Severe Intellectual Disability:

A Case Study

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Personal Data and History

The consumer is a 32 year old Caucasian male that currently resides with his aunt, who has taken over guardian rights and responsibilities. He attends the facility’s program five days a week from 8:15 am to 2:30 pm. The program offers skill building, physical and occupational therapy, and pre-vocational training for individuals diagnosed with intellectual disabilities and mental illness and who require moderate to high level of assistance. The environment emphasizes sensory awareness and responsiveness, motor skill development, interpersonal skills, communication, personal care, basic daily living skills, and health and safety. The goal of the program is to improve or maintain health, mobility, basic skills, social interaction, and self-control. There are a variety of small classrooms that focus on reaching individually set goals for each consumer.

The consumer has an infatuation with holding a flashlight. He will hold it in his right, dominant hand while participating in various activities but never does anything with it. The reason of this infatuation is unknown, but it appears that he does it to model his father. The consumer also appears to like listening to music. He enjoys simple picture puzzles, matching, and peg board activities. He is very particular during the peg board and has to have all the pegs of the same color in one row.

Diagnosis

The consumer has been diagnosed with severe intellectual disability, infantile cerebral palsy unspecified, generalized convulsive epilepsy, a history of falls, and thoracic scoliosis.

Severe Intellectual Disability

Intellectual disability is the most common developmental disability, affecting 0.8 to 3 percent of the population. There are three key factors to intellectual disabilities: significantly
impaired intellectual ability, usually measured on standardized psychoeducational tests; onset before 18 years of age; and impairment of the adaptive abilities necessary for independent living. Testing assessments usually included IQ testing and tests of adaptive behavior. There are four classifications of intellectual disabilities, according to the DSM-5: mild, moderate, severe, and profound (American Psychiatric Association, 2013). Individuals with a classification of mild have an IQ range of 55-70, moderate have an IQ range of 40-55, severe have an IQ range of 25-40, and profound have an IQ below 25. Individuals with severe intellectual disabilities can usually learn to communicate and require extensive support and supervision to accomplish most tasks. Approximately 80 percent of individuals with intellectual disabilities have additional problems, such as speech problems, ambulation problems, seizures, heart disease, diabetes, anemia, obesity, and dental problems (Rogers, 2010).

The consumer meets all three key characteristics of developmental disabilities as he has significantly impaired intellectual ability, impairment of the adaptive abilities necessary for independent living, and onset was prior to 18 years of age. Based on the Leiter International Performance Assessment administered in 1993, the consumer was analyzed as having an IQ of 23, which would actually classify him as having a profound intellectual disability instead of the diagnosed severe intellectual disability. The consumer’s abilities match his diagnosis, however, as he is able to communicate in simple one-word statements and gestures. He is able to do simple tasks with extensive support and supervision. Secondary to intellectual disability, the consumer has deficits with speech and ambulation, and also has seizures.

**Cerebral Palsy Unspecified**

Cerebral palsy (CP) is characterized by abnormalities that are non-progressive in the developing brain. These abnormalities generate neurologic, motor, and postural deficits.
SEVERE INTELLECTUAL DISABILITY

Language and intellectual deficits often coexist with CP (Rogers, 2010). Speech disturbances occur in approximately 30 percent of individuals, while delays in cognitive development, ranging from mild to profound, and below-average intelligence have been seen in 50 to 75 percent of individuals with CP. Communication limitations tend to isolate individuals and may negatively affect the development of psychosocial skills. Severe sensory deficits and behavioral problems may also be present. Prognosis of CP varies for each type and although most individuals typically live to adulthood, their life expectancy may be less than that of the normal population (Rogers, 2010).

The consumer presents with both language and intellectual deficits, which could solely be a result of the diagnosis of severe intellectual disability. He tends to isolate himself from his peers, becoming agitated and pushing them away if they enter his personal space. He does, however, communicate with staff members appropriately most days. The consumer has severe sensory deficits. According to the Sensory Integration Inventory-Revised for Individuals with Developmental Disabilities completed in March 2010, the consumer triggered 22 percent for tactile indicators and 41 percent for proprioceptive and vestibular indicators, related to muscle tone, motor planning, and body image. The tactile indicators suggest that he has difficulty in places where there are a large number of people or people he feels are unknown to him. The proprioceptive and vestibular indicators suggest that he has difficulty registering and processing proprioceptive input adequately and explains why he presents with abnormal sitting, standing, and ambulatory posture.

Seizure Disorder

Seizures are “abnormal electrical impulses in the brain and manifest in many ways that can involve alterations in sensation, movement, behaviors, levels of consciousness, or all of
These” (Rogers, 2010). There are two general types of seizures: partial and generalized. Partial seizures occur in only one side, or part, of the brain, whereas generalized seizures occur in both sizes of the brain. Generalized seizures can be divided into tonic-clonic, absence, atypical absence, myoclonic, and atonic. Generalized tonic-clonic, or grand mal, seizures are the most common type and are caused from excessive neuronal firing from both hemispheres in a symmetric pattern. Common symptoms include stiffening of extremities, extended limbs and spine, clamped jaw, dilated pupils, loss of consciousness, respiratory muscle spasms, apnea, bilateral jerking of the limbs, trunk and neck, labored breathing, profuse sweating, frothing at the mouth, incontinence, and possible changes in vital signs (Hamby, 2011). These symptoms are usually followed by a loss of consciousness, during which the body becomes rigid, or tonic, and then rhythmic clonic contractions of all extremities occur. Generalized tonic-clonic seizures last five minutes, on average, and are followed by a postictal period that may last one to two hours. During the postictal period, drowsiness, amnesia of the seizure event, confusion, and Todd’s Paralysis, hemiplegia lasting 30 minutes to 36 hours that resolves completely, are common. (Hamby, 2011; Rogers, 2010). Absent seizures are characterized by a momentary loss of awareness and the absence of motor activity, usually lasting less than 30 seconds. There is no postictal period with absent seizures. Myoclonic seizures consist of contractions of a single muscle or small groups of muscles. Akinetic seizures generate in a loss of muscle tone (Rogers, 2010).

The consumer’s symptoms of his seizures are consistent with generalized tonic-clonic seizures. The only apparent trigger that can be found for the consumer’s seizures is sleep. He has multiple seizures during the night and into the early morning hours. If he has several seizures extreme drowsiness and confusion is seen while at the facility the next day as he appears to be in
a different world. The consumer has had a Vagus Nerve Stimulation (VNS) implant since 2004 to help with seizures, and although it has helped, seizures still occur daily.

**Thoracic Scoliosis**

Scoliosis is a condition that may be secondary to cerebral palsy and is the most common deformity of the spine. Characteristics include lateral curvature, rotation, and thoracic kyphosis of the spine. Treatment for thoracic scoliosis includes orthotic interventions and surgical spinal fusion. Exercises alone are rarely effective for management, however, they may help to strengthen spinal and abdominal muscles (Rogers, 2010).

The consumer presents with a significant lateral curvature to the left and mild thoracic kyphosis. He does not utilize any orthotic devices, nor has he had any cervical fusions. The consumer has positioning goals to help prevent further regression.

**Psychosocial Frame of Reference**

Cognitive disabilities frame of reference have been utilized for treatment and therapy for the consumer. The cognitive disabilities frame of reference describes the nature of cognitive processing impairments that “compromise the ability for normal function and identifies adaptations that will optimize the ability of cognitively disabled persons to function in their everyday worlds” (Giroux Bruce & Borg, 2002).

This frame of reference has been utilizes primarily with adults and the main goals of the therapist are to assess the consumer’s cognitive level, identify activities in which the consumer can be successful, advise other professionals and caregivers about the limitations of functional performance imposed by cognitive disability, and make environmental recommendations that are best suitable of the consumer’s functional level. This framework does not focus on changing behaviors of individuals, but on providing them with activities that are “realistic, relevant, and
safe” (Giroux Bruce & Borg, 2002). It is for these reasons that the cognitive disabilities frame of reference is appropriate. The consumer is unable to perform many age appropriate tasks, even with assistance from others, resulting in him being dependent for daily tasks. Creating goals that are unattainable and unrealistic are not only wasting the consumer’s time, but would also be fraudulent billing.

Claudia Allen, creator of the cognitive disabilities frame of reference, also created the Allen Cognitive Level Scale (ACLS) which contains six cognitive levels (automatic actions, postural actions, manual actions, goal-directed actions, exploratory actions, and planned actions). These levels not only predict what a person will realistically be able to do but also the severity of functional disability (Giroux Bruce & Borg, 2002), which are important for appropriate goal implementation.

**Observation of Evaluative Elements**

**Domains**

The client has many Occupational Therapy Practice Framework domains that are affected by his diagnoses. Included in the domains are occupations, client factors, performance skills, performance patterns, and contexts and environment. All of these aspects interact together to affect the client’s occupational identity, health, well-being, and participation in life in an equal manner (American Occupational Therapy Association, 2014).

**Occupations**

Among the occupations affected by the consumer’s diagnoses are activities of daily living (ADLs), play, social participation, instrumental activities of daily living (IADLs), and work. Although the consumer has made some progress in this area, he is still largely limited.
The consumer requires assistance for toileting and toileting hygiene. He is unable to properly manipulate his clothing, requiring assistance with fasteners and pulling clothing up or down. He also requires assistance for toilet hygiene as he is unable to complete this task independently, but is able to flush the toilet. Staff must be present during toileting to ensure safety as the consumer has a history of falls. The consumer is able to assist with dressing by placing his arms and feet into the article of clothing. He is able to feed himself with minimal assistance once food has been set-up for him. His food is cut into small pieces as he tends to not chew his food properly.

He is able to complete some areas of bathing with verbal prompting. He does require minimal assistance to get in and out of the tub to ensure his safety and to reduce the risk of falling. The consumer’s bilateral lower extremity active range of motion is within functional limits. He has balance deficits which affect his ability to stand and ambulate. He ambulates with an unusual and inconsistent gait. Sometimes his gait is shuffled, sometimes bouncing, and other times he leans forward. He has had several falls in the recent past, resulting in significant injury, and requires stand by assist when ambulating as a result.

Engagement in peer play is currently unfeasible as the consumer becomes agitated when peers invade his personal space. He is unable to communicate with peers in more than one-word statements and his words are unclear making him hard to understand. These factors also limit social participation and the consumer participates in activities alone.

The consumer requires maximum assistance for activities of grooming/hygiene, laundry, cleaning, transportation, money management, community integration, and safety. He is unable to work within the community due to all of his limitations.

**Client Factors.**
According to the DSM-5, as stated in the *Occupational Therapy Framework: Domain and Process, 3rd Edition* (2014), client factors are “the physiological functions of body systems.” These include values, beliefs, spirituality, body functions, and body structures. The consumer’s values, beliefs, and spirituality are unknown as he is unable to successfully verbalize them. While completing activities working on various aspects of identified goals, it was apparent that the consumer’s sustained attention was low. He often shifts his attention at distractions occurring throughout the room. His response speed to questions of color, shape, or object are significantly delayed. The consumer is an introvert, remaining to himself and ignoring his peers. He will, however, interact with staff most of the time. The consumer’s vestibular, proprioceptive, tactile, and speech functions are noticeably limited when participating in activities.

**Performance Skills.**

Performance skills affected by the consumer’s diagnoses include motor, process, and social interaction skills. The consumer’s alignment is off as he persistently leans to the left, due to hypertrophic muscle tone and his diagnosis of scoliosis. He often loses balance, which has led to numerous falls, particularly in the restroom and during toileting. The consumer utilizes a 3-jaw chuck or pincer grasp and often fumbles when manipulating objects. The consumer coordinates movements together well, using two or more body parts to manipulate, hold, stabilize task objects during activities.

The consumer attends to tasks but often looks away and is interrupted by other things going on within the classroom. He uses task objects correctly, placing alphabet puzzle pieces where they belong and in the correct orientation, placing flash cards in separate piles (complete and incomplete), and places pegs into the peg board with relative ease. However, he is unable to initiate these activities and must be prompted. The consumer has a hard time adjusting to new
SEVERE INTELLECTUAL DISABILITY

environments and situations. He was recently moved from one room to another, and when let
ambulate on his own, he always headed toward the old room out of habit.

The consumer is able to verbally produce one word responses. He is unable to speak
fluently or continuously. He is able to reply to simple questions, like answering what a particular
color, shape, or object is. He expresses negative emotion when others enter his personal space.
He tends to push them away.

**Performance Patterns.**

Performance patterns include roles, habits, and routines (American Occupational Therapy
Association, 2014). The consumer is the son of a significant and highly respected community
member, a consumer at the facility which he attends five days of the week, and the nephew of his
legal guardian. He has a habit of resting his left, non-dominant hand in his lap with his hand in a
fist. He will not use this hand unless prompted and encouraged by staff. He prefers to do
everything with only his right hand. His routines during the week include going to the facility at
8:15 a.m., eating lunch at noon, going home at 2:30 p.m., and attending scheduled doctor’s
appointments.

**Contexts and Environment.**

Contexts and environment are largely influential on an individual’s performance and
include physical, social, cultural, personal, temporal, and virtual aspects. They largely influence
the quality of and satisfaction with activity performance and can be either internal to the
consumer, external to the consumer, or a combination of both (American Occupational Therapy
Association, 2014).

The client’s physical contexts consists of the facility classroom, his home, doctor’s
offices, and the transportation bus. The facility classroom is a small room with two tables pushed
together in the middle with chairs surrounding them. Cupboards and a bookshelf full of activities are on either side of the entrance. There are windows on the wall opposite the door. His social environment is all the communication at the facility between the staff and his peers, as well as interactions with his aunt, father, doctors, and other members of the community.

Cultural contexts are customs, beliefs, patterns, and standards of behavior expected by society that influence the identity of the consumer. His personal contexts include demographic features, such as age, race, gender, and socioeconomic status. Temporal context includes the time of day and/or year, the individual’s history, and the duration of each activity. The consumer’s virtual context is the interactions that occur in either a simulated, real-time, or near-time scenarios (American Occupational Therapy Association, 2014).

**Process of Occupational Therapy**

During the evaluation process, the consumer was observed and asked to complete a series of tasks, such as raising his arms above his head or walking down the hallway and back. The primary caregiver was asked questions regarding the consumer’s medical history, current medications, current functional ability, ability to transfer, and dependence with meals and meal preparation. The caregiver was asked as the consumer is unable to communicate appropriately. Observation and interviewing were done to assess the consumer’s basic functioning with daily living activities.

Following the observation period and interviewing process, the Sensory Integration Inventory-Revised for Individuals with Developmental Disabilities was administered to narrow down deficit areas. Based on results from this assessment, it was found that the consumer presented with tactile, proprioceptive, and vestibular deficits. These results helped the occupational therapist establish goals for the consumer to reach during treatment sessions.
Types of Occupational Therapy Interventions and Intervention Approaches

The types of intervention approaches utilized during this consumer’s treatments are both top-down and bottom-up approaches, through the use of preparatory methods, purposeful activities, occupation-based activities, and training. Top-down approaches focus on the consumer first. They take the consumer’s needs, wants, and roles into consideration when determining an intervention plan. Bottom-up approaches focus on the client’s limitations, strengths, and disabilities when determining an intervention plan. Both of these methods were utilized in determining goals for the consumer and intervention focus was on improving sensory awareness, balance, posture, fine motor skills, and use of the left hand.

While at the facility’s program, intervention includes a variety of preparatory methods, purposeful activities, occupation-based activities, & training. Preparatory methods are “modalities, devices, and techniques to prepare the client for occupational performance” that are often done without the active participation from the consumer (American Occupational Therapy Association, 2014). Preparatory methods used during treatment include lotion massage on left hand, focusing on the extensors, and passive range of motion (PROM) on the left hand following massage. As a form of environmental modification, a raised table during table-top activities to facilitate proper posture is utilized.

Purposeful activities are those selected and provided to target specific client factors or performance skills. Purposeful activities “may not hold inherent meaning, relevance, or perceived utility as stand-alone entities” (American Occupational Therapy Association, 2014). Table-top activities serve as purposeful activities as they are done to address range of motion and increased fine motor skill in the left upper extremity. Table-top activities that the consumer engages in are a peg board, alphabet puzzle, matching game, and flashcards. Staff will encourage
the consumer to utilize his left upper extremity to reach for pieces of the activity that he is participating in at the time. The consumer also engages in bilateral hand strengthening exercises using therapy putty.

Occupation-based activities are those that are useful for completing everyday life tasks. Treatment focusing on this include toileting. Training activities are also done to facilitate the “acquisition of concrete skills for meeting specific goals” (American Occupational Therapy Association, 2014) which is seen when the consumer utilizes his left hand during activities.

Activity and Occupational Demands

Activity demands are aspects of an activity or occupation required for successful completion. These demands include "the relevance and importance of the activity to the client, the objects used, space demands, social demands, sequencing and timing, the required actions and performance skills, and the required underlying body functions and body structures" (American Occupational Therapy Association, 2014).

For the treatments that the consumer is receiving, the relevance and importance of the activities are appropriate. He enjoys completing all of the table-top activities. The objects used include the table-top activities, positioning devices, massages, chairs, and tables.

Space demand is either the classroom that the activities are performed or the restroom. Neither are very spacey, but there is ample space to complete tasks. The consumer does not require a lot of space as he ambulates independently without the use of assistive equipment. The social demand is minimal as the consumer does not communicate with his peers and only communicates with staff in one-word statements.

The timing required varies depending on the day and time of day, as well as the activity being performed. The consumer requires more time to complete tasks on days following multiple
seizures the previous night. These days he seems to just stare off into space and not participate well with activities. The required actions and performance skills are minimal for most activities and appropriate for the consumer's level. Once the consumer develops a more functional use of his left hand, actions and performance skill demands will be increased.

**Types of Outcomes**

Through the implementation of occupational therapy services and interventions, the outcomes for this consumer are occupational performance, general health, safety, and well-being. Improving the consumer’s posture while seated, standing, or ambulating is necessary to improve his occupational performance and also to increase safety and well-being. Proper posture will help prevent falls, which are a major health threat to the consumer. Falls are also an occupational performance limitation as he requires assistance while toileting because of the risk of falls. Removing the risk of falls would allow the consumer to become more independent during toileting.

Improving the consumer’s sensory processing abilities would also enhance his occupational performance abilities, and overall safety and well-being. Improvements in these abilities would not only reduce his sensory defensiveness, but also help the consumer be more aware of his body within his environment, which is currently a major deficit area. According to a study done by Pfeiffer and Kinnealey (2003), sensory treatments used to decrease sensory defensiveness and secondary anxiety was successful in normal adults. Further research is needed, however, to test this outcome on individuals with developmental disabilities.

**Pharmacological Assessment**

The consumer is currently not taking any medications while at the facility. He does take medications for spasticity, a daily stool softener, and a calcium supplement while at home. The
consumer also has a Vagus Nerve Stimulation (VNS) implant for the generalized convulsive epilepsy.

<table>
<thead>
<tr>
<th>Vagus Nerve Stimulation (VNS) Implant</th>
<th>Citracal</th>
<th>Colace</th>
<th>Zanaflex</th>
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</thead>
<tbody>
<tr>
<td><strong>Dosage</strong></td>
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<tr>
<td>Time Intervals: 30 seconds on, 5 minutes off;</td>
<td>250 mg capsule daily</td>
<td>100 mg capsule daily until bowel movements are normal.</td>
<td>6 mg tablet as needed every 6 – 8 hours; no more than 3 doses per 24 hours.</td>
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<tr>
<td>Amplitude: 2.0 milliamperes;</td>
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<tr>
<td>Frequency: 25 hertz; Pulse Width: 400 microseconds</td>
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<tr>
<td><strong>Purpose</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Control Seizures</td>
<td>Calcium Supplement</td>
<td>Laxative, Stool Softener</td>
<td>Reduce Muscle Spasticity</td>
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<tr>
<td><strong>Prescribed By</strong></td>
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<tr>
<td>Primary Physician</td>
<td>Primary Physician</td>
<td>Primary Physician</td>
<td>Neurologist</td>
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<td><strong>Adverse Reactions</strong></td>
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<tr>
<td>Coughing, hoarseness, voice alteration, throat pain, headache, chest pain,</td>
<td>Nausea or vomiting, decreased appetite, constipation, dry</td>
<td>Bitter taste, mild abdominal cramping, diarrhea, and laxative</td>
<td>Somnolence, sedation, asthenia, dizziness, speech disorders, dyskinesia,</td>
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**SEVERE INTELLECTUAL DISABILITY**

<table>
<thead>
<tr>
<th>breathing problems, difficulty swallowing, and paresthesia are often associated with the on phase of stimulation (Ben-Menachem, 2001).</th>
<th>mouth, increase urination may occur (Rielo, 2013).</th>
<th>dependence with long-term or excessive use may occur (Deglin, Vallerand, &amp; Sanoski, 2011).</th>
<th>nervousness, hallucinations, hypotension, bradycardia, dry mouth, constipation, vomiting, UTI, urinary frequency, hepatic injury, infection, and flulike symptoms may occur (Deglin, Vallerand, &amp; Sanoski, 2011).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interactions</strong></td>
<td>None.</td>
<td>If taken with antacids, other calcium supplements, or vitamin D supplements absorption may be affected. May antagonize</td>
<td>If taken with mineral oil, it may increase the mineral oil absorption, causing toxicity and lipid pneumonia (Deglin, 2001). May cause delay in acetaminophen absorption. May cause hypotension if mixed with antihypertensives. May have additive CNS depressant effects if mixed</td>
</tr>
<tr>
<td>Contraindications</td>
<td>Unknown.</td>
<td>History of kidney stones, parathyroid gland disorder, pregnant or breastfeeding (Rielo, 2013)</td>
<td>Hypersensitivity to drugs, intestinal obstruction or signs and symptoms of appendicitis, fecal impaction, acute surgical abdomen (Deglin, Vallerand, &amp; Sanoski, 2011).</td>
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<td>tetracycline, bisphosphonates (separate by 2 hours), or phenytoin. May be antagonized by phenytoin or iron supplements (Rielo, 2013).</td>
<td>Vallerand, &amp; Sanoski, 2011).</td>
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</table>
Medications can have a large impact on occupational therapy services, both positively and negatively. With this consumer, the biggest challenge with occupational therapy is not from the side effects of medications but of those resulting from seizures. On nights where many hard seizures occur the consumer cannot focus the following day. He more or less just stares into space and cannot complete even the simplest of tasks on his own and he becomes antisocial with not only his peers but staff as well. He will push people away that try to interact with him. The VNS implant is supposed to help with the management of seizures but, unfortunately, they still occur at night when the consumer is sleeping. They do not occur at the facility, which on days that he is functioning normally, allows the consumer to actively participate in treatment.

The calcium supplement, Citracal, does not have any real effects on occupational therapy as there are no symptoms present with the consumer. Colace keeps the consumer regular, which allows the MHTs work with him on his goal of safety while toileting. Zanaflex allows the MHTs to work with the consumer on goals of using his left upper extremity during functional tasks, proper posture, and ambulation.

**Treatment Plan**

The consumer’s strengths are his ability to: self feed; ambulate, re-position, and transfer independently; communicate in simple, one-word statements and physical gestures; assist with bathing, dressing, and toileting; independence with bed mobility; and he is cooperative and motivated by those things he is interested in. Concerns for the consumer are his poor posture, joints contractures in the left elbow, abnormal and inconsistent gait patterns, increased muscle tone in his left hand; and the non-use of the left hand.
Following the initial evaluation, goals were set based on the observation, caregiver interview, and assessment results. The facility does not often utilize short term goals, but for this consumer, there was one, which is as followed:

- The consumer will demonstrate a decrease in falls while toileting with moderate assistance for set up to improve safety within two weeks.

The long term goals were as follows:

- The consumer will demonstrate an improvement in communication, naming objects colors, shapes, and letters with minimal prompting within six months.
- The consumer will demonstrate an upright posture while seated for table-top activities at a raised table within three months.
- The consumer will improve sensory processing, through a sensory diet consisting of tactile, vestibular, and proprioceptive input, in order to improve his attention to task from 30 minutes to 45 minutes within six months.
- The consumer will improve fine motor skills and functional use of his left hand in order to utilize it for daily tasks within six months.

A program has been implemented to improve fine motor skills and functional use of the left hand through a series of steps. The consumer receives a left hand massage with focus on the outside of the hand (extensor muscles) and opening the fingers and hand. This is followed by passive range of motion and gentle stretching to metacarpophalangeal (MCP) joints. Following massage, Mental Health Technicians (MHTs) position the consumer at the raised table and have him participate in reaching table-top activities. They attempt providing minimal assistance at first and increase assistance as needed as the consumer becomes engaged in the activity with his left hand. They start by handing the consumer an object from his left side and verbally prompt
him to take it with his left hand. Following this, they try touching his left hand to give a physical
cue, and lastly, they hold the consumer’s right hand down to his side and hand him objects form
the left side. The consumer is constantly encouraged to utilize his left hand throughout the day to
prevent permanent loss of function, reduced range of motion, and future joint contractures of the
MCP and proximal interphalangeal (PIP) joints.

The raised table during table-top activities was set in place to improve seated posture,
creating a more upright position. The table is set to a height that is slightly lower than chest level
to help the consumer achieve an upright posture. This is done because the consumer presents
with an increased flexor tone and, as a result, leans to the left. The consumer also works on
improving communication skills. When the MHTs hand him objects he is asked to name the
color, shape, letter, or simple everyday object.

The consumer is also on a program to engage in tactile, vestibular, and proprioceptive
input activities to increase attention to task, awareness of his body in space, and to improve
overall physical functioning and mobility. Tactile activities include a lotion massage on the left
hand, followed by PROM exercises and gentle stretching. Other options for tactile input are
placing a heated blanket around the consumer’s shoulders or using a vibrator on the consumer’s
arms, thighs, and back. Vestibular activities include swinging on a suspended swing, rocking in a
rocking chair, reaching up in the air for objects or picking them up from the floor, and sit-to-
stand repetition. Proprioceptive activities include walking, rolling a large ball over the body,
joint compression (shoulders, elbows, wrists, and fingers), playing catch with a heavy ball,
placing a heated blanket over the consumer’s body, or squeezing of the hands. In order to
provide a good sensory diet, input is rotated between tactile, vestibular, and proprioceptive in a
circle fashion from day to day. The consumer chooses which activity in the appropriate input
area he wants to engage in given a choice of three. Sensory input is followed by a table-top activity and staff monitor and record in their notes how long the consumer engages and is able to focus on the activity.

It is common for individuals with intellectual disabilities to fall in certain environments for reasons that are unknown (Hale, Bray, & Littmann, 2007). These individuals have a higher rate of falls than the general population, and resulting injuries are among the leading cause of death and disability in the world (Finlayson, Morrison, Jackson, Mantry, & Cooper, 2010). To help prevent fall while using the restroom the consumer is encouraged by MHTs to use the restroom several times throughout the day. MHTs prompt the consumer to use the restroom, walk into the restroom with him and assist with manipulation of clothing fasteners and with pulling clothing up or down. Once the consumer is safely sitting on the commode, the MHT leaves the restroom stall to allow the consumer privacy, however, they do not leave the restroom completely. They remain in the restroom at all times to listen for signs that the consumer is finished, such as getting up or trying to pull clothing up. Once the consumer is done, the MHT helps him reposition clothing prior to leaving the stall to prevent tripping. During this process, the MHT encourages the consumer to grasp the grab bars while they place one arm around him and position his clothing with the other.

**Recommended Treatment Methods**

There are many recommendations for this consumer, including some for improving fine motor skill and functional use of the left hand, posture, sensory input, and fall prevention.

To improve fine motor skills and functional use of the left hand, treatment options should include the fluidotherapy, resistive gel discs, and a bucket of rice. Fluidotherapy should be given for 15 minutes in place of the lotion massage to the left hand. This modality would have similar
relaxation results that would prepare the consumer for use of his left hand during table-top activities. When utilizing the resistive gel discs, the consumer should place his fingers in the holes and extend his fingers as far as possible. Repetitions of 10, three times with each hand should be completed. It is important to do these exercises with the right hand as well as the left to maintain strength and function. The bucket of rice should be used as a strengthening tool. The consumer will place his hand in the bucket and open and close his fingers while in the rice. Repetitions of 10 should be completed three times with each hand.

The use of a small wedge cushion and a smaller chair with arm rests have been recommended for this consumer to further help with positioning and prevent further deformity as he continues to lean to the left, even after the raised table. It is important that occupational therapists position consumers properly with appropriate seating in order for the consumer to obtain an upright posture, maintain good postural alignment, and prevent further postural deformities. Poor posture can cause a series of problems, including, but not limited to: muscular discrepancy, physical stress, compression of internal organs, and unneeded stress on the neck, shoulders, and lower back.

To increase tactile, vestibular, and proprioceptive input, fluidotherapy, sensory bags, and sensory bins could be utilized. Fluidotherapy should be used for 15 minutes. Along with the muscle relaxation aspect, fluidotherapy provides sensory input as the dried corn husks inside the machine swirl around. There are a variety of sensory bags that could be used. A clear bag filled with rice and various objects could be used, where the consumer is provided with cards containing the objects within the bag and having to manipulate the rice to find the objects. A clear gel bag could be used to trace letters, numbers, and shapes that are on posters. The sensory bin would be similar to the rice bag, containing rice and objects, where the consumer would
place his hand inside the bin, manipulate the rice, and search for objects through a window in the side of it. All of these activities would increase sensory input to improve his attention to task and awareness of his body in space, and also get him participating in some cognition.

To prevent falls and increase balance, the consumer could participate in table-top activities while sitting on a disc or standing on a cushion. This would require a MHT to sit next to him and make sure he does not fall over off the disc, or two MHTs to stand on each side of him when using the cushion. Sitting on the disc would increase his core muscles and possibly reduce the spasticity on the left side. Since the consumer has a history of falls, it is important for the MHTs to pay close attention him if these balance activities are used. Environmental distractions, along with his impulsiveness, and sensory processing deficits could increase potential fall risks (Hale, Bray, & Littmann, 2007).

Other Services Involved and Referrals

While attending the facility, the consumer has received not only occupational therapy services, but those of physical therapy, social work, nursing, psychology, and the care of the Mental Health Technicians (MHTs). Physical therapy services were focused on lower extremity activities and more functional, consistent gait pattern goals. They work with the occupational therapist to maintain and increase mobility, independence, motor skills, and sensory awareness.

Physical therapy is responsible for working with the consumer on abnormal gait patterns and lower extremity strengthening to improve ambulation, and core strengthening and stretching to help reduce spasticity and increase balance. The consumer currently seeks physical therapy services from an outside source and daily exercises have been implemented into the consumer’s plan to address these goals.
Social workers at this facility carry out case management and direct mental health services. They are not only in charge of each consumer’s overall plan of care but they also address problems associated with behaviors, stress of everyday living, and any emotional, environmental, or situational occurrence crises.

Nursing is responsible for medication maintenance, vitals, and checking skins for breakdown or other abrasions. If skin breakdown or other abrasions are present, they educate the family members on how to clean and dress them. The consumer receives nursing services from an outside source that visits his home at least three times a week.

The psychologists are mainly responsible for issues of behavior and behavior monitoring. They assess consumers every three months while at the facility, talking to them and observing their behavior to see if any changes have occurred or if any concerns are present. Secondary to the social workers, psychologists help the consumers deal with stress of everyday living, and emotional, environmental, and/or situational crises.

MHTs are responsible for carrying out the consumer’s plans of care. There are multiple MHTs in each classroom that are responsible for implementing the consumer’s plan of care, doing daily documentation, and documenting any incidents or injuries that occurred throughout the day. The ratio for consumers to each MHT is 8:1, however, depending on the classroom and individual needs of consumer’s, this ratio can be reduced.

A referral has been made to a Speech Language Pathologist for a Barium Swallow to evaluate the consumer for risk of aspiration as he tends to swallow food before fully chewing it. There have been no other referrals made.

Physiological and Social Factors
The consumer is generally in good spirits and very pleasant. He was generally cooperative and tolerant of treatment sessions. The consumer did not appear to be depressed or anxious and maintained a positive attitude. He is motivated and does what is asked of him, rarely resisting treatments. The days he does resist, or is non-cooperative with treatment, are the days following a night of more than normal seizures. The consumer has a strong familial support system that has provided him with support throughout his entire life. This familial support has been essential during times of great change, such as the passing of his mother whom was his primary care giver. The consumer’s father is also a huge motivator in his life, giving him someone to look up to, as he is a significant and influential member of the community.

The consumer tends to be more introverted, keeping to himself and avoiding interaction with his peers. He becomes agitated when peers invade his personal space. Due to his inability to communicate in more than simple one-word statements, conversation abilities are limited. The consumer has trouble comprehending and understanding directions that are new to him or too complicated.

**Discharge/Transition Plan**

Consumers at the facility receive yearly medical reviews, which are notes containing medical history and diagnosis of the consumer and justification for treatment services and progress made throughout the year. These reviews must be signed by the consumer’s primary physician in order to continue receiving services. It is very rare that a consumer will be discharged from services at the facility due to the extended time it takes for progress to be made and goals to be met. If goals are met, there are generally new goals made for the consumers in order for advance progress made within their areas of deficit.
Resources


