

NOVA SCOTIA REGULATOR OF PARAMEDICINE

PARAMEDIC COMPETENCY FRAMEWORK  
for the

# *Critical Care Paramedic*

2024

CCP

**PROPERTY OF:**

The Nova Scotia Regulator of Paramedicine  
[www.nsrop.ca](http://www.nsrop.ca)

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## **ACKNOWLEDGEMENT**

The Nova Scotia Regulator of Paramedicine (NSRoP) acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to the Indigenous knowledges held by the Mi'kmaq People, and to the wisdom of their Elders past and present. The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people.

NSRoP also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

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# Critical Care Paramedic

The Nova Scotia Regulator of Paramedicine (NSRoP) Board of Directors (Board) approved with modifications, the Canadian Organization of Paramedic Regulators Pan-Canadian Essential Regulatory Requirements (PERRs) for Paramedics and Emergency Medical Responders competency frameworks for implementation in Nova Scotia.

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Competencies identify the knowledge, skills, and judgement that paramedics are required to perform. They are a list of what the public and patients can expect from a licensed Critical Care Paramedic (CCP) for safe, effective patient care.

Critical Care Paramedics (CCP) have specialized and multidisciplinary education that builds on Primary Care Paramedic (PCP) and Advanced Care Paramedic (ACP) education so that they can provide context-specific, tertiary-level care for medically complex and undifferentiated patients. CCPs are expected to work autonomously in the provision of complex care to high-acuity patients. CCPs might have an enhanced independent practice because they have few other health care providers who are immediately able to assist in patient care. CCPs often work in or lead highly specialized teams within the health care or public safety systems or as independent practitioners. They provide sophisticated handover of care to other specialized health team members.

As a member of COPR, the NSRoP adopted, the COPR PERRs for Paramedics documents and adapted them for use in Nova Scotia.

This document is based on the original COPR PERRs framework and has been specifically adapted to meet the regulatory requirements for paramedicine in Nova Scotia.

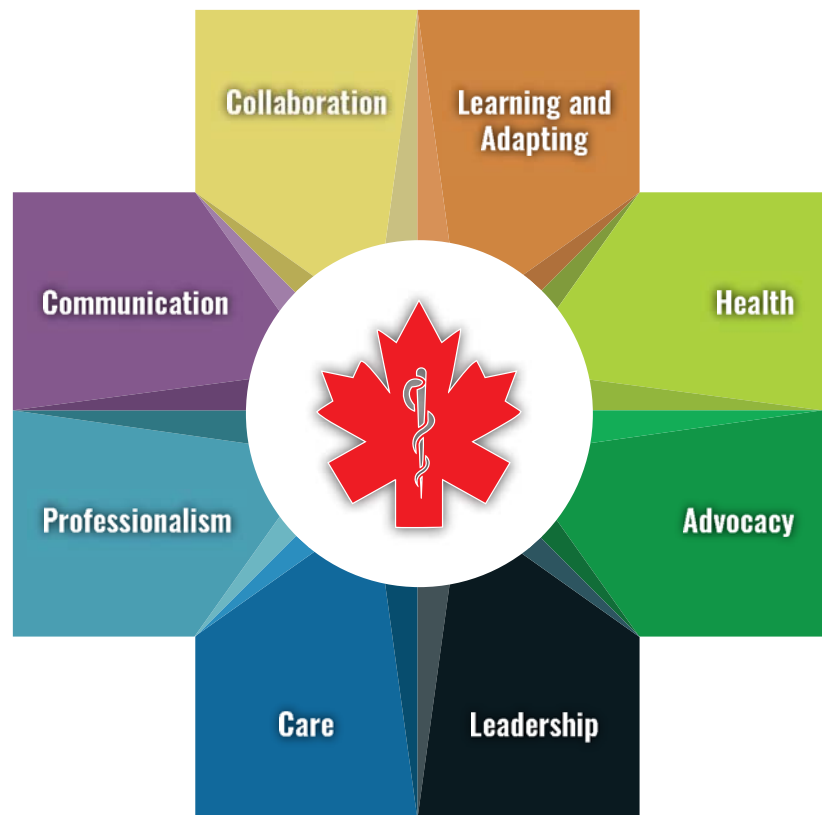
# The Canadian Paramedic Competency Framework

The eight areas of competency that form the paramedic’s expertise are based on the CanMEDS Physician Competency Diagram,<sup>1</sup> and are illustrated below.

- A. Professionalism (**Professionalism**)
- B. Patient- and Community-Centred Communication (**Communication**)
- C. Integrated Collaborative Health Care (**Collaboration**)
- D. Continuous Learning and Adapting to Evidence (**Learning and Adapting**)
- E. Health of Professional (**Health**)
- F. Advocacy for Health, Equity, and Justice (**Advocacy**)
- G. Leadership (**Leadership**)
- H. Care Along a Health and Social Continuum (**Care**)

## Areas of Competency

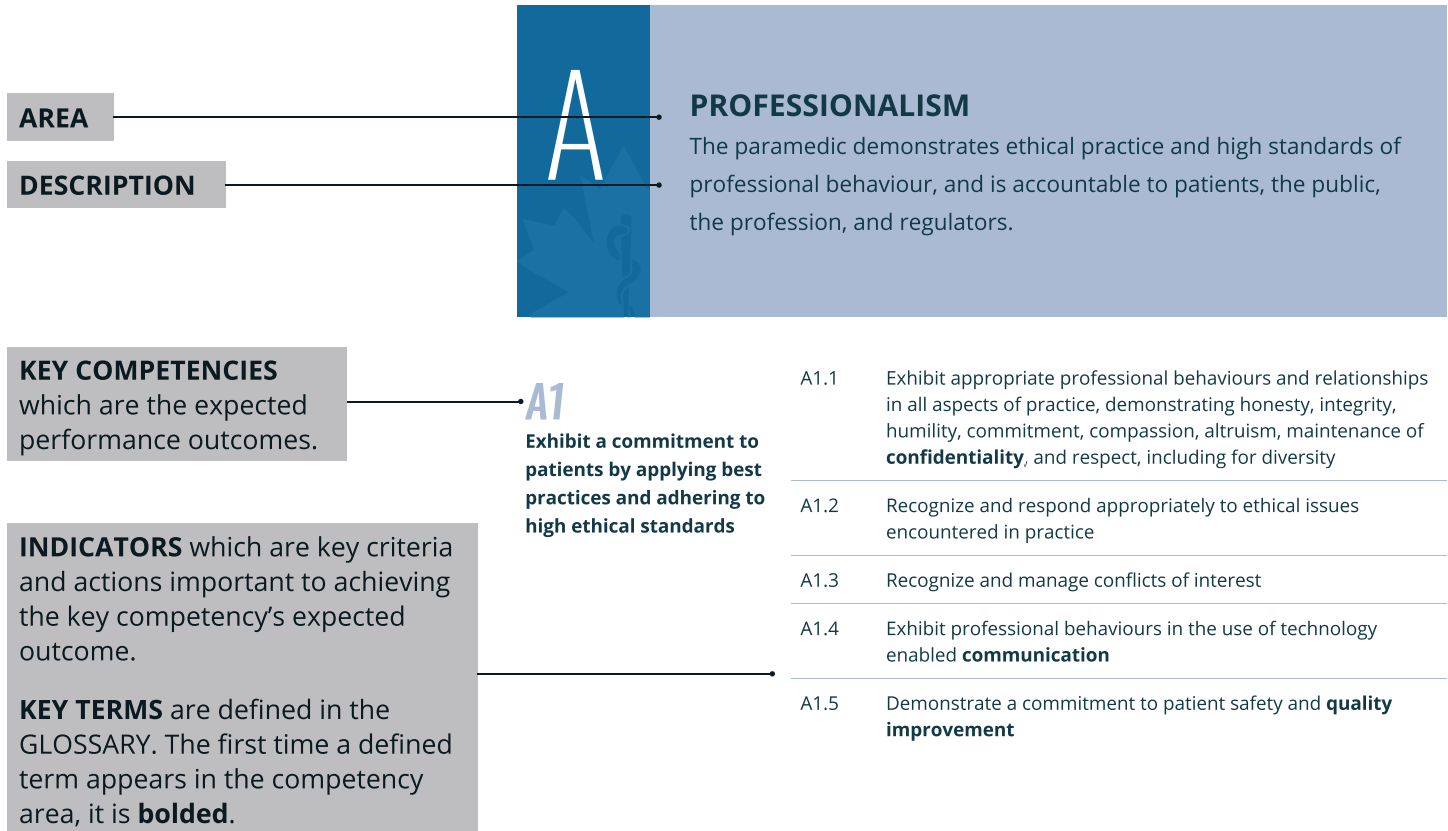
The overlapping colours in the centre of the diagram capture the complementary nature of the areas of competency, highlighting that a competent paramedic will continually draw from each of the areas, at times simultaneously.



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 competency contains the following information.



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

# 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 **individual scope of practice**
- 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 the 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**

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## 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

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B3.2 Disclose harmful patient safety incidents accurately and appropriately to patients, families, and those in the circle of care

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## B4

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

B4.1 Document clinical encounters in an accurate, complete, timely, and accessible manner and in compliance with clinical, regulatory, and legal requirements

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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

B5.1 Facilitate discussions with patients and families in a respectful, non-judgmental manner by providing **culturally safe care**

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B5.2 Assist patients and families to identify, access, and use information and communication technologies to support patients' care and manage their **health**

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B5.3 Use communication skills and strategies that help patients and families make informed decisions regarding patients' health

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# 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

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## 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

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C3.1 Interact respectfully

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

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## 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

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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

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## D3

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

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- D3.1 Stay aware of economic, educational, environmental, regulatory, social, and technological effects on practice

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  - 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

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  - D3.3 Develop, implement, monitor, and revise a personal learning plan to enhance professional practice

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  - D3.4 Engage in learning to continuously improve personal practice

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  - D3.5 Maintain continuing competence to meet patient and practice needs
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## 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

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  - D4.2 Integrate relevant evidence into practice
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# 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

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## E4

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

- 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

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## E5

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

- 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

- 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)

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## 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

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  - F2.2 Use a **trauma**-informed approach to care

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  - 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

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  - F2.4 Challenge biases and social structures that privilege or marginalize people and communities
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## 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

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  - F3.2 Work to reduce the effects of the unequal distribution of power and resources on the delivery of paramedic services

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  - F3.3 Work toward **reconciliation** by identifying, addressing, preventing, and eliminating Indigenous-specific racism

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  - 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

# H

## 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 **individual scope of practice**

- 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

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## 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

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- H2.1 Perform timely, accurate, and complete physical and mental health assessments of patients as indicated by patient presentation and allowed by patient environment
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- H2.2 Perform timely and focused clinical reassessments to facilitate and monitor patient condition and treatment effectiveness
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- H2.3 Gather patient history in a thorough, timely, and focused manner, and effectively integrate into clinical management and decision-making
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- 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
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- 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
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## 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
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- H3.4 Prepare patients for transfer of care or **discharge**
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- H3.5 Ensure effective information-sharing
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## 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

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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. CCPs provide context-specific, tertiary-level care for medically complex and undifferentiated patients. CCPs are expected to work autonomously in the provision of complex care to high-acuity 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

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## 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

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## Hepatobiliary

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

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## Genitourinary

- Blood filtration and kidney function
- Elimination of waste

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## Reproductive

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

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## Gynecological/obstetric

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

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## Integumentary

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

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## Endocrine

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

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## 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

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## Musculoskeletal

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

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

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Retention, memory, recall

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

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

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### **4** Pathology/Pathophysiology

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Microbiology, infections: viral, bacterial, fungal

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Impact of pathologies on physiology, structure, and function

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Common pathological processes and mechanisms

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Diseases, illnesses, injuries, causes

- Respiratory
  - Cardiovascular
  - Gastrointestinal
  - Hepatobiliary
  - Genitourinary
  - Reproductive
  - Gynecological/obstetric
  - Integumentary
  - Endocrine
  - Neurological
  - Musculoskeletal
  - Hematologic
  - Immunologic
  - Ears-eyes-nose-throat systems
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Psychiatric, behavioural, and mental health disorders, substance use and addictions

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### **5** Pharmacology

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Paramedic role

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

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

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Factors affecting absorption, distribution, elimination

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

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Interactions

- Drug/drug
  - Drug/food
  - Drug/condition
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Medical conditions and indications, relative and absolute contraindications, side effects, dosage parameters, and safe administration process for medication

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Relevant medication reference data

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

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Relationship of medication, dosage, and frequency to patient

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The “rights” of medication administration

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

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Patient and supply preparation, quantity measurement

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Procedures related to medication administration errors

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

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

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Impact on physical, emotional, and social development

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

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Palliative, end of life care, medical assistance in dying

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

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Environmental factors impacting health

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

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## 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 results<sup>2</sup>

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

## 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

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)

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Avoidance of agents and hazards

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Defining inner and outer perimeters

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Principles of CBRNE triage

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Need for and control of human decontamination

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Chemical countermeasures

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

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Causes

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Signs and symptoms of exposure

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Treatment of patients following exposure

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

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Developmental parameters, effects on lifespan, abilities, etc.

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Anatomical and physiological differences

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

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# 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 (EtCO<sub>2</sub>) monitoring

Glucometric testing

Peripheral venipuncture

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

Invasive core temperature monitoring

Pulmonary artery catheter monitoring

Central venous pressure 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 (e.g., 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, EtCO<sub>2</sub>

## **26** Administer mechanical positive pressure ventilation (e.g., 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 (FiO<sub>2</sub>)

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)

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Monitor an infusion of blood and/or blood products

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Administer blood and/or blood products

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Conduct automated external defibrillation

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Conduct manual defibrillation

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Conduct cardioversion

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Conduct transcutaneous pacing

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Maintain transvenous pacing

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Maintain intra-aortic balloon pumps

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Conduct needle thoracostomy

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Conduct thoracostomy

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Maintain and troubleshoot extracorporeal membrane oxygenation (ECMO)

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Adapt care in the presence of a LVAD

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Monitor and troubleshoot biventricular assist device (BIVAD)

## **27B HEMORRHAGE CONTROL**

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Control external hemorrhage

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Tourniquets and hemostatic dressings

---

Pelvic binding

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## **28 Provide routine care**

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Urinary catheters

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Ostomy drainage systems

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Non-catheter urinary drainage systems

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Monitor chest tubes

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Tissue and minor wound care

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Wound closing

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## **29 Provide care for fractures**

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Immobilize actual and suspected fractures involving appendicular skeleton as appropriate

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

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Reduce fractures

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Casting

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### **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

### **32 Administer medications and substances using the following routes:**

Buccal

Endotracheal

Inhalation, not including oxygen

Intramuscular

Intranasal

Intraosseous

Intravenous

Oral

Rectal

Subcutaneous

Sublingual

Topical



NOVA SCOTIA REGULATOR OF PARAMEDICINE