

**FEBRUARY 2016**  
**VERSION 1.0**

**NOTE:** Throughout this document, references to the patient's family are intended to include all those who are personally significant to the patient and are concerned with his or her care, including, according to the patient's circumstances, family members, partners, caregivers, legal guardians, and substitute decision-makers.

## **DEFINITION**

Adolescent and Young Adult Oncology (AYA Oncology) is that area of enhanced competence within medicine concerned with the medical management of adolescents and young adults diagnosed with cancer.

## **ELIGIBILITY REQUIREMENTS**

The Area of Focused Competence (AFC) trainee must have Royal College certification in Hematology, Medical Oncology, Pediatric Hematology/Oncology, or Radiation Oncology, or equivalent, or enrolment in a Royal College accredited residency program in these disciplines (see requirements for these qualifications). All trainees must be certified in their entry discipline in order to be eligible to submit a Royal College certification portfolio in AYA Oncology.

## **GOALS**

Upon completion of training, an AFC diplomate is expected to function as a competent specialist in AYA Oncology, capable of an enhanced practice in this area of focused competence, within the scope of Hematology, Medical Oncology, Pediatric Hematology/Oncology, or Radiation Oncology. The AFC trainee must acquire a working knowledge of the theoretical basis of the discipline, including its foundations in science and research, as it applies to medical practice.

The discipline of AYA Oncology includes responsibility for

- evaluation and management of adolescent and young adult (AYA) patients throughout all stages of the cancer journey,
- clinical leadership of the interprofessional team caring for AYA patients with cancer, and
- advancement of the discipline of AYA Oncology.

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Diplomates must demonstrate the requisite knowledge, skills, and behaviours for effective patient-centred care and service to a diverse population. In all aspects of specialist practice, the diplomate must be able to address ethical issues and issues of gender, sexual orientation, age, culture, beliefs, and ethnicity in a professional manner.

At the completion of training, the diplomate will have acquired the following competencies and will function effectively as a:

## **Medical Expert**

### ***Definition:***

As *Medical Experts*, AYA Oncology diplomates integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centred care. *Medical Expert* is the central physician Role in the CanMEDS framework.

### ***Key and Enabling Competencies: AYA Oncology diplomates are able to...***

#### **1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical, and patient-centred medical care**

- 1.1. Perform a consultation effectively, including the presentation of well-documented assessments and recommendations in oral, written, and/or electronic form, in response to a request from another health care professional
- 1.2. Demonstrate use of all CanMEDS competencies relevant to AYA Oncology
- 1.3. Identify and appropriately respond to relevant ethical issues arising in patient care
- 1.4. Demonstrate compassionate and patient-centred care towards AYA patients with cancer

#### **2. Establish and maintain clinical knowledge, skills, and behaviours appropriate to AYA Oncology**

- 2.1. Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to AYA Oncology
  - 2.1.1. Cancer genetics and biology of cancers in the AYA population
    - 2.1.1.1. Principles and practices of cancer genetics relevant to hereditary cancer genetic syndromes
    - 2.1.1.2. Genetic screening, incorporating issues of consent and assent as they relate to AYA patients and genetic testing
    - 2.1.1.3. Genetic counselling
    - 2.1.1.4. Application of molecular biology to the diagnosis and management of common AYA cancers
      - 2.1.1.4.1. Molecular and/or pathological stratification of cancer subtypes, as it relates to the patient's age at the time of diagnosis
      - 2.1.1.4.2. Molecular genetic techniques, including but not limited to polymerase chain reaction (PCR), fluorescence in situ hybridization (FISH), cytogenetics, and tissue microarray platforms

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- 2.1.1.4.3. Prognostic and predictive tests, including but not limited to tumour profiling, and the impact thereof on patient management
- 2.1.1.5. Clinical features, epidemiology, natural history, diagnosis, and management of hereditary cancer genetic syndromes common in the AYA population, including but not limited to
  - 2.1.1.5.1. Hereditary breast cancer (BRCA1, BRCA2)
  - 2.1.1.5.2. Li-Fraumeni syndrome (germ line p53 mutations)
  - 2.1.1.5.3. Cowden syndrome
  - 2.1.1.5.4. Peutz-Jeghers syndrome
  - 2.1.1.5.5. Hereditary nonpolyposis colorectal cancer
  - 2.1.1.5.6. Multiple endocrine neoplasia (MEN) type 2
  - 2.1.1.5.7. Mismatch repair syndromes
- 2.1.2. Radiation therapy
  - 2.1.2.1. Principles of radiation treatment, image-guided radiation therapy (IGRT), and intensity-modulated radiation therapy (IMRT)
    - 2.1.2.1.1. Choice of radiation technique, including but not limited to protons, photons, IGRT, IMRT, and brachytherapy, to mitigate risk in AYA patients
    - 2.1.2.1.2. Omission or modification of radiation therapy for risk mitigation
- 2.1.3. Systemic therapy
  - 2.1.3.1. Dose intensification, modifications, and age-related differences in tolerance of systemic therapy
  - 2.1.3.2. Omissions or modifications of systemic therapy for early and late risk mitigation
- 2.1.4. Supportive care
  - 2.1.4.1. Cardiology
    - 2.1.4.1.1. Physiology of myocardial function in relation to cancer therapies
    - 2.1.4.1.2. Pharmacology of antineoplastic agents, and pathophysiology of radiation and systemic therapies that affect cardiac function and cardiovascular health
    - 2.1.4.1.3. Supportive care strategies to mitigate cardiovascular risk
    - 2.1.4.1.4. Evidence, benefits, and costs of risk mitigation strategies to preserve cardiac health in AYA patients with cancer, and in those who survive cancer

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2.1.4.2. Endocrinology

2.1.4.2.1. Effects of cancer and cancer therapies on endocrine function in AYA patients on and off therapy, and appropriate screening and surveillance of the effects

2.1.4.2.1.1. Hypothalamic-pituitary-adrenal (HPA) axis function

2.1.4.2.1.2. Thyroid function

2.1.4.2.1.3. Ovarian function

2.1.4.2.1.4. Bone health

2.1.4.3. Oncofertility and reproductive health

2.1.4.3.1. Male and female reproductive anatomy and physiology

2.1.4.3.2. Effects of cancer therapies on, and their modification for, reproductive and sexual function

2.1.4.3.3. Timing and application of fertility assessment and preservation techniques during the cancer journey

2.1.4.3.3.1. Options, emerging technologies, and barriers to fertility preservation

2.1.4.3.3.2. Tools to assess subfertility in AYA men and women

2.1.4.3.4. Risks from fertility preservation strategies on cancer treatment efficacy and recurrence of disease

2.1.4.3.5. Risks of cancer therapies in pregnancy, and the mitigation thereof

2.1.4.3.6. Teratogenicity risks from cancer therapies

2.1.4.4. Psychosocial oncology

2.1.4.4.1. Role of holistic cancer care, incorporating quality of life (QOL) and the patient's maturational stage

2.1.4.4.2. Standardized tools used to assess psychosocial functioning in AYA patients, including but not limited to QOL assessment instruments and distress screening tools

2.1.4.4.3. Impact of cancer in the AYA population on education, employment, and interpersonal relationships

2.1.4.4.4. Impact of psychosocial and mental health issues on cancer care

2.1.4.4.5. Impact of cancer and cancer therapies on psychosocial and mental health, including but not limited to

2.1.4.4.5.1. Risk of substance abuse or other risky behaviours

2.1.4.4.5.2. Risk of suicide

2.1.4.4.5.3. Severity of psychosocial and environmental stressors

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- 2.1.4.4.6. Interventions and strategies to mitigate adverse events related to distress and psychosocial and mental health issues
- 2.1.5. Bioethics
  - 2.1.5.1. Issues related to medical confidentiality and capacity for consent in the context of emerging maturation of autonomous decision-making in the AYA population
  - 2.1.5.2. Role of a clinical ethics consultation committee in addressing the needs of and decision-making with AYA patients
  - 2.1.5.3. Ethical aspects of fertility preservation as related to cancer outcome
- 2.1.6. Survivorship
  - 2.1.6.1. Educational, vocational, financial, and lifestyle issues, including reintegration into school and/or work
  - 2.1.6.2. Health promotion strategies, including but not limited to
    - 2.1.6.2.1. Healthy lifestyle
    - 2.1.6.2.2. Human papillomavirus (HPV) vaccination
    - 2.1.6.2.3. Prevention and cessation of use of tobacco products
    - 2.1.6.2.4. Prevention of ultraviolet (UV) light exposure
  - 2.1.6.3. Late effects of cancer and cancer therapies, and appropriate screening and surveillance strategies
    - 2.1.6.3.1. Cardiovascular disease
    - 2.1.6.3.2. Endocrinopathy
    - 2.1.6.3.3. Fertility and sexual function
    - 2.1.6.3.4. Neurocognition
    - 2.1.6.3.5. Psychosocial and mental health
    - 2.1.6.3.6. Subsequent malignancy
- 2.1.7. Palliative care
  - 2.1.7.1. Identification of patients with advanced cancer and/or poor prognosis, integrating an understanding of disease outcome, symptom control, and role of advance care directives
  - 2.1.7.2. Patient maturational stage and family dynamic, and the effects thereof on palliative care in the AYA population
  - 2.1.7.3. Physiology and management of pain and other symptoms
  - 2.1.7.4. Resources and expertise available to improve the quality of palliative and end-of-life experiences for AYA patients and their families
  - 2.1.7.5. Process of normal grief, and features of atypical grief and bereavement

**3. Perform a complete and appropriate assessment of a patient**

- 3.1. Obtain a complete, appropriate, social, physical, and developmental history of the AYA patient with cancer at various stages in the cancer journey, including but not limited to assessment of
  - 3.1.1. Body image
  - 3.1.2. Educational and/or vocational goals
  - 3.1.3. Family and social support
  - 3.1.4. Mental health
  - 3.1.5. Patient's understanding of his/her disease and its treatment
  - 3.1.6. Sexual function
  - 3.1.7. Social behaviours, including but not limited to substance use
  - 3.1.8. Socioeconomic status
  - 3.1.9. Spiritual beliefs
- 3.2. Provide and implement distress screening at all phases of the cancer journey
- 3.3. Select medically appropriate investigative methods in a resource-effective and ethical manner

**4. Use preventive and therapeutic interventions effectively**

- 4.1. Apply evidence-based strategies, both pharmacological and non-pharmacological, during active therapy and in survivorship, to promote healthy behaviours related to
  - 4.1.1. Avoidance of high-risk behaviours
  - 4.1.2. Exercise
  - 4.1.3. Exposure to ultraviolet (UV) light
  - 4.1.4. Nutrition
  - 4.1.5. Use of tobacco products
- 4.2. Integrate an understanding of late effects of cancer therapies into treatment planning with newly diagnosed AYA patients with cancer and implement strategies to reduce the risk of late effects during both active therapy and in survivorship, including but not limited to effects on
  - 4.2.1. Cardiac function
  - 4.2.2. Endocrine function
  - 4.2.3. Fertility and sexual function
  - 4.2.4. Neurocognition
  - 4.2.5. Psychosocial and mental health
  - 4.2.6. Risk of subsequent malignancy

4.3. Provide optimal, ethical, and patient-centred pain and symptom management, and other palliative and end-of-life services

**5. Seek appropriate consultation from other health professionals, recognizing the limits of their own expertise**

5.1. Demonstrate insight into their own limits of expertise

5.2. Demonstrate effective, appropriate, and timely consultation of other health professionals as needed for optimal patient care

**Communicator**

***Definition:***

As *Communicators*, AYA Oncology diplomates effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

***Key and Enabling Competencies: AYA Oncology diplomates are able to...***

**1. Develop rapport, trust, and ethical therapeutic relationships with AYA patients and families**

**2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals**

2.1. Identify the patient's life stage and perspective, and incorporate this into communication strategies and clinical decision-making

**3. Convey relevant information and explanations accurately to patients and families, colleagues, and other professionals**

3.1. Exhibit compassion in discussions with patients and their families

3.2. Develop age-specific, effective, developmentally appropriate communication strategies that incorporate respect for the specific needs of the individual patient, within the family context, understanding the gaps in care for AYA patients with cancer

**4. Develop a common understanding on issues, problems, and plans with patients, families, and other professionals to develop a shared plan of care**

4.1. Engage families and patients, as appropriate to their maturational stage, to participate in shared decision-making, including discord resolution

4.2. Address challenging communication issues effectively, including but not limited to obtaining informed consent, delivering bad news, addressing anger, confusion, misunderstanding, and developing advance care directives

**5. Convey oral, written, and/or electronic information effectively about a medical encounter**

- 5.1. Document the survivorship care plan for the AYA patient

**Collaborator**

**Definition:**

As *Collaborators*, AYA Oncology diplomates work effectively within a health care team to achieve optimal patient care.

**Key and Enabling Competencies: AYA Oncology diplomates are able to...**

**1. Participate effectively and appropriately in an interprofessional AYA health care team**

- 1.1. Describe the AYA Oncologist's roles and responsibilities to other professionals
- 1.2. Describe the roles and responsibilities of other professionals within the health care team
- 1.3. Recognize and respect the diverse roles, responsibilities, and competencies of other professionals in relation to their own
- 1.4. Work with other professionals to assess, plan, provide, and integrate care for individuals and groups of patients
- 1.4.1. Advise colleagues and other third parties about issues arising in the care of AYA patients with cancer, including but not limited to how religious and/or cultural characteristics may influence intervention decisions
- 1.5. Recognize and respect differences between pediatric and adult philosophies of care

**Manager**

**Definition:**

As *Managers*, AYA Oncology diplomates are integral participants in health care organizations, organizing sustainable practices, making decisions concerning the allocation of resources, and contributing to the effectiveness of the health care system.

**Key and Enabling Competencies: AYA Oncology diplomates are able to...**

**1. Participate in activities that contribute to the effectiveness of their health care organizations and systems**

- 1.1. Work collaboratively with others in their organizations and with health care authorities to advance AYA oncology care
- 1.1.1. Improve the processes of care at the transition from pediatric to adult cancer services
- 1.1.2. Enhance access to existing supportive care services within the hospital and community



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- 1.1.3. Identify the most appropriate care location for individual patients
  - 1.1.4. Collaborate with regional cancer centres for delivery of care
  - 1.2. Participate in systemic quality process evaluation and improvement
    - 1.2.1. Ensure best clinical practice for AYA patients, considering their age and their developmental and disease-specific needs
    - 1.2.2. Deliver targeted patient education
    - 1.2.3. Describe the challenges related to clinical trial accrual, access to care, and time between symptom onset and treatment initiation for AYA patients with cancer
  - 1.3. Describe the structure and function of the health care system as it relates to AYA Oncology, including the roles of AYA Oncologists in bridging services between pediatric and adult institutions and systems
- 2. Allocate finite health care resources appropriately**
- 2.1. Demonstrate an understanding of the importance of just allocation of health care resources, balancing effectiveness, efficiency, and access with optimal patient care
    - 2.1.1. Evaluate care options for AYA patients with cancer and make clinical decisions with an understanding of the specific metrics of survival, the cost-effectiveness of therapies, and short- and long-term outcomes
    - 2.1.2. Provide information about fertility preservation services and their costs
- 3. Serve in administration and leadership roles**
- 3.1. Develop leadership and managerial skills
  - 3.2. Participate effectively in committees and meetings

## **Health Advocate**

### ***Definition:***

As *Health Advocates*, AYA Oncology diplomates use their expertise and influence responsibly to advance the health and well-being of individual patients, communities, and populations.

### ***Key and Enabling Competencies: AYA Oncology diplomates are able to...***

- 1. Respond to the issues and health needs of individual AYA patients with cancer as part of patient care**
  - 1.1. Identify the health needs of an individual patient using an understanding of the patient's maturational stage
  - 1.2. Identify opportunities for advocacy, health promotion, and disease prevention with individuals to whom they provide care

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- 1.2.1. Recognize and address pertinent issues, including but not limited to anxiety, depression, body image, high-risk behaviours, and vocational planning
- 1.2.2. Advocate for access to potentially effective but costly therapies
- 1.2.3. Facilitate access to clinical trials for individual patients, when feasible

**2. Respond to the health needs of the communities that they serve**

- 2.1. Demonstrate awareness of the scope and quality of hospital-based, community-based, and internet-based resources for AYA communities affected by cancer

**3. Identify the determinants of health for the populations that they serve**

- 3.1. Identify the determinants of health for AYA patients with cancer, including but not limited to barriers to access to care or appropriate therapies, palliative care resources, and other gaps in the system
- 3.2. Identify vulnerable or marginalized populations within those served and respond appropriately

**4. Promote the health of individual AYA patients with cancer and associated communities and populations**

- 4.1. Describe an approach to implementing a change in a determinant of health of the populations they serve
- 4.2. Identify AYA-specific opportunities for advocacy, health promotion, and cancer prevention, including but not limited to appropriate venues or technology/social media, community agencies, and support and advocacy groups
- 4.3. Describe how public policy impacts on the health of the populations served
- 4.4. Identify points of influence in the health care system and its structure
  - 4.4.1. Determine the appropriateness of resource availability and respond to gaps
- 4.5. Engage in activities advocating collectively for improvements in the system of care for AYA patients with cancer
- 4.6. Advocate for the inclusion of issues relevant to AYA Oncology in clinical trials

## Scholar

### **Definition:**

As *Scholars*, AYA Oncology diplomates demonstrate a lifelong commitment to reflective learning and the creation, dissemination, application, and translation of medical knowledge.

### **Key and Enabling Competencies: AYA Oncology diplomates are able to...**

- 1. Maintain and enhance professional activities through ongoing learning pertaining to AYA Oncology**
  - 1.1. Develop and maintain a personal learning strategy, including but not limited to exploring both the adult and pediatric literature, and integrate new evidence into practice relevant to AYA Oncology
  
- 2. Critically evaluate medical information and its sources, and apply this appropriately to AYA oncology practice decisions**
  - 2.1. Adjudicate levels of evidence, critically appraise methodology, and interpret research results as they pertain to AYA patients with cancer
  - 2.2. Apply an understanding of the metrics of survival, quality of life concerns, and long-term toxicities to the critical appraisal of medical information
  
- 3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others about AYA Oncology**
  - 3.1. Recognize the unique perspectives and needs of the multiple target audiences in need of AYA Oncology education
  - 3.2. Develop and deliver educational materials and presentations that facilitate an understanding of the unique needs of AYA patients
  
- 4. Contribute to the development, dissemination, and translation of new knowledge and practices relevant to AYA Oncology**
  - 4.1. Participate in a scholarly research, quality assurance, or educational project relevant to AYA Oncology, demonstrating primary responsibility for at least two of the following elements of the project
    - development of the hypothesis, which must include a comprehensive literature review
    - development of the protocol for the scholarly project
    - preparation of a grant application
    - development of the research ethics proposal
    - study execution
    - interpretation and synthesis of the results
    - submission of an abstract or document suitable for publication

## Professional

### **Definition:**

As *Professionals*, AYA Oncology diplomates are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

### **Key and Enabling Competencies: AYA Oncology diplomates are able to...**

#### **1. Demonstrate a commitment to their patients, profession, and society through ethical practice**

- 1.1. Demonstrate an awareness of the ethical and legal aspects in the provision of care for AYA patients with cancer from all stages of the cancer journey
- 1.2. Exhibit appropriate professional behaviours in practice, including honesty, integrity, commitment, compassion, respect, and altruism
- 1.3. Demonstrate a commitment to delivering the highest quality care and maintenance of competence
- 1.4. Recognize and appropriately respond to ethical issues encountered in practice
- 1.5. Identify, declare, and manage perceived, potential, and actual conflicts of interest
- 1.6. Recognize the principles and limits of patient privacy and confidentiality as defined by the law and professional practice standards
- 1.7. Maintain appropriate boundaries with patients

#### **2. Demonstrate a commitment to their patients, their profession, and society through participation in profession-led regulation**

- 2.1. Demonstrate knowledge and understanding of professional, legal, and ethical codes of practice
- 2.2. Fulfil the regulatory and legal obligations required of current practice
- 2.3. Demonstrate accountability to professional regulatory bodies
- 2.4. Recognize and respond appropriately to others' unprofessional behaviours in practice
- 2.5. Participate in peer review

#### **3. Demonstrate a commitment to physician health and sustainable practice**

- 3.1. Strive to heighten personal and professional awareness and insight
- 3.2. Balance personal and professional priorities to ensure personal health and a sustainable practice; prevent, recognize, and respond to burnout and compassion fatigue
- 3.3. Recognize other professionals in need and respond appropriately

## **REQUIRED TRAINING EXPERIENCES**

1. Perform clinical assessments and manage the ongoing care of AYA patients with cancer in an ambulatory clinic setting at all stages of the cancer journey
2. Act as an AYA Oncology consultant for ambulatory and hospitalized patients
3. Participate in oncofertility and sexual health consultations to understand the breadth and variety of available treatments
4. Participate in palliative care consultations in the pediatric or AYA age group, either in the inpatient or ambulatory setting
5. Participate in psychosocial oncology consultations for AYA patients
6. Perform clinical assessments of AYA patients in a survivorship/late effects clinic
7. Teach AYA Oncology topics for a variety of audiences
8. Participate in multidisciplinary tumour board rounds at both adult and pediatric centres
9. Participate on a committee or action group relevant to AYA Oncology at the local institution, or at a provincial or national level
10. Participate in a scholarly project

## **RECOMMENDED TRAINING EXPERIENCES**

1. Attend a conference relevant to AYA Oncology
2. Complete a scholarly project and submit an abstract for a relevant meeting
3. Participate in the clinical care of AYA patients with cancer outside the scope of the AFC trainee's entry discipline (Pediatric Hematology/Oncology, Radiation Oncology, Medical Oncology, Hematology)
4. Participate in the process of transitioning patients to an alternate level of care (e.g., to aftercare/survivorship from active care, or to adult setting from pediatric)

This document is to be reviewed by the AFC Committee in Adolescent and Young Adult Oncology by December 31, 2017.

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