ICE Case Study

LEARNING ACTIVITY
Focus on Intervention Planning

Learners should watch the video case and plan the next intervention session. Then during lab, students work with a partner, who role-plays that client while the student implements their therapy session. The partners then switch roles, so each has the opportunity to strengthen their understanding of the condition / client as well as see the potential process and outcomes of their planned intervention. This allows learners to understand preparation of interventions, judge the time required for their activities, and discover potentially overlooked details in the provision of services. It also promotes encoding and retrieval of cases and flexibility in problem-solving related to the case and interventions.

When ADLs are addressed in a classroom setting, it is useful to ask students to come in close fitting clothes, and bring clothes that will fit on top. This allows for full dressing practice, while maintaining student privacy and dignity. (This may also be a discussion point following the client simulations, to increase student awareness of the patient's experiences and culture.)

Occupational Profile

Dr. T is an 83-year-old male, who was working as a pathologist. He has a history of worsening spinal stenosis and spinal cord compression for at least 2 years, including symptoms of paresthesia and declining strength. Once diagnosed, he continued to work until the condition had a significant impact on his function. Dr. T underwent C3-C7 laminectomy and fusion (7/13) with post-op anemia, neurogenic bladder, and incomplete quadriplegia. He participated in in-patient rehabilitation for 2 weeks and then returned home. Dr. T experienced declining function and both he and his wife fell while attempting to perform a transfer. He was then admitted to SNF rehab unit to resume therapy. PMH is significant for HTN, right shoulder adhesive capsulitis, rotator cuff tear, and tendinitis. Upon admission to SNF rehab unit, cervical precautions were lifted by M.D. There are no current restrictions to activity, although fall precautions are observed. His speech volume is decreased.

Dr. T has been living with his wife in a 1 story home with 2 steps to enter (right ascending handrail). He also has an adult daughter who lives about 20 minutes away and who participates in his care and in healthcare decision-making. Dr. T had begun using a rolling walker prior to surgery, but ambulation is now significantly limited to very short distances with a platform walker. Other DME currently available at home is a tub transfer bench.

Dr. T's strengths included functional cognitive function and problem-solving abilities, and motivation to return home and improve his ADLs and functional mobility. The primary goal expressed by Dr. T and his family were safe and independent transfers. However, they also agree that improved ADL performance and functional mobility would significantly ease the caregiving burden on his family and facilitate his return to prior roles. His daughter described that he is more cooperative and compliant with rehab professionals than he was with family at home. He explained this is due to lack of expertise of family and he described some fear of falling during movement. Dr. T shared that he is an elder in his church and has been involved there as a teacher; he would like to return to this role within the next 2-3 months.

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Client Strengths

- Excellent motivation for rehab participation
- Family support and one-story home environment
- Cognitive function allows for client involvement in problem-solving

Client Deficits

- Mod-max A for dressing and bathing
- Min A for transfers and ambulation with rolling platform walker, required to resume community roles
- Decreased kinesthesia, proprioception
- Decreased balance and standing endurance
- Decreased BUE function (ROM and strength, slightly increased tone, weak grasp)
- R shoulder co-morbidities, h/o falls

Model of Practice

The Model of Human Occupation (MOHO) explains competent and effective occupational performance through the interaction of the physical and social environments, with three inter-related components of the person. These subsystems of human capacity include the volitional, habituation and performance subsystems.

The volitional subsystem refers to an individual's motivation and interests in occupations, the sense of confidence or effectiveness in completing these occupations, and the value of these activities to the individual. In planning interventions for Dr. T, the volition subsystem supports the use of ADLs and functional mobility activities directly, rather than a focus on therapeutic exercise or preparatory activities. Feeding, for example, is a skill that would be valued in Dr. T's family and social roles as an occupation that should be completed as independently as possible. Similarly, his participation in functional mobility should not just be measured in distance, but in his ability to access his church and resume his teaching role. The habituation system refers to an individual's habits and routines in performing daily activities. Even though Dr. T's LUE AROM is slightly greater than his RUE, he tends to eat with his dominant, R hand. Rather than trying to change this, his occupational therapist utilizes optimal positioning, environmental support, and adaptive equipment to develop new habits and routines that will facilitate independent feeding. Finally, the performance subsystem is used to describe an individual's physical, cognitive, and emotional performance. Dr. T's cognitive skills support the use of problem-solving strategies to maximize his physical skills such as balance and strength. In addition, the use of adaptive equipment and compensatory strategies will improve occupational performance, as his recovery from the incomplete quadriplegia and co-morbidities may prevent a full return of full physical skills.

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Frame of Reference

The rehabilitative frame of reference will guide therapeutic service delivery for Dr. T. This approach will not rely on physical recovery, as the spinal stenosis was advanced when surgery was undertaken, and since there are co-morbidities such as right shoulder adhesive capsulitis which may preclude full return of range of motion and strength. Activities of daily living and functional mobility can be improved through the use of appropriate adaptive equipment, compensatory techniques, and assistive devices. This approach will maximize occupational performance by utilizing existing cognitive and motor skills to develop new techniques of performance that can support Dr. T's goals.

It is important that this frame of reference is not used in isolation; a motor learning / dynamic systems approach should be considered in a long-term approach to recovery, so that if spinal cord function returns, motor skills can be improved. Motor control should be addressed with full consideration of the interaction of the client factors, environment, and contexts necessary for occupational performance.

Evidence to Support and/or Guide OT Process

Ronzi, Y., Perrouin-Verbe, Hamel, O., & Gross, R. (2018). Spinal cord injury associated with cervical spinal canal stenosis: Outcomes and prognostic factors. *Annals of Physical and Rehabilitation Medicine, 61*, 27-32. http://dx.doi.org/10/1016/j.rehab.2017.09.003

This retrospective study included adults with cervical spinal stenosis, no unstable spinal lesions, and neurological impairment to the cervical spinal cord; this group of conditions was called central cord syndrome. Of the 63 adults included in the study, 46 underwent decompressive laminectomy surgery, with a mean age of 60. In studying outcomes and prognosis, the authors determined that nearly 2/3 of participants experienced improvements of at least one level in the ASIA scale for spinal cord impairments and more than 80% had a grade of D (more than 50% of muscles below injury move against gravity) or E (return of all neurological function). Improvements were typically noted in bladder function and ambulation.

This study is relevant for Dr. T if rehabilitation team members need to justify extending the length of stay or intervention process for this client. This evidence for favorable prognosis could not account for the delay in surgical intervention; however, it does indicate that return of function is possible. The rehabilitation team may also consider the importance of ambulation in improving Dr. T's home safety and ability to participate in ADLs and IADLs. Finally, this study may promote consideration of home care or out-patient therapy upon discharge from the SNF rehabilitation unit, to continue the therapeutic process if his recovery is slow.

Goals for next Session

Client will demonstrate upper body dressing with min assist, and adaptive equipment as needed.
Client will demonstrate unsupported sitting balance for 20 minutes, to facilitate ADL performance and occupational engagement.
Client will transfer from w/c to 3-in-1 commode with close S.

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Intervention Plan for Next Session

With a planned session of 30 minutes, create a bulleted list of activities for the session.

Session to be initiated in morning in client's room for ADL activities. Adaptive equipment for dressing will be brought into the room. Re-introduce self to Dr. T and orient to OT goals and services

- Gather clothing for day and place on rolling bedside table. Keep adaptive equipment (reacher, sock aid, dressing stick with cylindrical foam padding, built up button hook) nearby.
- If client in bed upon arrival, set up for transfer to bedside chair with armrests. Ensure environmental safety prior to transfer (chair near bed, step stool available to support LE dressing, ensure privacy with curtain or door closed, etc.)
- Perform bed mobility and bed to chair transfer, assisting as needed for safety and assessing for carry-over from prior sessions.
- Facilitate whole body dressing, using problem-solving strategies and adaptive equipment as needed. Assess and provide guarding for sitting balance and noting time at beginning and end of dressing activities. Gauge client frustration with all components of task to determine best use of adaptive equipment based on volitional, habituation and performance subsystems of MOHO.
- When rest breaks needed, discuss clothing choices for ease of dressing and types of clothing he may need to wear for different occupational activities (i.e. may be different clothing for church activities).
- Note beginning and ending time of ADL activities, assistance needed for balance, quality of movement for later documentation.
- Offer transfer activity to toilet if grab bars and safety equipment are available. Determine with client if he is able to ambulate to bathroom or if transfer to w/c is preferred for safety and to achieve rehab goals.
- Complete transfer and toileting as appropriate. If client defers toileting, discuss use of 3-in-1 commode at home and how it can be used to facilitate safety and independence.
- When completing session, either transport to PT or ensure safe sitting position in chair or w/c with call bell in reach.

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Critical Reflection Questions (Answer after session)
What went well in the intervention session?
What could be improved if you could do this over?
Did anything occur that was unexpected? How might this influence future sessions with this client?
What was meaningful about this case? How could you encode, retrieve and reuse this case?

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