



Cardiorespiratory Competency Descriptions

List of competencies was developed by members of the National Association for Clinical Education in Physiotherapy (NACEP)

Treatment Techniques

The student will become knowledgeable about a number of treatment methods, but may only practice some. All students should endeavour to obtain practice with a variety of treatment techniques, in keeping with the practices of the clinical setting.

1. Mobilization (e.g. bed mobility; transfers from bed to std., chair; walking within a room; stairs; prescription of mobility device)

2. Safe management of tubes and lines (including peripheral intravenous catheters, IVs, Foley, chest tubes, surgical drains, endotracheal tube)

3. Oxygen titration

4. Improved ventilation / breathing exercises - may include:

- Mobilization
- Deep Breathing (e.g. thoracic expansion exercises - diaphragmatic breathing, lateral costal breathing)
- Volume augmentation (e.g. sniffing, breath stacking)
- Facilitated Breathing / Manual Techniques (e.g. rib springing, basal lifts, Kolakowski techniques)

5. Secretion mobilization may include

- Mobilization
- Active Cycle Breathing Technique (ACBT),
- Forced expiratory technique/huffing, autogenic drainage,
- Postural drainage, percussions (manual/mechanical), vibrations
- Devices (e.g. PEP, Flutter)

6. Secretion clearance – may include:

- Huff, cough, manual assisted cough
- Suctioning – non-intubated, with/without oral or nasal airways
- Suctioning - intubated, tracheal/stoma cough assist
- In-exsufflation/Cough assist

7. Managing dyspnea – may include:

- Purse lip breathing,
- Positioning for SOB,
- Energy conservation
- Relaxation training

8. Implement Exercise Training.

Prescription of adapted programs appropriate for special CR populations such as the critically ill, acutely ill, chronic respiratory and cardiac patients – may include:

- Aerobic exercise prescription
- Resistance exercise

9. Thoracic mobility (e.g. AROM, AAROM, PROM)

Assessment Techniques: CR History / Lab Results

The student will demonstrate knowledge of relevant history and lab results such as those listed below and incorporate them into assessment and treatment planning, in keeping with the practices of the clinical setting.

- 1. Chart review:** accurate & complete for relevant data
- 2. ABG** interpretation
- 3. PFTs / spirometry** interpretation
- Results of **cardiac/pulmonary diagnostic tests** (e.g. echocardiography, ECG arrhythmias, pulmonary stress test)
- Awareness of CR **precautions/contraindications** for treatment
- Collection of radiographic information
- Blood work** findings (e.g. WBC, Hb, platelets, INR, PTT, Troponin, BUN, Creatinine, Alkaline Phosphatase, Serum Calcium, Albumin, electrolytes)
- Pharmacological implications** of medications taken (e.g. ACE inhibitors, B-blockers, respiratory agents) analgesia, PCA, anesthesia)



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Assessment Techniques: Subjective

The student will demonstrate knowledge and/or use of a variety of subjective assessment tools such as those listed below, in keeping with the practices of the clinical setting.

1. **CR complaints** (e.g. SOB, orthopnea, PND, cough, angina, syncope, nausea)
2. **Pain/discomfort** (e.g. angina, musculoskeletal, surgical)
3. Use of patient **self-report measures** (e.g. McGill pain measure, VAS, CLASP, Quality of Life Measures, Borg Rating of Perceived Exertion)
4. **Patient history**, (with focus on respiratory issues such as smoking, etc.)
5. Recent Activity History

Assessment Techniques: Objective: Inspection/Observation

The student will demonstrate knowledge and/or use of a variety of objective assessment measures such as those listed below, in keeping with the practices of the clinical setting.

1. **Lines and Tubes** (understand implications)
2. Understand the implications of and **Perform Vital Signs** (e.g. heart rate, oxygen saturation, blood pressure, respiration rate, temperature)
3. **Fluid Balance** (understand implications)
4. Jugular venous pressure (distention), peripheries, abdomen (understand implications)
5. **Chest Assessment (IPPA)**
 - Inspection (cyanosis, clubbing; rate, rhythm, depth; indrawing, accessory muscle use)
 - Palpation (e.g. position of the trachea, diaphragmatic excursion, sites of chest pain/tenderness)
 - Percussion (resonant, hyperresonant, dull)
 - Auscultation (e.g. vocal sound, breath sounds, adventitia)
 - **Cough** (effective, ineffective)
 - **Sputum** (colour, consistency)
6. **Mobilization** (independent; with supervision/assistance)
 - Bed mobility
 - Transfers
 - Gait/Ambulatory status (with/without mobility aid; with supervision/assistance)
7. **Functional Capacity Measures** (6 MWT, self-paced walk, shuttle walk)
8. **Balance** (sitting, standing, walking)
9. **Posture** (affecting chest expansion)
10. **Strength/Endurance** (sufficient for safe mobilization)
11. **Range of Motion** (e.g. UE/thoracic ROM for thoracic/cardiac/abdominal surgery and COPD)

Analysis and Planning

The student will learn to collect and analyze assessment findings and apply these to the identification of goals and the development of treatment plans, in keeping with the practices of the clinical setting.

1. **Formulate** and **articulate evaluation findings**
2. Establish short- and long-term **patient-centered goals**
3. Develop **effective treatment plans**