
Weakness: Unilateral vs Generalized

DEFINITION/PATHOPHYSIOLOGY

Weakness is a decrease in the strength in one or more muscles. Weakness may be generalized or may affect one muscle or muscle group exclusively. Diseases of the neuromuscular system, injuries, metabolic diseases, and toxins can all cause of measurable muscle weakness.

SIGNS & SYMPTOMS

- Burning feeling in a muscle
- Frequent episodes of falling
- Loss of muscle coordination
- Muscle spasms
- Pain
- Paralysis
- Pins-and-needles (prickling) sensation
- Twitching

Muscle weakness may accompany symptoms that are related to other body systems including:

- Blurred or double vision
- Difficulty with speaking and swallowing
- Diarrhea
- Fainting or change in level of consciousness or lethargy
- Fatigue
- Fever
- Gradual difficulty walking and speaking, memory loss
- Headache
- Nausea with or without vomiting
- Numbness or tingling in the arms or legs
- Unexplained weight loss

ASSESSMENT:

Check for functional level of ambulation.

- Level 1: Walk, regular pace, on level indefinitely; one flight or more but, increasing short of breath than normally
- Level 2: Walk one city block or 500 feet on level; climb one flight slowly without stopping.
- Level 3: Walk no more than 50 feet on level without stopping; unable to climb one flight of stairs without stopping.
- Level 4: Dyspnea and fatigue at rest

Evaluate patient's ability to perform Activities of Daily Living efficiently and safely on a daily basis.

- MDS coding:
 - 0 – Completely independent
 - 1 – Requires use of equipment or device
 - 2 – Requires help from another person for assistance, supervision, or teaching
 - 3 – Requires help from another person and equipment or device
 - 4 – Is dependent, does not participate in activity
- Assess the emotional response to the disability or limitation.
- Assess the safety of the environment.
- Assess presence or degree of exercise-related pain and changes in joint mobility.
- Evaluate the need for assistive devices.
- Monitor nutritional needs as they relate to immobility.
- Assess input and output record and nutritional pattern.
- Assess the strength to perform ROM to all joints.
- Assess for impediments to mobility/ambulation.

NURSING INTERVENTIONS WITH ASSIST OF PHYSICAL/OCCUPATIONAL THERAPISTS

1. Follow **bed mobility** guidelines from therapists:
 - Assist patient for muscle exercises as able or when allowed out of bed; execute abdominal-tightening exercises and knee bends.
 - Present a safe environment: bed rails up, bed in down position, important items close by.
 - Establish measures to prevent skin breakdown and thrombophlebitis or pressure ulcers from prolonged immobility. Turn and reposition the patient every 2 hours or as needed.

- Keep limbs in functional alignment with one or more of the following: pillows, sandbags, wedges, or prefabricated splints.
 - Encourage coughing and deep-breathing exercises. use oral suctioning as necessary. Make use of incentive spirometer.
 - Clean, dry, and moisturize skin.
 - Use anti embolic stockings or sequential compression devices if appropriate.
 - Use pressure-relieving devices as indicated (gel mattress): foam or flotation mattress, water or air mattress or kinetic therapy bed, as necessary.
 - Execute passive or active assistive ROM exercises to all extremities.
2. Under therapy instructions, use and teach patient **transfer techniques**:
- Promote and facilitate early ambulation when possible. Aid with each initial change: dangling legs, sitting in chair, ambulation.
 - Show the use of mobility devices, such as the following: trapeze, crutches, or walkers.
 - Assist with transfer methods by using a gait belt or mechanical lift devices when transferring patients to bed, chair, or stretcher.
 - Let the patient accomplish tasks at his or her own pace. Do not hurry the patient. Encourage independent activity as able and safe.
 - Give positive reinforcement during activity. Patients may be unwilling to move or initiate new activity because of fear of falling.
 - Provide the patient of rest periods in between activities. Consider energy-saving techniques.
 - Help patient develop sitting balance and standing balance.
 - Reinforce principles of progressive exercise, emphasizing that joints are to be exercised to the point of pain, not beyond.
3. When cleared by therapy, initiate **mobility plans** (using wheelchair)
- Help patient in accepting limitations.
 - Offer diversional activities. Observe emotional or behavioral reactions to immobility.
4. If patient is able, assist therapy in promoting **ambulation** with/without devices:
- Give medications as appropriate to alleviate pain.
 - Encourage resistance-training exercises using light weights when ordered by therapy.
 - Use portable pulse oximetry to assess for oxygen desaturation during activity.
5. General:
- Present suggestions for nutritional intake for adequate energy resources and metabolic requirements.

- Encourage a diet high in fiber and liquid intake of 2000 to 3000 ml per day unless contraindicated.
- Set up a bowel program (e.g., adequate fluid, foods high in bulk, physical activity, stool softeners, laxatives) as needed. Note bowel activity levels.
- Explain to the patient the need to call for help, such as call light and special sensitive call light.

PATIENT TEACHING

- Instruct patient to plan activities for times when they have the most energy.
- Teach the patient to recognize signs of physical overactivity or overexertion.
- Teach energy conservation techniques, such as:
 - Sitting to do tasks
 - Frequent position changes
 - Pushing rather than pulling
 - Sliding rather than lifting
 - Working at an even pace

CULTURAL CONSIDERATIONS

Encourage verbalization of feelings regarding limitations.

COORDINATING CARE WITH NURSING ASSISTANT

- Allow and encourage proper rest periods in between individual exercises to ensure optimal performance during sessions.
- Assist with ADLs (activities of daily living) regularly as indicated by the physician or supervisor.
- Observe and address restrictive clothing and items that may impact proper blood flow, oxygen levels and physical comfort.
- Instruct patient to plan activities for times when they have the most energy.

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REFERENCES:

Mosby's dictionary of Medicine, nursing & Health Professions

Meg Gulanick/ Judith L. Myers; Nursing Care Plans Diagnoses, Interventions, and Outcomes/Edition 8

Betty J. Ackley, Gail B. Ladwig; Nursing Diagnosis Handbook: An Evidence-Based Guide to Planning Care / Edition 9

Linton; Introduction to Medical-Surgical Nursing/ Edition 6

Marilyn Sawyer Sommers, Susan A. Johnson, Theresa A. Beery; Diseases and Disorders: A Nursing Therapeutics Manual/ Edition 3

Jane W. Ball Joyce E. Dains John A. Flynn Barry S. Solomon Rosalyn W. Stewart ; Seidel's Physical Examination Handbook/ Edition 8

<http://emedicine.medscape.com/article/184704-overview#a3>

http://www.medscape.com/viewarticle/810992_5

<http://www1.us.elsevierhealth.com/SIMON/Ulrich/Constructor/diagnoses.cfm?did=39>