ASTS Accredited Transplant Surgery Fellowship-Renal Specific

Structure of Program

The Division of Transplantation is part of the Department of Surgery.

All patients who undergo organ transplantation are admitted to a dedicated inpatient multi-organ transplant (MOTS) unit of 16 beds coordinated by a trained charge nurse. Transplant specific nurses attend the needs of patients who are admitted to the unit. Immediate postoperative care is delivered in recovery room and intensive care unit as necessary according to the extent of the surgical procedure. Patients who require intensive care support are under the primary care of dedicated intensivist attendings that supervise residents and fellows. Transplant surgeons, hepatologists, nephrologists, infectious disease specialists, pharmacists and fellows dedicated to transplantation are consulted for the specific patients’ care during their stay both on the MOTS unit and in the intensive care unit.

The highest standard of care for patients who undergo organ transplantation at the University of Alberta Hospital is additionally supported by the presence of approved Canadian graduate medical education training program in Cardiovascular Surgery, General Surgery, Urology, Nephrology, Hepatology, Endocrinology, Cardiology, Infectious Disease, Immunology, Radiology, Pulmonary, Gastroenterology and by a dedicated pharmacist. The presence of all these services provides a multidisciplinary care that spans 24 hours a day, seven days a week whenever the clinical necessity requires specific expertise.

In addition, modern laboratory and radiology facilities are available for advanced diagnostic and therapeutic knowledge in:

- multi-organ procurement and storage
- cadaveric and living donor kidney transplantation
- living donor nephrectomy techniques (open in laproscopic)
- kidney-pancreas transplantation.

At the University of Alberta, the transplant surgical program aims to specifically train fellows to develop proficiency in:

- pre-operative management
- post-operative management
- surgical techniques
During their fellowship, the fellows will develop the necessary skill for:

1. Surgical and medical management of patients with end-stage organ diseases amenable to transplantation.

2. Optimal preoperative preparation of organ recipients, including immunosuppressive protocols, as well as the diagnosis and complex postoperative management of these patients, who are at risk of developing allograft rejection, opportunistic infections and surgical complications.

3. Completing history and physical examinations, presenting inpatient cases, interpreting laboratory and radiology findings, performing transplant operations, multi-organ donor procurement surgery, and actively participating in non-invasive and surgical procedures for pre and post-operative complications.

4. Understanding aspects of the basic science of transplantation such that they will be able to describe in general terms the HLA, the recognition of antigens, describe the events of T cell activation, and the components of the allograft response.

5. Understanding mechanism of action, efficacy, indications, monitoring and toxicity of the following available immunosuppressive agents: glucocorticoids, azathioprine, cyclosporine, tacrolimus, mycophenolate acid and its analogues, sirolimus and everlimus, polyclonal antilymphocyte preparations, OKT3, belatacept and anti-IL2R monoclonal antibodies.

6. Understanding the principles and methods of tissue typing, panel reactive antibody testing, and cross-matching and their impact on recipient selection.

7. Recognizing the relative and absolute contraindications to specific organ transplantation.

8. Working-up patients with end-stage organ disease considered for transplantation and demonstrate knowledge of patient and graft survival, and impact and management of co-morbid conditions pre-transplant.

9. Understand donor selection and contraindications and brain death criteria, the management of organ donors, and organ preservation.

10. Evaluating risks, psychosocial and ethical issues of living organ donation (Specifically for kidney and liver transplantation).

11. Developing a systematic approach to the evaluation and management of transplant recipients with deteriorating allograft function late post-transplant.

12. Mastering technique of transplant organ biopsies, including the management of common complications of the procedure.
13. Recognizing and describing the mechanism, pathology, and treatment of hyperacute, acute and chronic rejection.

14. Discussing the ethical issues in transplantation, including the equitable access to organ transplantation, the allocation of cadaveric and living organ donation.

15. Being familiar with the common complications of transplantation, including:

- Bacterial Infections
- CMV infection
- EBV infection
- Polyomavirus infection
- Post-transplant malignancy, including post-transplant lymphoproliferative disorder
- Post-transplant hematological disorders
- Hypertension
- Diabetes mellitus
- Post-transplant bone disease
- Dyslipidemia and cardiovascular disease