

Respiratory Therapy Program

Clinical Objectives Logbook

**2019 ~ 2020**

RTCL 3110 & 3120

**Refer to 2016 Respiratory Therapy National Competency Framework**

**Student Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**If found, please call/text:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Level 1 Clinical Site:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Level 2 Clinical Site:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Logbook Evaluation by CSC**

**Level 1**

**Evaluation CSC Signature Date of Review**

Formative \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

Summative \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

**Comments:**

**Logbook Evaluation by CSC**

**Level 2**

**Evaluation CSC Signature Date of Review**

Formative \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

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**Comments:**

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# PRECEPTOR GUIDE

**A guide to signing logbook objectives.**

The expectation for each objective is explained in terms of the Stages of Learning and Performance Expectation.

The Performance Expectation will be listed. It will be one of the following levels of supervision:

\*Direct Supervision (may require assistance)

\*Visual Supervision

\*Minimal Supervision

This lets the preceptor know what is expected in order for a student to achieve a signature for a certain objective or skill. This also lets the preceptor know how much supervision to provide a student with for each skill. For some skills, it is appropriate to provide direct supervision, even towards the end of Level 2.

Within the signature box, there may be an option to select a Stage of Learning. This may be “Guidance” or “Independent”. See the Stages of Learning explanations below to determine which stage your student is performing the skill at. Certain skills may require the student to perform at the “independent” level and with minimal supervision.

Some objectives do not require the student to perform the skill. In this case, other options will be presented such as “observation” or “assist”.

**Stages of Learning**

Observation:

The student will observe the preceptor perform a skill. The observation component is usually preceded by a brief instruction/quizzing session with the preceptor explaining the rational/indications, complications and the various steps of the procedure.

Directed Practice:

Follows instruction/observation and is the demonstration of a clinical skill under the direct observation of a preceptor. This form of practice often involves the need for the preceptor to verbally direct (instruct) the student through the various steps of the skill. Performance of the skill at this level is not to be signed off in the logbook.

**Minimal Guidance** (“Guidance” standard within the logbook):

After having had the opportunity to perform a skill with directed practice, often several times, the student demonstrates the ability to perform a skill in a safe and appropriate manner with little to no need for correction by the preceptor. The expectation here is that the student still requires the presence of a preceptor as their competence (troubleshooting/critical thinking) with the procedure is still developing.

**Independent Practice** (“Independent” standard within the logbook):

The student is able to recognize independently the indications or clinical need for the performance of a skill. They demonstrate the ability to perform the procedure without any direction from a preceptor. The student is able to modify or troubleshoot during the procedure should the situation demand. The student should be able to explain or justify an appropriate rational for their actions.

# CORE COMPETENCIES

The following core competencies are considered intrinsic qualities of an entry to practice Respiratory Therapist. The competencies listed here on pages 8-15 are considered to be foundational qualities that are essential to the performance of routine clinical skills, assessments and interactions with patients and members of the healthcare team. These competencies are inherent within several of the clinical competencies listed on pages 16-53 and will be assessed on an ongoing basis by both the CSC and the preceptors.

**B0 Provide evidence-informed, patient-centred, respiratory care**

Demonstrate empathy and respect towards the patient and family (B0.1)

Respect the rights, privacy and dignity of all individuals

Consider and minimize the effects of psychosocial stress factors on the patient and family

Establish a caring, supportive attitude and behaviour towards the patient and family

Avoid any form of discrimination against patients and family, colleagues or others

Establish partnerships with patients and families (B0.2)

Establish and maintain relationships

Actively collaborate with patients and families in decision-making and care planning

Support patients and families throughout the patient experience

Apply evidence to practice (B0.4)

Use the best available evidence in making decisions about patient care

Identify the patient's unique health state, their individual risks and benefits from potential interventions

Identify the patient's preferences and values

**B1 Demonstrate professional behavior**

Exhibit professional behaviour (B1.1)

Use professional language

Behave in a professional manner in accordance with the standards of the profession

Wear professional attire in accordance with clinical requirements in all situations

Provide advice and treatment impartially and objectively, without pressure from external sources and being aware of conflicts of interest

Act with honesty and integrity, avoiding behavior likely to bring the organization or profession into disrepute or undermine public confidence in the profession

Adhere to the scope of practice (B1.2)

Identify actions that would be outside the scope of practice

Advise the appropriate people of any potential needs outside the scope of practice

Identify and refer to appropriate persons who can provide the out-of-scope requirements

Adhere to professional clinical, legal and ethical guidelines/regulations (B1.3)

Understand relevant guidelines/regulations

Apply the guidelines/regulations

Take action to prevent relevant guidelines/regulations being ignored

Adhere to institutional/organizational policies and procedures (B1.4)

Remain current with relevant institutional/organizational policies and procedures

Adhere to all applicable policies and procedures

Help ensure that the applicable policies and procedures are adhered to by all

Report unsafe or inappropriate practices to the relevant authorities

Be aware of relevant environmental issues and avoid needless waste of resources

Participate in professional development (B1.5)

Set personal goals and formulate a plan for personal professional development

Identify opportunities for professional development

Participate in appropriate professional development/continuing education activities

Participate in quality improvement processes (B1.6)

Participate constructively in the organization’s quality improvement process

Develop awareness of strengths and scope for improvement

Learn from feedback offered through the process

Modify practice in response to the process

**B2 Communicate Effectively**

Demonstrate effective verbal and non-verbal communication skills (B2.1)

Show respect and empathy and communicate in a manner that is respectful of individual diversity

Use effective methods, including appropriate interview techniques, to obtain the patient’s complete medical history and assess their level of health literacy

Employ active listening techniques to understand the needs of others

Convey information on investigations and treatments with the level of clarity appropriate to each patient’s health literacy to allow for mutual understanding and informed consent

Use a variety of communication tools and techniques to enhance and assess understanding on the part of patients and their families

Use appropriate communication techniques to provide accurate and timely transfer of information at all transition points

Demonstrate insight into one’s own communication style with patients and team members in various situations, and adjust this style appropriately to provide safe care

Communicate effectively through documentation (B2.2)

Provide appropriately detailed, legible and clear entries to the patient health record, following every intervention with the patient

Clearly, legibly and accurately document patient care orders and prescriptions

Use appropriate and safe communication techniques in requests, reports and in correspondence outside the health record

Document and provide rationale for deviations from established processes or guidelines

Use information communication technologies (B2.3)

Use information communication technologies appropriately and effectively to provide safe care to patient

Manage conflict and difficult behaviour (B2.4)

Understand conflict and difficult behavior exhibited

Identify who needs to be involved in resolving the conflict

Address underlying issues

Resolve conflict

**B3 Collaborate in the interprofessional health care team**

Collaborate in professional consultation in an interprofessional healthcare team (B3.1)

Negotiate overlapping of responsibilities to support a collaborative approach to patient care

Apply therapeutic and diagnostic procedures based on research data, methods and results (B3.2)

Discuss pertinent data

Review published research and select relevant data

**B4 Optimize cardio-respiratory health and wellness of the Community**

Provide cardio-respiratory health education (B4.1)

Provide education to support development of self-management skills

Engage in activities that would enable people to increase control over their cardio-respiratory health

**B5 Demonstrate critical thinking and reasoning skills**

Analyze the data pertinent to the clinical situation in order to make a decision (B5.1)

Collect data

Distinguish and compare the elements of the situation

Review hypotheses and reflect on the validity of arguments, statements and data

Prioritize clinical activities according to the analysis of the situation (B5.2)

Establish a work plan

Manage time and resource constraints

Demonstrate prioritization and task planning skills

React properly to unforeseen situations

Manage problems (B5.3)

Identify the problem

Demonstrate problem-solving skills

Apply appropriate safety measures

Adjust reasoning to task requirements

Assess the outcome of a decision to guide future actions

**B6 Perform administrative duties**

Use relevant computer and electronic data applications (B6.1)

Use relevant computer systems and standard applications software effectively

Understand the importance of data collection and analysis in the health care setting

Record and access data in a data management system

Analyze data in a data management system

Participate in institutional or professional meetings (B6.2)

Know the goals sought by committees operating at various levels: institutional, provincial and national

Participate in a meeting or on a committee

Demonstrate responsible use of resources to minimize costs (B6.3)

Understand the impact of your practice on the cost of care

Reduce waste

Complete administrative reports (B6.4)

Recognize the role of reporting in the health care setting

Assemble the required information

Complete and submit administrative reports accurately and on time

Review administrative reports and compare with previous reports to identify trends and exceptions, and provide feedback

Complete and submit health and safety reports

Perform assessments other than those related to patients (B6.5)

Assess the health care working environment

Evaluate the performance of staff

Assess peer/student competence and performance (B6.6)

Assess practice based on job description

Establish clear, specific goals and objectives

Perform the evaluation in accordance with the appropriate guide (for example, guide from a teaching institution, guide provided by the employer)

Facilitate student and new staff orientation (B6.7)

Assist the on-boarding of students and new staff in accordance with the program in effect

Develop a student and new staff orientation program and guide

**B7 Implement preventive measures to ensure health and safety**

Analyze the risk posed by a clinical situation (B7.1)

Recognize a situation posing a risk

Assess the components’ potential for harm and their probability

Identify the causes and effects and how to mitigate them

Identify any alternative strategies that could avoid the risk

Plan and implement preventive measures

Apply infection prevention and control precautions (B7.2)

Use proper technique for hand hygiene

Perform a point of care risk assessment

Apply infection prevention and control and personal protective equipment (PPE) procedures for various types of precautions

Clean and disinfect equipment

Manage biohazardous materials (B7.3)

Handle and safely dispose biohazardous materials

Handle dangerous substances and materials (B7.4)

Handle dangerous substances and materials in a safe manner

Adhere to Canadian Standards Association (CSA) standards for medical equipment (B7.5)

Utilize medical equipment in accordance with CSA norms and safety standards

Handle medical gases/liquids safely (B7.6)

Utilize and store medical gases and liquids in a safe manner

Exercise the role of RT in the event of an institutional disaster and mass casualty (B7.7)

Apply the procedures according to the institutional disaster and mass casualty plan

Apply the principles of the Occupational Safety, Health and Wellness (OSH&W) program (B7.9)

Apply preventive measures to maximize health and safety

Manage stress (B7.10)

Recognize and anticipate stressful situations

Identify effective resources and strategies available for managing stress

Apply strategies for reducing and managing stress

Help others to reduce and manage stress and avoid conflict

**B8 Demonstrate accountability appropriate to role in the health care team**

Engage in projects and professional initiatives (B8.1)

Involve team members to achieve objectives

Plan activities, programs and resources

Monitor progress and impact

Adapt to changes

Facilitate change (B8.2)

Identify opportunities for change

Understand drivers of and obstacles to change

Apply change management principles and techniques

Monitor and evaluate the change process

Support and develop the team (B8.3)

Motivate team members

Give team members support when they need it, especially during periods of setback and change

Encourage members to express their ideas, opinions and concerns

Build mutual trust by being fair, reliable, consistent and credible

**C2 Optimize Patient Safety**

Contribute to a culture of patient safety (C2.1)

Apply evidence-informed practice

Maintain and enhance quality of practice through ongoing learning

Refer to guidelines for optimal practice in the administration of care

Manage patient safety risks (C2.2)

Identify situations or environments involving risks to patient safety

Recognize the factors that can affect RT performance and impact the patient

Implement solutions to these patient safety issues

Assess the effectiveness of these solutions and make corrections as needed

Where indicated, use technology to optimize practice

Respond to and report patient safety incidents (C2.3)

Manage immediate risks for patients and others affected

Disclose the occurrence of a patient safety incident. This may include the patient, supervisor, employer, relevant authorities to the patient and/or their families in keeping with relevant legislation

Take part in timely event analysis, reflective practice and planning to prevent recurrence

# WARDS

## Patient History

Conduct a patient history (C1.1.1)

e.g. familial and medical history

* Obtain, collect, and record information
* Differentiate objective & subjective data

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
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|  |  | * Guidance |  |  | * Independent |
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## Physical Respiratory Assessment

Conduct and interpret physical respiratory assessment (C1.2, C1.3)

* Perform visual inspection
* Describe basic emotional state and cognitive function
* Measure vital signs
* Perform IPPA
* Relate findings to patient condition and diagnosis

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

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|  |  | * Independent |  |  | * Independent |

## Cardiac Assessment

Conduct and interpret cardiac assessment (C1.2, C1.3)

* Heart rate and blood pressure
* Differentiate invasive & non-invasive blood pressure
* Relates abnormal results to physiology

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
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## Oximetry

Interpret oximetry (C1.2, C1.3)

* Differentiate fractional and functional saturations
* Describe measurements and errors

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Independent |  |  | * Independent |

## Walking Oximetry

Perform walking oximetry (C1.2, C1.3)

* Identify indications & contraindications
* Describe the variables measured during a walk test

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
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|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Interpret ABG’s

Interpret blood gas and co-oximetry results (C1.2, C1.3)

* Identify normal values
* Interpret acid-base balance
* Relate to lung, kidney & buffer function
* Relate to patient status
* Link to the oxyhemoglobin curve and mechanisms impacting hypoxemia & hypoxia
* Define, calculate & relate following to patient status:
* P(A-a)O2, PF ratio, 02 delivery, 02 consumption, CaO2, CVO2, V/Q, VD, Qs/Qt, and oxygen index
* Relate blood gas to patient status and make differential assessment
* Takes necessary corrective action

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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|  |  | * Independent |  |  | * Independent |

## Arterial Puncture

Perform an arterial puncture (C10.3)

* Select & use appropriate equipment
* Prepare site
* Perform per department policy

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|  | Level 1 | | Level 2 | |
| Date | Initials | Date | Initials |
| **Written test** successful (CSC initials)  Must be completed prior to attempting ABGs. |  |  |  |  |
| **Certification ABG** (site dependent)  Must be completed prior to independent ABGs. |  |  |  |  |

## Successful ABG Log:

\*Minimal supervision for radial punctures \*Direct supervision for brachial, femoral, and pedal punctures

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| Level 1 | | | Level 2 | | |
| Date | Body Site | Initials | Date | Body Site | Initials |
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## Treatment Plan

Develop respiratory treatment plan for wards (B0.3)

* Develop & monitor effectiveness
* Evaluate progress & adjust as needed

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## MDI & SVN Delivery

MDI & SVN delivery (C3.1-C3.4)

* Determine appropriateness and safety of medication
* Select appropriate device
* Prepare & administer medication
* Evaluate response to medication

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

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| --- | --- | --- | --- | --- | --- |
| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Inhaler Teaching

Patient Inhaler Teaching (C3.1-C3.4)

* Teach patient & family with most appropriate techniques & aids to maximize learning
* Evaluates learning has taken place

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |

## Oxygen Therapy

Oxygen Therapy(C3.1-C3.4)

* List indications, complications & hazards with 02 therapy & devices
* Handle & maintain compressed medical gases to safety standards
* Monitor, assess & document effectiveness, & modify as needed

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Oxygen Device | Level 1 | | Level 2 | |
| Date | Initials | Date | Initials |
| Nasal Prongs |  |  |  |  |
| High Flow |  |  |  |  |
| Non-rebreather |  |  |  |  |
| Simple Mask |  |  |  |  |
| Trach Mask |  |  |  |  |
| Optiflow/Vapotherm/Airvo |  |  |  |  |
| T-Piece |  |  |  |  |
| Face Tent |  |  |  |  |

AIRWAY MANAGEMENT (C4)

Universal expectations when managing artificial airways (C4.1)

* Select, insert, maintain and remove device appropriately and timely
* Optimize patient position
* Assist with inserting using correct techniques when necessary
* Assist with change when necessary
* Maintain patent airway and adequate ventilation

Provide humidity therapy (C4.2.3 )

## NPA

Nasopharyngeal airways (NPA) (C4.1)

* Discuss indications, complications, & corrective actions for insertion
* Monitor and document tolerance

Level 1 \* Visual supervision Level 2 \* Minimal supervision

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## OPA

Oropharyngeal airways (OPA) (C4.1)

* Discuss indications, complications, & corrective actions for insertion
* Monitor and document tolerance

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
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|  |  | * Independent |  |  | * Independent |

## Deep Suction

Perform deep suctioning (C4.2)

* Describe indications, contraindications, & physiological effects
* Describe complications & corrective actions

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Non-Invasive Lung Recruitment

Perform non-invasive lung volume recruitment techniques (C6.3)

* Determine goals & strategies for recruitment maneuvers
* Examples include: Incentive spirometry technique, breath stacking, IPPB, modified resuscitator device, and insufflation with cough assist machine

Levels 1 & 2 \*Direct supervision

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| --- | --- | --- | --- | --- |
| Modality | Simulation | | Application | |
| Date | Initials | Date | Initials |
| IPPB |  |  |  |  |
| Incentive Spirometry |  |  |  |  |
| Cough Assist Machine |  |  |  |  |
| Other: |  |  |  |  |

TRACHEOSTOMY TUBES (TT) (C4.1)

## Perc Trach Assist

Assist with tracheostomy tube (TT) insertion (i.e. PERC Trach)

* State indications, contraindications, & complications
* Help prepare patient for insertion
* Monitor patient pre, during & post-procedure

Level 1 \*Direct supervision Level 2 \*Direct supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Guidance * Independent |  |  | * Independent |

## Trach Care

Manage tracheostomy tubes (trach care)

* Assess stoma site & airway patency
* Perform necessary stoma/trach care
* Assure safety equipment is present

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Trach Weaning (cuff deflation, plugging, speaking valves)

Manage trach weaning

* Assess patient for readiness to wean
* State complications associated with each step
* Prepare patient and perform step
* Monitor patient response & take appropriate action
* Cuff Deflation Plugging

Level 1 \* Visual supervision Level 2 \* Visual supervision

**Cuff Deflation:**

|  |  |  |  |  |  |
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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

**Plugging:**

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Speech Therapy

Assist with speech therapy (e.g., Passy-Muir valve)

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |

## Change Trach

Change tracheostomy tubes (TT)

* State indications, contraindications, & complications
* Assess patient for risk, difficulties, & complications
* Assess correct placement
* Secure & document procedure
* Monitor for complications & take corrective action

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Decannulation

State indications, contraindications, & complications

* Assess for readiness to decannulated
* Prepare patient for decannulation
* Monitor patient response
* Take corrective actions as needed
* Provide proper dressing and patient education

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Laryngectomy

Care and maintain various surgical airways (e.g., laryngectomy) (C4.1.8)

* Describe indications, contraindications, complications and corrective actions associated with surgical airways
* Ensure unique emergency equipment is available
* Take corrective action as necessary

Level 1 \*Direct supervision Level 2 \*Direct supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |

# CRITICAL CARE

## Interpret hemodynamics

Assess patient’s cardio respiratory status (C1)

Interpret hemodynamic data (site dependent) (C1.2, C1.3)

* Describe hemodynamic parameters
* Describe how to obtain cardiac output
* Identify hemodynamic pressure waveforms
* Describe ventilatory effects on hemodynamic pressures
* Identify technical & patient-related complications associated with hemodynamics monitoring
* Measure and interpret hemodynamic parameters including:
* Cardiac output, PAP, PCWP, CVP, SvO2, PVR, & SVR

Level 1 \*Direct supervision Level 2 \*Direct supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |

## ECG Interpretation

Perform and interpret ECG’s (C8.1)

* Perform an electrocardiogram
* Assess validity & quality of results
* Interpret results
* Prepare equipment, materials, & patient
* Appropriately place electrodes
* Note quality of reading & correct for artifact
* Assess heart rate & rhythm
* Identify, suggest, & apply corrective action in event of arrhythmia

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |

## CXR Interpretation

Interpret chest x-rays(C1.2, C1.3)

* Describe technical & clinical characteristics of a normal CXR
* Identify abnormalities
* Justify causes of abnormalities
* Distinguish between normal & abnormal CT scans

Level 1 \* Visual supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Independent |  |  | * Independent |

## ET CO2

Interpret end-tidal C02 monitoring (ETCO2) (C1.2, C1.3)

* Describe capnography including indications & contraindications
* Perform ETCO2 monitoring
* interpreting waveforms, trends & values
* Identify complications & corrective actions

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Independent |  |  | * Independent |

## Interpret Electrolytes and Labs

Interpret blood electrolytes and metabolites (chemistry) (C1.2, C1.3)

* Explain fluid balance (extracellular & intracellular)
* Link fluid balance to clinical manifestations & management
* Identify normal values & their respective organs, functions & regulation
* Link electrolyte imbalances to clinical manifestations & management
* Explain basic physiological interactions between electrolytes & acid-base balance

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |

## Treatment Plan (ICU)

Develop an ICU Treatment Plan (B0.3)

* Ensure initial assessment complete
* Define issues and treatment goals
* Establish & adapt plans to achieve treatment goals

Level 1 \* Visual supervision Level 2 \* Minimal supervision

|  |  |  |  |  |  |
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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Rounds/Reports

Communication (Rounds and Shift Report) (B2.1)

* Demonstrates organization of information
* States and interprets all relevant data to patient status
* Suggests and rationalizes alterations in therapy

Level 1 \* Visual supervision Level 2 \* Minimal supervision

**Rounds**

|  |  |  |  |  |  |
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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Independent |  |  | * Independent |

**Shift Report**

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

### PERFORM INVASIVE VASCULAR PROCEDURES (C10)

## Collect Venous Samples (site dependent)

Collect venous samples (e.g., central line)

* Prepare equipment & patient
* Monitor patient and indwelling catheter for possible complications
* Take corrective action
* Assure effective transfer of blood samples to lab

Level 1 \*Direct supervision Level 2 \*Visual supervision (if both levels signed off)

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| --- | --- | --- | --- |
| Class / Simulation | | Observe / Assist | |
| Date | Initials | Date | Initials |
|  |  |  |  |
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## Arterial Line Insertion (site dependent)

Manage arterial lines (C10.2)

* Explain procedure to patient
* Select & use appropriate equipment in relation to the clinical situation
* Perform the procedure appropriately

Levels 1 & 2 \*Visual supervision

\*Minimal supervision if clinical site has both a written and practical certification process and student has completed this

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| Class / Simulation | | Application | |
| Date | Initials | Date | Initials |
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## Assist with Access through CVP/PA Catheters (site dependent)

Assist with vascular access through central lines/pulmonary artery catheter (C10.4)

* Prepare the patient for central line/ pulmonary artery (PA) line insertion
* Select & prepare appropriate equipment & sterile field
* Manage equipment to ensure proper function
* Assist with performance, as required

Level 1 \*Direct supervision Level 2 \*Direct supervision

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| Class / Simulation | | Observe / Assist | |
| Date | Initials | Date | Initials |
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## Set-up/Calibrate Hemodynamic Systems (site dependent)

Set-up and calibrate equipment for invasive hemodynamic procedures (C10.4.2 – C10.4.3)

* Compare indications, sites and techniques for central line cannulation and pulmonary artery catheterization
* Identify normal values & perform calculations related to pulmonary artery catheterization
* Gather, assemble and calibrate equipment
* Monitor, calculate, document & interpret central venous pressure / PA measurements and apply corrective action with complications

Level 1 \*Direct supervision Level 2 \*Direct supervision

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| Class / Simulation | | Observe / Assist | |
| Date | Initials | Date | Initials |
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## Collect Arterial Line Samples

Collect samples using an indwelling catheter (arterial) (C10.5)

* Prepare the patient
* Select & use appropriate equipment
* Perform the procedure

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Independent |  |  | * Independent |

### AIRWAY MANAGEMENT

## Assist with Intubation

Endotracheal Tubes (OETT) (C4.1)

* Assist with intubation
* Describe indications, contraindications, complications, & corrective actions for intubation
* Compare procedures for endotracheal intubation
* Prepare patient for endotracheal intubation, including medications and positioning
* Assess & secure correct placement of tube

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Reposition/Stabilize ETT

Reposition & stabilize OETT

* Assess patency and placement
* Correct as needed
* Describe indications and complications for repositioning
* Move and secure appropriately
* Reconfirm correct placement of tube and status of cuff

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
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|  |  | * Independent |  |  | * Independent |

## ETT Cuff Management

OETT cuff management

* Assess cuff seal
* Correct as needed
* State appropriate cuff pressure & complications associated with high/low

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Change ETT

Change endotracheal tubes (OETT exchange)

* State indications and complications associated with changing an ETT

Level 1 \*Direct supervision Level 2 \*Direct supervision

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| --- | --- | --- | --- |
| Class / Simulation | | Observe / Assist | |
| Date | Initials | Date | Initials |
|  |  |  |  |
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## Extubation

* State indications, contraindications & complications
* Assess patient for readiness
* Discuss plan with medical team
* Prepare patient for procedure
* Monitor patient response
* Performing corrective actions

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
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|  |  | * Independent |  |  | * Independent |

## Suction (ETT/Trach)

Endotracheal/tracheostomy suctioning (C4.2)

* Describe indications, contraindications, & physiological effects
* Describe complications & corrective actions

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Sputum Sample Collection

* Describe methods & equipment for obtaining uncontaminated sample

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

### **VENTILATION**

Provide Optimal Ventilation Assistance (C6)

Universal expectations when performing manual ventilation (C6.1)

* Select appropriate mask &/or artificial airway device
* Utilize proper technique for manual ventilation
* Verify effective ventilation
* Perform manual ventilation in a manner appropriate

## Manual Ventilation

Manual ventilation via **mask**

* Describe common components of self-inflating resuscitators
* Identify potential complications & related corrective actions
* Identify indications & contraindications

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Independent |  |  | * Independent |

Manual ventilation via **artificial airway**

* Identify need for & perform artificial airway ventilation
* Assess adequacy of ventilation and make necessary adjustments

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

Provide Optimal Invasive and Non-Invasive Mechanical Ventilation Support (C6.2)

## Invasive PPV (Initiate/Maintain)

**Initiate** Positive Pressure Ventilation (PPV) (C6.2.1)

* State indications, advantages, complications & hazards of MV
* Demonstrates understanding of theory, equipment & application
* Determine goals and strategies specific to patient
* Ensure alarms are set appropriately and patient safety addressed
* Monitor patient response & respond to needs, risks & complications
* Ensures protective lung strategies are appropriately applied

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Independent |  |  | * Independent |

**Maintain** PPV (C6.2.2)

* Ongoing assessment & response to changes in patient’s pathophysiology
* Adjust ventilator appropriately given ventilator and patient situation
* Explain how changes affect modes, parameters & measurements
* Determine & adjust patient care plan as situation/conditions change

Level 1 \*Visual supervision: minimum 2 pts simultaneously throughout shift

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Level 1 | | | Level 2 | | |
| Date | Initials | 2 vents | Date | Initials | 4 vents |
|  |  | * Guidance * Independent |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Guidance * Independent |
|  |  | * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

Level 2 \*Minimal supervision: minimum 4 pts simultaneously throughout shift

## Wean PPV

Wean from PPV (C6.2.3)

* Discuss methods of weaning & relate to patient
* Discuss complications, hazards & corrective actions related to weaning
* Perform respiratory assessment & measure values for weaning
* Initiate weaning & monitor/assess patient response
* Take corrective action as needed
* Establish alternate weaning plan if applicable

Level 1 \* Visual supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Waveform Interpretation

Monitor and interpret ventilator waveforms and pulmonary mechanics (C6.2.4)

* Interpret ventilator waveforms
* Identify various waveforms
* Describe characteristics that can be determined from waveforms
* Relate to individual patient’s pathophysiology
* Suggest and choose strategies for modifying ventilator settings based on waveform analysis.

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
|  |  | * Guidance |  |  | * Guidance * Independent |
|  |  | * Guidance * Independent |  |  | * Independent |
|  |  | * Independent |  |  | * Independent |

## Pulmonary Mechanics

Measure & interpret pulmonary mechanics

* Measure pulmonary mechanics
* Use information to suggest strategies to optimize ventilation
* Choose and implement strategy that fits current situation.
* Monitor response & make changes as needed

Level 1 \* Minimal supervision Level 2 \* Minimal supervision

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| Level 1 | | | Level 2 | | |
| Date | Initials | Level of Support (check) | Date | Initials | Level of Support (check) |
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|  |  | * Independent |  |  | * Independent |

## Alternative Modes of Ventilation

Initiate and maintain alternative modes of mechanical ventilation (C6.2.5)

* e.g., APRV, Tracheal insufflation, NAVA, Esophageal Balloon
* Compare clinical applications, indications & benefits
* Identify complications and hazards
* Assess need/benefits for therapy & determine goals & strategies
* Monitor mode & patient response; responding when appropriate

Levels 1 & 2 \*Direct supervision

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| --- | --- | --- | --- | --- |
| Modality | Simulation | | Application | |
| Date | Initials | Date | Initials |
| NAVA |  |  |  |  |
| Esophageal Balloon |  |  |  |  |
| Other: |  |  |  |  |
| Other: |  |  |  |  |

## NIV (Initiate/Maintain/Wean)

Non-Invasive Ventilation (NIV) (C6.2)

* Discuss indications, contraindications, advantages, & complications
* Assess need for NIV and justify settings based on oxygenation, ventilation & work of breathing
* Prepare patient and apply NIV therapy safely based on situation
* Assess, monitor and maintain settings appropriately
* Respond to patient’s pathophysiology as required
* Suggest appropriate changes as required
* Discuss and assess weaning methods
* Wean and monitor patient response
* Take corrective action in the event of complications

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | | Level 2 | | | |
| Date | Initials | Intervention | Level of Support  (check) | Date | Initials | Intervention | Level of Support  (check) |
|  |  | * Initiate * Maintain * Wean | * Guidance |  |  | * Initiate * Maintain * Wean | * Guidance * Independent |
|  |  | * Initiate * Maintain * Wean | * Guidance * Independent |  |  | * Initiate * Maintain * Wean | * Independent |
|  |  | * Initiate * Maintain * Wean | * Independent |  |  | * Initiate * Maintain * Wean | * Independent |

## Specialty Gases

Administer specialty medical gases (C3.1-C3.4)

* Describe applications, indications & contraindications
* Describe recommended procedure for administration
* Apply flow corrections for Heliox with oxygen flow-meters
* Discuss pollution concerns and control
* Explain monitoring and weaning
* Prepare equipment and according to protocol
* Monitor and take corrective action

Levels 1 & 2 \*Direct supervision

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| Modality | Class / Simulation | | Application | |
| Date | Initials | Date | Initials |
| Nitric Oxide |  |  |  |  |
| Flolan |  |  |  |  |
| Heliox |  |  |  |  |

## Lung Recruitment Maneuvers

Perform lung volume recruitment (LRM) (C4.2.2)

* Discuss clinical applications, indications, complications, & hazards
* Initiate, monitor patient response, & respond appropriately

Level 1 \*Direct supervision Level 2 \*Direct supervision

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## Apnea Testing

Apnea testing for the determination of brain death

* Identify indications & inclusion criteria
* Prepare necessary equipment & material; prepare patient; complete test; document & interpret results

Level 1 \*Direct supervision Level 2 \*Direct supervision

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## Ventilator and BiPAP Check Out

Ventilator & NIV Checkouts (B7.8)

* (minimum 1 procedure on all ventilators at each hospital)
* Apply clean circuit and filters
* Perform safety checks
* Trouble shoot & deal with malfunctioning equipment
* Set up for proper function in readiness for next patient application

Level 1 \*Visual supervision Level 2 \*Minimal supervision

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| List of Vents & NIV | Level 1 Hospital | | List of Vents & NIV | Level 2 Hospital | |
| Date | Initials | Date | Initials |
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# **ADJUNCT THERAPIES** (C9)

## Insert Esophageal Tubes

Insert esophageal or gastric tubes (C9.1)

* Perform insertion & ensure safe positioning
* Perform gastric suction/drainage
* Remove tube from patients

Level 1 \*Direct supervision Level 2 \*Direct supervision

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| Simulation | | Application | |
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## Assist Thoracic Suction

Assist in thoracic suction or drainage therapy (C9.2)

* Prepare patient for thoracic suction or drainage
* Assist in the insertion of a chest tube or drain
* Maintain thoracic suction or drainage in patients

Level 1 \*Direct supervision Level 2 \*Direct supervision

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| Simulation | | Observe / Application | |
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## Provide Thermal Regulation

Provide thermal regulation (C9.3)

* Use various methods to regulate body temperature

Level 1 \*Direct supervision Level 2 \*Direct supervision

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| Simulation | | Observe / Application | |
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### TRANSPORT

Universal expectations for managing patient transport (C9.4)

* Prepare patient for transport
* Monitor and maintain patient throughout transport
* Ensure safe delivery/handover of the patient post-transport

## Ventilated Patient (Internal)

Internal transport of ventilated patient

* Gather, assemble, & check all appropriate equipment
* Ensure safe & appropriate is provided to other assigned patients
* Provide appropriate care prior to, during, and post transport.
* Adjust therapies as needed
* Uses appropriate body mechanics throughout the transport

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
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|  |  | * Independent |  |  | * Independent |

## Non-Ventilated Patient (Internal)

Internal transport of non-ventilated patient

* Describe factors influencing selection of needed equipment
* Identify precautions and safety issues
* Prepare necessary equipment & accessories
* Monitor patient during & respond to complications

Level 1 \* Direct supervision Level 2 \* Visual supervision

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| Level 1 | | | Level 2 | | |
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|  |  | * Guidance * Independent |  |  | * Independent |

## Ventilated Patient (External)

External transport of a ventilated patient

* Help prepare equipment & accessories necessary for out-of-hospital transport
* Identify environmental and safety factors
* Participate in out-of-hospital transport
* Monitor and stabilize patient during transport

Level 1 \* Direct supervision Level 2 \* Direct supervision

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| Level 1 | | | Level 2 | | |
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|  |  | * Guidance * Independent |  |  | * Independent |

### PULMONARY FUNCTION

Administer cardio-pulmonary diagnostic tests (C8)

Universal expectations for pulmonary function testing (C8.2)

* Perform pulmonary function testing to accepted standards
* Assess the validity and quality of the results
* Interpret results

## Spirometry

Flow/volume loop measurement (spirometry)

* Describe principles
* Relate indications & contraindications to individual patients
* Describe how predicted values are determined
* Rationalize pre & post bronchodilator testing & significance of results
* Identify indications for early &/or timely termination of a test
* Prepare the equipment, material & patient for spirometry

Level 1 \* Direct supervision Level 2 \* Visual supervision

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## Body Plethysmography

Measure lung volume, airway resistance and conductance by Body Plethysmography

* Perform functional residual capacity (FRC) measurements
* Measure static and dynamic lung compliance
* Describe methods used and functional principles
* Relate indications and contraindications to individual patients
* Explain the variables measured & their significance
* Identify the indications for early &/or timely termination of a test
* Prepare equipment, material & patient for performing tests

Level 1 \* Direct supervision Level 2 \* Direct supervision

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## DLCO

Measure pulmonary diffusion capacity (DLCO)

* Explain how diffusion capacity is determined
* Compare indications & contraindications
* Explain variables measured & their significance
* Identify indications for early &/or timely termination of a test
* Prepare equipment, material & patient for performing tests

Level 1 \* Direct supervision Level 2 \* Direct supervision

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## Bronchoprovaction

Perform Bronchoprovocation Testing

* Relate indications, contraindications & hazards, including drugs utilized
* Explain variables measured during & their significance
* Identify the indications for early &/or timely termination of a test
* Prepare equipment & drugs (explain how dose is determined) necessary for BPT
* Prepare patient, & perform bronchoprovocation testing
* Evaluate results, determining validity of test & degree of reactivity

Level 1 \* Direct supervision Level 2 \* Direct supervision

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## Insp/Exp Occlusion Pressure

Measure inspiratory and expiratory pressure by occlusion

* Compare the indications, contraindications & hazards
* Explain variables measured during these maneuvers
* Identify the indications for early &/or timely termination of a test
* Prepare necessary equipment & material
* Prepare patient, & perform tests in patients
* Evaluate results & reproducibility

Level 1 \* Direct supervision Level 2 \* Direct supervision

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|  |  | * Guidance * Independent |  |  | * Independent |

Perform diagnostic tests for sleep related breathing disorders (C8.3)

* Prepare the patient for appropriate monitoring
* Assess the validity and quality of the results
* Interpret the results

## Overnight Oximetry (Basic Sleep Studies) (site dependent)

Perform overnight oximetry and Basic sleep studies

* (e.g., oximetry plus one or more channels)
* Explain the significance of recordings obtained during sleep studies
* Explain the principles of operation of commonly used measuring devices
* Assist with preparation of patient, equipment and material, including the room, for overnight oximetry/sleep studies per protocol
* Assist with initiation of study & monitor overnight oximetry/sleep study monitoring
* Discuss evaluation, documentation and reporting of results

Level 1 \* Direct supervision Level 2 \* Direct supervision

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|  |  | * o/n oximetry * Multichannel | * Guidance * Independent |  |  | * o/n oximetry * Multichannel | * Independent |

### BRONCHOSCOPY

***Assist with bronchoscopy procedures (C4.2.4)***

* Describe purpose of procedure
* Identify indications, contraindications, & hazards
* Describe corrective actions
* Differentiate between flexible (fiberoptic) & rigid bronchoscopes
* Describe purpose of drugs commonly used
* Describe indications & method of performing bronchoalveolar lavage
* Describe methods of obtaining & preparing samples
* Describe modifications required for an intubated & ventilated patient
* Prepare equipment, accessories & drugs necessary for
* Prepare patient for procedure with special attention to monitoring
* Assist during a bronchoscopy/laryngoscopy procedure
* Applies safe measures and precautions for both patient and staff
* Take responsibility for sample collection using the appropriate solutions for preservation, applying correct labelling & safely transporting samples as per department policy
* Monitoring patient during recovery period

Level 1 \* Direct supervision Level 2 \* Visual supervision

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### COMMUNITY

## Community RRT

Participate in addressing cardio-respiratory health needs of the community (B4.2)

* Provide RT services in a community setting
* Provide outreach services to the community

***A. Community Respiratory Therapy (CRT)***

* Understands the purpose of Community Respiratory Therapy
* Understands the referral criteria for CRT

***B. Community Patient Assessment***

* Demonstrates ability to assist with patient assessment
* Demonstrates appropriate communication with the health care team concerning changes in patient status

***C. Understands Application & Initiation of Therapy***

i.e. Pharmacology, physical therapy, oxygen therapy, secretion removal, etc.

**Initials represent A, B, & C objectives above**

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## Lung/Health Rehabilitation

***A. Lung Health / Rehabilitation (site dependent)***

* Program
* Understands purpose of Program
* Understands criteria and process for referring to Program

**B. *Rehabilitation***

* Demonstrates ability to assist with interviewing & assessments
* Understands exercise regimes & benefits in COPD patients
* Understands components of program including smoking cessation

***C. Promote breathing techniques***

* Describe potential benefits of applying controlled breathing techniques
* Understands ways to instruct patient on applying effective breathing techniques, and performs if available

***D. Patient Care***

* Demonstrates ability to assist in creating an Action Plan
* Demonstrates ability to instruct patient on proper inhaler technique
* Demonstrates ability to monitor patients during exercise
* Demonstrates ability to communicate patient data and changes in status

**Initials represent A, B, & C objectives above**

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## Asthma/COPD Education

Asthma/COPD Education (site dependent)

***A. Program***

* Understands purpose of Asthma/COPD Education Program
* Understands difference between Pediatric and Adult patients

***B. Patient Assessment***

* Demonstrates ability or assists with interview and assessment of a patient
* Demonstrates ability or assists with pre/post spirometry
* Demonstrates ability to communicate appropriate level to patients

***C. Patient Education***

* Demonstrates ability to instruct a patient on proper inhaler technique
* Demonstrates ability or assist in creation of an Action Plan

**Initials represent A, B, & C objectives above**

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## Home Oxygen Program

Understands the home oxygen program and the criteria for adjudication

Levels 1 & 2 \* Direct supervision

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### ANAESTHESIA

**Perform anesthesia assistance (C5)**

**Assist with anesthesia (C5.1)**

**Manage homeostasis of a patient during anaesthesia (C5.2)**

**Manage the patient during sedation (C5.3)**

**Pre-Anaesthetic Assessment**

## Assess patient general status (ASA status) (C5.1.1)

* Describe what changes, to anesthesia management, are required for specific considerations such as: heart disease, respiratory conditions, pregnancy, peds, and day surgical cases

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## Perform airway assessment prior to induction (C5.1.2)

* Perform pre-anesthetic assessment of airway
* Evaluate patient airway prior to induction
* Discuss specific issues and evaluation techniques such as TMJ, C-spine, Mallampati etc.
* Describe airway assessment indicators for difficult airways

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## Manage Vascular access through IV insertions (C10) (site dependent)

* Collect equipment necessary for IV insertion (C10.1.2)
* Explain the procedure to the patient (C10.1.1)
* Describe purpose, sites and techniques for vascular access through IV
* Perform technique for Insertion of intravenous lines (C10.1.3)
* Discuss potential complications and the corrective actions that would be required

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## Assist in positioning patient for surgery (C5.1.3)

* Discuss differences between various surgical positions and influence on anaesthetic techniques
* Positioning for different surgeries

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## Airway Management (C4.1)

* Discuss Management of a difficult airway
* Describe clinical situations involving a difficult airway and corrective actions
* Demonstrate airway management techniques
* Distinguish difficulties associated with the insertion of an ETT
* Compare specialized techniques and adjuncts utilized to facilitate insertion of an ETT (Bougies, fiberoptic, positioning techniques)

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**Intra-Operative Management**

## Adjust fluid/blood administration in an anaesthetized patient based on surgical requirements (C5.2.1)

* Understanding of fluid requirements according to the type of surgery
* Discuss types of fluids/blood replacements
* Describe clinical indications and complications associated with blood replacement
* Review blood product administration procedure, including cross match compatibility testing

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## Apply appropriate devices to maintain thermal regulation (C5.2.2)

* Discuss considerations for temperature management intra-operatively
* Discuss ways to provide thermal regulation post-operatively

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## Monitoring/Manage patient during anaesthesia (C5.1.4 and C5.3)

* Physiological monitoring of patients during anaesthesia according to Canadian Anaesthesiologist Society guidelines
* Discuss maintenance and intra-operative anesthetic adjustments and physiological response to anaesthesia or surgical stimulation
* Describe complications related to anesthesia (e.g., allergies, malignant hyperthermia, hypotension, hypothermia, anaphylaxis, aspiration, air embolus)
* Discuss drug dosages to provide a steady state of anaesthesia
* Suggest adjustments to ventilatory parameters in response to physiological reactions or surgical manipulation in anesthetized patients
* Recognize changes in oxygenation and ventilation status in anesthetized patients

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## Prepare Medications and substances for administration (C3.2)

* Perform dosage calculations (C3.2.1)
* Safely prepare medication following monograph and workplace hazard best practice guidelines (C3.2.2)
* Ensure proper labeling and handling of prepared medications and substances according to best practice standards (C3.2.3)

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## Administer Substances by Infusion (C3.3) (site dependent)

* Administer substances (e.g., drugs, fluids) by infusion (C3.3.2)
* Discuss calculation and safe preparation of administered substances
* Describe/discuss the following:
  + Indications and contraindications for a given substance
  + What patient responses to monitor
  + Potential complications and required actions
* Perform appropriate documentation of medication or substance administration (C3.3.4)

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## Manual Ventilation (C6.1.1 - 6.1.4)

* Perform mask/bag ventilation with a flow-inflating and/or self-inflating resuscitator
* Describe the common components of flow-inflating and self-inflating manual resuscitators
* Describe the factors affecting the delivered oxygen concentration and lung volume
* Identify potential complications and related corrective action
* Perform bag/mask ventilation, assessing adequacy of ventilation/oxygenation and adjusting as necessary

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## Emergence From Anaesthesia

## Prepare the patient for emergence (C5.1.5)

## Assist the anaesthesiologist during emergence (C5.1.6)

* Discuss elements of emergence from anaesthesia, including potential complications and corrective actions
* Drug dosages for medications used during emergence

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***Assist with regional anesthesia*** *(C5.1)*

* Discuss indications, contraindications, complications and corrective actions
* Assess patient general status and verify feasibility of procedure in a clinical setting
* Observe the anesthesiologist perform regional anesthesia
* Assess immediate patient response to interventions in a clinical setting

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## Intubation (tracked in ‘Record of Airway Management’ section on the following page) (C.4.1)

* Describe the indications, contraindications, and complications/corrective actions for endotracheal intubation.
* Optimize patient position (C.4.1.2)
* Prepare equipment and patient for endotracheal intubation in specific clinical situation.
* Perform endotracheal intubation on patients using safe practice (including personal protection) and using appropriate adjuncts and equipment specific to the given clinical situation (C.4.3)
* Utilize specialized techniques and adjuncts to facilitate endotracheal (ETT) intubation (e.g. fiberoptic assisted laryngoscopy)
* Assist with insertion, management and removal of specialized airways (e.g. armoured tubes, double lumen tubes)
* Assess correct placement of tube, adequate ventilation and oxygenation, secure tube, and document procedure. Take corrective action as required.

## LMA Insertion (tracked in ‘Record of Airway Management’ section on the following page) (C.4)

* Insertion, Management, and Removal of laryngeal masks (LMA)
* Describe indications and complications associated with insertion of a LMA
* Gather supplies and perform insertion of a LMA while ensuring adequate ventilation
* Assess ventilation and oxygenation; secure and inflate laryngeal mask
* Monitor for complications and take corrective action
* Describe indications and method for removal of a laryngeal mask
* Remove LMA while monitoring patient’s response; Take corrective action as necessary

**Record of Airway Management**

Complete this record to track your intubations/airway insertions and for the purpose of quality assurance in the Respiratory Therapy Program.

Level (please circle) Dates of Anesthesia rotation Clinical Site(s):

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| Equipment Used  (BMV, LMA, ETT, Glidescope, etc…) | Date | Preceptor / Physician Initials |
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### RESUSCITATION

Resuscitation (C7)

Perform distinction, assessment and rapid intervention as per resuscitation guidelines (C7.1)

Perform basic life support (BLS) protocols according to the current standards of the Heart & Stroke Foundation of Canada (C7.2)

## BLS and ACLS Management

Perform adult advanced life support (ACLS) protocols according to the current standards of the Heart & Stroke Foundation of Canada (C7.3)

* Perform BLS & ACLS survey; intervene as required
* Manage Respiratory Arrest per protocol
* Manage following algorithms: Pulseless Arrest (VF/VT), Bradycardia/Asystole/PEA, Tachycardia (Stable & Unstable)
* Describe Acute Coronary Syndromes (ACS)
* Describe signs & symptoms of a stroke & necessary treatment

Level 1 \* Direct supervision Level 2 \* Direct supervision

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## SIM SESSION TRACKING

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# RESPIRATORY NORMAL VALUES

Respiratory Therapy Program Normal Values

Adopted from: CBRC Candidate Information Manual 2012, CSRT Occupational Profile 2000-2005; Egan’s Fundamentals of Respiratory Care, 9th Ed; Wilkins, Stoller, Kacmareck 2009

**Blood Gases (Accepted ranges for blood gas interpretation)**

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| Parameter | Unit | Arterial Adult | Mixed Venous, Adult | Arterial, Term Infant | Arterial, Neonate, very low birth weight |
| pH |  | 7.35 - 7.45 | 7.30 – 7.40 | 7.30 – 7.40 | ≥ 7.25 |
| PCO2 | mm Hg | 35 - 45 | 40 - 50 | 30 - 40 | 45 - 55 |
| PO2 | mm Hg | 80 - 100 | 35 - 40 | 80 - 100 | 50 - 70 |
| HCO3- | mmol/L plasma | 22 - 26 | 22 - 26 | 20 - 22 | 18 - 20 |
| SO2 | % | 93 - 97 | 70 - 75 |  |  |
| Base Excess |  | -2 to +2 | -2 to +2 |  | - 5 to + 2 |

**Hypoxemia (reduced blood oxygen tension)**

|  |  |  |
| --- | --- | --- |
| Degree of Severity | PaO2 mm Hg | Notes |
| Mild | 60-79 | in adults less than 60 years old |
| Moderate | 45 - 59 | in adults less than 60 years old |
| Severe | < 45 | in adults less than 60 years old |

**Chemistry** **Basic Oxygen Interpretation**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Test, Serum | Unit | Value   |  |  |  | | --- | --- | --- | |  | **Unit** | **Value** | | P**a**O**2**/P**A**O2 Ratio |  | 0.75 – 0.80 | | P**(A-a)**O2 | mm Hg | 5 – 15 | | DO2 | ml/min | 900 – 1200 | | DO2I | ml/min/m2 | 520 – 570 | | O**2**ER (body) | % | 25 – 35 | | O**2**ER (cerebral) | % | 20 – 40 | | Q**s**/Q**T** | % | 3.5 – 5.0 | | VO2 | ml/min or  ml/min/ m2 | 250  110 – 160 | | VCO2 | mL/min | 200 | |  |  |  | |  |  |  | |  |  |  | |
| K+ | mmol/L | 3.5 – 5.0 |
| Na+ | mmol/L | 135 - 145 |
| Cl- | mmol/L | 95 – 105 |
| Mg2+ | mmol/L | 0.7 – 1.0 |
| Ca2+ | mmol/L | 1.10 – 1.35 |
| Phosphate | mmol/L | 0.80 – 1.50 |
| Creatinine | µmol/L | 50 – 110 |
| Urea (BUN) | mmol/L | 3.0 – 8.0 |
| Albumin | g/L | 33 – 47 |
| Anion Gap | mmol/L | 9 – 14 (no K+) |
| Lactate | mmol/L | 0.6 – 1.2 |
| Glucose  (fasting) | mmol/L | 4.0 – 6.0 |
| Glucose  (Random) | mmol/L | 4.0 – 11.0 |

**Hemodynamics** **Hematology**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Parameter | Unit | Value   |  |  |  | | --- | --- | --- | | **Test** | **Unit** | **Value** | | RBC | 1012/L | 4.5 – 5.5 | | WBC | 109/L | 4.0 – 11.0 | | Platelets | 109/L | 150-400 | | Hematocrit | % | 42-47 | | Hb (male) | g/L | 135 -165 | | Hb (female) | g/L | 120 - 150 | | COHb | % | < 5 | | MetHb | % | < 2 | | INR |  | 1.00-1.20 | | PTT | s | 23-30 | | Fibrinogen | g/L | 1.7 – 4.1 | | d-Dimer | mg/L | 0.0 – 0.49 | | CK | U/L | 40 – 230 | | CKMB | ug/L | 0 – 8 | | Trop. | ug/L  ng/L | 0 – 0.050  0 - 14 | |
| HR | /min | 60 – 100 |
| BP | mm Hg | 100 – 140 / 60 – 95 |
| MAP | mm Hg | 70 – 100 |
| C.O. | L/min | 4.0 – 8.0 |
| C.I. | L/min/m2 | 2.5 – 4.0 |
| SV | mL/beat | 60 – 130 |
| SVI | mL/beat/m2 | 30 - 50 |
| EDV | mL | 120 – 130 |
| LVEF | % | 0.50 – 0.60 |
| LVEDP | mm Hg | 4 – 12 |
| PP | mm Hg | 30 – 50 |
| CVP | mm Hg | ≤ 6 |
| PAP | mm Hg | 20 – 30 / 5 – 15 |
| Mean PAP | mm Hg | 10 – 20 |
| PCWP | mm Hg | 4 – 12 |
| PVR | dyn•sec•cm-5 | < 250 |
| PVRI | dyn•sec•cm-5/m2 | 200 – 400  **Neurology**   |  |  |  | | --- | --- | --- | | **Test** | **Unit** | **Value** | | CPP | mm Hg | 70 – 110 | | ICP | mm Hg | 0 – 14 | |
| SVR | dyn•sec•cm-5 | 900 - 1400 |
| SVRI | dyn•sec•cm-5/m2 | 1800 – 2400 |
| LVSWI | g•m/m2 | 35 – 60 |
| RVSWI | g•m/m2 | 6 – 12 |
| CaO2 | ml/dl (vol%) | 16 – 22  **Pulmonary Physiology**   |  |  |  | | --- | --- | --- | | **Test** | **Unit** | **Value** | | f | /min | 12 – 20 | | Vt | mL/kg | 5.0 – 8.0 | | V**E** | L/min | 5 – 10 | | I:E |  | 1:3 (spontaneous ideal) | | V**A** | L/min | 3 – 5 | | P**A**CO2 or P**et**CO2 | mm Hg | 35 – 45 | | P**E**CO2 | mm Hg | 20 – 35 | | V/Q |  | 0.80 | | RQ |  | 0.80 | | D**LCO** | mL/min/mm Hg | 25 | |  |  |  | |  |  |  | |
| CvO2 | ml/dl (vol%) | 13 – 16 |
| C(a-v)O2 | ml/dl (vol%) | 4.5 – 6.0 |

**Pulmonary Physiology**

|  |  |  |
| --- | --- | --- |
| **Test** | **Unit** | **Value** |
| V**D**/V**T** |  | 0.25 – 0.40 (non ventilated)  0.50 – 0.60 (ventilated) |
| C**stat** | L/cmH2O | 0.10 – 0.20 (non ventilated)  0.07 – 0.10 (ventilated) |
| R**AW** | cmH2O/L/s | 0.60 – 2.5 (non-ventilated)  5.0 – 7.0 (ventilated) |
| Time constant (t) | | 0.2 – 0.3 |
| RV/TLC | % | 20 – 25 |
|  |  |  |
|  |  |  |