# Physical Therapy Initial Examination

## OBJECTIVE EXAMINATION

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|---|---|---|---|
| **Name:** Ben | **Age:** 20 | **Admit date:** 4/17 | **MR #:** |
| **Gender Identity:** Male | **Race:** White | **Evaluation date:** 4/24 | **Hand dominance:** R |
| **History of present illness:** 20-year-old man admitted to ER on 4/17 unconscious with agonal respirations, found to have endocarditis and critical aortic stenosis and L MCA aneurysm. Underwent AVR on 4/18 and was intubated 4/17-4/22. Diagnosed with septic shock and R hemiplegia. Underwent NG tube placement 4/18. | | | |
| **Past medical/surgical history:** HIV+, substance abuse disorder, possible depression, + smoker 2 PPD. | | | |
| **Precautions:** Sternal precautions- per MD- no B shoulder flex past 90- may perform unilaterally, no B shoulder extension, no lifting >5# with UEs, may use LUE for bed mobility and assistive device use.<br>Universal precautions. Has PICC line RUE- must take BP distally or in LUE. NG tube- HOB >30 degrees at all times. Aphasic. Current diet is ground solids and nectar thick liquids. Monitor vital signs with all activities and with position changes due to orthostatic hypotension since surgery. | | | |
| **Social History:** Lives with father who works full time but is supportive. Has history of IV drug abuse and methamphetamine use. Has long time girlfriend and enjoys playing guitar. Father has been urging him to seek outpatient drug treatment for some time without success. | | | |
| **Employment/work/school:** Left school in 10th grade, currently unemployed. | | | |
| **Prior level of function:** Independent in ambulation unlimited community distances with no device. Independent for washing, dressing, cooking, household chores, was able to drive. Per father, able to perform financial duties but often neglected them, leaving them for father to complete. | | | |
| **Living situation/environmental barriers:** Lives in second floor of rented home with 4 steps to enter with no rail. Inside home 13 steps to living area with rail on R ascending. Once inside bedroom and bath and all living spaces are on one floor. | | | |
| **Family history:** Mother deceased due to complications of diabetes, HTN in father and grandmother. | | | |
| **Medications:** Lopressor, Nicotine patch, Oxycodone | | | |
| **Pertinent lab values:** Hematocrit=29% (2 days ago was 26), WBC 12,500, platelets 350,000. | | | |
| **Pertinent imaging or other test results:** MRI shows extensive L MCA CVA, recent chest xray showed atelectasis of bilateral lower lobes. | | | |

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| **Pain:** Unable to describe in detail. Grimaces and states "ow" with PROM to RUE especially supination and shoulder flexion- will attempt to push therapist away with LUE but not physically agitated. Points to indicator of 6/10 pain on Wong-Baker Faces Pain Scale with RUE PROM. |
| **Patient goals:** Unable to clearly state due to aphasia. Upon questioning, patient's father indicates that he anticipates Ben would like to return home at as independent a level as possible. |

| **Systems Review** | |
|---|---|
| **Cardiovascular-** impaired- recent MVR and CVA | **Pulmonary-** impaired- CXR shows atelectasis and at high risk for pneumonia due to immobility |
| **Endocrine-** intact | **Hearing/vision-** impaired- L eye ptosis |
| **Genitourinary-** intact- continent of bowel and bladder with significant assist. | **Gastrointestinal-** impaired- modified diet due to dysphagia- utilizes NG tube for thin liquids and meds |
| **Hematologic/lymphatic-** impaired- low hematocrit and hemoglobin s/p surgery | **Integumentary-** impaired- sternotomy incision- closed with no drainage or excessive redness at present but high risk of infection |
| **Musculoskeletal-** impaired- decreased PROM of several joints- see examination for details | **Neurologic-** impaired- RUE plegia, RLE paresis; deconditioning of L side of body due to immobility, decreased sensation and tone |
| **Immunologic-** impaired- HIV+, WBC count elevated | **Psychiatric/psychosocial-** impaired- h/o substance abuse- low health literacy- ?depression |
| **Cognitive/communication Status-** impaired- alert but easily fatigued, oriented to person, place and time via yes/no questions, minimally verbal in 1-2 word phrases with difficulty due to aphasia. Appears to understand most questions and able to follow 1 step verbal commands in context. Cooperative with activities, becomes frustrated with increased demands and painful activities. Responds well to taking a break, giving control over activities when possible. | |

## OBJECTIVE EXAMINATION

**NEUROMUSCULOSKELETAL**

| **PROM** | **LEFT** | **RIGHT** | **STRENGTH/MOTOR CONTROL** | **LEFT** | **RIGHT** |
|---|---|---|---|---|---|
| **Shoulder Flexion** | 0-180 | 0-140 * | **Shoulder Flexion** | 3! | Trace^ |
| **Shoulder Extension** | 0-50 | 0-30 | **Shoulder Extension** | 3! ^ | Trace^ |
| **Shoulder Abduction** | 0-160 | 0-90 * | **Shoulder Abduction** | 3! | Trace ^ |
| **Shoulder Ext Rotation** | 0-70 | 0-20 * | **Shoulder Ext rotation** | 3! | Trace ^ |
| **Shoulder Int Rotation** | 0-70 | 0-70 | **Shoulder Int rotation** | 3! | Trace ^ |

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|---|---|---|---|---|---|
| **Elbow Flexion** | 0-150 | 0-110 * | **Elbow Flexion** | 4 | 0 |
| **Elbow Extension** | 0 | 0 | **Elbow Extension** | 4 | 0 |
| **Elbow Pronation** | 0-80 | 0-65 * | **Elbow Pronation** | 4 | 0 |
| **Elbow Supination** | 0-80 | 0-55 * | **Elbow Supination** | 4 | 0 |
| **Wrist Flexion** | 0-80 | 0-50 * | **Wrist Flexion** | 4 | 0 |
| **Wrist Extension** | 0-70 | 0-20 * | **Wrist Extension** | 4 | 0 |
| **Finger Flexion** | WNL | WNL | **Finger Flexion** | 4 | 0 |
| **Finger Extension** | 0 | 0 * | **Finger Extension** | 4 | 0 |
| **Hip Flexion** | 0-120 | 0-120 | **Hip Flexion** | 4 | Moves RLE against gravity to ¾ of expected AROM with minimal synergy influence and decreased isolation of movement. Hip ext and knee flexion tested in sidelying. |
| **Hip Extension** | 0-30 ^ | 0-25 ^ | **Hip Extension** | 3- ^ | |
| **Hip Internal Rotation** | WNL | WNL | **Hip Internal Rotation** | 4 | |
| **Hip External Rotation** | WNL | WNL | **Hip External Rotation** | 4 | |
| **Hip Abduction** | 40 | 35 | **Hip Abduction** | 3+ | |
| **Hip Adduction** | WNL | WNL | **Hip Adduction** | 3+ | |
| **Knee Flexion** | WNL | WNL | **Knee Flexion** | 3- ^ | |
| **Knee Extension** | 0 | 0 | **Knee Extension** | 4 | |
| **Ankle Dorsiflexion** | 20 | 20 | **Ankle Dorsiflexion** | 4 | Trace |
| **Ankle Plantarflexion** | WNL | WNL | **Ankle Plantarflexion** | 3+ (sitting) | Trace ^ |
| **Ankle Inversion** | WNL | WNL | **Ankle Inversion** | 4 | Trace ^ |
| **Ankle Eversion** | WNL | WNL | **Ankle Eversion** | 4 | Trace ^ |

Comments (ie. departure from gold standard positions, pain, etc.): *= indicates pain with PROM-UEs-PROM and strength/motor control tested one at a time due to sternal precautions.
^= tested in gravity eliminated position due to inability to be in prone or gold standard position due to sternal precautions or mobility . != no resistance given to muscle group due to sternal precautions.
Patient able to follow commands for MMT but shows early fatigue and needed multiple rest breaks. Testing limited by RUE pain, fatigue, and decreased frustration tolerance at times, easily redirected.

**SENSATION (I=intact, A=absent, NT=not tested, or % of impairment)**

| | LUE | RUE | LLE | RLE | Comments |
|---|---|---|---|---|---|
| Light touch | I | 50% imp | I | 50% imp | Light touch and proprioception impaired distal worse than proximal RUE and RLE. Unable to accurately test hot/cold and sharp/dull due to aphasia. |
| Proprioception | I | 50% imp | I | 50% imp | |

**COORDINATION**

| | LUE | RUE | LLE | RLE | Comments |
|---|---|---|---|---|---|
| Normal | X | Unable to test | X | | Unable to formally test RUE due to inability to move against gravity. RLE with decreased accuracy on heel to shin, unable to complete toe tapping due to weakness. |
| Impaired | | | | X | |

**TONE**

| | LUE | RUE | LLE | RLE | Comments |
|---|---|---|---|---|---|
| Normal | X | | X | | Hypontonic in RUE and RLE with some emerging clonus in R ankle (5 beats non-sustained) but overall still in flaccid stage. |
| Hypotonic | | X | | X | |
| Hypertonic | | | | | |

**FUNCTIONAL ACTIVITIES**

| Activity | Devices | Level of Assist | Comments |
|---|---|---|---|
| Rolling R/L | Bedrail | To R with min verbal cues and supervision. To L with min A and min verbal cues | Verbal cues for RUE management- to prevent injury. Pt. required min A to roll to L to assist with BLE flexion and to maintain hooklying and manual assist at scapula and pelvis. |
| Supine↔Sit | None | Min A x1 and mod verbal cues | From R sidelying- assist needed for RLE extension off side of bed and at thorax to elevate trunk, min cues needed for RUE protection and to push up lightly with LUE due to sternal precautions. Return to supine- able to lift RLE partially and needed |

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| | | | min A to bring RLE onto bed, able to control upper body for descent to bed with verbal cues. |
| Sit↔Stand | LBQC<br>Gait belt | Min A x1 sit> stand<br>Mod A x1 stand>sit | Manual contacts at R hip and knee extensors to promote symmetry, elevation of buttocks off support surface, and prevent to prevent R knee buckling. Manual contact at L pelvis/trunk upon standing to promote symmetrical upright posture due to tendency to lean to L and retract R shoulder. Pt. initially dizzy upon standing and required one minute seated rest- able to persist with activity with close monitoring. |
| Transfers | None<br>Gait belt | Mod A x1 | Stand step transfer to L from bed>chair. Required assist to elevate buttocks and manual contacts to facilitate R hip and knee ext due to weakness, increased assist during transition when moving feet to step. Max verbal cues and mod Ax1 for controlled descent into chair. |
| Ambulation | LBQC<br>Gait belt | Mod/max A x1 | Amb x10' with LBQC- required mod/max A with manual assist on R knee to promote extension, prevent buckling and promote functional strengthening, manual contact at R shoulder for upright postural control, min A to advance RLE and required max cues for sequencing of task. |
| Stairs | One rail<br>Gait belt | Mod A x1 | Up/down 2 6" stairs using step to technique. Pt c/o being frightened, required mod A to stabilize R knee upon descending stairs and support posteriorly at gait belt to control patients COM. Max verbal cues for sequencing. |
| W/C mobility | NT | NT | w/c not available on eval- pt. also on sternal precautions so propulsion of w/c is contraindicated. |

## Balance (level of assist, time factors, devices needed, cueing)

| | **Static** | **Dynamic** |
|---|---|---|
| Sitting | Able to sit in midline without UE support for 5 min with decreased head and trunk control noted. | Able to reach within base of support with LUE only due to RUE plegia and accept min challenges in all directions. Fearful of falling. |
| Standing | Stands for 1 minute with LBQC in L hand, min A x1 to assist with postural control, manual contacts on R knee to | Unable to engage in dynamic standing balance activities due to requiring assist for static standing. |

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| | prevent buckling and on R shoulder to promote upright posture. | |

**Postural Assessment:** In sitting, posterior pelvic tilt, forward head, left shoulder depressed, but good midline awareness. In standing, requires LBQC in R hand and min A x1 to stand- does well staying in midline and statically able to hold R knee control with no physical assist for short time periods.

**Impairment Problems List (use to formulate evaluation/assessment):**
Decreased PROM R shoulder, wrist and elbow
Decreased motor control in RUE- trace shoulder movement only
Decreased motor control in RLE- weakness in hip, knee and ankle
Decreased strength in LLE and LUE
Decreased sensation RUE and RLE to light touch and proprioception
Decreased coordination RLE
Abnormality of tone in RUE and RLE
Decreased ability to communicate
Decreased vision in L eye due to ptosis, possible R visual field cut to be determined
Cardiovascular deconditioning
Pain- appears worse in R shoulder and elbow
Increased edema R hand

**Functional Problems List (use to formulate evaluation/assessment):**
Decreased ability to roll to L
Decreased ability to transition from supine<> sit
Decreased dynamic sitting balance
Decreased ability to transition from sit<> stand
Decreased static and dynamic standing balance
Decreased ability to transfer from bed<>chair
Decreased ability to ambulate with device
Decreased activity tolerance

**Participation Problems List (use to formulate evaluation/assessment):**
Decreased ability to maintain social relationships with family
Decreased ability to engage in community ambulation
Decreased ability to stand in order to play his guitar

**Potential barriers/facilitators that impact prognosis:** Negative factors include possible h/o depression, IV drug abuse, medical complications, infection, sternal precautions; Positive factors include supportive father and girlfriend, progress to date, age, independent prior level of function.

**Justification for skilled PT:** Requires skilled PT to develop comprehensive plan for skilled interventions for task specific functional training, strengthening, promotion of neural plasticity, adherence to precautions, and progress patient according to patient's medical status and motor recovery.

**EVALUATION/ASSESSMENT:** Ben is a 20-year-old R handed man who presented to the ER one week ago with endocarditis and critical aortic stenosis. He underwent aortic valve replacement and experienced a ruptured L MCA aneurysm. His course was complicated by B lower lobe atelectasis, dysphagia, anemia, and septic shock- he was orally intubated x 5 days. He has a history of substance abuse disorder and HIV. Ben presents with impairments in R sided motor control (arm>leg), overall fatigue and L side weakness with deconditioning, decreased passive range of motion, decreased sensation and coordination, and issues with hemodynamic stability. His impairments are causing functional limitations in the areas of bed mobility, sitting and standing balance, sit to/from stand, transfers, ambulation and stairs. At this time Ben is not able to engage in his typical participation activities such as grocery shopping and playing the guitar. His prognosis to benefit from physical therapy is good considering his young age, supportive family, progress to date, improving medical condition and independent prior level of function. Barriers to progress include h/o possible depression, substance abuse disorder, presence of medical precautions such as sternal precautions and ongoing treatment for sepsis, and home environment with multiple stairs and limited caregiver availability. Ben has a good prognosis to benefit from skilled physical therapy in order to improve strength and motor control, improve endurance, improve balance in sitting and standing in order to assist with improvements in bed mobility, transfers, ambulation, stairs, and community mobility.

**Goals**- these are just some sample goals- most facilities require at least 4 STG and 4 LTG since not being able to define that number may indicate the patient does not need skilled therapy. Having more than that makes reassessment long and arduous and is likely not necessary. The below goals are written assuming the patient will be transferred to acute rehab in one week.

**STG:** 3 days- all goals include while adhering to sternal precautions

1. Patient will roll to left with supervision and minimal verbal cues for RUE management without bedrail in order to assist with pressure relief in bed.
2. Patient will go from sit to stand with contact guard and min verbal cues for midline awareness without change in baseline vital signs in order to prepare for upright activities.
3. Patient will transfer from bed <>chair with min assist of one via stand step using LBQC with min verbal cues in order to improve functional mobility.
4. Patient will ambulate x25' with min assist of one using LBQC on level terrain with min verbal cues for sequencing with stable vital sign responses in order to improve overall mobility.

**LTG:** 7 days- all goals include while adhering to sternal precautions

1. Patient will roll to B sides in bed independently with no cues for RUE management in order to be more independent in pressure relief to prevent skin breakdown.
2. Patient will go from supine<>sit with supervision with verbal cues less than 25% of the time for management of RUE and RLE in order to improve prepare for upright activities.
3. Patient will transfer from bed<>chair with contact guard of one via stand step using LBQC with no verbal cues for safety in order to sit in chair to eat meals.
4. Patient will ambulate 75' with contact guard of one with LBQC and R ankle support/trial AFO on level terrain with min verbal cues for upright posture, sequencing and pursed lip breathing in order to improve mobility.

A goal for stairs is not necessary if the d/c plan is rehab- if the plan were to d/c directly home, a stair goal should be included. And a stair goal could be included regardless of the d/c destination.

## PLAN

**Frequency/Duration/Intensity:** Acute hospital- would be daily treatment for 30-45 minutes for PT with OT and Speech involved. If transferred to acute rehab will need to be able to tolerate 3 hours 5 days per week at a minimum, divided up between PT, OT, and Speech. Duration is dependent on setting but will be inpatient for a few weeks at least.

**Planned interventions:** This is likely another assignment on its own. Planned interventions must be written for the ENTIRE plan of care- so there should be some noted progression in documentation (ie. squat pivot transfers progressing to standing level). Interventions whether in the form of a plan or in daily documentation, need to show skill. In general, its helpful to give students headings to assist them in critical thinking, such as:

- Neuromuscular re-education
- Therapeutic Exercise
- Manual Therapy
- Modalities
- Therapeutic Activities
- Gait Training

**Equipment/Positioning needs (these are separate from interventions in order to emphasize the need):**

- Equipment- gait belt, proper footwear, LBQC or hemiwalker, w/c for following during ambulation, consider trial of R AFO to improve stability with gait.
- Positioning-consider R ankle multipodus boot at night to prevent contracture. RUE positioning to prevent edema in bed and chair, promote most functional position and prevent shoulder subluxation.
- Monitor vital signs with all position changes and activities.

**Collaboration with team/referrals (included to promote interdisciplinary approach):**

- Problem solving with OT- consider splint for R wrist and hand to prevent contracture. Determine best approach for mobility and environment to ensure level of challenge is consistent.
- Collaborate with Speech- determine best approaches for verbal instructions and best ways for Ben to communicate distress, fear, and frustration during sessions.
- Collaborate with nursing- transfer status, ambulation with therapy only for now, out of bed schedule and safety when out of bed, and which discipline will handle respiratory concerns.
- Communicate with medical team regarding activity tolerance during daily rounds and check in on status of lines and precautions.
- Case management for d/c planning and communicating length of stay with insurance provider.
- Social work for h/o substance abuse and future planning for that issue.
- Orthotist for possible R AFO.
- Psychology- adjustment to disability and h/o decreased coping skills

- Recreational Therapy- if available, to engage in recreational activities to promote recovery

**Patient/Family Education (there could be many more things to teach, this is a start):**

- Education on possible home modifications that will be needed for home d/c- rails on all stairs on both sides, grab bars in shower and bathroom, positioning of bed and height of bed and chairs.
- Immediate needs for patient and family- sternal precautions, avoid pulling on RUE with all mobility and do not allow staff to pull on RUE, use proper footwear when out of bed and do not get out of bed without staff assist. Begin instruction on assisting with AAROM, positioning, and fostering movement. Progress to assisting therapist with transfers and standing as indicated.
- Instruct patient in BORG scale of exertion- may need to modify for aphasia.
- Educate patient and family on need to change positions to protect skin, need for out of bed activities for respiratory condition and for DVT prevention.
- Instruct Ben in glut sets for DVT prevention- at this time he is unable to complete ankle pumps with the RLE, but he could do LLE.
- Instruct Ben in deep breathing and coughing during sessions to promote secretion clearance- use of a cough pillow over sternotomy incision is needed.
- Ultimate needs for family- instruction on how to assist Ben with any tasks he is not independent with at time of d/c- will likely include car transfers, stairs, and ambulation on uneven terrain.
- Patient and family education on motor recovery, shared goals, discharge planning and future options for ongoing therapy.

**Plan for discharge:** This is setting specific- from the acute hospital he will almost certainly need to be discharged to acute rehab or possibly skilled nursing to continue his therapy. Given his young age and high potential to benefit from therapy, acute rehab would be the most appropriate setting, however, insurance coverage is not guaranteed. Asking students how they would advocate for Ben and role playing what they would say during a team meeting is a great activity for students to try!

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**Therapist signature and credentials** **Date** **Time**