Regaining Independence in Ambulation for a Visually Impaired Patient with Rhabdomyolysis: A Case Report

CHANS HOME HEALTH & HOSPICE
MID COAST–PARKVIEW HEALTH

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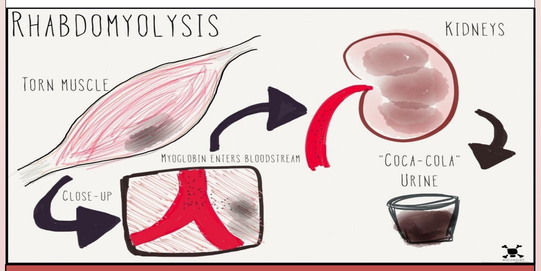
UNE UNIVERSITY OF NEW ENGLAND
INNOVATION FOR A HEALTHIER PLANET

Background

- Myopathic condition with an acute onset that causes a rapid degradation of muscle tissue[1,2]
- Significantly elevated release of creatine kinase (CK) a muscle enzyme that is a cellular component in healthy muscle tissue, into the blood stream[1,3]
- Common causes: muscle trauma (injury/strenuous activity), drug/alcohol abuse, medications, toxins, infections, and extended periods of immobility[2]
- Hallmark signs/symptoms: Muscle pain, swelling, weakness, and dark "tea-colored" urine[1,2]



Purpose

- To describe PT management for a homebound legally blind elderly male with rhabdomyolysis looking to increase independence in the home and the community

Patient Description

- 78-year-old male
- Suffered traumatic fall in the home prior to referral
- Upon medical evaluation, diagnosed with rhabdomyolysis
- Relevant history: Legal blindness (LB) secondary to Leber's hereditary optic neuropathy, hypertension, peripheral neuropathy, chronic obstructive pulmonary disease, patellofemoral pain syndrome
- Primary complaints: weak, shaky, easily fatigued, felt unsafe walking beyond driveway
- Lived home alone with large dog, but had neighbor who helped regularly
- Nondrinker and former smoker

Initial Functional Mobility

Transfers	
Sit to Stand	▪ Contact guard assist ▪ Use arms for control, poor foot placement for leverage to stand
Bed Mobility	▪ Independent with roll/turn, sit to supine, and scoot/bridge
Ambulation	
Level Surface	▪ Ambulated 100 feet with bilateral single point cane and stand by assist ▪ Kyphotic posture, wide base of support, slight bilateral knee flexion/hip external rotation
Uneven Surface	▪ Ambulated 50 feet with bilateral single point cane and minimum assistance ▪ Kyphotic posture, wide base of support, slight bilateral knee flexion/hip external rotation ▪ Discontinuous, cautious steps with short stride length and lateral sway
Stairs	▪ Negotiated 3 steps on porch stairway with single point cane, railing, and minimum assistance ▪ Unsteady step by step pattern leading with left foot, had difficulty clearing right foot when ascending steps due to foot drop

Interventions

Week 1-2
- Lower extremity Range of Motion/Strength (Home Exercise)
- Calf stretch (Home Exercise)
- Sit to stand transfer training
- Level surface ambulation
- Stair training
- Education (hydration/energy conservation)

Week 3-5
- Level surface ambulation
- Stair training
- Uneven surface ambulation
- Education (hydration/energy conservation)
- Gait/stair mechanics
- Adaptive equipment management
- Home Exercise Plan modification

Week 6-9
- Level surface ambulation
- Stair training
- Uneven surface ambulation
- Education (hydration/body mechanics)
- Modification of walker to use white cane

Week 10-15
- Refining ambulation on all surfaces
- Education on energy conservation based on pain presentation

Goals for Physical Therapy

Short Term Goal (4 weeks)	Discharge
Independent with home exercise program	Met
Independent sit to stand transfer	Met
Long Term Goal (Discharge)	**Discharge**
Ambulate 300 feet independently with least restrictive device	Partially Met
Independently negotiate 1 flight of stairs with least restrictive device	Met
Bilateral lower extremity strength 4+/5	Not Met

Outcomes

- Independent with home exercise, sit to stand, and negotiating stairs with least restrictive device
- Stand by assistance with walker outdoors on uneven surfaces
- Achieved 16/28 on Performance Oriented Mobility Assessment (POMA), putting him below the cutoff score >19. This indicated that he is a fall risk.

Manual Muscle Testing

	Initial Exam		Discharge	
Lower extremity	Left	Right	Left	Right
Hip Flexion	4/5	4-/5	4-/5	4-/5
Hip Abduction	4/5	4-/5	4-/5	4-/5
Knee Flexion	4/5	4/5	4-/5	4-/5
Knee Extension	4/5	4/5	4-/5	4-/5
Ankle Plantarflexion	3+/5	3+/5	4/5	4/5
Ankle Dorsiflexion	3+/5	3/5	4/5	4/5

Discussion

- Improved functional mobility to independent transfers, level surface ambulation, and stairs. Stand by assist for uneven surface ambulation.
- On waiting list for private duty per physical therapist recommendation
- Limitations: lack research for geriatric populations, no ramp to bring walker in/out home
- Positive prognostic factors: adherence to therapist recommendations, non-familial support
- Negative prognostic factors: multiple comorbidities, non remitting bilateral calf ache

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