

OT 620 Home Evaluation Case Study (35 pts.)

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Case Study:

John is a 34 year-old male with a diagnosis of traumatic brain injury (TBI) who ambulates through the use of a standard size manual wheelchair that he propels using his arms. He is soon to be discharged from the rehabilitation unit to your residence. He needs a home evaluation to determine what adaptations/accommodations are needed so that he can live there independently. John has limited strength and endurance for standing in the lower extremities. However, this strength and endurance is adequate for him to perform a standing pivot transfer independently without assistance from others. He is not able to reach above his head (49 inches above the floor when seated in his wheelchair) secondary to limited range-of-motion in shoulder flexion. He is independent in bed mobility and is able to roll to left and right and sit on the edge of the bed without the use of bed railings. He is not able to manipulate small objects of less than 2 inches in diameter secondary to pinch strength of less than 2 pounds bilaterally. He is able to transfer independently using a standing pivot transfer when the surfaces are at the same height to/from his bed, chairs, manual wheelchair, picnic table, dining room table, toilet, and shower chair. He has a history of problems with skin breakdowns and needs reminders to reposition himself once an hour. He has normal vision and hearing in both ears. He is able to dress himself with set up sitting on the edge of the bed. He is independent using a bath bench and grab bars to bathe in a bathtub. He currently is learning basic meal preparation tasks such as getting a drink, making a sandwich, and preparing simple meals using a microwave oven. He enjoys sports of all kinds and is able to use a remote control for his television. He is also interested in looking at sport magazines but is unable to hold them. He was able to use a computer in the past but now has difficulty using a keyboard and mouse. In the past, he has enjoyed gardening and landscaping and would like to be able to do this again. He has a very supportive family that visits on most weekends and that call on the telephone daily.

It is recommended that he have the following adaptations in the home environment:

1. **Entrances/Exit to home (5 pts.):**

NO ADAPTATIONS REQUIRED

NOTE: *Two entrances/exits exist in this home, each of which has a clear and stable pathway to and from the door, an achievable threshold of 1", an achievable width for a standard sized wheelchair (doors are 32" and 36"), as well as functional passage door levers and locking mechanisms; Light switches are positioned just inside each door and are within reach to the client while seated in the wheelchair (45" at highest point); Door of 32" swings out to the left, while the door of 36" swings in to the left

2. **Bedroom (5 pts.):**

- Bed height should be lowered from 28" to height of wheelchair seat (unknown)
- Installation of portable remote for light and fan operations is needed for manipulation from bed
- Walk-in closet door requires widening from 24" to at least 32"
- Closet shelving requires lowering from 68" to 49" or less
- Hangers may require adaptations (unknown at this time)
- Blinds on the only window within the room require a built-up rod for opening/closing of blinds
- Patio door and windows may be too heavy for the client to pull/push open (unknown at this time)
- Threshold from bedroom to outdoor patio is 6" and requires a ramp to access via wheelchair
- An auditory alarm should be installed to remind the client to reposition every 1 hour

NOTE: *Entrance is accessible via wheelchair at 32" with a door that swings in to the right and includes a functional passage door lever and locking mechanism; Light and fan switches are within reach while seated in wheelchair at entrance of room (45" at highest point); A cordless phone is operational and within reach to the left side of the bed, located on the nightstand; Bedding and pillows are light in weight and do not drape to the floor, allowing for adequate manipulation by the client; Dresser is accessible (highest knobs at height of 37") with 1.5" round knobs with beveled backsides for pulling open; Closet light switch is located outside of closet door and is accessible to the client while seated in wheelchair (45" at highest point); Patio door blind mechanisms are within reach and able to be manipulated by the client as they are pull strings and the door lock (38" in height from floor) and handle are able to be manipulated for opening and closing of this door; The only window in the bedroom has a sill positioned at 18" above ground level with a lock mechanism at 49" above ground level, which is able to be manipulated for opening and closing of the window by the client; Electrical outlets are located within operational distances from window, doors, and night stands (roughly 16" above ground level)

3. **Bathroom (5 pts.):**

- Entrance door should be widened from 30" to at least 32"
- Caution should be taken with ½" floor level change from bedroom to bathroom (carpet to tile)
- Rugs should be adapted to include non-slip grips on the underside to promote safety
- One of 4 light switches located in the bathroom should be routinely utilized as a nightlight for safe bathroom mobility during the nighttime hours
- Linen closet shelves should be extended so that the front sides are not so deep within the closet (currently, front of shelves is 17" deep into the closet and out of reach to the client)
- A hand towel ring should be installed to the left wall adjacent to the vanity, roughly 11" above the vanity (there is no current hand towel ring installed)
- Towel bar should be lowered from 55" to at least 49" for functional use by the client
- Under-vanity space should be considered for wheelchair to be positioned closer to sink (further assessment needed)
- Vanity drawers require installation of knobs for functional use by the client (currently, no knobs are installed)
- Caution should be taken with hot water; the temperature gauge should be turned down to a safe zone for independent use
- Toothbrush, comb/hair brush, razor, shaving cream, and deodorant should be repositioned for storage to top drawer of vanity; built up handles will be required for first three items listed
- Large 58" x 32" shower is partially "handicap accessible", with a 24" grab bar at the backside of the unit and an entrance door of 24" with room for a wheelchair to be positioned at the door; a 12" x 18" bench is built into the left wall of the unit; HOWEVER, unit requires a portable shower chair positioned at center, installation of a grab bar (24" in length) to immediate right shower wall, and a hand held shower head for client's functional use in hair and body rinse/wash)
- Toilet seat (currently 18" high) may need to be raised, via use of commode, depending on wheelchair seat height; Installation of grab bars to each wall at sides of toilet is required for safe transfer (pending nonuse of commode)

NOTE: Doors include functional passage door lever and locking mechanisms; Light and ventilation fan switches are accessible to client at entrance to bathroom (45" at highest point); Vanity height is 32" with faucet knob and soap dispenser 15" deep into the counter and functional to the client; Vanity drawers are functional in height to the client, with the highest point being at 28.5"; Toilet paper and flush handle is within adequate reach from toilet in a seated position; Bathroom does not contain any windows, yet has ample and adequate lighting; Mirror is positioned at a functional height for use by client seated in wheelchair

4. **Living room/Family room (5 pts.):**

- An auditory alarm should be installed to remind the client to reposition every 1 hour
- Coffee table requires removal for adequate wheelchair mobility to furniture within living room
- Television remote requires securing to arm chair (or most frequented furniture) for ease of use
- Installation of another cordless phone in the living room would be of utmost benefit to the client to decrease potential for loss of charged battery when using bedroom cordless phone
- A securing mechanism should be added to the wheelchair for travel with cordless phone throughout the home
- Patio door blind mechanisms are not within reach for the client as the reclining chair is positioned in the way, blocking access to wheelchair travel; If accessible, client would be able to manipulate said mechanisms as they are pull strings (client to decide)
- Patio door may be too heavy for the client to pull open (unknown at this time)
- Threshold from living room to patio is 6" and requires a ramp for access via wheelchair
- Installation of portable remote for light, fan, and radio operations is needed for manipulation from seated position on most frequented piece of furniture
- The only window located within the living room is not accessible to the client as the couch is positioned in front of it; Repositioning should be considered, unless client prefers to leave the window non-accessible
- Installation of portable remote is required for manipulation of environmental controls from seated position on most frequented piece of furniture (currently, height of box control is 56"-60" from ground level), along with a voice readout of the set parameters as the readings on the box screen are not visible to the client
- A portable chair side table is necessary for placement of portable controls, snacks, drinks, and especially sports magazines for reading, while seated in the reclining chair; End tables are too far away for use

NOTE: *Client should be able to utilize the stand pivot transfer to transition to and from wheelchair and furniture as each seat cushion of furniture is 20" in height from ground level, and each is firm and not sagging; End tables are functional to the client from each couch (23" in height); Armrests for each piece of furniture are 10" higher than the seat cushions and may be used by the client upon choice; Patio door lock (38" in height from floor) and handle are able to be manipulated for opening and closing by the client

5. **Dining room (5 pts.):**

- Rugs must be either removed or adapted to include non-slip grips underneath for safety

NOTE: *Table height (28") is adequate for client to remain seated in the wheelchair while dining; Ample space is available for wheelchair mobility around the table; Lighting is adequate (4 separate switches for combined kitchen and dining room) and are all accessible to the client while seated in the wheelchair (45" at highest point from ground level)

6. **Kitchen (5 pts.):**

- The only window within the kitchen is not accessible to the client while seated in a wheelchair, as it is too high and is above a counter; Client will need to decide if non-accessibility to this window is acceptable
- Rugs must be either removed or adapted to include non-slip grips underneath for safety
- Microwave will need to be repositioned from wall-mount position to the countertop
- Items in upper cabinets will need to be repositioned to the lower cabinets
- Lower cabinets will need to be adapted to include pull out, roller shelving verses stationary and deep shelving that is currently inaccessible
- Hardware for cabinets and drawers will need to be installed (currently, none exist)
- Under-counter knee space should be considered for use during meal preparation
- An attachable wheelchair tray would be useful for meal preparation

- Utensils, such as forks, knives, spoons, stirring spoons, and spatulas require built-up handles
- Caution should be taken with ½” floor level change from kitchen to living room (tile to carpet)
- Caution should be taken with hot water; the temperature gauge should be turned down to a safe zone for independent use
- Caution should be taken with sharp objects and appliances (removed, until safe use is exemplified)
- Caution should be taken with use of oven/stove (disconnected, until safe use is exemplified)

NOTE: *Lighting is adequate (4 separate switches for combined kitchen and dining room) and are all accessible to the client while seated in the wheelchair (45” at highest point from ground level); Home phone (with a cord) is accessible in the kitchen, which is mounted on the wall, 48” above ground level; Sink (37” high) and counters (36” high) are all accessible and functional for the client while seated in the wheelchair; Oven and stove controls are positioned at the back and front of the unit, respectively, and are able to be manipulated by the client while seated in the wheelchair (Caution should be taken in manipulating oven control when stove-top is also activated); Refrigerator and freezer are accessible while seated in wheelchair; Counter space is available for placing hot pans after removal from oven or stove-top; Trash bin includes a hands-free lid that automatically opens with movement past the sensor and subsequent automatic closure

7. **Yard (5 pts.):**

- Access to the fenced-in backyard is currently unavailable to the client, as the transition from one threshold to the next through any of the three patio doors is a 6” difference; Client will need to consider extending the enclosed patio, which has access points from his bedroom and the living room, in order to implement a ramp to utilize this space. Additionally, the door leading from the enclosed patio to the sidewalk and side/back yard requires a ramp (also 6” difference in thresholds); The final patio door accesses the sidewalk and side yard, but also is currently inaccessible due to the 6” difference in thresholds
- If changes are made to allow for accessibility, the client would be more successful in enjoying the outdoors and potentially learning to garden and landscape while seated in the wheelchair

OTHER:

- Mailbox is currently 2 blocks away from the client’s home and is housed within a post office-like setting
- Laundry machines are positioned in the garage and the washing machine is a top-loader; No counter space is available for folding laundry while near the machines
- Peep-holes on the doors are too high for the client to utilize in identifying visitors
- Door bell can be heard in all areas of the home
- Home does not include any stairs or hallways
- Electrical outlets are positioned adequately throughout the home, with surge protectors where appropriate
- Smoke and carbon monoxide detectors are adequately functioning, but out of reach for the client to maintain
- Clutter is not an issue anywhere within the home
- Computer use could be re-taught and used for reading online magazines, since client has difficulty holding paper magazines
- Cue cards for meal preparation, bathroom routines, and laundry would be helpful for step-by-step processes in the event cognitive delays may hinder accomplishing said tasks
- Assistance from the client’s family to select clothing for an entire week at one time, would establish the set-up he requires and would facilitate independence in dressing if the clothes were then kept near the bed to be reached while in a seated position at the bed’s edge