

**MARCH 2017**  
**VERSION 2.0**

*Note: Throughout this document, and per the criteria for an AFC discipline, all statements refer to the diplomate's application of Solid Organ Transplantation competencies to the pre-defined patient population and pre-existing competencies as outlined by his/her entry discipline.*

*"Physician AFC trainee" refers to candidates whose entry discipline is one of the following: Gastroenterology, Hepatology, Infectious Diseases, Nephrology, or Respiriology.*

*"Surgical AFC trainee" refers to candidates whose entry discipline is one of the following: Cardiac Surgery, General Surgery, Urology, or Thoracic Surgery.*

## **DEFINITION**

Solid Organ Transplantation is that area of enhanced competence concerned with the care of adult and pediatric patients with end-stage organ failure treated by transplantation, encompassing patients with heart, lung, liver, kidney, pancreas, and intestinal organ transplants.

## **ELIGIBILITY REQUIREMENTS**

The Area of Focused Competence (AFC) trainee must have Royal College certification or equivalent in one of the following: Cardiac Surgery, Gastroenterology, General Surgery, Hepatology, Infectious Diseases, Nephrology, Respiriology, Thoracic Surgery, or Urology. These disciplines share a common set of competencies related to the treatment of end-stage organ failure with organ transplantation, which each discipline applies to its distinct patient population:

- Cardiac Surgery: heart, heart-lung transplantation, and lung transplantation
- Gastroenterology or Hepatology: intestinal failure and intestinal transplantation, end-stage liver disease and liver transplantation
- General Surgery: abdominal organ transplantation, which may include intestinal, kidney, liver, and pancreatic transplantation
- Infectious Diseases: all organ groups
- Nephrology: end-stage kidney disease and kidney transplantation
- Respiriology: end-stage lung disease and lung transplantation
- Thoracic Surgery: lung transplantation
- Urology: kidney and whole pancreas transplantation

All trainees must be certified in their primary (sub)specialty or have an attestation in their area of focused competence in order to be eligible for the Royal College certification portfolio in Solid Organ Transplantation.

## GOALS

Upon completion of training, an AFC diplomate is expected to function as a competent specialist in Solid Organ Transplantation, capable of an enhanced practice in this area of focused competence relevant to the diplomate's discipline. The AFC trainee must acquire a working knowledge of the theoretical basis of this discipline, including its foundations in science and research, as it applies to medical and surgical practice.

The discipline of Solid Organ Transplantation includes responsibility for

- evaluation of individuals with end-stage organ disease to determine their suitability for organ transplantation;
- evaluation of potential organ donors to determine suitability for organ donation;
- advocacy for organ donation and the equitable allocation of donated organs to individuals awaiting organ transplantation;
- procurement and preservation of organs from living and deceased donors, implantation of these organs into individuals with end-stage organ disease, and management of the optimization of organ quality through the application of ex vivo preservation techniques and operative timing;
- provision of perioperative care to the organ transplant recipient;
- management of immunosuppression in an organ transplant recipient;
- monitoring of allograft function in organ transplant recipients and management of allograft dysfunction;
- provision of care to those organ transplant recipients with end-stage graft dysfunction; and
- advancement of the discipline through participation in scholarly activities.

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 graduate 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*, Solid Organ Transplantation physicians and surgeons 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: Solid Organ Transplantation physicians and surgeons 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, including the presentation of well-documented assessments and recommendations in written, oral and electronic form in response to a request from another health care professional
- 1.2. Demonstrate use of all CanMEDS competencies relevant to Solid Organ Transplantation
- 1.3. Identify and appropriately respond to relevant ethical issues arising in patient care
- 1.4. Demonstrate the ability to prioritize professional duties when faced with multiple patients and problems
- 1.5. Demonstrate compassionate and patient-centred care
- 1.6. Recognize and respond to the ethical dimensions in medical decision-making
- 1.7. Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed

**2. Establish and maintain clinical knowledge, skills, and behaviours appropriate to Solid Organ Transplantation**

- 2.1. Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Solid Organ Transplantation
  - 2.1.1. Evaluation of potential organ transplant recipients
    - 2.1.1.1. Causes of end-stage disease and the risk of disease recurrence in the allograft
    - 2.1.1.2. Indications for and methods of life-sustaining therapy as a bridge to transplantation
    - 2.1.1.3. Indications and contraindications for organ transplantation, including but not limited to
      - 2.1.1.3.1. Anatomic suitability
      - 2.1.1.3.2. Immunologic risk assessment
      - 2.1.1.3.3. Predictive factors for survival to time of transplantation and post-transplantation
      - 2.1.1.3.4. Pre-existing comorbidities
      - 2.1.1.3.5. Infectious risks and vaccination status
    - 2.1.1.4. Factors related to the source of donor organs, living versus deceased, and recipient outcome, including but not limited to
      - 2.1.1.4.1. Risk of disease recurrence
      - 2.1.1.4.2. Technical complications of organ implantation surgery
      - 2.1.1.4.3. Timing of transplantation

2.1.1.4.4. Anatomic suitability

2.1.2. Evaluation of potential organ donors

2.1.2.1. Principles of donor management to optimize organ procurement and function

2.1.2.2. Factors considered in the assessment of suitability of a potential organ donor, including but not limited to

2.1.2.2.1. Anatomic factors

2.1.2.2.2. Risk of transmissible disease

2.1.2.2.3. Exceptional distribution criteria

2.1.2.2.4. Methods to assess organ function and criteria for suitability

2.1.2.2.5. Risk factors for organ dysfunction, including but not limited to

2.1.2.2.5.1. Age

2.1.2.2.5.2. Comorbidities

2.1.2.2.5.3. Type of organ donor: living or deceased donor; neurologic or cardiac determined death

2.1.2.3. Factors specific to living donor organ donation, including but not limited to

2.1.2.3.1. Risks for the living donor, both immediate and long-term

2.1.2.3.2. Appropriate donor followup

2.1.3. Organ allocation

2.1.3.1. Purpose and limitations of the following tests performed by the tissue typing laboratory, including but not limited to

2.1.3.1.1. Human leukocyte antigen (HLA) typing

2.1.3.1.2. Panel reactive antibody (PRA) testing

2.1.3.1.3. Donor specific antibody (DSA) identification

2.1.3.1.4. Cross match

2.1.3.2. Factors considered in the allocation of organs to individuals awaiting transplantation, including but not limited to

2.1.3.2.1. Anatomical considerations

2.1.3.2.2. Predicted organ function

2.1.3.2.3. Immunologic considerations as appropriate to the organ type

2.1.3.2.3.1. Blood group

2.1.3.2.3.2. Cross match results

2.1.3.2.3.3. HLA match

- 2.1.3.2.3.4. PRA status
- 2.1.3.2.3.5. DSA status
  
- 2.1.3.2.4. Risk of transmissible infection or disease
- 2.1.3.2.5. Prioritization among individuals on the waiting list
  - 2.1.3.2.5.1. Recipient status and risk of progression or mortality
  - 2.1.3.2.5.2. Principles of ethics, including but not limited to equity and utility
  
- 2.1.4. Organ procurement, preservation, and implantation
  - 2.1.4.1. Surgical technique for procurement of the organ relevant to the AFC trainee's entry discipline, for donors in the following categories:
    - 2.1.4.1.1. Donors with neurological determination of death (NDD)
    - 2.1.4.1.2. Donors with donation after cardiac death (DCD)
    - 2.1.4.1.3. Living donors
  
  - 2.1.4.2. Ex vivo organ preservation techniques
  - 2.1.4.3. Implantation techniques for the following:
    - 2.1.4.3.1. Organs from deceased donors
    - 2.1.4.3.2. Organs from living donors relevant to the entry discipline
  
- 2.1.5. Perioperative care of organ transplant recipients
  - 2.1.5.1. Pathophysiology, histology, prevention, recognition, and management of ischemia/reperfusion injury
  - 2.1.5.2. Differential diagnosis and management of early allograft dysfunction
    - 2.1.5.2.1. Immunologic causes
    - 2.1.5.2.2. Non-immunologic causes
    - 2.1.5.2.3. Primary graft non-function
  
  - 2.1.5.3. Early complications of organ transplantation, including but not limited to
    - 2.1.5.3.1. Arterial and venous complications
    - 2.1.5.3.2. Anastomotic leaks
    - 2.1.5.3.3. Hemostasis and management of anticoagulation
  
- 2.1.6. Transplant immunology and immunosuppression
  - 2.1.6.1. Principles of transplant immunology
  - 2.1.6.2. Tests used to assess immunologic risk relevant to the AFC trainee's primary certification

- 2.1.6.3. Method of action, pharmacokinetics, adverse effects, and appropriate use of immunosuppressive agents, including but not limited to
  - 2.1.6.3.1. Biologic agents
  - 2.1.6.3.2. Corticosteroids
  - 2.1.6.3.3. Purine analogues
  - 2.1.6.3.4. Calcineurin inhibitors
  - 2.1.6.3.5. Mammalian target of rapamycin (mTOR) inhibitors
- 2.1.6.4. Immunosuppressive regimens commonly used in the organ transplant population
  - 2.1.6.4.1. Efficacy
  - 2.1.6.4.2. Factors involved in the selection of the immunosuppressive regimen for a given patient profile
  - 2.1.6.4.3. Appropriate therapeutic monitoring for clinical effect and minimization of toxicities
- 2.1.7. Complications of immunosuppression in organ transplant recipients
  - 2.1.7.1. Pathophysiology, prevention, diagnosis, and management of the following complications of immunosuppression in organ transplant recipients:
    - 2.1.7.1.1. Infection, including but not limited to
      - 2.1.7.1.1.1. Cytomegalovirus (CMV)
      - 2.1.7.1.1.2. Epstein-Barr virus (EBV)
      - 2.1.7.1.1.3. BK polyomavirus (BKV)
    - 2.1.7.1.2. Malignancy
      - 2.1.7.1.2.1. Post-transplant lymphoproliferative disease (PTLD)
    - 2.1.7.1.3. Other drug-induced organ dysfunction
    - 2.1.7.1.4. Delayed growth and development
- 2.1.8. Transplant organ function
  - 2.1.8.1. Appropriate methods for surveillance of allograft function
  - 2.1.8.2. Investigation and differential diagnosis of allograft dysfunction
  - 2.1.8.3. Rejection
    - 2.1.8.3.1. Risk factors for rejection, immunologic and non-immunologic
    - 2.1.8.3.2. Pathology of rejection
    - 2.1.8.3.3. Management of rejection and appropriate selection of treatment

- 2.1.8.4. Pathophysiology, prevention, diagnosis, and management of other common causes of transplant organ dysfunction, including but not limited to
  - 2.1.8.4.1. Recurrence of primary disease
  - 2.1.8.4.2. Acute and chronic medication toxicity
  - 2.1.8.4.3. Technical complications of the allograft procedure
  - 2.1.8.4.4. Chronic progressive allograft dysfunction
- 2.1.9. End-stage allograft dysfunction
  - 2.1.9.1. Etiology, prevention, diagnosis, and management of end-stage allograft dysfunction
  - 2.1.9.2. Role of altering immunosuppression in the patient with end-stage allograft dysfunction
  - 2.1.9.3. Factors considered in the assessment of a patient with end-stage allograft dysfunction for repeat transplantation and/or other life-sustaining therapies
- 2.2. Describe the CanMEDS framework of competencies relevant to Solid Organ Transplantation
- 2.3. Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up to date, and enhance areas of professional competence
- 2.4. Integrate the available best evidence and best practices to enhance the quality of care and patient safety in Solid Organ Transplantation

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

- 3.1. Obtain a history, by document review or otherwise, that is relevant, concise, and accurate to context and preferences for the purposes of diagnosis, management, health promotion, and disease prevention
  - 3.1.1. Describe the limitations of the medical and psychosocial history obtained for the deceased donor
- 3.2. Select medically appropriate investigative methods in a resource-effective and ethical manner
  - 3.2.1. Investigations to assess donor suitability for transplantation based on the medical and psychosocial history
  - 3.2.2. Investigations to assess the patient with end-stage organ disease for his/her suitability for transplantation
  - 3.2.3. Investigations to assess and monitor allograft function
  - 3.2.4. Therapeutic drug monitoring strategies

- 3.3. Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans
  - 3.3.1. Interpret the results of immunologic tests
  - 3.3.2. Interpret the results of tests that determine donor suitability for transplantation
    - 3.3.2.1. Tests that assess organ function
    - 3.3.2.2. Serologic and molecular testing for transmissible disease
  - 3.3.3. Interpret the results of:
    - 3.3.3.1. Tests that assess transplant organ function, including but not limited to
      - 3.3.3.1.1. Biochemistry results
      - 3.3.3.1.2. Hemodynamics
      - 3.3.3.1.3. Diagnostic imaging
    - 3.3.3.2. Pathology results of a transplant organ biopsy
  - 3.3.4. Interpret the results of therapeutic drug monitoring

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

- 4.1. Demonstrate appropriate and timely application of preventive and therapeutic interventions relevant to Solid Organ Transplantation
  - 4.1.1. Recommend vaccination appropriately for the patient awaiting transplantation and for the organ recipient
  - 4.1.2. Apply appropriate prophylactic strategies to reduce the risk of infection after an organ transplant
  - 4.1.3. Apply appropriate strategies for the surveillance of organ dysfunction
  - 4.1.4. Adjust immunosuppressive medications appropriately to optimize allograft function and minimize adverse effects or toxicities
- 4.2. Ensure patients with end-stage organ disease awaiting transplantation receive appropriate end-of-life care, balancing the hope for transplantation with appropriate symptom and distress management
- 4.3. Ensure patients with end-stage allograft dysfunction receive appropriate end-of-life care

#### **5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic**

- 5.1. Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to Solid Organ Transplantation



- 5.2. Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to Solid Organ Transplantation
  - 5.2.1. Heart transplant surgeons must be able to perform
    - 5.2.1.1. Heart procurement
    - 5.2.1.2. Orthotopic heart transplantation
  - 5.2.2. Lung transplant surgeons must be able to perform
    - 5.2.2.1. Lung procurement
    - 5.2.2.2. Lung transplantation
  - 5.2.3. Lung transplant surgeons must be able to describe
    - 5.2.3.1. Heart-lung procurement and transplantation
    - 5.2.3.2. Living donor lobar lung procurement and transplantation
    - 5.2.3.3. DCD donor lung procurement
  - 5.2.4. Liver transplant surgeons must be able to perform
    - 5.2.4.1. Below the diaphragm multi-organ procurement from NDD and DCD deceased donors
    - 5.2.4.2. Back table organ preparation, including splitting of liver
    - 5.2.4.3. Multivisceral abdominal organ implantation
    - 5.2.4.4. Portal vein/superior mesenteric vein conduit
    - 5.2.4.5. Aortoiliac conduit
  - 5.2.5. Liver transplant surgeons must be able to describe
    - 5.2.5.1. Live donor partial hepatectomy
    - 5.2.5.2. Live donor liver implantation
    - 5.2.5.3. Donor and back bench procedure for procurement of small bowel
    - 5.2.5.4. Implantation procedure for small bowel
  - 5.2.6. Kidney transplant surgeons must be able to perform
    - 5.2.6.1. Kidney transplantation
    - 5.2.6.2. Open and minimally invasive donor nephrectomy
    - 5.2.6.3. Procurement of kidneys from NDD and DCD donors
    - 5.2.6.4. Reconstruction and reimplantation of the transplant ureter
    - 5.2.6.5. Transplant nephrectomy
  - 5.2.7. Kidney transplant surgeons must be able to describe

5.2.7.1. Below the diaphragm multi-organ procurement from NDD and DCD donors

5.2.8. Pancreas transplant surgeons must be able to perform

5.2.8.1. Donor pancreatectomy

5.2.8.2. Back table preparation of whole pancreas

5.2.8.3. Whole pancreas implantation

5.2.8.4. Portal vein/superior mesenteric vein conduit

5.2.8.5. Aortoiliac conduit

## **Communicator**

### ***Definition:***

As *Communicators*, Solid Organ Transplantation physicians and surgeons effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

### ***Key and Enabling Competencies: Solid Organ Transplantation physicians and surgeons are able to...***

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

- 1.1. Establish positive therapeutic relationships with patients with end-stage organ disease and their families that are characterized by understanding, trust, respect, honesty, and empathy, recognizing the challenges of uncertainty in the context of organ availability for transplantation
- 1.2. Respect donor and recipient confidentiality, privacy, and autonomy

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

- 2.1. Gather information about a potential recipient and/or donor's health, beliefs, concerns, expectations, behaviours, and illness experience in order to
  - 2.1.1. Assess suitability for transplantation
  - 2.1.2. Identify supports needed to facilitate transplantation
  - 2.1.3. Identify and assess behaviours that predict high risk for transmissible disease
- 2.2. Synthesize relevant information from other sources, such as a patient's family, caregivers, and other professionals for the purposes of assessing risk for transmissible disease in the deceased donor

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

- 3.1. Deliver information to a patient and family, colleagues, and other professionals in a humane manner and in such a way that it is understandable, and encourages discussion and participation in decision-making
  - 3.1.1. Discuss the uncertainty of organ availability, timing of transplantation, organ quality, and allocation of an organ under exceptional distribution
- 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 patients, families, and relevant health professionals in shared decision-making to develop a plan of care
    - 4.1.1. Discuss living donation with patients and families, where applicable
    - 4.1.2. Engage with other health professionals to make decisions regarding donor and potential recipient suitability for transplantation
  - 4.2. Address challenging communication issues effectively, including but not limited to
    - 4.2.1. Removing a candidate from the organ transplant waiting list
    - 4.2.2. Discussing donor specific risks with potential recipient
    - 4.2.3. Delivering the news that a patient with end-stage organ disease is not suitable for organ transplantation or re-transplantation
- 5. Convey oral, written and/or electronic information effectively about a medical encounter while maintaining confidentiality of donor, recipient, and identifying factors**

## **Collaborator**

### ***Definition:***

As *Collaborators*, Solid Organ Transplantation physicians and surgeons work effectively within a health care team to achieve optimal patient care.

### ***Key and Enabling Competencies: Solid Organ Transplantation physicians and surgeons are able to...***

- 1. Participate effectively and appropriately in an interprofessional health care team**
  - 1.1. Describe the specialist's roles and responsibilities to other professionals
  - 1.2. Describe the roles and responsibilities of other professionals within the health care team, including but not limited to the
    - 1.2.1. Transplant coordinator
    - 1.2.2. Tissue typing technologist and director
    - 1.2.3. Health professionals involved in organ donor identification, management, procurement, and allocation system

- 1.2.4. Social worker and/ or other professional performing the psychosocial assessment
  - 1.3. Participate in interprofessional team meetings
    - 1.3.1. Discuss recipient and, where applicable, living donor suitability for and timing of transplantation
  - 1.4. Enter into interdependent relationships with other professions for the provision of quality care, recognizing the vital role of the interprofessional team in the care of patients with end-stage organ disease awaiting transplantation and those with organ transplant
- 2. Work with other health professionals effectively to prevent, negotiate, and resolve interprofessional conflict**
- 2.1. Employ collaborative negotiation to resolve conflicts, including but not limited to differing opinions regarding
    - 2.1.1. Suitability of candidate for transplantation
    - 2.1.2. Timing of transplantation
    - 2.1.3. Removal from the waiting list

## **Manager**

### ***Definition:***

As *Managers*, Solid Organ Transplantation physicians and surgeons are integral participants in health care organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the health care system.

***Key and Enabling Competencies: Solid Organ Transplantation physicians and surgeons are able to...***

- 1. Participate in activities that contribute to the effectiveness of their health care organizations and systems**
  - 1.1. Describe the structure and function of the health care system as it relates to Solid Organ Transplantation, including the roles of physicians
    - 1.1.1. Organ procurement organizations
    - 1.1.2. Canadian Blood Services (CBS)
    - 1.1.3. Canadian Standards Association (CSA)
    - 1.1.4. Health Canada - Health Products and Food Branch Inspectorate
    - 1.1.5. Public Health Agency of Canada - Cells, Tissues and Organs Surveillance System (CTOSS)
    - 1.1.6. Health Canada - Marketed Health Products Directorate
    - 1.1.7. National organ transplant registries

**2. Manage their practice and career effectively**

- 2.1. Set priorities and manage time in the unique environment of end-stage organ disease and the time limitations related to organ retrieval to balance patient care, practice requirements, outside activities, and personal life

**3. Allocate finite health care resources appropriately**

- 3.1. Demonstrate an understanding of the importance of just allocation of health care resources, balancing effectiveness, efficiency, and access with optimal patient care
  - 3.1.1. Demonstrate an understanding of the central role of the transplant physician/surgeon in the equitable allocation of organs for transplantation
  - 3.1.2. Describe an organ allocation algorithm, including how it addresses the issues of
    - 3.1.2.1. Best use of a scarce resource
    - 3.1.2.2. Timing of transplant for an individual patient and his/her disease status
    - 3.1.2.3. Balance between the need for a life-saving resource and appropriate and safe acceptance of organs for transplantation
  - 3.1.3. Allocate organs for transplantation appropriately (consultative role only for AFC trainees with primary certification in Infectious Disease)

**Health Advocate**

***Definition:***

As *Health Advocates*, Solid Organ Transplantation physicians and surgeons use their expertise and influence responsibly to advance the health and well-being of individual patients, communities, and populations.

***Key and Enabling Competencies: Solid Organ Transplantation physicians and surgeons are able to...***

**1. Respond to individual patient health needs and issues as part of patient care**

- 1.1. Identify the health needs of an individual patient, which may include but are not limited to
  - 1.1.1. The effects of relocation while awaiting organ transplantation, including but not limited to costs, logistics, and psychosocial supports
  - 1.1.2. Risk factors for infection in patients with end-stage organ disease and organ transplant recipients
  - 1.1.3. Cost of essential medications
- 1.2. Identify opportunities for advocacy, health promotion, and disease prevention with individuals to whom they provide care

- 1.2.1. Recognize and respond to opportunities to reduce infection, including but not limited to vaccination or antimicrobial prophylaxis
- 1.3. Demonstrate an appreciation of the possibility of competing interests between individual advocacy issues and the community at large
- 2. Respond to the health needs of the communities that they serve**
  - 2.1. Identify opportunities for advocacy, health promotion, and disease prevention in the communities that they serve, and respond appropriately
    - 2.1.1. Promote organ donation, deceased and living donor, as appropriate
  - 2.2. Demonstrate an appreciation of the possibility of competing interests between the communities served and other populations
    - 2.2.1. Describe the prioritization inherent in the allocation of deceased donor organs and the effect on communities served, including but not limited to pediatric patients
- 3. Identify the determinants of health for the populations that they serve**
  - 3.1. Identify the determinants of health of the population, including barriers to access to care and resources
    - 3.1.1. Describe challenges in equitable access to organ transplantation, including but not limited to cost and geography
  - 3.2. Identify vulnerable or marginalized populations within those served and respond appropriately, which may include but is not limited to
    - 3.2.1. Individuals who are psychosocially marginalized in the face of end-stage organ disease by such factors as addiction, income, geography
    - 3.2.2. Individuals for whom it is difficult to find a suitable organ due to such factors as size or sensitization
- 4. Promote the health of individual patients, communities, and populations**
  - 4.1. Describe how public policy impacts on the health of the populations served
    - 4.1.1. Describe policies that promote access to organs for donation, including but not limited to
      - 4.1.1.1. Funding for living donors
      - 4.1.1.2. Legislation that regulates deceased donor organ donation, including but not limited to NDD, DCD, and exceptional distribution
    - 4.1.2. Describe policies that impact the health of organ transplant recipients, including but not limited to those that affect access to medication

- 4.2. Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
  - 4.2.1. Demonstrate an understanding of their role in the appropriate allocation of life-saving organs

## Scholar

### **Definition:**

As *Scholars*, Solid Organ Transplantation physicians and surgeons demonstrate a lifelong commitment to reflective learning, and the creation, dissemination, application, and translation of medical knowledge.

**Key and Enabling Competencies: Solid Organ Transplantation physicians and surgeons are able to...**

- 1. Contribute to the development, dissemination, and translation of new knowledge and practices**
  - 1.1. Complete a scholarly activity relevant to Solid Organ Transplantation

## Professional

### **Definition:**

As *Professionals*, Solid Organ Transplantation physicians and surgeons 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: Solid Organ Transplantation physicians and surgeons are able to...**

- 1. Demonstrate a commitment to their patients, profession, and society through ethical practice**
  - 1.1. Recognize and appropriately respond to ethical issues encountered in practice, including but not limited to
    - 1.1.1. Ethical issues pertaining to patients with end-stage organ disease
      - 1.1.1.1. Assessing suitability for transplantation
      - 1.1.1.2. Prioritization on, or removal from, the wait list
      - 1.1.1.3. Transplant tourism
    - 1.1.2. Ethical issues in organ donation
      - 1.1.2.1. Coercion of living donors
      - 1.1.2.2. Discrimination in directed donation
      - 1.1.2.3. Financial incentives

- 1.2. Identify, declare, and manage perceived, potential, and actual conflicts of interest
  - 1.2.1. Allocate a limited resource among the population served
  - 1.2.2. Optimize care for both potential recipient and donor, even when their interests may be in conflict
- 1.3. Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law
  - 1.3.1. Disclose donor information to recipients only as appropriate and required for optimal decision-making and patient care
  - 1.3.2. Disclose sensitive information related to the recipient and living donor pair appropriately, including but not limited to:
    - 1.3.2.1. Risk of disease transmissibility
    - 1.3.2.2. Heredity
    - 1.3.2.3. Paternity

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

- 2.1. Fulfil the regulatory and legal obligations required of current practice
  - 2.1.1. Demonstrate knowledge of the criteria for declaration of death
    - 2.1.1.1. Neurological determination of death
    - 2.1.1.2. Donation after cardiac death
  - 2.1.2. Use exceptional distribution appropriately
  - 2.1.3. Apply allocation algorithms
- 2.2. Demonstrate accountability to professional regulatory bodies
  - 2.2.1. Organ procurement organizations
  - 2.2.2. Canadian Blood Services (CBS)
  - 2.2.3. Canadian Standards Association (CSA)
  - 2.2.4. Health Canada - Health Products and Food Branch Inspectorate
  - 2.2.5. Public Health Agency of Canada - Cells, Tissues and Organs Surveillance System (CTOSS)
  - 2.2.6. Health Canada - Marketed Health Products Directorate
  - 2.2.7. National organ transplant registries

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

- 3.1. Balance personal and professional priorities to ensure personal health and a sustainable practice



- 3.1.1. Apply strategies to effectively cope with the challenges of caring for individuals with end-stage disease and with the time pressures of organ procurement and allocation

## REQUIRED TRAINING EXPERIENCES

1. Assess individuals with end-stage organ disease for organ transplantation
2. Participate in the assessment of deceased and living donors, as applicable, for suitability for transplantation
3. Participate in interprofessional rounds where decisions are made regarding suitability for transplantation of potential organ donors, individuals with end-stage organ disease, and individuals on the waiting list
4. Participate in organ allocation
5. Observe organ procurement and implantation procedures (for Physician AFC trainees)
6. Perform surgical procedures to achieve competence with the related organ (for Surgical AFC trainees)
7. Manage organ transplant recipients in the perioperative period as the responsible physician/surgeon
8. Manage organ transplant recipients who are acutely ill
9. For physician AFC trainees, manage organ transplant recipients in the ambulatory clinic setting as the responsible physician
10. For surgical AFC trainees, participate in the care of organ transplant recipients in the ambulatory care clinic
11. Participate in the management of life-sustaining therapies as a bridge to transplantation
12. Participate in the academic activities related to the AFC trainee's organ transplant group

## RECOMMENDED TRAINING EXPERIENCES

1. Observe tissue typing laboratory techniques, including but not limited to HLA typing, antibody identification, cross match, and methodology to identify sensitization
2. Integrate clinical experience with the pathology of the transplanted organ
3. Participate in multi-organ transplant academic activities
4. Participate in the clinical care of solid organ transplant patients outside the scope of their entry discipline

*This document is to be reviewed by the AFC Committee in Solid Organ Transplantation by March 2019.*

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