The National Alliance of Respiratory Therapy Regulatory Bodies

2011 RESPIRATORY THERAPY

National Competency Profile

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INTRODUCTION

The 2011 Canadian Respiratory Therapy National Competency Profile (NCP) is the culmination of a comprehensive practice review conducted in 2009. Professional Examination Services, a not-for-profit organization based in New York, was hired following a competitive process to conduct the review of respiratory therapy practice in Canada using industry-accepted statistical analysis and standards. A Task Force representative of clinical experts and educators from across Canada began the review process in the fall of 2008.

The outcomes from the Task Force were incorporated into a pilot survey of clinicians conducted in early 2009. Amendments to the survey tool were made based on the pilot survey results. Canadian Respiratory Therapists representative of all geographic and practice areas participated in the survey in the fall of 2009. Similarly, educators were consulted through a survey mechanism regarding the assessment conditions for performance of the entry-to-practice competencies using a separate tool.

Project oversight was provided by the NCP Steering Committee of the National Alliance of Respiratory Therapy Regulatory Bodies (NARTRB). Final approval of the 2011 NCP was made by the NARTRB Board in February, 2010. However, in order to provide stakeholders with an opportunity to implement the revised NCP, it will not become effective until 2011; therefore the NCP is entitled "2011 Respiratory Therapy National Competency Profile". Implementation for the purpose of accreditation will also commence in 2011. Implementation of the 2011 NCP into the Canadian approved examinations will commence for those students writing the exam in 2014.

The 18 Statements of Competence represent the broad competencies defined as the required competencies that an entry-level Respiratory Therapist is expected to be able to perform in the workplace and identifies the outcomes that must be achieved by the conclusion of the educational program.

The nature of the educational experience is intended to develop the student's cognitive, affective and psychomotor skills so that they are adequately prepared to enter the profession and 'practice' to become an effective therapist. The verbs used in each competency statement (demonstrate, perform, manage, assist) relate to the nature of the competency; competency areas 8 – 18 are population specific.

Competencies may be acquired through a wide variety of learning experiences encouraging learners to integrate related outcomes in order to perform at higher and more complex levels. The "minimum performance conditions" identify the minimum level at which a competency should be assessed (for a specific population where applicable) in respiratory therapy education programs and are outlined as follows:

   A. **Didactic** assessment of learning

   B. Performance Assessment in a simulated clinical setting

      a. **Low fidelity simulation**

      b. **High fidelity simulation**

   C. Performance assessment in a **clinical** setting

For the purpose of the 2011 Respiratory Therapy National Competency Profile" low fidelity" and "high fidelity" are defined as follows:

Low Fidelity Simulation: Most commonly used to teach a basic psychomotor skill, involving strategies such as case studies, role playing, or low fidelity mannequins. Use of a low fidelity mannequin requires the instructor to define situational assessment (e.g. no chest rise, no pulse) and the resulting actions taken during the simulation have no consequences.

High Fidelity Simulation: Most commonly used in complex team-based scenarios requiring integration of knowledge, skills, and attitudes. These scenarios often use high fidelity computer driven mannequins which are controlled by user input or by pre-defined scenario-based software. The learner is able to make assessments based on visual cues (e.g. chest rise, presence of pulse) and any actions taken or decisions made, have direct consequences in the outcome of the scenario.

Patient population definitions utilized in the 2011 NCP are:
- Neonate – birth to one month

- Pediatric – one month to 18 years

- Adult - > 18+ years

The entry-level competencies listed in the 2011 NCP are those that students are expected to possess at graduation in order to 'enter the practice' and a two year time frame following graduation is considered the period in which graduates work to 'master the practice'.
Utilization of the 2011 Respiratory Therapy National Competency Profile by educators, accrediting and examination bodies, will strengthen consistency within educational programs and assessment mechanisms, build confidence in labour mobility provisions and ensure that graduates of approved respiratory therapy programs are able to practice safely and competently.

1. PROFESSIONALISM (Professional Conduct)		Didactic	Low Fidelity	High Fidelity	Clinical Practice
1.1	Use professional and respectful language, behaviour, and attire				✓
1.2	Demonstrate support and caring towards patients, co-workers and others				✓
1.3	Adhere to scope of practice limitations				✓
1.4	Adhere to professional medical, legal, and ethical guidelines/regulations				✓
1.5	Adhere to institutional/organizational policies and procedures				✓
1.6	Participate in continuing education				✓
1.7	Perform continuous self-evaluation				✓
1.8	Demonstrate stress management skills				✓

Note: Competency Areas 1 to 7 are not population specific

2. COMMUNICATION		Didactic	Low Fidelity	High Fidelity	Clinical Practice
2.1	Demonstrate effective oral, written, and non-verbal communication skills				✓
2.2	Use adjunctive equipment/techniques to facilitate communication				✓
2.3	Apply active listening				✓
2.4	Use recognized medical terminology				✓
2.5	Maintain documentation and records				✓
2.6	Participate in professional consultations in a multidisciplinary and/or interdisciplinary health care system				✓
2.7	Provide shift change report				✓
2.8	Pursue resolution to interpersonal relationship problems				✓
2.9	Receive and transcribe verbal orders				✓

Note: Competency Areas 1 to 7 are not population specific

3. ANALYSIS AND PROBLEM SOLVING		Didactic	Low Fidelity	High Fidelity	Clinical Practice
3.1	Demonstrate critical judgment in professional practice				✓
3.2	Evaluate and address issues surrounding equipment application and/or operation				✓
3.3	Demonstrate problem-solving skills				✓
3.4	Demonstrate decision-making skills				✓
3.5	Demonstrate prioritization skills				✓

Note: Competency Areas 1 to 7 are not population specific

4. HEALTH AND SAFETY	Didactic	Low Fidelity	High Fidelity	Clinical Practice
4.1 Adhere to procedures and operations with respect to 'Workplace Hazardous Materials Information System' (WHMIS) and Occupational Health, Safety and Wellness (OHS&W)				✓
4.2 Adhere to quality control/assurance guidelines				✓
4.3 Participate in equipment preventative maintenance programs				✓
4.4 Clean and disinfect equipment				✓
4.5 Apply infection prevention and control precautions (e.g., isolation management)				✓
4.6 Use personal protective equipment				✓
4.7 Handle and dispose of biohazardous waste				✓
4.8 Adhere to Canadian Standards Association (CSA) standards for medical equipment				✓
4.9 Adhere to Department of Transportation/Transport Canada regulations for cylinders and medical gases				✓
4.10 Adhere to institutional/organizational disaster and mass casualty plan				✓

Note: Competency Areas 1 to 7 are not population specific

5. ADMINISTRATION		Didactic	Low Fidelity	High Fidelity	Clinical Practice
5.1	Demonstrate basic computer and electronic data management skills				✓
5.2	Participate in institutional/organizational and/or professional body/association meetings/committees	✓			
5.3	Apply cost containment practices (i.e., cost effectiveness)	✓			
5.4	Collect and provide work load measurement data				✓
5.5	Perform non-patient assessments (e.g., environment, risk management, resources, demographics)	✓			
5.6	Evaluate the knowledge and performance of peers/students in order to be able to complete performance reports	✓			
5.7	Orient students and new staff				✓

Note: Competency Areas 1 to 7 are not population specific

6. RESEARCH		Didactic	Low Fidelity	High Fidelity	Clinical Practice
6.1	Use recognized research terminology (e.g., sample size, probability, validity)	✓			
6.2	Contribute directly to research teams (e.g., data pool)	✓			
6.3	Evaluate research data, methods, and outcomes with respect to validity and applicability to therapy and diagnostic procedures	✓			

Note: Competency Areas 1 to 7 are not population specific

7. HEALTH EDUCATION AND PROMOTION		Didactic	Low Fidelity	High Fidelity	Clinical Practice
7.1	Provide cardio-respiratory education to patients/clients, family members, community, advocates and/or other healthcare professionals				✓
7.2	Promote cardio-respiratory health				✓
7.3	Participate in community health programs	✓			
7.4	Act as a patient advocate				✓

Note: Competency Areas 1 to 7 are not population specific

8. PATIENT ASSESSMENT		Didactic	Low Fidelity	High Fidelity	Clinical Practice
8.1	Conduct a comprehensive patient/client history (e.g., environmental, resources, equipment, safety, home evaluation, occupational evaluation, psycho-social, familial and medical history)				**N P A**
8.2	Conduct and interpret results of complete physical respiratory assessment (i.e., inspection, palpation, percussion, auscultation)				**N P A**
8.3	Conduct and interpret results of basic cardiac assessment				**N P A**
8.4	Interpret relevant diagnostic testing (e.g., chest radiography, lab data, oximetry)				**N P A**
8.5	Develop, monitor, assess and adjust respiratory treatment plan				**N P A**
8.6	Develop discharge plan				**A**

N: Neonate, **P**: Pediatric, **A**: Adult

9. PHARMACOLOGY		Didactic	Low Fidelity	High Fidelity	Clinical Practice
9.1	Assess need for medication				**N P A**
9.2	Select administrative method (e.g., inhalation, intravenous, instillation, intramuscular)				**N P A**
9.3	Calculate drug dosages within metric system	**N P A**			
9.4	Verify medical prescription				**N P A**
9.5	Assess and recognize efficacy and side effects of medication				**N P A**
9.6	Titrate dose of medication				**N P A**
9.7	Provide oxygen therapy using appropriate method				**N P A**
9.8	Administer substances (e.g., drugs, fluids) by inhalation				**N P A**
9.9	Administer substances (e.g., drugs, fluids) by injections				**A**
9.10	Administer substances (e.g., drugs, fluids) by instillation				**N P A**
9.11	Administer substances (e.g., drugs, fluids) by infusion				**A**

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10. BRONCHOPULMONARY HYGIENE		Didactic	Low Fidelity	High Fidelity	Clinical Practice
10.1	Perform sputum induction				**A**
10.2	Perform sputum collection procedures				**N P A**
10.3	Perform nasopharyngeal suction therapy				**N P A**
10.4	Perform oropharyngeal suction therapy				**N P A**
10.5	Perform endotracheal suction therapy				**N P A**
10.6	Perform tracheostomy/laryngectomy suction therapy				**N P A**
10.7	Assist with body positioning techniques to facilitate bronchopulmonary hygiene		**N P**		**A**
10.8	Provide humidity therapy using appropriate method				**N P A**
10.9	Perform lung volume recruitment maneuvers				**P A**
10.10	Perform assisted cough maneuvers				**A**
10.11	Promote secretion clearance and breathing techniques				**P A**
10.12	Teach incentive spirometry				**A**

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11. AIRWAY MANAGEMENT		Didactic	Low Fidelity	High Fidelity	Clinical Practice
11.1	Insert nasopharyngeal airways		P		A
11.2	Manage nasopharyngeal airways		P		A
11.3	Remove nasopharyngeal airways		P		A
11.4	Insert oropharyngeal airways		N P		A
11.5	Manage oropharyngeal airways		N P		A
11.6	Remove oropharyngeal airways		N P		A
11.7	Perform bag/mask ventilation with self-inflating resuscitator				N P A
11.8	Perform bag/mask ventilation with flow-inflating resuscitator				N P A
11.9	Perform endotracheal intubation			N P	A
11.10	Assist with endotracheal intubation				N P A
11.11	Manage endotracheal tubes				N P A
11.12	Change endotracheal tubes			N	P A
11.13	Remove endotracheal tubes				N P A
11.14	Perform ventilation via artificial tracheal airway with self-inflating resuscitator				N P A
11.15	Perform ventilation via artificial tracheal airway with flow-inflating resuscitator				N P A
11.16	Insert tracheostomy				A

11. AIRWAY MANAGEMENT		Didactic	Low Fidelity	High Fidelity	Clinical Practice
11.17	Assist with tracheostomy				A
11.18	Manage tracheostomy tubes				N P A
11.19	Change tracheostomy tubes				A
11.20	Remove tracheostomy tubes				A
11.21	Care for and maintain various types of surgical airways (e.g., laryngectomy)				A
11.22	Utilize specialized techniques and adjuncts to facilitate endotracheal intubation (e.g., fiberoptic assisted laryngoscopy)			P	A
11.23	Insert laryngeal masks				A
11.24	Manage laryngeal masks				A
11.25	Remove laryngeal masks				A
11.26	Manage difficult airway			N P	A
11.27	Assist with insertion of specialized airways (e.g., armored tubes, double-lumen tubes)				A
11.28	Manage specialized airways (e.g., armored tubes, double-lumen tubes)				A
11.29	Remove specialized airways (e.g., armored tubes, double-lumen tubes)				A
11.30	Wean from artificial airway intervention				N P A
11.31	Assist with speech therapy (e.g., speech valves)				A

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12. ANESTHESIA		Didactic	Low Fidelity	High Fidelity	Clinical Practice
12.1	Set up and verify anesthetic equipment				A
12.2	Perform pre-anesthetic assessment of airway				A
12.3	Assist with general and regional anesthesia				A
12.4	Monitor patient/client status intraoperatively and manage symptoms				A
12.5	Monitor patient/client status post-operatively and intervene as requested				A
12.6	Manage fluid replacement (e.g., crystalloids, blood)	A			
12.7	Recognize complications related to anesthesia (e.g., malignant hyperthermia) and take corrective action	A			
12.8	Provide thermal regulation				A
12.9	Perform patient positioning				N P A
12.10	Assist with anesthetic procedures outside of operating room (e.g., in radiology, magnetic resonance imaging, computed tomography)				P A
12.11	Assist with conscious sedation				P A
12.12	Perform conscious sedation as per protocols				A

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13. INVASIVE VASCULAR PROCEDURES		Didactic	Low Fidelity	High Fidelity	Clinical Practice
13.1	Perform vascular access through IV				A
13.2	Assist with vascular access through central lines/pulmonary artery catheter				A
13.3	Use indwelling catheters to collect arterial samples				N P A
13.4	Use indwelling catheters to collect venous samples (e.g., central line)				A
13.5	Perform insertion of arterial lines				A
13.6	Assist with insertion of arterial lines				A
13.7	Perform capillary puncture				N P
13.8	Perform blood gas analysis				N P A
13.9	Perform radial artery puncture				P A
13.10	Perform brachial artery puncture				A
13.11	Perform femoral artery puncture				A
13.12	Interpret blood gas analysis and co-oximetry results				N P A
13.13	Interpret blood electrolytes and metabolites				N P A

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14. VENTILATION MANAGEMENT		Didactic	Low Fidelity	High Fidelity	Clinical Practice
14.1	Initiate non-invasive mechanical ventilation				**N P A**
14.2	Maintain non-invasive mechanical ventilation				**N P A**
14.3	Initiate invasive mechanical ventilation				**N P A**
14.4	Maintain invasive mechanical ventilation				**N P A**
14.5	Wean from invasive ventilation				**N P A**
14.6	Wean from non-invasive ventilation				**N P A**
14.7	Interpret ventilator waveforms				**N P A**
14.8	Measure and interpret pulmonary mechanics				**N P A**
14.9	Assess need for and initiate hyperinflation and/or lung volume recruitment techniques on ventilated patients				**N P A**
14.10	Initiate and maintain advanced modes of mechanical ventilation (e.g., HFOV)				**N P A**
14.11	Perform apnea testing for the determination of brain death				**A**
14.12	Manage internal transport of a ventilated patient				**N P A**
14.13	Manage external transport of a ventilated patient				**N P A**
14.14	Manage internal transport of a non-ventilated patient				**N P A**
14.15	Manage external transport of a non-ventilated patient				**A**

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15. CARDIOPULMONARY RESUSCITATION & STABILIZATION	Didactic	Low Fidelity	High Fidelity	Clinical Practice
15.1 Perform basic life support (BLS) protocols according to the current standards of the Heart & Stroke Foundation of Canada			N	P A
15.2 Perform pediatric advanced life support (PALS) protocols according to the current standards			P	
15.3 Perform neonatal resuscitation program (NRP) protocols according to the current standards			N	
15.4 Perform advanced cardiac life support (ACLS) protocols according to the current standards				A
15.5 Perform rapid response assessment skills				N P A

16. CARDIAC DIAGNOSTICS	Didactic	Low Fidelity	High Fidelity	Clinical Practice
16.1 Perform electrocardiogram				A
16.2 Interpret electrocardiogram				A
16.3 Set up and calibrate equipment for invasive hemodynamic procedures (e.g., pulmonary artery catheter, arterial lines)		A		
16.4 Interpret hemodynamic data	N P			A

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17. PULMONARY DIAGNOSTICS AND INVESTIGATIONS		Didactic	Low Fidelity	High Fidelity	Clinical Practice
17.1	Measure static and dynamic lung compliance				A
17.2	Perform walking oximetry				A
17.3	Perform flow/volume loop measurement				A
17.4	Measure lung volume, airway resistance and conductance by body plethysmography				A
17.5	Perform functional residual capacity (FRC) measurements				A
17.6	Measure pulmonary diffusion capacity				A
17.7	Perform bronchoprovocation testing				A
17.8	Measure inspiratory and expiratory pressure by occlusion				A
17.9	Perform testing to appropriate American Thoracic Society standards				A
17.10	Interpret and validate pulmonary function test results	P			A
17.11	Perform/teach peak flow monitoring				A
17.12	Assist with bronchoscopy procedures				P A
17.13	Perform laryngoscopy procedures				A
17.14	Assist with laryngoscopy procedures				N P A
17.15	Perform transcutaneous monitoring (e.g., transcutaneous oxygen and carbon dioxide pressure [TcP02, TcPC02])				N
17.16	Perform end-tidal carbon dioxide monitoring (e.g., setup and interpretation)				N P A

17. PULMONARY DIAGNOSTICS AND INVESTIGATIONS	Didactic	Low Fidelity	High Fidelity	Clinical Practice
17.17 Perform basic sleep studies (e.g., oximetry plus one or more channels)				A
17.18 Perform overnight oximetry				A

18. ADJUNCT THERAPY	Didactic	Low Fidelity	High Fidelity	Clinical Practice
18.1 Administer surfactant replacement therapy				N
18.2 Assist with surfactant replacement therapy				N
18.3 Administer specialty medical gases (e.g., Heliox, nitric oxide)				N P A
18.4 Perform medical gas analysis				N P A
18.5 Assist with esophageal placements (e.g., oral, nasogastric tubes, gastric suction)				A
18.6 Assist with insertion of chest tube				A
18.7 Assist with thoracic suction or drainage therapy				A

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