backup plan in place for connection disruptions
- Strong video/audio capability that is relatively simple to use

Once the correct software, internet connection, and device are chosen, it's recommended for all parties to practice using the technology to ensure a successful treatment session. It is also important to consider the environment used to conduct the telehealth sessions. A place that is private, quiet, and well-lit is needed to hear and see easily, without any distractions.

Preparation for the Telehealth Session

In preparation for the virtual rehabilitation session, an informative email should be sent to the parent/guardian, including:

- Description of telehealth service
- Platform link and how to use it
- Expectations during the sessions
- Materials to gather for each session
- Name & contact information of the caregiver providing the hands-on treatment
- Plan for connection disruptions
- Emergency plan & contacts

Not only is it good to have written consent on



file, it is advisable to obtain verbal consent at each & every virtual treatment session.³

The gathered materials are child-specific, according to the individual's abilities and needs. Infants typically may require simple age-appropriate toys and positioning devices. Toddlers may require a couch or table to pull to stand, as well as more space to mobilize greater distances. Older children, who are ambulating may need additional items for higher level activities, such as tape to "walk a line" or plates to "jump on lily pads." Depending on the availability of household items, more complex activities could be developed. For example, a relay race could be set up, utilizing multiple items.

The therapist also needs to gather materials to use for teaching purposes with both the caregiver and the child. Most typically, a doll may be used to show hand placement to the caregiver. If the caregiver does not have doll, one can be made with 4 small towels and a rubber band (Figure 1). A yoga mat is helpful for demonstration of exercises or positions.

Figure 1: Towel & Rubber Band Doll



Finally, motivators may be used with children, who need incentives. For example, dice may be used for repetition of a task or exercise; stories may be used for yoga positions; or an online spinner may be modified to fill in

exercises (Figure 2).

Figure 2: Action Dice: Addition, subtraction, multiplication, division with actions



Challenges of the Telehealth Session

Initially, there may be challenges that require a great deal of communication between the therapist, caregiver, and child. First, the therapist needs to understand that one cannot see the entire patient's body at all times because there is only a small frame to the video. Therefore, the therapist communicates with the caregiver to move the device into a good angle. Also, lighting may be challenging, either too dark or too bright. The therapist gets around this situation by asking the caregiver to work where windows or lamps are located.

The second challenge is the internet connection/actual device technology may affect the tendency to drop calls; cause images to be pixilated or lagging; and/or cause a lack of sound. Some families may not have access to the best technology and therefore it is important to have patience and set up a back-up plan. It may be as simple as asking the family to repeat what they said or reshow an activity, if needed. Or it may involve working with your employer to ensure that personnel is available to assist with technology concerns.

The third challenge is communicating to the



caregiver and/or child how to perform an exercise or hold a position. Unfortunately, the therapist cannot demonstrate direct hand placement through telehealth. Instead the therapist has to be skilled with verbal communication and virtual modeling or demonstration with a doll. Although there may be challenges, the interaction between the caregiver and child leads to greater ownership of the rehabilitation process.

Creative Treatment Ideas

The therapists should consider designing virtual treatment sessions that utilize common household items. It's advisable for those items to be quick to collect; easy to use; space friendly, cost effective, holds the child's interests, and appropriate for the activity. It is also important for the therapist to have a collection of common household items and recyclables that can be easily changed to fit the various needs of all the children they are seeing for telehealth sessions, while keeping in mind the practicality of these supplies for parents to acquire within their home. See Table 1 for potential materials that can easily be adapted into an activity that is of high interest to the child. For example, stacking and crashing boxes can be a princess castle or volcano. For teaching purposes, it is important for therapists and caregivers to have a similar collection of items.

Table 1: Common Household Items

| | |
|--------------------|---------------------|
| -sock balls | -small boxes |
| -bottle caps | -cereal boxes |
| -plastic bottle | -plastic lids |
| -yogurt containers | - paper towel tubes |
| -paper bags | -deck of cards |
| -pillow case | -dice |
| -tape | -games |

Activities that are designed to use the spaces

and items people already have at home saves time and money. Collaborating with the child and caregiver to come up with creative ways to use common items also fosters motivation, participation, and maximizes potential.⁴⁻⁶ Even though the child and caregiver are home and in smaller spaces, there are numerous ways to easily engage the child and caregiver in activities that promote flexibility, strength, balance, coordination, and sensory integration to promote positive outcomes. These activities can be adapted for various ages and ability levels.

Flexibility can be promoted by acquiring different positions and holding those positions for a period of time. For example, a tightly rolled blanket, taped may become a roll that can be used to assist with stretching the trunk. Another example would be playing limbo and bending backwards as the child goes under the tubing (Figure 3). The length of time or degree of bend can be increased as time goes on.

Figure 3: Limbo Exercise Game made with plastic bottles and cardboard tubing



Utilizing weighted objects and moving them to different locations can increase strength (Figure 4). As time goes on there can be a progression of the weight of the object, number of repetitions, or the distance carried. The therapist could start with an empty light box or tub and then move towards adding weight within the container. The child could work on



the number of containers stacked.

Figure 4: Block Stacking



Balance in various positions and on different surfaces may be encouraged. Various surfaces may be used from a solid wood floor to a squishy pillow. A story could be told about a tree holding up strong in the forest. When the wind comes by the caregiver could provide resistance to the child in various directions and yet the child holds as strong as a tree. Objects could be placed whereby the child would need to step over them, while maintaining their balance (Figure 5). The complexity could be increased with a relay race that involves a greater number of objects over time.

Figure 5. Step-Over Game with 2 plastic bottle and a 3 paper towel tubes



Both fine motor and gross motor coordination may need to be further developed. Working with cards could be a fun way to further

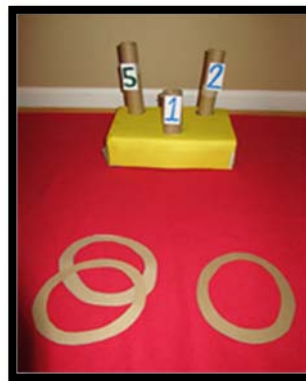
develop fine motor coordination (Figure 6). The child could shuffle the cards and then pull one out to perform a specific task. The task could be a traditional exercise or a gross motor task. A particular suit could be a certain exercise & the card number could be the repetitions. The complexity of this task could be increased over time.

Figure 6: Deck of Cards: Actions for each suit; perform action number of times



One task that would require gross motor coordination could be a ring toss game, which could be made out of a cereal box, tubes and card board (Figure 7). Over time the distance between the tubes and the child or the complexity of the tube arrangement could be increased. Competitions could again be set up between the child and their caregiver or a sibling.

Figure 7: Ring Toss with cereal box & tubes



Another task that would further develop fine



motor coordination would be a shape sorter (Figure 8). This could be created out of a larger box that has shapes cut out of it. The smaller shapes could be made out of tubs or boxes. The degree of difficulty could be made by the use of more complex shapes such as a star or a pentagon. The number of shapes could be increased or time spent with completion of the task could be reduced as well.

Figure 8: Giant Shape Sorter



Finally, sensory integration activities may be indicated. These activities should involve all seven senses in combination. For example, a variety of textures could be utilized from smooth silky materials like a neck scarf to crunchy rough materials like a paper bag for the tactile sensation. A scavenger hunt could be set up with common household items such as crunched up paper, a wet sponge, cotton balls, tin foil, piece of felt, string or rope, beads of different sizes, rocks, shells, woods. Besides a scavenger hunt, one could utilize already mentioned activities and simply add sensory involvement to the experience. For example, the child could play golf and sing a song about swinging the golf club (Figure 9). The golf club could have different textures applied to the handle. The golf ball could be of different colors. The possibilities are endless!

Figure 9: Miniature Golf



By using these common household items, therapists can engage not only the caregiver and child in the activity, but other family members of various ages (i.e. siblings, grandparents) to increase home exercise/activity program adherence. Being in the home setting, it can become a part of everyday life. When it's conducted in a fun and interesting fashion at the appropriate level, the outcomes can be quite successful.



Concluding Remarks

Although there has been a sudden need for telehealth sessions with pediatric patients, the increased awareness of this tool and its use has demonstrated many benefits to both the caregiver and the child.⁷ First, there is improved understanding of the home programs by the caregiver and child, which can lead to greater carry-over. Secondly, there is also greater appreciation for what the physical therapist does and why it is important by the caregivers. The greater practice could ultimately lead to improved outcomes.

Besides improved outcomes for the child, the therapist also learns to become a better teacher,



during these telehealth sessions. Not only are they forced to communicate better, the therapist becomes more aware of the resources the child has in the home setting. With this understanding, there is better use of these resources to enhance carry-over in the child's home. This increase in practice time can again lead to positive outcomes.

In addition to the benefits for the caregiver and child, telehealth also allows greater accessibility of therapy for hard-to-reach communities. For example, patients may not have transportation to physically get to therapy or they may be immunocompromised, such that they cannot interact with others. Certainly, the current pandemic crisis has led to this realization. The use of telehealth may be a great alternative, rather than missing therapy completely.⁷ Perhaps we can even bring access to patients in third world countries that lack physical therapy services.

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