TRANSPLANT INFECTIOUS DISEASES FELLOWSHIP PROGRAM

DIVISION OF INFECTIOUS DISEASES, DEPARTMENT OF INTERNAL MEDICINE

ISOT Accredited Centre's

"This document abides by the Infectious Diseases General Competencies Curriculum."

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OVERVIEW OF FELLOWSHIP

A one-year Fellowship program in Transplant Infectious Diseases in the Division of Infectious Diseases, Department of Internal Medicine at ISOT Acrediated Hospitals.

The trainee position requires the successful completion of formal fellowship training (minimum 1 years) in an approved Infectious Diseases (ID) program with a certificate of completion of the course.

The major learning objectives of the program are to:

a) Understand the role of ID in the context of transplant medicine, including pre-transplant evaluation and post-transplant management and management of infections associated with ventricular assist devices.
b) Understand the net state of immunesuppression and risk for infection in the transplant recipient and know the mechanisms of action, toxicity and drug interactions of specific immunesuppressive agents.
c) To recognize common transplant related infections caused by nosocomial and opportunistic pathogens in solid organ transplantation (SOT) .
d) To understand the principal diagnostic modalities and effective utilization of these modalities in the transplant population.
e) To learn the principles of treatment of infections in the immunosuppressed transplant recipient and recognize differences in management as compared to other patient populations.
f) To become familiar with strategies for the prevention of infections in the transplant population.
g) To learn the principles of prevention and management of infections in high-risk patients with hematological malignancies including those undergoing cellular therapy

The faculty include, infectious diseases specialists, transplant physicians/surgeons, immunologists / Microbilogists and pharmacists.

After completion of 1 year fellowship in SOT Infectious Diseases PROGRRAMME , the candidate is expected to have received adequate training to seek a consultant position in Infectious Diseases in any Transplant Program.

COMPONENTS OF THE PROGRAM

The Candidate will receive training in the following:

Clinical training

- Infectious Diseases Service providing consultation for solid organ transplant recipients.
- Infectious Diseases Service providing consultation for recipients and patients undergoing cellular therapy.
- Infectious Diseases Service providing consultations for high-risk hematological malignancies.
- Solid Organ Transplant Service with transplant surgeons and transplant clinicians (hepatologists, nephrologists, cardiologists, pulmonologists) and pharmacists.

Laboratory training

- Laboratory medicine lectures and case conferences.

Research

- Based on individual goal of the fellow (clinical/translational).

FACULTY INVOLVED

Name	**Service**
Location	
ID faculty	
Director of the Deprtment	*Transplant and General Infectious*
ISOT ACCREDIATED CENTRES	
Co Guide	*Transplant and General Infectious*
ISOT ACCREDIATED CENTRES	
Solid Organ Transplant faculty	
Liver Transplant Surgery	
Director of the Department	*Liver Transplant Surgeon*
ISOT ACCREDIATED CENTRES	
Associate Director	*Liver Transplant Surgeon*
ISOT ACCREDIATED CENTRES	
Liver Transplant Medicine	
Director of the Department	*Liver Transplant Physcian and Hepatologist*
ISOT ACCREDIATED CENTRES	
Associate Director	*Liver Transplant Physcian and Hepat*
ISOT ACCREDIATED CENTRES	
Kidney Transplant Surgery	
Director	*Kidney Transplant Surgeon and Urologist*
ISOT ACCREDIATED CENTRES	
Associate Director	*Kidney Transplant Surgeon and Urologist*
ISOT ACCREDIATED CENTRES	

Kidney Transplant Physcian

Director Kidney Transplant Surgeon and Nephrologist
ISOT ACCREDIATED CENTRES

Associate Director Kidney Transplant Surgeon and Nephrologist
ISOT ACCREDIATED CENTRES

Heart Transplant Surgeon

Director Heart Transplant Surgeon
ISOT ACCREDIATED CENTRES

Associate Director Heart Transplant Surgeon
ISOT ACCREDIATED CENTRES

Heart Transplant Physcian

Director Heart Transplant Physcian ISOT
ACCREDIATED CENTRES

Lung Transplant Surgeon

Director Lung Transplant Surgeon ISOT
ACCREDIATED CENTRES

Associate Director Lung Transplant Surgeon ISOT
ACCREDIATED CENTRES

Lung Transplant Physcian

Director *Lung Transplant Surgeon* *ISOT ACCREDIATED CENTRES*

Transplant Pharmacology

Laboratory faculty

PROGRAM SCHEDULE

Service	**Location**	
D*URATION/ MONTHS*		
INFECTIOUS DISEASES / SOT 7.0	ISOT	ACCREDIATED CENTRES
Transplant Surgery/Medicine 1.0	ISOT	ACCREDIATED CENTRES
Transplant Immunology/Pharmacology/Microbiology 1.5	ISOT	ACCREDIATED CENTRES
Research time 2.0	ISOT	ACCREDIATED CENTRES
Vacation time 0.5		

EVALUATION

An evaluation of the trainee is performed by the attending staff at the end of each rotation. Areas evaluated include:

- Medical knowledge involving transplant aspects and related infectious diseases, transplant. immunology, drugs used in transplantation and associated interactions/complications.
- Practice-based learning.
- Systems-based practice.
- Professionalism and communication skills
- Ethics.

A written evaluation is provided to the trainee and to the Program Director.

CONFERENCES

Weekly Conference
Transplant ID Conference wherein cases of particular interest; transplant immunology, pharmacology, and histopathology; and transplant-related issues from a diagnostic or treatment perspective are discussed. Cases for this conference are drawn from the inpatient or the outpatient services and are presented by the fellow following the patients.

Transplant ID SIR HN RELIANCE FOUNDATION HOSPITAL
Transplant ID related clinical cases of educational value are discussed from a diagnostic or management perspective with a comprehensive review of the literature.

Journal Club
A Journal Club is offered as a forum for fellows and faculty to critically review the recent literature in clinical transplantation.

Grand Rounds and Other Conferences
In addition, a variety of lectures, Transplant Institute grand rounds, transplant selection committee meetings, morbidity and mortality conferences are available throughout the year.

TRANSPLANT INFECTIOUS DISEASES INPATIENT/OUTPATIENT CONSULT SERVICE
SIR HN RELIANCE FOUNDATION HOSPITAL

Description of Rotation & Educational Experience
Institutes performing kidney, liver, heart, lung, organ transplantation.

The fellow in transplant ID will provide consultative services in the inpatient and outpatient setting to SOT patients at the Transplant Institute.

At the end of the fellowship, the fellow will understand the unique anatomical, pathophysiological, and immunological factors that contribute to risk of infection, and be knowledgeable in the management of infectious complications in this immunocompromised population.

Specific Goals and Objectives

Solid Organ Transplantation (SOT):

- Understand the approach to and management of infections associated with end-stage organ disease in patients awaiting SOT.
- Perform pre-SOT evaluations to identify risk factors for SOT-related infections based upon epidemiology, medical history, laboratory data, immunization status and Initiate appropriate measures to minimize risk.
- Understand the approach to screening for donor transmissible infections and the criteria for accepting or rejecting donor organs.
- Identify the risk factors and the unique clinical characteristics of infections in the SOT recipient. This includes a clear understanding of transplant-related surgical anatomy, surgical techniques and infectious and non-infectious complications related to the transplant surgery.
- Understand the "Net State of Immunosuppression" and acute and chronic rejection and impact on risk for infection.
- Learn the "timetable" for infections following SOT.
- Understand the approach to investigation and management of fever without localizing signs.
- Understand the peri-SOT and post-SOT antimicrobial prophylaxis strategies and post-SOT screening and pre-emptive therapy strategies.
- Learn the approach to the diagnosis and treatment of specific bacterial, viral, fungal, mycobacterial and other opportunistic infections in the SOT patient.
- Understand the risk for nosocomial infections in the SOT patient and be familiar with appropriate infection prevention strategies and policies to minimize risk.
- Learn the mechanisms of action and adverse effects of specific SOT-related immunesuppressive agents and their potential for drug-drug-interactions with antimicrobials.
- Perform appropriate outpatient follow-up of SOT recipients with infectious complications, including assessing the need for appropriate immunization.

Hematological Malignancies

- Understand the approach to and management of infections associated with hematological malignancies and risk for infections related to specific immune deficiencies.

- Learn the approach to diagnosis and management fever in patients with neutropenia.
- Appreciate the risk for infection related to HCT modalities such as myeloablative and reduced intensity HCT, and specific preparative regimens.
- Understand the approach to screening for donor transmissible infections.
- Identify the risk factors and the unique clinical characteristics of infections in the HCT recipient. This includes a clear understanding of HCT-related complications such as graft-versus-host disease and associated risk for infection.
- Learn about the "Net State of Immunosuppression" and its impact on risk for infection in the post-HCT period.
- Learn the "timetable" for infections following HCT.
- Understand the peri-HCT and post-HCT antimicrobial prophylaxis strategies and the strategies for screening and pre-emptive antimicrobial therapies.
- Learn the approach to the diagnosis and treatment of specific bacterial, viral, fungal, mycobacterial and other opportunistic infections in the HCT patient.
- Understand the risk for nosocomial infections in the HCT patient and be familiar with appropriate infection prevention strategies and policies to minimize risk.
- Learn the mechanisms of action and adverse effects of specific HCT-related immunesuppressive agents and their potential for drug-drug-interactions with antimicrobials.
- Perform appropriate outpatient follow-up.
- CT recipients with infectious complications, including assessing immunization status and the need for appropriate re-vaccination.

Patient Characteristics
Patients with hematological malignancies e.g. leukemias, lymphomas, aplastic anemias and myelomas
Liver, kidney, pancreas, heart, lung, multivisceral SOT recipients
Allogeneic and autologous HCT recipients

Mix of Diseases
SOT surgery-related complications
Organ rejection
Graft versus host disease
Donor-derived infections
Nosocomial infections e.g. surgical site infections, device-related infections, pneumonias
Opportunistic infections e.g. viral, bacterial, fungal and mycobacterial infections

Types of Clinical Encounters: (Inpatient/outpatient)
Pre-transplant evaluation of donor and recipient
Post-transplant evaluation for infections
Determination of need for antimicrobial prophylaxis and vaccinations

Procedures
Common bedside procedures such as obtaining samples for microbiological studies.

Services
Inpatient and outpatient consultative services

Pathological Material
Review of laboratory, pathological and radiological studies

TRAINING COMPETENCIES

Patient Care

Fellows must be able to provide patient care this is compassionate, appropriate, and effective for the treatment of health problems and promotion of health.

Objectives:

- *Integrative Care: Able to integrate clinical/diagnostic information with up-to-date scientific knowledge and clinical judgment in order to develop and carry-out a diagnostic and/or management plan.*
- *Fellows are expected to learn the practice of health promotion, disease prevention, diagnosis, care, and treatment of men and women from adolescence to old age, during health and all stages of illness.*

Medical Knowledge

Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care.

Objectives:

- *Apply an open-minded analytical knowledge approach to acquiring knowledge.*
- *Access to critically evaluation current medical information and scientific evidence.*
- *Apply knowledge to clinical problem solving, clinical decision making and critical thinking.*
- *Fellows will acquire the skills needed to identify appropriate diagnostic studies in an orderly and clinically effective manner for patients with serious infectious diseases.*
- *Fellows will acquire the advanced skills needed to interpret relevant microbiologic and laboratory data.*
- *Fellows will learn to describe infectious diseases syndromes, the infections that various etiologic agents can cause, the attendant differential diagnoses by the end of the rotation.*
- *Fellows will learn how to enumerate the antimicrobials that would be appropriate for empiric and specific therapy, mechanisms of action, indications, contra-indications, dosing schedule, efficacy, cost side effects and pharmacokinetics by the end of the rotation.*

Practice- Based Learning and Improvement

Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning. Fellows are expected to develop skills and habits to be able to meet the following.

Objectives:

- *Identify strengths, deficiencies, and limits in one's knowledge and expertise.*
- *Set learning and improvement goals.*
- *Identify and perform appropriate learning activities.*
- *Systematically analyze practice, using quality improvement methods, and implement changes with the goal of practice improvement.*
- *Incorporate formative evaluation feedback into daily practice.*
- *Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems*
- *Use information technology to optimize learning and participate in the education of patients, families, students, fellows and other health professionals.*

Interpersonal and Communication Skills
Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Fellows are expected to:
Objectives:

- *Communicate effectively with patients, families, and the public, as appropriate, across the board range of socioeconomic and cultural backgrounds.*
- *Communicate effectively with physicians, other health care professionals, and health related agencies.*
- *Work effectively as a member or leader of a health care team or other professional group.*
- *Act in a consultative role to other physicians and health professionals and maintain comprehensive, timely, and legible medical records if applicable.*

Professionalism
Fellows must demonstrate a commitment to carrying out professional responsibilities and adherence to ethical principles.
Objectives:

- *Compassion, integrity, and respect for others.*
- *Responsiveness to patient needs that supersedes self-interest.*
- *Respect for patient privacy and autonomy.*
- *Accountability to patients, society and the profession.*
- *Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.*

Systems Based Practice
Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.
Objectives:

- *Work effectively in various health care delivery settings and system relevant to their clinical specialty.*
- *Coordinate patient care within the health care system, relevant to their clinical specialty.*
- *Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate.*
- *Advocate for quality patient care and optimal patient care systems.*
- *Work in inter-professional teams to enhance patient safety and improve patient care quality.*
- *Participate in identifying system errors and implementing potential systems solutions.*

Teaching Methods
Fellows gain practice instructive experience in the following areas:

- *Bi-monthly seminars reviewing illustrative cases, held in conjunction with Henry Ford transplant ID physicians.*
- *Daily rounds for both IPD and OPD.*
- *Evaluating new consults.*
- *Performing daily assessment of the patients.*
- *Reviewing patient charts, laboratory and imaging results daily.*
- *Documenting findings and recommendations.*

- *Assignment of weekly readings by the ID faculty.*
- *Joint examination of patients by ID faculty and fellows*
- *Regular review and critique of fellow's patients notes.*
- *Observation by faculty of the fellow's interaction with patient, their family members with oral and written feedback.*
- *Mechanisms of action and adverse reactions of antimicrobial agents; the conduct of pharmacologic studies to determine absorption and excretion of antimicrobial agents; methods of determining antimicrobial agents in the blood and other body fluids; the appropriate use of management of antimicrobial agents in a variety of clinical settings, including the hospital, ambulatory practice, and the home.*
- *The utility of procedures of specimen collection relevant to infectious diseases, including but not limited to bronchoscopy, thoracentesis, arthrocentesis, lumbar puncture, and aspiration of abscess cavities, including soft-tissue infections.*
- *Principles and practice of hospital infection control.*
- *Principles of chemoprophylaxis and immunoprophylaxis to enhance resistance.*
- *Mechanisms of actions of biological products, including monoclonal antibodies, cytokines, interferon, interleukins, and colony-stimulating factors, and their application and treatment of infectious diseases.*
- *The fellow will spend time with the transplant surgery team and/or the clinical transplantation team (i.e. transplant hepatology, transplant cardiology, transplant pulmonology).*

Assessment Method (Fellow)
The supervisor and residents provide a computer based evaluation of the fellow regarding his/her enthusiasm for the rotation, punctuality, fund of knowledge, progress during rotation, and ability to interact with team members.
Strategies:

- The ID faculty will provide verbal feedback to the fellows during the rotation.
- Fellows will provide an evaluation of the ID faculty.

Assessment Method (Program Evaluation)
At the end of the rotation both the fellow and faculty member will provide feedback via a computer based evaluation.

Level of Supervision
Lines of Responsibility Program Director and Faculty Members
The program director and teaching staff shall consider each fellow's knowledge, problem-solving ability, clinical skills, experience, and the severity and complexity of each patient's status in determining the level of responsibility given to each fellow and the intensity of supervision required. The program director will communicate these expectations to the ID attending physician who will be directly responsible for fellow education.

Fellows Responsibilities
The Fellow is responsible for directing the Transplant Infectious Diseases Consultation Service under the supervision of the attending physician. They include:

- Ensuring prompt response to consult requests.
- Insuring appropriate collection of pertinent clinical data.
- Performing a complete write-up and dictation of the consultation record.
- Supervise and coordinate the work of the medical residents and pharmacy students when available.
- Present the team with brief-up-to-date reviews related to clinical problems being managed.
- Keep the attending informed about important changes in patient's conditions.
- Seek the input of the attending physician when unsure about the best management option for patient care.
- Communicate the recommendations of the Transplant Infectious Diseases Service to the primary team providers.
- Maintain a personal log of interesting cases that merit publication or presentation for case conferences.

TRANSPLANT INFECTIOUS DISEASES
TRANSPLANT PHARMACOLOGY

Description of Educational Experience
The transplant pharmacology experience involves the provision of direct patient care for transplant and high-risk immunocompromised patients. The fellow is responsible for working on a multidisciplinary rounding team with their preceptor to identify, prevent, and treat infectious disease in this patient population. In doing so, the fellow must assume primary responsibility for pharmaceutical care and assure positive drug therapy outcomes. The following rotational activities will help the resident towards completion of the overall residency objectives.

Goals and Objectives:
- Identifying those patients at greatest risk for infectious and medication therapy problems.
- Establishing a collaborative relationship with the interdisciplinary team and providing direct patient care.
- Preparing a infectious disease and medication-related problem list.
- Identifying therapeutic goals for a patient.
- Designing or modifying therapeutic regimens based on new information or response.
- Designing/providing patient-specific and caregiver-specific infectious disease medication-related education.
- Recommending or communicating a therapeutic plan and regimen.
- Following up on the effects of implementing a therapeutic regimen.
- Collecting outcomes information related to the care of a patient.
- Providing infectious disease medication information to team members.
- Documenting direct patient care activities in the medical record, as appropriate.
- Educating staff on medication use policies and antimicrobial stewardship policies.
- Demonstrating professional and ethical conduct in all practice-related activities.
- Contributing to the education of pharmacy resident on the rotation.

Common disease states with which the fellow will be expected to gain proficiency through literature review, topic discussion, and direct patient care experience include:
- SOT and HCT patients.
- Immunosuppressive medications.
- Prevention and treatment of opportunistic infections.
- Antimicrobial stewardship and infection control practices.

Level of supervision
The preceptor of designee will be available to
the fellow throughout the learning experience for consultation and topic discussions. Fellow learning is predicated not only on the above responsibilities but also on acceptance of personal responsibility and dedication to direct patient care and team service.

Activities
- Present assigned patients to the preceptor daily.
- Report for institutional purposes all adverse drug reaction identified in the patients .
- Complete the required readings and be prepared to present/discuss assigned topics.
- Devise appropriate doses of antimicrobials based on pharmacokinetics and pharmacodynamics.

TRANSPLANTATION-INFECTIOUS DISEASES
LABORATORY MEDICINE

Description of Rotation & Educational Experience
The fellow will be exposed to the core concepts of microbiology . This will be accomplished through didactic sessions, and infectious disease rounds/presentations. The fellow will be required to either present a case during ID rounds or be significantly active during a case presentation.

Goals and Objectives

- The primary objective is to give the fellow exposure to the lab and to familiarize him/her to the processes related to laboratory testing for the investigation of infections commonly encountered in the transplant population.
- Obtain a satisfactory knowledge of major diseases caused by infectious agents and methods used in the microbiology/virology laboratory to identify pathogens in clinical specimens.
- Be able to interpret results from cultures, serology, and molecular testing in conjunction with other laboratory data be able to make recommendations for effective testing strategies.
- Understand the use and limitations of drug susceptibility testing, be able to communicate susceptibility results clearly to clinicians and be able to make knowledgeable choices for testing and reporting of additional or unusual drugs.

Activities

- Fellows will be required to review microbiological results and their interpretation considering the patient's clinical presentation.
- The fellow will be required to address questions from consulting teams regarding testing utility and interpretation.
- The fellow will take an active role in presenting cases at Infectious Disease rounds.

Level of supervision
The preceptor of designee will be available to the fellow throughout the learning experience for consultation and topic discussions. Fellow learning is predicated not only on the above responsibilities.

TRANSPLANTATION-INFECTIOUS DISEASES

RESEARCH & SCHOLARSHIP

Description of Rotation & Educational Experience

Fellows will actively participate research in the field of transplant infectious diseases that are consistent with their interests.

Research & Scholarship

The research project(s) may be clinical, translational, or quality improvement. At the beginning the program, all fellows will identify a faculty mentor under whose guidance they will carry out their research project.

Scholarship is an important component of TID fellow activities and duties. Scholarship is defined as a) presentation original research at local, regional, or national professional and scientific society meetings; b) publication of original research in peer-reviewed journals.

Level of supervision

The teaching staff will actively participate in clinical discussions, rounds, journal club, and research conferences in a manner that promotes a spirit of inquiry and scholarship, offering of guidance and technical support, e.g., identification of research projects, research design, statistical analysis, abstract and manuscript preparation and publication.

Exit Examination:

Fellowship exit exam (Theory & Viva) to be conducted towards the end of the 1 year tenure. Other than the final examination at years, the centers should do an interim appraisal of the candidates at 6 months (internal assessment).

The exit examination would consist of the following 3 parts:

a. Common objective question paper covering the syllabus prepared by ISOT to be taken online by all candidates before the fellowship exit exam in their centre. Panel of Examiners will create a question bank and be responsible for proper conduct of the examination process

b. A clinical/viva examination which would assess the candidates knowledge, clinical application and familiarity with current research in the specialty. Examination would be for one day at a center chosen by ISOT. The examination would be conducted twice a year- March and September. The examiners would be from the Panel of Examiners, and may include 1 examiner from the Center where the examination is conducted.

c. Log book documentation, attested by the trainer

- E logbook Format - to be completed by the candidate and submitted
- All procedures performed or assisted during the fellowship
- Details of academic activities taken up by the fellow within the unit
- List of all presentations & publications

- ISOT accreditation of the fellow's training will be distinct from the training program/university fellowship certificate and will be based on the candidate's performance in all three areas (Objective paper/viva voce/ logbook).
- ISOT will provide an additional certificate to the candidate confirming that the trainee has completed training, which meets ISOT requirements.

Funding : ISOT .

Travel of the examiners / Stay / Conduct of exam with secretarial help / Examiner Renumeration / Paper setting .

RECOMMENDED READING

SOT and Ventricular Assist Device Infections

Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice 2019, Clinical Transplantation 2019

- Strategies for safe living following solid organ transplantation—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Vaccination of solid organ transplant candidates and recipients: Guidelines from the American society of transplantation infectious diseases community of practice
- Screening of donor and candidate prior to solid organ transplantation—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Donor-derived infections: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Interactions between anti-infective agents and immunosuppressants—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Surgical site infections: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Diagnosis and management of diarrhea in solid-organ transplant recipients: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Pneumonia in solid organ transplantation: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Intra-abdominal infections in solid organ transplant recipients: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Methicillin-resistant *Staphylococcus aureus* in solid organ transplantation—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Vancomycin-resistant *Enterococcus* in solid organ transplant recipients: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Management of *Clostridioides* (formerly *Clostridium*) *difficile* infection (CDI) in solid organ transplant recipients: Guidelines from the American Society of Transplantation Community of Practice
- Nocardia infections in solid organ transplantation: Guidelines from the Infectious Diseases Community of Practice of the American Society of Transplantation
- *Mycobacterium tuberculosis* infections in solid organ transplantation: Guidelines from the Infectious Diseases community of practice of the American Society of Transplantation
- Management of infections due to nontuberculous mycobacteria in solid organ transplant recipients—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Solid organ transplantation in the HIV-infected patient: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Cytomegalovirus in solid organ transplant recipients—Guidelines of the American Society of Transplantation Infectious Diseases Community of Practice
- RNA respiratory viral infections in solid organ transplant recipients: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice

- Viral hepatitis: Guidelines by the American Society of Transplantation Infectious Disease Community of Practice.
- Varicella zoster virus in solid organ transplantation: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Human herpesvirus 6, 7, and 8 in solid organ transplantation: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Herpes simplex virus infections in solid organ transplantation: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Adenovirus in solid organ transplant recipients: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- BK polyomavirus in solid organ transplantation—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Human T-cell lymphotrophic virus in solid-organ transplant recipients: Guidelines from the American society of transplantation infectious diseases community of practice
- Arenaviruses and West Nile Virus in solid organ transplant recipients: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Human papillomavirus infection in solid organ transplant recipients: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- *Candida* infections in solid organ transplantation: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Emerging fungal infections in solid organ transplant recipients: Guidelines of the American Society of Transplantation Infectious Diseases Community of Practice
- *Pneumocystis jirovecii* in solid organ transplantation: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Cryptococcosis in solid organ transplantation—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Invasive Aspergillosis in solid-organ transplant recipients: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Endemic fungal infections in solid organ transplant recipients—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Tissue and blood protozoa including toxoplasmosis, Chagas disease, leishmaniasis, *Babesia*, *Acanthamoeba*, *Balamuthia*, and *Naegleria* in solid organ transplant recipients— Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Intestinal parasites including *Cryptosporidium*, *Cyclospora*, *Giardia*, and *Microsporidia*, *Entamoeba histolytica*, *Strongyloides*, Schistosomiasis, and *Echinococcus*: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Ventricular assist device-related infections and solid organ transplantation—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice
- Post-transplant lymphoproliferative disorders, Epstein-Barr virus infection, and disease in solid organ transplantation: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice

HCT and cellular therapy and oncology

- Management of Infectious Diseases in Stem Cell Transplantation and Hematologic Malignancy. Young JAH. Infect Dis Clinics North America, 2019-06-01, 33.
- Chemotherapy and Beyond: Infections in the Era of Old and New Treatments for Hematologic Malignancies. Atkins S, He F. Infect Dis Clinics North America, 2019-06-01, 33.
- Host and Graft Factors Impacting Infection Risk in Hematopoietic Cell Transplantation. Kao RL, Holtan SG. Infect Dis Clinics North America, 2019-06-01, 33.
- Complications of Stem Cell Transplantation that Affect Infections in Stem Cell Transplant Recipients, with Analogies to Patients with Hematologic Malignancies. Nathan S and Celalettin Ustun. Infect Dis Clinics North America, 2019-06-01, 33.
- Antimicrobial Prophylaxis and Preemptive Approaches for the Prevention of Infections in the Stem Cell Transplant Recipient, with Analogies to the Hematologic Malignancy Patient. Neofytos D. Infect Dis Clinics North America, 2019-06-01, 33.
- Work-up for Fever During Neutropenia for Both the Stem Cell Transplant Recipient and the Hematologic Malignancy Patient. Satyanarayana G. Infect Dis Clinics North America, 2019-06-01, 33.
- Management of febrile neutropaenia: ESMO Clinical Practice Guidelines. Klastersky J. et al. on behalf of the ESMO Guidelines Committee. Annals of Oncology 27 (Supplement 5): v111–v118, 2016.
- Bacterial Infections in the Stem Cell Transplant Recipient and Hematologic Malignancy Patient. Misch EA, Andes DR. Infect Dis Clinics North America, 2019-06-01, 33.
- *Clostridioides difficile* Infection in the Stem Cell Transplant and Hematologic Malignancy Population. Misch EA, Safdar N. Infect Dis Clinics North America, 2019-06-01, 33.
- Herpes Virus Infections Other than Cytomegalovirus in the Recipients of ation. Dadwal SS. Infect Dis Clinics North America, 2019-06-01, 33.
- Cytomegalovirus Infections of the Stem Cell Transplant Recipient and Hematologic Malignancy Patient. Pande A and Erik R. Dubberke ER. Infect Dis Clinics North America, 2019-06-01, 33.
- Infections with DNA Viruses, Adenovirus, Polyomaviruses, and Parvovirus B19 in Recipients and Patients with Hematologic Malignancies. Obeid KM. Infect Dis Clinics North America, 2019-06-01, 33.
- Respiratory Virus Infections of the Stem Cell Transplant Recipient and the Hematologic Malignancy Patient. Fontana L, Lynne Strasfeld L. Infect Dis Clinics North America, 2019-06-01, 33.
- Fungal Infections of the Stem Cell Transplant Recipient and Hematologic Malignancy Patients. Bays DJ, Thompson III GR. Infect Dis Clinics North America, 2019-06-01, 33.
- Parasitic Infections of the Stem Cell Transplant Recipient and the Hematologic Malignancy Patient, Including Toxoplasmosis and Strongyloidiasis. Peixoto D, Prestes DP. Infect Dis Clinics North America, 2019-06-01, 33.
- Vaccination of the Stem Cell Transplant Recipient and the Hematologic Malignancy Patient. Kamboj M, Shah MK. Infect Dis Clinics North America, 2019-06-01, 33.

EDUCATIONAL RESOURCES

- Online access to educational materials including textbook, medical journals and literature through Library.
- Attendance at national and international Infectious Diseases and Transplantation related Medical Conferences