

Pan-Canadian Essential
Regulatory Requirements **PERRs**

**CANADIAN PARAMEDIC
COMPETENCE FRAMEWORK**
for the

**Advanced Care
Paramedic**

2023

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**CANADIAN PARAMEDIC
COMPETENCE FRAMEWORK
for the**

Advanced Care Paramedic

Competencies identify the knowledge, skills, and attitudes that paramedics are required to perform competently. They are a list of what the public and patients can expect from a registered paramedic to ensure safe, effective patient care.

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Advanced Care Paramedics (ACP) have enhanced paramedic-specific education that builds on the Primary Care Paramedic's education. ACPs provide context-specific, advanced life support and patient care for medically complex patients. They collaborate with other health care providers. When appropriate, ACPs hand over care to other team members or engage in transfer of care or discharge patients following assessment and treatment.



The Canadian Paramedic Competence Framework

The eight areas of competence that form the paramedic's expertise are based on the CanMEDS Physician Competency Diagram,¹ and are illustrated below.

- A. Professionalism (**P**rofessionalism)
- B. Patient- and Community-Centred Communication (**C**ommunication)
- C. Integrated Collaborative Health Care (**C**ollaboration)
- D. Continuous Learning and Adapting to Evidence (**L**earning and **A**dapting)
- E. Health of Professional (**H**ealth)
- F. Advocacy for Health, Equity, and Justice (**A**dvocacy)
- G. Leadership (**L**eadership)
- H. Care Along a Health and Social Continuum (**C**are)

Areas of Competence


The overlapping colours in the centre of the diagram capture the complementary nature of the areas of competence, highlighting that a competent paramedic will continually draw from each of the areas, at times simultaneously.



1. Adapted from the CanMEDS Physician Competency Framework with permission of the Royal College of Physicians and Surgeons of Canada. Copyright © 2015.

Navigating the Competencies

Each area of competence contains the following information.

AREA		Professionalism										
DESCRIPTION		The paramedic demonstrates ethical practice and high standards of professional behaviour, and is accountable to patients, the public, the profession, and regulators.										
KEY COMPETENCIES, which are the expected performance outcomes.	A1 Exhibit a commitment to patients by applying best practices and adhering to high ethical standards	<table><tr><td>A1.1</td><td>Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, altruism, maintenance of confidentiality, and respect, including for diversity</td></tr><tr><td>A1.2</td><td>Recognize and respond appropriately to ethical issues encountered in practice</td></tr><tr><td>A1.3</td><td>Recognize and manage conflicts of interest</td></tr><tr><td>A1.4</td><td>Exhibit professional behaviours in the use of technology-enabled communication</td></tr><tr><td>A1.5</td><td>Demonstrate a commitment to patient safety and quality improvement</td></tr></table>	A1.1	Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, altruism, maintenance of confidentiality , and respect, including for diversity	A1.2	Recognize and respond appropriately to ethical issues encountered in practice	A1.3	Recognize and manage conflicts of interest	A1.4	Exhibit professional behaviours in the use of technology-enabled communication	A1.5	Demonstrate a commitment to patient safety and quality improvement
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A1.3	Recognize and manage conflicts of interest											
A1.4	Exhibit professional behaviours in the use of technology-enabled communication											
A1.5	Demonstrate a commitment to patient safety and quality improvement											
INDICATORS, which are key criteria and actions important to achieving the key competency's expected outcome.												
KEY TERMS are defined in the GLOSSARY. The first time a defined term appears in the competence area, it is bolded .												

Appendix A contains an expanded list of foundational knowledge and minimum entry to practice skills for the Care Along a Health and Social Continuum competence area.

A NOTE REGARDING COMPETENCE

Competence is the level at which individual paramedics demonstrate their knowledge, skills, and attitudes to carry out safe, effective practice. Regulators, educators, examination and accreditation bodies, employers, paramedics, and members of the public look to competencies to define performance expectations.

“Minimal” or “essential” competence focuses on the usual day-to-day work that is expected to be accomplished by paramedics with the same designation (in the case of this document, the ACP). “Minimal” is often used to assess performance at entry to designation or to identify underperformance (for example, was the minimal performance level met?).

“Essential” is a broader term that reflects the necessary performance throughout the professional's career, including at entry to designation. While “essential” and “minimal” are interchangeable in the context of this competence framework, the term “essential” is used.

A

Professionalism

The paramedic demonstrates ethical practice and high standards of professional behaviour, and is accountable to patients, the public, the profession, and regulators.

A1

Exhibit a commitment to patients by applying best practices and adhering to high ethical standards

- A1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, altruism, maintenance of **confidentiality**, and respect, including for diversity
- A1.2 Recognize and respond appropriately to ethical issues encountered in practice
- A1.3 Recognize and manage conflicts of interest
- A1.4 Exhibit professional behaviours in the use of technology-enabled **communication**
- A1.5 Demonstrate a commitment to patient safety and **quality improvement**

A2

Demonstrate accountability and accept responsibility for the paramedic's own decisions and actions

- A2.1 Demonstrate trustworthiness
- A2.2 Respond to and report unprofessional, unethical, or oppressive behaviour when observed and as required
- A2.3 Be accountable for all decisions made and actions taken in the course of practice

A3

Adhere to regulatory requirements, including practice standards and guidelines

- A3.1 Respect the laws, practice standards, rules, and regulations that govern paramedicine
- A3.2 Work within the regulator-defined **scope of practice** and within the paramedic's **personal level of competence**
- A3.3 Obtain and maintain informed **consent** in a way that is appropriate for the practice context
- A3.4 Respect professional **boundaries**

B

Patient- and Community-Centred Communication

The paramedic communicates with patients, their **families**, communities, and those in patients' **circle of care** to meet needs in an accessible, equitable, compassionate, safe, and effective way.

B1

Establish professional **therapeutic relationships** with patients, their families, and those in patients' circle of care

- B1.1 Communicate using a **patient-centred** approach that encourages patient trust and autonomy and is characterized by empathy, respect, and compassion
- B1.2 Optimize the physical environment for patient comfort, dignity, **privacy**, engagement, and safety
- B1.3 Recognize when the values, biases, and perspectives of patients, their families, and other health care professionals may have an impact on the quality of care, and modify the patient approach accordingly
- B1.4 Enhance communication by recognizing and responding to patients' non-verbal behaviours
- B1.5 Manage disagreements and emotionally charged conversations using de-escalation techniques
- B1.6 Adapt to the unique needs and preferences of each patient and to their clinical condition and circumstances

B2

Gather and synthesize accurate, relevant information compassionately and respectfully, incorporating the perspectives of patients, their families, and those in patients' circle of care

- B2.1 Use patient-centred interviewing skills to effectively gather relevant biomedical and psychosocial information
- B2.2 Provide a clear structure for the patient and family to manage the flow of an entire patient encounter
- B2.3 Seek out and synthesize relevant information from other sources, including patients' families and circle of care, with patients' **consent**

B3

Share patient health care information and plans after obtaining the appropriate patient consent

- B3.1 Share clear, accurate, and timely information and explanations, while checking for understanding from patients, families, and those in the circle of care
- B3.2 Disclose harmful patient safety incidents accurately and appropriately to patients, families, and those in the circle of care

B4

Document written and electronic information about the patient encounter to optimize team-wide clinical decision-making and patient safety

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- | | |
|-------|--|
| B4.1 | Document clinical encounters in an accurate, complete, timely, and accessible manner and in compliance with clinical, regulatory, and legal requirements |
| <hr/> | |
| B4.2 | Communicate effectively using written health records, electronic medical records, and other digital technologies |
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| B4.3 | Share information with patients and others in a manner that respects patient privacy and confidentiality and enhances understanding |
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B5

Engage patients and their families in developing plans that reflect patients' perspectives, priorities, needs, and values

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|-------|---|
| B5.1 | Facilitate discussions with patients and families in a respectful, non-judgmental manner by providing culturally safe care |
| <hr/> | |
| B5.2 | Assist patients and families to identify, access, and use information and communication technologies to support patients' care and manage their health |
| <hr/> | |
| B5.3 | Use communication skills and strategies that help patients and families make informed decisions regarding patients' health |
-

C

Integrated Collaborative Health Care

The paramedic demonstrates effective interprofessional practice with paramedic colleagues, public safety personnel, and other care team members to provide and support integrated health and social services with and for patients across sectors and in diverse environments, settings, and geographies.

C1

Maintain professional relationships with other paramedics, public safety personnel, and all care team members

- C1.1 Respond appropriately to requests for help or advice
- C1.2 Accommodate requests from team members for assistance or advice in patient management within the **scope of practice** and ability of the paramedic and the team members

C2

Work effectively as part of a care team to provide **patient-centred care**

- C2.1 Negotiate overlapping and shared responsibilities with fellow paramedics and the team in episodic and ongoing care
- C2.2 Optimize patient care through involving other care professionals and delegating appropriately
- C2.3 Coordinate the activities and interactions of multiple team members in complex situations or cases where the skills mix deems it appropriate
- C2.4 Solicit feedback and communicate effectively with the team to ensure appropriate care plan development and effective care
- C2.5 Engage in respectful, shared decision-making with team members

C3

Work with fellow paramedics, public safety colleagues, and other care team members to promote understanding, manage differences, and resolve conflicts that arise in the course of scene management, delivery of care, or other paramedic-related work

- C3.1 Interact respectfully
- C3.2 Support a collaborative culture by promoting understanding, managing differences, and resolving conflicts

C4

Transfer patients, when appropriate, to another paramedic or care team member to facilitate continuity of safe, effective care

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- | | |
|------|---|
| C4.1 | Determine when care should be transferred to another paramedic or team member |
| C4.2 | Demonstrate safe handover of care, using both oral and written communication , during a patient transition to a different team member, setting, or stage of care |
-

D

Continuous Learning and Adapting to Evidence

The paramedic engages in professional development and scholarship, maintains **competence**, and uses **evidence-based practice** with peers, colleagues, and students to benefit patients, partners, communities, and the profession.

D1

Educate students, the public, and colleagues, including other health care professionals

- D1.1 Recognize the influence of role-modelling, mentorship, and the formal and informal curricula
- D1.2 Promote a safe learning environment
- D1.3 Ensure that patient safety is maintained when learners are involved
- D1.4 Lead a learning activity (such as case review, coaching, or debriefing)
- D1.5 Employ psychologically safe approaches to timely feedback to enhance learning and performance
- D1.6 Assess learners and teachers, and evaluate programs in an educationally appropriate manner

D2

Apply evidence-based practice

- D2.1 Identify, select, and navigate pre-approved resources
- D2.2 Provide feedback to systems when practice guidelines do not reflect best practice
- D2.3 Integrate evidence into decision-making

D3

Engage in **continuing competence** through ongoing learning and professional development

- | | |
|------|---|
| D3.1 | Stay aware of economic, educational, environmental, regulatory, social, and technological effects on practice |
| D3.2 | Identify opportunities for learning and improvement by regularly reflecting on and assessing the paramedic's own performance using various internal and external data sources |
| D3.3 | Develop, implement, monitor, and revise a personal learning plan to enhance professional practice |
| D3.4 | Engage in learning to continuously improve personal practice |
| D3.5 | Maintain continuing competence to meet patient and practice needs |

D4

Engage in critical analysis of best evidence and apply it to paramedic practice

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|------|--|
| D4.1 | Keep up to date with research, guidelines (including regulatory, workplace practice, and ministry guidelines), and practices |
| D4.2 | Integrate relevant evidence into practice |

E

Health of Professional

The paramedic manages personal, professional, and contextual dimensions of **competence** that support personal safety and wellness.

E1

Understand the role of the paramedic's **health** within the evolving profession of paramedicine

- E1.1 Describe the ways that paramedics can remain healthy throughout their career
- E1.2 Recognize the impact on paramedic health of the sociocultural factors of the patients and communities with whom the paramedic works
- E1.3 Recognize the impact on paramedic health of the organizational and operational factors in the paramedic's work setting
- E1.4 Describe the ways that paramedics can adapt their practice and remain healthy as they meet the evolving needs of patients and communities

E2

Describe the influences and challenges that may affect the paramedic's ability to perform throughout their career

- E2.1 Understand the ways in which people's individual experiences and sociocultural identities may influence their responses and coping mechanisms
- E2.2 Articulate the differences between common stressors (for example, potentially psychological **traumatic** events, **occupational stress injury**, and chronic stress)
- E2.3 Describe the ways in which operational and organizational factors affect health
- E2.4 Describe the ways in which both personal and systemic factors influence resilience

E3

Demonstrate a commitment to personal health and well-being through integration of experiences and self-reflective practices that contribute to safe, effective patient care

- E3.1 Monitor personal health and well-being
- E3.2 Recognize and act on warning signs of personal ill health
- E3.3 Remove themselves from practice if unwell or unable to self-regulate or cope effectively

E4

Engage in activities and behaviours that support and maintain personal physical and mental health throughout the paramedic's career

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|------|--|
| E4.1 | Maintain personal health and well-being through daily health habits and regular health monitoring with the paramedic's primary care provider |
| E4.2 | Employ healthy coping mechanisms for dealing with and discharging stress |
| E4.3 | Develop and regularly access personal and professional support systems |

E5

Support the health and well-being of fellow paramedics and other care team members

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|------|--|
| E5.1 | Recognize others' need for assistance, including warning signs of ill health |
| E5.2 | Offer non-judgmental assistance to help colleagues seeking support |

F

Advocacy for Health, Equity, and Justice

The paramedic demonstrates patient and systems advocacy for health, equity, and justice throughout the health care system, with a particular focus on those traditionally underserved, and contributes to addressing both social injustice and health inequities.

F1

Respond to patients' health needs by advocating with and for them

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|------|--|
| F1.1 | Contribute to making a practice environment that provides culturally safe care for equity-deserving groups (an environment that is inclusive —for example, not ableist , ageist , racist , or sexist) |
| F1.2 | Practise self-awareness to minimize personal bias, cognitive bias, and inequitable behaviour-based factors, such as gender identity and sexual orientation , which affect social position and power |
| F1.3 | Demonstrate respect and humility when engaging with patients, and integrate their understanding of health, well-being, and healing into the care provided |
| F1.4 | Work with patients to address determinants of health that affect them and their access to needed health services or resources (such as a lack of literacy, insufficient social supports, or unhealthy work conditions and environment) |
| F1.5 | Incorporate health promotion into care provided to patients and their families |
| F1.6 | Work with patients and their families to advocate for equity-based opportunities to manage or mitigate personal, social, economic, and environmental determinants of patient health (such as a lack of literacy, insufficient social supports, or unhealthy work conditions and environment) |

F2

Understand the intersectionality of inequity, accessibility, and health and its impact on individual and population health, and give appropriate consideration to equity in any care

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|------|--|
| F2.1 | Identify the ongoing effects of structural racism , including the impact of colonization and settlement on health and health services for Black, Indigenous, and People of Colour |
| F2.2 | Use a trauma -informed approach to care |
| F2.3 | Adjust and accommodate care to promote equitable health outcomes given the effects of systemic and historical factors on people, groups, and their health status |
| F2.4 | Challenge biases and social structures that privilege or marginalize people and communities |

F3

Respond to the needs of patients, communities, and populations by advocating with and for them for system-level change in a socially accountable manner

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|------|--|
| F3.1 | Respond to the social, structural, political, and ecological determinants of health and well-being |
| F3.2 | Work to reduce the effects of the unequal distribution of power and resources on the delivery of paramedic services |
| F3.3 | Work toward reconciliation by identifying, addressing, preventing, and eliminating Indigenous-specific racism |
| F3.4 | Support the factors that promote health, well-being, and system-level change in a socially accountable manner |

G

Leadership

The paramedic provides situational leadership and manages systems for paramedic practice to meet patients' needs using health care resources, technologies, quality indicators, improvement practices, and evidence to determine the services and distribution pathways required.

G1

Serve as a role model for practitioners entering the field

G1.1 Demonstrate helping behaviours, and facilitate integration of new paramedics

G1.2 Motivate colleagues to strive for excellence

G2

Demonstrate critical thinking and problem identification at incident scenes and in other practice settings of paramedicine

G2.1 Assume incident command when first at incident scene

G2.2 Recognize the need for additional resources

G2.3 Assign responsibilities to others

G2.4 Demonstrate confidence in scene management and situational awareness

G3

Contribute to the management and improvement of paramedic practice in teams, organizations, and systems

G3.1 Support improvement initiatives at work

G3.2 Support a culture that promotes practice improvement and patient safety

G3.3 Identify opportunities for practice improvement



Care Along a Health and Social Continuum

The paramedic provides safe and effective health care along a health and social continuum, across practice settings, within the paramedic's scope, and within regulatory practice standards to determine the most appropriate health and social care pathways that meet patients' needs and improve outcomes.

H1

Work within the regulator-defined **scope of practice** for their designation, within regulatory practice standards and guidelines, and within their **personal level of competence**

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|------|--|
| H1.1 | Demonstrate a commitment to high-quality, evidence-based patient care |
| H1.2 | Integrate all roles into the paramedic's practice of paramedicine |
| H1.3 | Apply knowledge of the clinical and biomedical sciences relevant to the paramedic's designation |
| H1.4 | Prioritize clinical management and logistics based on patient consent, assessment findings, concurrent illness severity, and ongoing reassessments of patient condition |
| H1.5 | Perform clinical assessments to appropriately determine and manage patient condition |
| H1.6 | Recognize and manage emergency, urgent, and routine situations in an appropriate, timely, and professional manner |
| H1.7 | Recognize and manage critically ill patients to the best of the paramedic's ability and scope, including using additional resources, higher levels of care, and prompt transfer of care |
| H1.8 | Triage and set appropriate care priorities when managing environments with single or multiple patients |

H2

Perform **patient-centred**, context-specific clinical assessments and implement patient care plans based on effective clinical decision-making and the regulator-defined scope of practice for their designation, within regulatory practice standards and guidelines, and within their personal level of competence

- | | |
|------|--|
| H2.1 | Perform timely, accurate, and complete physical and mental health assessments of patients as indicated by patient presentation and allowed by patient environment |
| H2.2 | Perform timely and focused clinical reassessments to facilitate and monitor patient condition and treatment effectiveness |
| H2.3 | Gather patient history in a thorough, timely, and focused manner, and effectively integrate into clinical management and decision-making |
| H2.4 | Develop differential and presumptive diagnoses , including likely pathology and less common serious or life-threatening conditions, in as timely a manner as allowed given patient presentation and environmental conditions |
| H2.5 | Select evidence-based and clinically appropriate assessment methods with patients and their families , when possible, in a resource-effective and ethical manner |
| H2.6 | Interpret relevant assessments and diagnostic and laboratory tests, and integrate results appropriately into care plans |
| H2.7 | Use sound clinical reasoning and judgment to establish patient-centred care plans, using the clinical and diagnostic information available at the time |
| H2.8 | Establish goals of care in collaboration with patients and their families, which may include declining interventions , slowing disease progression, treating symptoms, achieving a cure, improving function, and providing palliative care |

H3

Establish plans for ongoing care, follow-up, referral, education, and transfer of care to other care team members

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|------|--|
| H3.1 | Develop or continue care plans for patients, including implementing appropriate interventions, procedures, and therapies |
| H3.2 | Apply knowledge of the indications, contraindications, methods, and potential complications of the therapeutic and investigative procedures employed in paramedicine |
| H3.3 | Obtain and document informed consent, explaining the risks and benefits of and the rationale for a proposed intervention, procedure, or therapy when feasible |
| H3.4 | Prepare patients for transfer of care or discharge |
| H3.5 | Ensure effective information-sharing |

H4

Provide accurate oral and written transfer of care to other care team members or discharge within the defined scope of practice for the paramedic's designation, individual competence, and employment or practice setting

H4.1	Develop the discharge or transition of care plans
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H4.2	Prepare patients for transfer of care or discharge
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H4.3	Ensure effective information-sharing
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Appendix A

Expanded List of Foundational Knowledge and Minimal Entry to Practice Skills for **Care Along a Health and Social Continuum (Care)**

The expanded list was developed in an effort to create a pan-Canadian reference that is reflective of the expected knowledge, skills, concepts, approaches, and strategies for each designation. As with most professions, there will be unique circumstances and exceptions in scopes of practice that apply to one or more jurisdictions and designations. Transparency of differences and similarities is key to pan-Canadian collaboration and compliance with the guidelines of the Canadian Free Trade Agreement, Chapter 7. Jurisdictional differences are recorded by COPR in a separate document.

Foundational Knowledge

Foundational knowledge is common across designations, but varies in terms of depth and breadth. ACPs provide context-specific, advanced life support and patient care for medically complex patients.

GENERAL CONTENT

1

Medical, paramedic, pharmacological terminology

Vocabulary, acronyms, abbreviations

2

Human anatomy, neuroanatomy, and physiology applied to all body systems across the lifespan, including pregnancy and aging (includes terminology, structures, and function of all systems)

Neuroanatomical development and terminology

Respiratory

- Defence mechanisms, mechanics of respiration
- Pulmonary circulation, gas transport/exchange, control of ventilation
- Breath sounds, breathing patterns, lung volumes, oxygen saturation

Cardiovascular

- Mechanical function of the heart, hemodynamics, coronary, cerebral and peripheral circulation, fluid dynamics
- Normal heart rate, blood pressure, heart sounds
- Blood pressure regulation
- Electrical activity of the heart

Gastrointestinal

- Food breakdown and motility through the gastrointestinal (GI) tract
- Digestion; secretion of enzymes, hormones, and other substances to aid digestion, biochemistry of the digestive tract
- Absorption; nutrient uptake into the circulatory and lymph systems
- Elimination of waste

Hepatobiliary

- Synthesis of bile, lipid metabolism
- Production of proteins, cholesterol, glycogen
- Vitamin and mineral storage
- Metabolizing drugs, blood detoxification

Genitourinary

- Blood filtration and kidney function
- Elimination of waste

Reproductive

- Sexual differentiation and puberty
- Fertility and sexual function
- Sexually transmitted infections

Gynecological/obstetric

- Menstrual cycle, fertilization
- Infertility
- Pregnancy and postpartum
 - Fetal development
 - Labour and delivery
 - Lactation
 - Endocrinology of pregnancy
 - Postpartum changes

Integumentary

- Characteristics of skin, hair, nails, glands
- Skin functions: protection, regulation, healing, sensations

Endocrine

- Hormone mechanisms of action
- Metabolism
- Growth and development
- Regulation of sleep, blood pressure, emotions, and mood

Neurological

- Central and peripheral nervous systems
 - Cranial nerve functions
 - Neuro-physiological development
 - Nervous system responses to injury
 - Neurotransmission, muscle tone, motor function, sensory/normal processing, sensorimotor integration, nerve conduction testing
-

Musculoskeletal

- Posture, balance, coordination, agility, dexterity
 - Mobility – gait, locomotion
 - Bone structure/physiology
 - Muscle structure/physiology
 - Connective tissue structure/physiology
-

Hematologic

- Blood components and their functions
 - Coagulation
 - Fetal hematology: transitions between labour, delivery
-

Immunologic

- Typical immune responses
-

Ear-eye-nose-throat (EENT) systems

- Hearing, balance, and the vestibular system
 - Nasopharynx function; air filtration, voice production
 - Passage of air, food, liquid
 - Vision, pupillary response
-

3

Cognition

Arousal, attention, orientation, emotion, processing, registration of information

Retention, memory, recall

Communication, verbal/non-verbal, processing, verbalizing, language proficiency

Perception, decision-making as it relates to autonomy, disclosure, consent

4

Pathology/Pathophysiology

Microbiology, infections: viral, bacterial, fungal

Impact of pathologies on physiology, structure, and function

Common pathological processes and mechanisms

Diseases, illnesses, injuries, causes

- Respiratory
- Cardiovascular
- Gastrointestinal
- Hepatobiliary
- Genitourinary
- Reproductive
- Gynecological/obstetric
- Integumentary
- Endocrine
- Neurological
- Musculoskeletal
- Hematologic
- Immunologic
- Ears-eyes-nose-throat systems

Psychiatric, behavioural, and mental health disorders, substance use and addictions

5

Pharmacology

Paramedic role

Medication sources, drug classifications, names (e.g., chemical, generic, trade, official)

Mechanisms of entry, absorption, site of action, metabolism, elimination

Factors affecting absorption, distribution, elimination

Dosage calculation for desired effect, formulations; dosage parameters – related to patient presentation

Interactions

- Drug/drug
- Drug/food
- Drug/condition

Medical conditions and indications, relative and absolute contraindications, side effects, dosage parameters, and safe administration process for medication

Relevant medication reference data

Signs, symptoms, and side effects of iatrogenic and non-iatrogenic overdose

Relationship of medication, dosage, and frequency to patient

The “rights” of medication administration

Administration routes, associated approved medications and substances; characteristics of injection sites (see 32. Administer medications using specific routes)

Patient and supply preparation, quantity measurement

Procedures related to medication administration errors

6

Unique characteristics and their impact on care needs of patients who are equity-deserving, traditionally marginalized, racialized, or underserved

Identity and intersectional factors: gender, age, ethnicity, race, Indigenous identity, religion, gender and sexual identity, abilities, function

Impact on physical, emotional, and social development

Care needs specific to stages of life, relating to individual's age, developmental stage, and life circumstances

Palliative, end of life care, medical assistance in dying

Healthy behaviours, disease prevention, harm reduction, quality of life

Environmental factors impacting health

Impact of social determinants of health (e.g., employment, social inclusion, education)

CONTENT SPECIFIC TO PARAMEDICINE

7

General topics in paramedicine

Paramedic's role, scope of practice

Clinical presentations

Assessment and intervention approaches used in paramedicine

Interconnections and interactions between systems, interventions, and patient clinical presentations

Management of ill and injured persons

Adverse events (e.g., failure to perform an intervention that is within the standard of care could trigger an adverse event, such as permanent impairment or death)

Factors influencing outcomes (e.g., environment, self-care practices, toxicology, mechanisms of injury)

Therapeutic methods (indications, contraindications, precautions, potential complications)

Adjust to changes in patient, environmental, or situational presentation

Principles of resuscitation, including extracorporeal membrane oxygenation (ECMO), left ventricular assist device (LVAD)

Goals of care, care and discharge planning, continuum of care

8

Infection prevention and control

Common routes for transmission of disease and infection

Routine practices and additional precautions for preventing the transmission of infection; safe handling procedures; vaccinations

Limitations of current infection control and prevention techniques; areas of failure and appropriate responses

Proper sequencing for precautions

Use of personal protective equipment

Equipment, supplies, and work areas requiring cleaning or disinfection

Cleaning and disinfection methods and techniques

Disposal of sharps and contaminated supplies

Aseptic and sterile techniques

Adaptations for non-sterile environments

9

Point-of-care and diagnostic test results²

Basic understanding of technique and function, including quality assurance and limitations

Common findings

Basic interpretation (e.g., differentiation between normal and abnormal results, implications)

Point-of-care testing:

- Urinalysis
- Phlebotomy draw

Diagnostic tests:

- Bloodwork (arterial/venous blood gases)
- Diagnostic imaging (radiographs, computerized tomography)
- Electrocardiogram
- Ultrasound

2. According to jurisdictional scopes of practice (e.g., ultrasound for ACP and CCP in Alberta; for CCP in Manitoba, Newfoundland and Labrador, and Saskatchewan)

EMERGENCY PREPAREDNESS AND MANAGEMENT

10

Disaster response (e.g., natural occurrences, terrorism)

Triage, movement coordination system

Systems support requirements

Response to changing dynamics of situation

Psychological impact on community resources and first responders

11

Patient management following chemical, biological, radiological, nuclear, and explosives (CBRNE) incidents

Organic compounds and their hazards

Fundamental biochemical reactions

Basic cellular physiology, energy production, and the manufacture of biomolecules

Predicted effects of hazardous materials on body systems, including potential target organs

Potential acute or chronic medical sequelae that may result from single or recurring exposures to hazardous materials

Workplace Hazardous Materials Information System (WHMIS) and Materials Safety Data Sheets (MSDS)/Safety Data Sheets (SDS)

Emergency Response Guidebook (Transport Canada)

CBRNE agents

Signs and symptoms of agent exposure

Potential dissemination devices

Importance, levels, and limitations of personal protective equipment

Safety procedures, precautions

Avoidance of agents and hazards

Defining inner and outer perimeters

Principles of CBRNE triage

Need for and control of human decontamination

Chemical countermeasures

12

Patient management following environmental emergency (e.g., heat exhaustion, cold injury, barotrauma)

Causes

Signs and symptoms of exposure

Treatment of patients following exposure

13

Unique needs of neonatal, pediatric, geriatric, bariatric patients, and patients with different abilities, mental health, addictions, and/or psychiatric conditions

Developmental parameters, effects on lifespan, abilities, etc.

Anatomical and physiological differences

Modifications in approaches to assessment, treatment, communication, use of equipment

Minimum Entry to Practice Skills

ASSESSMENT AND DIAGNOSTICS

14 Continually assess the practice environment

Conduct point of care risk assessment

Maintain situational awareness

Maintain safety

Secure additional resources

15 Obtain patient and incident history

Primary complaint and/or incident history from patient, family members, and/or bystanders

List of medications (prescribed, over the counter, recreational, natural/herbal), and patient adherence

Allergies, including to medications

Medical history

Last oral intake, bowel movement, menstrual cycle

Integrate above information into assessment

16 Conduct complete physical assessment

Determine immediate threats to life

Further assess based on patient presentation, including level of distress, pain

Conduct in-depth assessment of systems and patient as appropriate

Adapt assessment techniques according to patient presentation

Infer clinical impressions

17 Determine mental health status

Assess patient's capacity to consent to care decisions

Consider risk and cognitive factors

Recognize substance use, addictions, mental health and psychiatric conditions in patients

18 Assess vital signs and interpret findings

Pulse (rate, rhythm, quality)

Respiration (rate, effort, depth, symmetry)

Non-invasive temperature monitoring

Blood pressure

- Auscultation
- Palpation
- Non-invasive blood pressure monitoring

Skin condition (temperature, colour, moisture, turgor)

Pupils (size, symmetry, reactivity)

Level of consciousness: Alert, Voice, Pain, Unresponsive (AVPU), Glasgow Coma Scale (GCS)

19 Utilize diagnostic tests and/or interpret findings, using:

Pulse oximetry

End-tidal carbon dioxide (EtCO₂) monitoring

Glucometric testing

Peripheral venipuncture

Arterial blood samples (via radial artery puncture, arterial line access)

Invasive core temperature monitoring

Arterial line monitoring

Electrocardiogram (ECG) monitoring

Urinalysis

20 Integrate laboratory findings/diagnostic imaging results into patient care

Radiological data

Computerized tomography (CT) scan

Ultrasound

Arterial blood gas (ABG), venous blood gas (VBG)

THERAPEUTICS

21

Maintain patency of upper airway and trachea

Use manual maneuvers and positioning to maintain airway patency

Suction oropharynx

Suction beyond oropharynx

Utilize oropharyngeal airway

Utilize nasopharyngeal airway

Utilize supraglottic airway devices

Utilize airway devices introduced endotracheally

Remove airway foreign bodies by direct techniques

Remove airway foreign bodies by indirect techniques

Conduct percutaneous cricothyroidotomy

Conduct surgical cricothyroidotomy

Perform tracheostomy reinsertion

22

Administer oxygen

Determine purpose, indications, potential complications, and safety issues

Select and prepare device

Ensure safe handling

Perform adjustments and necessary troubleshooting

Identify replacement needs

23

Use oxygen delivery systems

Nasal canula

Low concentration mask

Increase/decrease oxygen concentration

High concentration mask

24

Administer ventilation (in the context of 25 and 26 below)

Determine purpose, indications, potential complications, and safety issues

Select ventilation system type

Ensure safe handling

Perform adjustments and necessary troubleshooting

Identify replacement needs

25

Administer manual positive pressure ventilation (i.e., bag valve device)

Provide oxygenation and ventilation using manual positive pressure devices

Rate, rhythm, volume, compliance

Positive end expiratory pressure

One- or two-person application

Continuous positive airway pressure (CPAP)

Bilevel positive airway pressure (BIPAP)

High flow nasal cannula therapy (HFNCT)

Positive End Expiratory Pressure (PEEP), manometry

Pulse oximetry

Capnography, EtCO₂

26

Administer mechanical positive pressure ventilation (i.e., ventilator)

Provide mechanical ventilation

Vent circuit

Manometer

Respirometer

Intermittent mandatory ventilation, continuous mandatory ventilation, assist control, inverse ratio

Continuous positive airway pressure, positive end expiratory pressure, non-invasive positive pressure ventilation

Fraction of inspired oxygen (FiO₂)

Compliance, resistance

Plateau, inspiratory, expiratory, peak expiratory pressure

Tidal volume, respiratory rate

Adjust parameters based on changes in ventilatory and hemodynamic status

Capnography and pulse oximetry

27

Hemodynamic stability

27A FLUID AND RESUSCITATION

Conduct cardiopulmonary resuscitation (CPR), including mechanical

Maintain peripheral intravenous (IV) access devices and infusions of crystalloid solutions without additives

Conduct peripheral IV cannulation

Conduct intraosseous needle insertion

Administer crystalloid solutions

Utilize direct pressure infusion devices with IV infusions

Administer volume expanders (colloid and non-crystalloid)

Monitor an infusion of blood and/or blood products

Administer blood and/or blood products

Conduct automated external defibrillation

Conduct manual defibrillation

Conduct cardioversion

Conduct transcutaneous pacing

Maintain transvenous pacing

Maintain intra-aortic balloon pumps

Conduct needle thoracostomy

Conduct thoracostomy

Adapt care in the presence of a LVAD

27B HEMORRHAGE CONTROL

Control external hemorrhage

Tourniquets and hemostatic dressings

Pelvic binding

28

Provide routine care

Urinary catheters

Ostomy drainage systems

Non-catheter urinary drainage systems

Monitor chest tubes

Tissue and minor wound care

Wound closing

29

Provide care for fractures

Immobilize actual and suspected fractures involving appendicular skeleton as appropriate

Immobilize or stabilize actual and suspected fractures involving axial skeleton, as appropriate.

Reduce fractures

Casting

30

Provide care for dislocations

Stabilize actual and suspected dislocations

Reduce dislocations

31

Patient handling and movement

Assess patient risk profile

Prepare practice environment appropriate to patient presentation and characteristics

Prepare patient for transfer (positioning, safety, stability, precautions, protection from the elements)

Accompany patient during transfer

Transfer patient to higher level of care when warranted

Administer medications and substances using the following routes:

Buccal

Endotracheal

Inhalation, not including oxygen

Intramuscular

Intranasal

Intraosseous

Intravenous

Oral

Rectal

Subcutaneous

Sublingual

Topical
