**Definition**

*Limitation of independent operation of wheelchair within environment*

**Assessment**

- Age and gender
- Vital signs
- History of neuromuscular disorder or dysfunction
- Drug history
- Musculoskeletal status, including coordination, gait, muscle size and strength, muscle tone, range of motion (ROM), and functional mobility as follows:
  - 0 = completely independent
  - 1 = requires use of equipment or device
  - 2 = requires help, supervision, or teaching from another person
  - 3 = requires help from another person and equipment or device
  - 4 = dependent; doesn’t participate in activity
- Neurologic status, including level of consciousness, motor ability, and sensory ability
- Characteristics of patient’s wheelchair (e.g., whether standard or motorized) and adequacy of wheelchair for meeting patient’s needs (right size, appropriate safety features, and easy for patient to operate)
- Endurance (length of time patient can operate wheelchair before becoming fatigued)

**Defining Characteristics**

- Postural instability during routine activities of daily living
- Decreased reaction time
- Difficulty turning
- Engages in substitutions for movement
- Gait changes
- Limited ability to perform gross motor skills
- Limited ROM
- Movement-induced shortness of breath
- Movement-induced tremor
- Slowed movement
- Uncoordinated or jerky movements

**Expected Outcomes**

- Patient won’t exhibit complications associated with impaired wheelchair mobility, such as skin breakdown, contractures, venous stasis, thrombus formation, depression, alteration in health maintenance, and falls.
- Patient will maintain or improve muscle strength and joint ROM.
- Patient will achieve highest level of independence possible with regard to wheelchair use.
- Patient will express feelings regarding alteration in ability to use wheelchair.
- Patient will maintain safety when using wheelchair.
- Patient will adapt to alteration in ability.
• Patient will participate in social and occupational activities to the greatest extent possible.
• Patient will demonstrate understanding of techniques to improve wheelchair mobility.

**Suggested NOC Outcomes**

*Ambulation: Wheelchair; Balance; Immobility Consequences: Physiological; Immobility Consequences: Psychocognitive; Mobility*

**Interventions and Rationales**

• Perform ROM exercises for affected joints, unless contraindicated, at least once per shift. Progress from passive to active ROM, as tolerated, to prevent joint contractures and muscle atrophy.
• Make sure the patient maintains anatomically correct and functional body positioning while in the wheelchair to promote comfort. Explain to the patient where vulnerable pressure points are and teach him to shift and reposition his weight to prevent skin breakdown.
• Assess whether the patient’s wheelchair is adequate to meet his needs to help maintain mobility and independence. Consider the following:
  – Is the seat the right size? It should be wide and deep enough to support the patient’s thighs and allow him to sit comfortably. It should be low enough so that the patient’s feet touch the floor but high enough to allow easy transfer from bed to chair. The chair’s back should be tall enough to support the patient’s upper body.
  – Is the chair easy for the patient to operate when weak? If the patient has little or no arm strength, he may need a motorized wheelchair.
  – Is the chair safe? All wheelchairs have safety features, such as brakes that lock the wheels, but some safety features can be modified to meet the patient’s needs. For example, seat belts can be attached at the waist, hips, or chest.
• Identify the patient’s level of independence using the functional mobility scale. Communicate findings to staff to promote continuity of care and preserve the documented level of independence.
• Monitor and record daily evidence of complications related to impaired wheelchair mobility (contractures, venous stasis, skin breakdown, thrombus formation, depression, and alteration in health maintenance or self-care skills). Patients with neuromuscular dysfunction are at risk for complications.
• Encourage the patient to operate his wheelchair independently to the limits imposed by his condition to maintain muscle tone, prevent complications of immobility, and promote independence in self-care and health maintenance skills.
• Refer the patient to a physical therapist for development of a program to enhance wheelchair mobility to assist with rehabilitation of musculoskeletal deficits.
• Encourage attendance at physical therapy sessions and reinforce prescribed activities on the unit by using equipment, devices, and techniques used in the therapy session. Request a written copy of the patient’s rehabilitation program to use as a reference to maintain continuity of care and promote patient safety.
• Assess the patient’s skin on his return to bed and request a wheelchair cushion, if necessary, to maintain the patient’s skin integrity.
• Demonstrate techniques to promote wheelchair mobility to the patient and family members, and note the date to help prepare the patient for discharge and maintain safety. For example, teach the patient and family members how to perform wheelchair push-ups. If the patient can move his arms, have him grip the arms of the chair and push down hard with his hands and arms to try to raise his body off the seat. Have the patient and family members perform a return demonstration to ensure continuity of care and use of proper technique.
• Assist in identifying resources for helping the patient maintain the highest level of mobility, such as a community stroke program, sports associations for people with disabilities, or the National Multiple Sclerosis Society, to promote the patient’s reintegration into the community.

**Suggested NIC Interventions**

*Exercise Promotion: Strength Training; Exercise Therapy: Balance; Exercise Therapy: Muscle Control; Mutual Goal Setting; Positioning: Wheelchair*

**Evaluations for Expected Outcomes**

• Patient doesn’t exhibit complications associated with impaired wheelchair mobility, such as skin breakdown, contractures, venous stasis, thrombus formation, depression, alteration in health maintenance, and falls.
• Patient maintains or improves muscle strength and joint ROM.
• Patient achieves highest level of independence possible with regard to wheelchair use.
• Patient expresses feelings regarding alteration in ability to use wheelchair.
• Patient maintains safety when using wheelchair.
• Patient adapts to alteration in ability.
• Patient participates in social and occupational activities to the greatest extent possible.
• Patient demonstrates understanding of techniques to improve wheelchair mobility.

**Documentation**

• Observations of changes in patient’s mobility status and related complications
• Patient’s expression of concern about loss of wheelchair mobility
• Patient’s goals for future regarding mobility status
• Teaching provided to patient
• Patient’s return demonstration of skills in carrying out wheelchair mobility program
• Patient’s response to nursing interventions
• Evaluations for expected outcomes

**REFERENCE**