**Lab: SM Selection**

**Case Scenario #2**

**PATIENT NAME:** Bernie Cook

**INTAKE & HISTORY:** *Describe the patient’s environment, functions, and activities/participation on a typical day including limitations and restrictions. Include as much objective information as possible.*

**Demographic Information: Age:** 62-year-old **Gender:** Male **Weight:** 165# **Height:** 5’7”

**Referring Medical Diagnosis:** CVA with spastic left hemiparesis **Onset Date:** 7 years ago

**Medical hx:** right CVA with spastic left hemiparesis 7 years ago.HTN is controlled with medication. He has some expressive aphasia but can communicate verbally and with gestures. He follows commands appropriately.

**Surgical HX:** appendectomy at age 35

**Reason for Referral/Chief Complaint:** Needs a better chair- PT seating and mobility evaluation.

**Patient/Family/Caregiver Goals:**

* “ I want a chair that I can touch the ground and push in my house and that will fold up and go in our car – you know one that my wife can lift into our car”

**Social Status:** Married x 40+ years. Wife works outside the home 6+ hours per day. Grown children **Environmental Accessibility:** one story home with deck and both entrances have ramp access. Inside the home rental wheelchair accesses all doors except for one bathroom. One bathroom is accessible after renovation. Hardwood floors throughout except for tile kitchen and tile bathroom. Accessible bathroom has a tub shower combination with tub transfer bench and handheld shower.

**General Health Status**: healthy, HTN controlled with medication – sees PCP every 6 months. He no longer seen by neurologist.

**Functional Status/Activity level** – Fiercely independent – performs all transfers (squat pivot) independently to all surfaces in the home and to the car. He must use RUE for stability for most transfers. Independent with toileting and bathing (wife is in the home when he completes his shower, but she does not need to assist him), dresses independently except for assist with buttons “church shirts”. He can get his own cold beverages, reach the microwave to warm his lunch (simple meal prep). He transfers to his recliner x 1 in the early afternoon for a nap otherwise negotiates the home environment with RUE and RLE propulsion and often moves in “reverse” because he can” go faster in the big spaces”. Wife cooks and pays bills – they do share in decision making about finances etc. Regularly attends church with his wife

**Employment/Work Status:** No longer works outside the home, formerly worked at Nissan plant in the maintenance dept prior to CVA.

**Transportation:** 4-door car Nissan Sentra. Wants his wife to be able to load/unload WC for transport.

**EQUIPMENT ASSESSMENT:**

**Existing Equipment**: 7-year-old rental MWC converted to purchase. Drive Medical Depot WC 18” w x 18” d x 18” seat to floor height, serial number worn off, provided by Acorn Medical. 70-degree hangers, angle adjustable foot plate, overstretched sling upholstery. Frame worn, loose with a lot of play in frame resulting in instability and inefficiency when moving.

**Current Seating and Mobility Equipment:** No wheelchair cushion. Seat and back upholstery overstretched/worn.

**FUNCTIONAL ASSESSMENT:**

**ADL/IADl Status:** Worn manual wheelchair, shower bench and handheld shower, large based quad cane no longer uses, elevated toilet seat and grab bars.

**Mobility Status:** Independent bed mobility, independent transfers (stand pivot and/or modified squat pivot)

**Walking/Ambulatory Status:** non-ambulatory for the past 6 + years, formerly used large based quad cane but stopped due to repeated falls with minor injuries. He reports that “I can’t walk” and “I am not going to walk”

All assistive devices (mobility devices – canes, crutches, walkers) have been considered and ruled out. **Precautions**: Universal – at risk for falls.

**Wheelchair mobility/propulsion status** –Unable to adequately grasp right wheel to self-propel, seat to floor height is too high to achieve good heel strike and foot flat position for foot propulsion. Compensatory movements and positioning noted. Patient slides forward to access flooring with RLE and shifts to the right side of the chair seat to reach over the arm rest to access the wheel.

**Endurance** – limited for propulsion, not efficient for functional timely mobility

**SCREENING OF BODY FUNCTIONS:**

**Cardiovascular status:** stable – takes coumadin (blood thinner)

**GI status:** intact

**Cognitive Status:** alert and oriented x 4

**Communication:** mild expressive aphasia, gets frustrated when people don’t “get it” or if his wife “speaks for me when I can do it myself”. Uses gestures, points to components of the wheelchair when he wants to discuss options

**Vison:** Intact, wears glasses

**Hearing:** intact

**Bowel/bladder functions:** no reports of incontinence, urinary urgency, frequency

**PHYSICAL EXAMINATION & TEST MEASURES:**

**Sensation:** intact

**Pain:** 3/10 left shoulder at rest, no other reported pain.

**Skin integrity:** intact

**Skeletal Alignment/Posture:** < 1” pelvic obliquity with left lateral lean of trunk increasing with fatigue. Flattened lumbar curve.

**Balance:** Sits unsupported at edge of bed or commode without UE support.

**Strength/ROM:** RUE and RLE – WNL; strength 4/5 for major muscle groups

LUE spastic flexor pattern – RUE is held in adduction against thorax with elbow flexed and fisted hand posture. Hypertonia LUE noted with strain/effort. LLE Hip flexion to 90 degrees (passively) wearing AFO, knee extension with hip flexed to 90 >110 degrees.

**Neuromuscular Status:** Modified Ashworth Scale – 4/5 LUE. No independent functional movements of LUE (elbow, wrist or digits). Some L shoulder elevation with abduction adequate for hygiene and dressing. Modified Ashworth Scale -3/5 LLE with hypertonia increasing with effort and purposeful movement.

***LAB ASSIGNMENT: Complete the following portion for this Case Scenario***

**WHEELCHAIR ASSESSMENT: Describe technology-specific trial, simulation, and specification. Patient and wife are interested in a MWC that they can transport in their vehicle, access their home, and be functionally self-propelled. They are not prepared to consider power mobility.**

**Technology trial/simulation:** Equipment feature(s), rationale for selecting equipment for trial.

**Measurements:** Body measurements (provided)

|  |  |  |
| --- | --- | --- |
| **Anatomical Measurement** | **Left** | **Right** |
| **Thigh length** | 18” | 18” |
| **Knee to heel** | 16” | 16” |
| **Seat to PSIS**  |  |  |
| **Inf. rib cage height** |  |  |
| **Seat to elbow** | 8” | 7.5” |
| **Seat to Inf. angle scapula** |  |  |
| **Seat to axilla** | 15” | 15” |
| **Seat to shoulder** | 18” | 18” |
| **Seat to top of head** | 26” | 26” |
| **Hip width** | 16” |
| **Shoulder width** | 16” |

**Person/technology match:**

***INSTRUCTOR KEY TO PART 1 ASSIGNMENT – SAMPLE ANSWER OR COMPARABLE***

***LAB ASSIGNMENT PART 1: Complete the following portion for this Case Scenario***

**WHEELCHAIR ASSESSMENT:** *Describe technology-specific trial, simulation, and specification.*

**Technology trial/simulation:** Equipment feature(s), rationale for selecting trial.

SAMPLE ANSWER

* Trial a hemi height MWC with 14” STF height
* Verify he can hemi propel with R extremities
* Verify he can still independently transfer from lower surface height for toilet, bed, car etc.

Results: (Sample documentation of trial results) –

Trialed hemi height MWC (e.g. Sunrise/Quickie 2, Tilite/Aero X, Ki Mobility/Catalyst 5) with a 14” and 15” STF height using 2” high cushion. Determined that patient most efficient hemi propelling with adequate heel strike in a 15” STF height using 2-inch cushion (e.g. Invacare/Matrix PS, Sunrise/Jay 3, Comfort Company/M2 cushion).

Trialed contoured back cushion paired with precontoured seat cushion (Matrix PB back and PS cushion) because of materials and firmness to provide stability, postural support, and pressure management. Patient was able to maintain a neutral upright posture when hemi propelling without sliding forward or leaning to right.

**Measurements:** Body measurements (provided above)

**Person/technology match:** Discuss benefits/tradeoffs of equipment features with patient/family and identify technology features needed to attain identified goals.

Ex. Discussed tradeoffs between manual and power mobility. Patient adamantly opposed to getting a power wheelchair as he wants a way to be able to transport it and wife is not able to load/unload a PWC but can load/unload a MWC. Did not wish to explore power mobility currently.

Ultra-light weight folding manual wheelchair (e.g. Quickie 2, Ti Lite Aero X, Ki Catalyst 5)

17” width x 16” deep

front seat to floor height 15”

rear seat to floor height 14”

24” wheels, push to lock wheel locks with left extension

5” x 1.5” casters

push handles

Matrix PB back rest at 15”h above cushion allowing for 2” cushion height (do not block scapula)

Matrix PS cushion 17” w x 16”d

Full length arm pads bilaterally (unlikely to access left due to flexor tone but may need length to support lap tray in future)

***Consider and discuss with your group the following for this Case Scenario***

**EVALUTION & PLAN OF CARE:** *Describe goals, treatment procedures/interventions, recommended equipment, feature specification and clinical rationale, duration/frequency of services required to attain goals, anticipated discharge plan.*

**Diagnosis related to positioning and/or mobility limitation:** Factors that are influencing the individual’s condition and/or level of functioning in his or her environment. Diagnosis code must correspond to payer coverage policy. Review payer policy for eligibility criteria.

**Problem list:** Identification of problems pertinent to patient management/clinical services and necessary/recommended MAE

**Goals for treatment intervention:** Stated in measurable terms with expected completion date, appropriate for patient and diagnosis

**Goals for MAE intervention (Expected Outcome):** A realistic evaluation of the patient’s functional potential with the use of the recommended equipment, stated in measurable terms related to functional activity

**Plan for interventions and/or additional test and measures:** Pressure mapping, equipment trial/simulation, AT assessment, custom molding, fitting, manual wheelchair skills training, power mobility training, patient/family teaching, frequency/duration of visits, discharge plan/discharge summary

**Equipment Recommendation:** Details of recommended equipment features and clinical rationale for items requested

**Current Equipment:** Describe current primary mobility device and seating (age/manufacturer/model), pertinent features, hrs/day used, funding source, reason for new equipment (what worked/didn’t work)

**Patient/Caregiver Goals:** In their words

***STUDENT DOCUMENTATION ASSIGNMENT: USE PLANNING WORKSHEET- DEFENSIBLE DOCUMENTATION PROJECT: PART 2A & B TO DOCUMENT THE FOLLOWING:***

**Problem list:** Identification of problems pertinent to patient management/clinical services and necessary/recommended MAE

**Goals for MAE intervention (Expected Outcome):** A realistic evaluation of the patient’s functional potential with the use of the recommended equipment, stated in measurable terms related to functional activity

**Product Feature Recommendation:** Details of recommended equipment features and clinical justification/rationale for items requested

|  |  |  |  |
| --- | --- | --- | --- |
| **Pt Problem** | **Goal** | **Product Feature** | **Justification** |
| **ADD MORE ROWS AS NEEDED** |  |  |  |
|  |  |  |  |

1. **Describe wheelchair configuration needed to maximize function (e.g. specific seat width/depth, back height, seat to floor height, axle position, seat to back angle, tilt, power assist, etc.)**
2. **Describe features of seat / back support and postural supports needed for functional mobility**
3. **Explain why the lower level MWC or PWC cannot be configured and/or will not meet patient’s needs.**
4. **Describe how recommended MWC or PWC will improve patient’s ability to participate in ADLs and IADLs.**

***INSTRUCTOR KEY TO DOCUMENTATION ASSIGNMENT – USE RUBRIC FOR NARRATIVE SCORE & SAMPLE ANSWER OR COMPARABLE FOR QUESTIONS***

1. **Describe wheelchair configuration needed to maximize function (e.g. specific seat width/depth, back height, seat to floor height, axle position, seat to back angle, tilt, power assist, etc.)**

Ultra-light weight folding manual wheelchair (e.g. Quickie 2, Ti Lite Aero X, Ki Catalyst 5)

17” width x 16” deep

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24” wheels, push to lock wheel locks with left extension

5” x 1.5” casters

push handles

1. **Describe features of seat / back support and postural supports needed for functional mobility**

Matrix PB back rest at 15” above cushion (do not block scapula)

Matrix PS cushion 17w x 16d

Full length arm pads bilaterally (unlikely to access left due to flexor tone but may need length to support lap tray in future)

1. **Explain why the lower level MWC or PWC cannot be configured and/or will not meet patient’s needs.**

Patient and wife not interested in pursuing power mobility. A lower level MWC will not work for him as he cannot achieve a lower enough seat to floor height for hemi propulsion to efficiently and independently self-propel a MWC the distances needed to move in his home in a timely manner e.g. to get to the bathroom in timely manner.

1. **Describe how recommended MWC or PWC will improve patient’s ability to participate in ADLs and IADLs.**

An ultra-lightweight MWC will allow patient to independently hemi propel his wheelchair in the home and around his property. His wife will be able to fold and transport in their vehicle so they can go to doctor’s appointments, social activities, shopping etc.