



Hennepin County
Medical Center

**Hennepin County
Medical
Center/Minneapolis VA
Medical Center**

**Nephrology
Fellowship Handbook**

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Welcome to the Nephrology Fellowship Program / Educational Purpose

The Nephrology Fellowship at the HCMC/VAMC provides a unique opportunity to pursue advanced training in clinical nephrology and to undertake training in clinical research. Our program is specifically designed to provide an outstanding educational experience that will allow fellows to excel in private practice or academic medicine.

The clinical fellowship involves 2 years of training at our two clinical sites (Minneapolis VAMC and Hennepin County Medical Center). Our patient population consists of a wide mix of racial and socioeconomic groups. Our curriculum integrates the 6 core competencies (patient care, medical knowledge, practice based learning and improvement, interpersonal and communication skills, professionalism and systems based learning) and is based on graded responsibility. Our curriculum exposes fellows to inpatient consultation and primary nephrology services, kidney pathology, kidney transplantation, dialysis, vascular access, palliative care, and outpatient nephrology clinical activities. The training experience provides in-depth training in acute and chronic dialysis (with exposure to CRRT, PD, HD, and HHD), apheresis, dialysis catheter placement, ultrasound, and kidney biopsies. Each fellow performs 20-30 kidney biopsies. All fellows participate in clinical training and scholarly activities. All fellows have 3 weeks of vacation per year.

By the end of fellowship, our trainees will have: 1) developed skills to be an effective nephrologist, 2) an appreciation of hypothesis driven-scientific investigation, 3) training in critically evaluating medical literature and in scholarship, 4) an understanding of the importance of life-long learning.

Mission Statement:

The mission of the program is to provide training in the principles and practice of nephrology in order to produce exceptional clinicians who will continue to advance knowledge and improve patient care. We also aim to produce physicians who possess habits of life-long learning in order to build upon their skills, knowledge, and professionalism.

Key Contacts:

HCMC:

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VAMC:

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Site Coordinator:

PROGRAM DESCRIPTION

FELLOW RESPONSIBILITIES FOR PATIENT CARE

Fellows will be responsible for all aspects of patient care under the supervision of a faculty member. These aspects of patient care include:

- Obtaining the history of the present illness and performing a physical examination.
- Collecting materials relevant to the patients past medical history including prior test results.
- Formulating a diagnostic and treatment plan.
- Coordinating an inter-professional effort to enact the diagnostic and treatment plan.
- Communicating with patients, families, and other health professionals to facilitate patient care.
- Documenting all activities in the patient chart completely and in a timely fashion
- Teaching patients, families, other trainees and health professionals about kidney disease, diagnosis and treatment.
- Using information technology to access relevant information regarding a patient's medical condition including published trials, basic science, epidemiology, and guidelines.
- Conducting oneself in a professional, humane and ethical manner.

PROGRESSIVE RESPONSIBILITY FOR PATIENT MANAGEMENT

FIRST YEAR FELLOWS:

Will be able to obtain a complete history and perform a comprehensive physical examination

Will be able to quickly identify critically ill patients with kidney disease

Will be able to develop a plan for evaluation and management of common renal conditions

Will begin to understand the risks, benefits, indications for and clinical implications of commonly ordered studies including laboratory testing and kidney biopsy

Will begin to understand the basics of treatment of common nephrological conditions

SECOND YEAR FELLOWS:

Will be able to obtain a focused history and physical examination

Will be able to formulate a logical and scholarly treatment and evaluation plan for critically ill patients

Will be able to develop and implement the evaluation and management of common renal conditions

Will have a detailed understanding of the risks, benefits, indications for and clinical implications of commonly ordered studies.

Will be able to perform commonly ordered invasive and noninvasive studies competently including central venous dialysis catheters and kidney biopsies

Will be able to apply strategies directly to individual patient care

Salary and Benefits:

See HCMC Graduate Medical Education site for Fellowship Benefits

Typical Schedule

Clinical Nephrology Fellowship Training

Note: 13 4 week blocks are utilized for the schedule

First Year

- 0.5 block introduction/orientation
- 7.5 blocks inpatient consults
- 1 block transplantation
- 1 block pathology
- 1 block dialysis/access
- 1 block Elective
- 1 block Quality Improvement project/Research

Second Year

- 4-5 blocks Quality Improvement/Research
- 5 blocks inpatient consults
- 2 blocks transplantation
- 1-2 blocks elective time
- 1 blocks

Electives: Quality Improvement/Systems research at VAMC, VAMC palliative care, Ambulatory Clinic experience (Bone and mineral metabolism, peritoneal dialysis, outpatient transplantation), Davita Clinical Research

Nephrology and Dialysis Clinics

Fellows have continuity nephrology clinic ½ day per week for 24 months. One year will be spent at HCMC and one year at VAMC. Clinics are mandatory. Fellows are expected to cancel clinics at least 6 weeks in advance when gone to conferences or on vacation. Beginning fellows will have minimum of 4 patients and this will increase to 6 by the second year.

All Fellows also have 24 months of a continuity hemodialysis experience at the VAMC unit, downtown Davita Minneapolis unit or other Davita unit. First year fellows will have about 4-5 patients while second year fellows will have up to 6-7. Fellows are expected to arrange to see patients at least once per month with an attending. Fellows are also expected to take all calls regarding patient care.

Second year fellows will additionally have a continuity peritoneal dialysis experience at the Home unit of Davita, Mpls. Fellows will be assigned to a staff and their PD patients to follow for continuity and experience.

3 – Conference Schedule

Monday		
Noon-1pm	VAMC Journal Club	TBD
Tuesday		
Wednesday		
Noon-1pm	HCMC Core Curriculum Conference	Shapiro 5 th floor
Thursday		
Noon-1pm	HCMC Dept Medicine Grand Rounds	Red LL190
Friday		
Noon-1pm	HCMC Clinical Nephrology Conference	Shapiro 4 th floor

HCMC Medicine Grand Rounds (optional)

Faculty from HCMC and other institutions are invited to discuss clinical topics in medicine. Several times each year, nephrology division presents a speaker to present.

VAMC Journal Club

The purpose of journal club is to develop the ability to critically analyze data reported in the literature. In general, papers are presented and discussed from high quality clinical journals

HCMC Nephrology Conference

Fellows and staff present on a wide variety of topics within nephrology. Includes Journal Club and Research Conference topics.

HCMC Core Curriculum Conference

Faculty present on a wide variety of topics within nephrology. Conference series starts with review of structure and function of the glomerulus and area of the nephron. Subsequent topics follow chapters in associated curriculum textbook: Comprehensive Clinical Nephrology, 2015, Feehally and Johnson. Fellows are expected to be doing corresponding reading in the assigned chapter corresponding with the lecture topic.

Summer Core Curriculum

A core nephrology curriculum is provided at the beginning of each academic year. This starts with a “bootcamp” series with small group discussions on high yield topics to instill functional information. Friday HCMC conferences will focus on fundamental practical concepts in various topics in nephrology. This permits the accelerated acquisition of core information used in management of outpatients and inpatients. Topics may vary from year to year but include: evaluation of renal function, hemodialysis (including continuous hemodialysis), peritoneal dialysis, evaluation and management of patients with acute and chronic renal failure, evaluation and management of acid-base and electrolyte disorders, evaluation and management of renal transplant patients, and others.

Evaluation of Fellows

A. Methods of Evaluation

Monthly Evaluations are conducted for all fellows on clinical and research rotations. All evaluations are reviewed by the Program Director.

360-Degree Evaluations are performed by nurses, social workers, nutritionists and any other staff who have significant contact with the fellow during their clinical duties in the hospital, clinics or dialysis units (these are completed every 6 months and reviewed by the Program Director).

Semi-annual Competency Evaluations are performed. Fellows meet with the Program Director to review evaluations and a written document is prepared. Furthermore, every two to three months the Program Director meets with all trainees to review program goals and to address any issues that may arise in the operation of the program. In this way, the program maintains a dynamic state that allows change to occur to meet the needs of trainees.

In-Service Examination: At the end of the first year of training, fellows take a mock board examination (in-service examination) to determine their level of knowledge acquisition during the first year of training. Results of the examination are used to focus their education on any deficiencies.

Evaluations are also conducted for:

- Conference presentation (all)
- Conference participation (annual)
- Dialysis Catheter and Kidney Biopsy Procedure Evaluations
- Clinic Note assessment
- Journal Club Evaluation (1 during fellowship)
- Urine microscopy skills
- Acute Dialysis initiation Evaluations
- Chart Stimulated Recall Evaluations
- Dialysis Patient Transition Chart Stimulated Recall
- Dialysis Options OSCE
- Fellow Self Evaluation (semi-annual)

The Program Director may receive informal comments regarding fellows that may merit documentation.

Fellows may be able to view their written evaluations at any time. Fellows will be advanced on the basis of satisfactory progressive scholarship and professional growth. In the event of an adverse annual evaluation, fellows are offered the opportunity to address judgments of academic deficiencies or misconduct with the Division Chief or the head of the Graduate Medical Committee

B. Attributes Assessed in Evaluations (Core Competencies)

Patient Care:

These refined abilities include: (a) obtaining appropriately directed medical histories that are precise, logical, thorough and reliable; (b) conducting expert, focused physical examinations that elicit subtle findings and are directed toward the patient's problems; and (c) demonstrating

understanding and proficiency while minimizing risk and discomfort to patients in the performance of diagnostic and technical procedures.

Evaluation of key procedures include percutaneous kidney biopsy of both native and transplanted kidneys, placement of temporary vascular access for hemodialysis or continuous renal replacement therapy, acute and chronic hemodialysis, peritoneal dialysis, continuous renal replacement therapy, and urinalysis. The evaluation will take into account the length of the fellow's training.

Specific elements include:

- Medical Interviewing (history taking) and Physical Examination
- Diagnostic Studies (selection, implementation), Synthesis of clinical data, differential diagnosis, and Developing management plan
- Prescribe, perform essential procedures
- Counsel patients, providing information needed to understand illness, prevent disease and specifically discuss issues relating to renal replacement therapy
- Demonstrate clinical judgment
- Provide care sensitive to culture, social circumstances
- Use information technology to optimize care
- Respect the patient's privacy and autonomy

Medical Knowledge:

This is defined as the specialized, current basic and clinical science knowledge necessary to function as an expert clinical nephrologist. (This includes a broad base of knowledge of the pathogenesis, natural history and management of congenital and acquired diseases of the kidney and urinary tract; renal physiology; disorders of fluid, electrolyte and acid base regulation; normal and disordered mineral metabolism; acute and chronic renal failure; the management of patients receiving immuno-suppressive therapy; and the management and diagnosis of severe hypertension. The clinical nephrologist also must be proficient in the principles and applications of various forms of kidney replacement therapy including the management and systems operations of hemodialysis, peritoneal dialysis and renal transplantation). Medical knowledge is assessed on each rotation as well as in a yearly in-service examination that provides feedback both to the trainee as well as to the program regarding deficiencies in specific content issues.

Practice-Based Learning and Improvement:

These are demonstrated skills that include: (a) the ability to self-evaluate and improve upon one's own performance, (b) incorporation of feedback into improvement, and (c) effective use of technology to manage information for both patient care and self-improvement.

Interpersonal and Communication Skills:

We emphasize the humanistic qualities of this component of clinical competence. This includes the ability to establish highly effective, humanistic and therapeutic relationships with patients and families. This includes demonstration of listening to patients, narrative and non-verbal skills, and education and counseling of patients, families, and colleagues. These issues are addressed in conferences dealing with difficult decision-making in Nephrology.

Professionalism

This includes demonstrating respect, compassion, integrity, and honesty. It includes teaching and role modeling responsible behavior; commitment to self-assessment—where the fellow willingly acknowledges errors; consistently considers needs of patients, families and colleagues and the need to be the patient's primary care advocate.

Systems-Based Learning

This includes demonstration of effective access/utilization of outside resources, effective use of systematic approaches to reduce errors and improve patient care, and enthusiastic assistance in developing systems improvement.

Overall Clinical Competence as a Specialist in Nephrology

This represents the supervising attending physician's overall assessment of the degree to which the fellows possesses the knowledge, skills, and attitudes essential for certification by the American Board of Internal Medicine, also taking into context the amount of training. In the evaluation of these competencies there is an implicit commitment to scholarship: to maintain and update clinical skills throughout one's professional career, to acquire new knowledge through computer access and by reading the current medical literature, to participate in the design and conduct of clinical studies or related research, to attend scientific and clinical meetings for nephrologists and to critically evaluate the new medical scientific information relevant to the subspecialty.

Evaluation of Teaching and Faculty Members

Fellows complete pooled, anonymous, semi-annual evaluations of all faculty members.

Evaluation of the Program

At three-month intervals, the program director meets with the fellows group to elicit feedback on the day-to-day operation of the fellowship program. Feedback on each rotation is elicited as well as feedback regarding each attending and their performance as a teacher. As much as possible, comments are acted upon to improve the performance of the program.

In addition, the fellows' feedback is brought to the attention of the Division Chief to address any larger divisional issues. Every six months, a detailed evaluation survey addressing the performance of the program is given to the fellows. Faculty evaluate the program annually.

Procedural Skills

Fellows use an electronic on-line database to log procedures for vascular access placement and kidney biopsies. The supervising teaching faculty member evaluates the fellow's performance of the procedure as above. Performance is reviewed periodically to ensure competency and safety. The evaluation will take into account the length of the fellow's training.

Satisfactory performance of percutaneous kidney biopsy:

Fellows must demonstrate knowledge of indications for the procedure, obtaining informed consent, performance of the procedure itself including minimizing patient discomfort, and interpretation of results of the biopsy.

Satisfactory placement of vascular access:

Fellows must demonstrate knowledge of informed consent, proper Seldinger technique, knowledge of vascular anatomy, knowledge of basic vascular ultrasound techniques, minimizing patient discomfort, as well as functional catheter placement.

Satisfactory performance of acute and chronic dialysis:

Fellows must demonstrate knowledge of proper indications for hemodialysis, knowledge of first dialysis precautions, writing of dialysis orders which includes choosing dialysis filters, estimating dry weight and modification during special circumstances (immediate allograft dysfunction), choosing dialysate composition, understanding and treatment of complications, and modifying dialysis prescription for inadequate kinetics in chronic hemodialysis patients.

Satisfactory performance of peritoneal dialysis:

Fellows must demonstrate knowledge of proper indications of peritoneal dialysis, writing orders for peritoneal dialysis, which includes dialysis prescription (volume of dialysate, frequency of exchanges, and use of different hypertonic solutions), understanding and treatment of complications, and modifying dialysis prescription for inadequate kinetics in chronic peritoneal dialysis patients.

Satisfactory performance of continuous renal replacement therapy:

Fellows must demonstrate knowledge of proper indications of continuous renal replacement therapy, writing orders for continuous renal replacement therapy (flow rate of dialysate, choosing ultrafiltration rate, choosing dialysate composition including the use of bicarbonate based solutions), understanding and treatment of complications, and modifying dialysis prescription for inadequate clearance in patients undergoing continuous renal replacement therapy.

Satisfactory performance of urine microscopy:

Fellows must demonstrate proper performance of urine microscopy and interpretation of findings, and knowledge of limitations of interpretation as applied to patient care.

Supervision and Lines of Responsibility

The program director coordinates all aspects of the nephrology fellows' education and training, including their supervision by faculty members. Fellows are provided with responsibilities consistent with their level of training. Every patient examined, and every procedure or test performed is either done under the direct supervision of a faculty member or is reviewed with a faculty member. Faculty members are directly responsible for ensuring that fellow procedures are performed to the high standards set by our program and that appropriate documentation is completed. Appropriate faculty supervision is provided during all educational experiences.

Specific mechanisms for proper supervision of fellows:

A. Clinical Training

Nephrology fellows round and present clinical cases during teaching rounds, in clinic, and at the outpatient dialysis continuity clinic and receive one-on-one instruction and feedback in history taking, physical examination and in-patient and outpatient management of nephrology patients. These case presentations may include review of clinical data, urinalysis, review of pathologic specimens, and imaging data. Nephrology faculty members see all patients. During the in-patient rotations, the nephrology fellow often directs a team of residents and medical students. The nephrology fellow is responsible for organization of rounds, assisting the attending physician with the education of the residents and medical students, and supervising the residents and medical students.

B. Procedural Supervision

Procedures such as a kidney biopsy, urinalysis, placement of the temporary vascular access

catheters, and hemodialysis and peritoneal dialysis procedures are directly supervised by attending physicians. The placement of vascular access catheters is initially supervised in all cases. Fellows' advancement to independent performance of procedures is based upon successful completion of procedures.

At times, hemodialysis and peritoneal dialysis treatments may not be directly supervised. For example, an attending may not be present on site after hours. However in all cases, prior to the initiation of any procedure, the case, indications, risk and benefit for the procedure are fully discussed. At all times, attending physicians are available to come in to the hospital to directly supervise any procedure.

Fellows receive formal feedback on procedural skills. A log of this is maintained.

C. Research

Throughout the course of a research project, nephrology fellows must meet regularly with their faculty research mentor to report their progress and discuss the design and content of their projects. A faculty mentor supervises every research project. Fellows are also expected to present their research projects at one of the divisional research conferences.

Educational Goals

It is the ultimate goal of the Nephrology Fellowship Program to educate fellows toward Board certification through excellence in educational instruction and achievement of required performance skills through implementation of the ACGME Core Competencies:

Patient Care (PC)	<ul style="list-style-type: none"> • Communicate effectively and demonstrate caring and respectful behavior • Gather essential and accurate information about their patients • Make informed decisions about diagnostic and therapeutic interventions • Develop and carry out patient management plans • Counsel and educate patients and their families • Use information technology to support patient care decisions and patient education • Perform competently all medical and invasive procedures • Provide healthcare services aimed at preventing and maintaining health • Work with healthcare professionals to provide patient-focused care
Medical Knowledge (MK)	<ul style="list-style-type: none"> • Demonstrate knowledge about establishing and evolving biomedical, clinical and cognate sciences and how to apply them • Demonstrate an investigatory and analytic thinking approach to clinical situations • Know and apply the basic and clinically supportive sciences
Practice-Based Learning and Improvement (PBLI)	<ul style="list-style-type: none"> • Analyze practice experience and perform practice-based improvement activities using a systematic methodology • Locate, appraise and assimilate evidence from scientific studies • Obtain and use information about their own population of patients and the larger population of patients in the University • Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness • Use information technology to manage information, access online medical information and support their own education • Facilitate the learning of for students and other healthcare professionals

Interpersonal and Communication Skills (ICS)	<ul style="list-style-type: none"> • Create and sustain a therapeutic and ethically sound relationship with patients • Use effective listening skills as well as nonverbal clues • Work effectively with others
Professionalism (PROF)	<ul style="list-style-type: none"> • Demonstrate respect, compassion, and integrity, along with responsiveness to the needs of patients and society and commitment to excellence • Develop a commitment to ethical principles • Demonstrate sensitivity and responsiveness to patients' culture, age, gender and disabilities
Systems-Based Practice (SBP)	<ul style="list-style-type: none"> • Understand the greater effects of patient care and other professional practices • Know how types of medical practice and delivery systems differ from one another • Practice cost-effective healthcare and resource allocation that does not compromise quality of care • Advocate for quality patient care and assist patients in dealing with system complexities • Know how to partner with healthcare managers and healthcare providers to assess, coordinate, and improve healthcare and know how these activities can affect system performance

Training Milestones: Year One

Our program employs a process of graded responsibility and development in the training of fellows. While the types of rotations as well as clinical and research experiences are similar through the training program, the expectations and allotment of time varies significantly. This progress is detailed in the subsequent section, training milestones. Specific rotation curriculum goals are detailed in a separate section.

The first year of the fellowship consists of intensive training in clinical nephrology to develop the fundamental skills and knowledge required to become an outstanding clinical nephrologist. Fellows will become proficient in the differential diagnosis and management of common kidney diseases and in procedural skills such as dialysis (hemodialysis, peritoneal dialysis and continuous renal replacement therapy), placement of temporary catheters for vascular access, performing native and transplant kidney biopsies, and urine microscopy.

It is expected that the first year of training will acclimate fellows with the practice and procedures of nephrology in a structured and supervised fashion. Trainees must acquire a certain level of proficiency in order to move into a more independent role. This proficiency will be determined in several ways including observed behavior by the faculty and by the clinical competency committee.

Educational Goals

Please see specific rotations for more details regarding educational purpose, types of clinical encounters, procedures and services, reading lists and other educational resources, methods of evaluation, and supervision and lines of responsibility. The curriculum is reviewed at the start of each rotation. Medical problems, health promotion, cultural, socioeconomic, ethical, occupational, environmental, and behavioral issues in rotations are integrated for learning goals and objectives for each rotation and learning experience. Other educational resources will be provided such as funding for educational materials and attendance at national conferences.

Topics Covered by Formal Instruction (didactic and clinical-based)

General Nephrology

- Disorders of fluid, electrolyte, and acid-base regulation
- Acute kidney injury
- Chronic kidney disease and its management including nutritional management of uremia
- Hypertensive disorders – normal and abnormal blood pressure regulation
- Kidney disorders of pregnancy
- Urinary tract infections
- Tubulointerstitial diseases, inherited diseases of transport, cystic diseases, and other congenital disorders
- Glomerular and vascular diseases, glomerulonephritides, diabetic nephropathy
- Kidney anatomy, physiology, and pathology
- Congenital and acquired diseases of the kidney and urinary tract renal diseases associated with systemic disorders, diabetes and collagen-vascular diseases
- Normal mineral metabolism, Bone/Mineral Disorders, and nephrolithiasis
- Clinical pharmacology, drug metabolism and pharmacokinetics and the effects of drugs on kidney function; disorders of drug metabolism and drug toxicity

Immunology

- Basic principles
- Immunologic mechanisms of renal disease
- Fundamental aspects of diagnostic laboratory immunology relevant to renal diseases and transplantation
- Pharmacology and biology of immunosuppressive medications in the treatment of kidney diseases and in transplantation

Transplantation

- Biology of transplantation rejection
- Indications for and contraindications to kidney transplantation
- Principles of transplant recipient evaluation and selection
- Principles of evaluation of transplant donors, both living and deceased, including histocompatibility testing
- Principles of organ harvesting, preservation, and sharing
- The pathogenesis and management of urinary tract infections
- The pathogenesis and management of acute kidney injury
- Indications for and interpretations of radiologic tests of the kidney and urinary tract
- Disorders of fluids and electrolytes and acid-base balance specific to transplantation

End-Stage Kidney Disease/Dialysis

- The kinetic principles of hemodialysis and peritoneal dialysis
- The indications for each mode of dialysis
- The short-term and long-term complications of each mode of dialysis and management
- The principles of dialysis access (acute and long-term vascular and peritoneal), including indications, placement techniques, complications, diagnosis (radiology), and treatment of complications (e.g. angioplasty of vascular access)
- Urea kinetics and protein catabolic rate
- Dialysis modes and their relation to metabolism
- Nutritional management of dialysis patients
- Dialysis water treatment, delivery systems, and reuse of filters
- The artificial membranes used in hemodialysis and biocompatibility
- The psychosocial and ethical issues of dialysis

Geriatric Aspects of Nephrology

- Fundamentals of pharmacology as it relates to alterations in drug metabolism in the elderly
- Specific aspects of hemodialysis, peritoneal dialysis, glomerular diseases, hypertension, transplantation and other areas of nephrology as it relates to the geriatric patient
- Specific psychosocial and ethical issues regarding the geriatric patient
- Specific societal and systems issues related to geriatric patients

Training Milestones: Year Two

The second year of training is designed to further prepare the fellow for a career in academic nephrology or private practice by: (a) developing more extensive experience in outpatient and inpatient nephrology, (b) developing independence as a clinical Nephrologist, and (c) engaging in nephrology research and scholarly activity.

Second year nephrology fellows continue to provide longitudinal care to hemodialysis, peritoneal dialysis, and renal transplant patients with supervising teaching faculty members throughout the year to gain additional longitudinal experience with outpatients. Second year fellows continue to have a continuity clinic.

The second year fellows have important roles in determining the content and organization of the conferences that occur within the division. It is anticipated that trainees in their second year will assume a greater role in decision-making and will offer supervision to first year trainees.

Educational Goals

Specific educational goals for the second year of training are similar to and build upon the goals of the first year. However, second year trainees are expected to take a more independent role in clinical decision-making and to focus more of their attention on teaching first year fellows, residents and students.

The curriculum topics listed for the first year of the training program, covered in clinical and didactic settings, are the same for second year fellows.

Rotation Curriculum Goals

HCMC Transplant Service

Description of Rotation

- Hennepin County Medical Medical Center
- 1 fellow on service
- One month in first year, 2 months during second year

Patient Care

Goal: Fellows must obtain the skills required to effectively and independently care for hospitalized kidney transplant patients.

Objectives:

- Co-manage acute and chronic inpatient kidney transplant issues including maintenance immunosuppression and treatment of acute rejection
- Co-manage patients with a new kidney transplant
- Demonstrate the ability to provide appropriate consultative care for patients with a pancreas transplant
- Evaluate and manage pre-operative (day minus 1) kidney transplant recipients
- Understand principles and practice of percutaneous transplant kidney biopsy

Medical Knowledge

Goal: Fellows must acquire the necessary medical knowledge to effectively and independently care for hospitalized kidney transplant patients.

Objectives:

- Understand the induction therapy and management of new kidney transplant recipients
- Understand maintenance immunosuppression and potential complications
- Understand the principles and practice of immunotyping as it relates to kidney transplantation
- Understand the underlying pathophysiology and presentation of acute rejection

Practice- Based Learning and Improvement

Goal: Fellows must demonstrate the abilities to appraise and assimilate scientific evidence and continuously improve patient care based on constant self-evaluation and life-long learning.

Objectives:

- Accurately identify strengths, deficiencies and limits in one's knowledge and expertise
- Appropriately seek feedback on his/her performance via daily interaction with attendings, the Mini-CEX (observed evaluations by the attending physician), and by end-of-the-rotation global evaluations
- Incorporate formative evaluation feedback into daily practice

- Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems
- Understand and apply relevant practice guidelines to clinical conditions
- Use information technology to optimize learning
- Set learning improvement goals
- Participate in the education of others including students, nurses, other providers

Professionalism

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

Objectives:

- Compassionately and promptly respond to patient/family needs and requests
- Fulfill clinical duties in a timely manner and alerts appropriate supervisory personnel (i.e. attending physician) when difficulty is encountered
- Follow through on patient care activities and effectively transition care when necessary.
- Demonstrate effective, professional, and respectful working relationships with nursing and social services staff
- Respect patient privacy and autonomy
- Demonstrate sensitivity to diversity in patients and colleagues including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation
- Complete medical record documentation in a timely and appropriate manner
- Respond to pages, calls and email correspondence in a timely and effective manner
- Maintain professional appearance and demeanor

Interpersonal and Communication Skills

Goal: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates.

Objectives:

- Clearly and compassionately communicates key issues and treatment plans to patients and families
- Gather essential and accurate information from patients and families in a respectful manner
- Communicate effectively with physicians, other health professionals, and health related agencies while respecting patient privacy
- Effectively and succinctly presents patient cases with necessary and relevant detail included
- Maintain comprehensive, timely, and legible medical records
- Ensure safe "hand-offs" by communicating essential information to on call fellows and staff (nights and weekends)
- Specifically communicate with the primary nephrologist before patient is discharged from the hospital describing their hospital course and changes to treatment plan

Systems Based Practice

Goal: Fellows must be able to work as a consultant in assisting the primary team in the management of their patients to the best of their ability using the available resources in the

hospital. Fellows must also gain the necessary skills to effectively manage patient transitions between inpatient and outpatient settings.

Objectives:

- Conduct daily review of data and ensure proper patient progress during hospitalization
- Prioritize dialysis schedules to accommodate acuity and disposition of patients
- Understand basic coding levels and necessary elements of documentation for each level of billing
- Ensure safe and appropriate patient transitions between inpatient and outpatient settings

Evaluation/Assessment

- Evaluations by attending physicians at the end of the rotation.
- Evaluations by nursing staff and social workers from various patient care units.
- Patient evaluations
- Procedural skill assessments by supervising staff

Level of Supervision

- An environment of graded responsibility is the an underlying theme for all supervision
- All consults and follow up visits will be seen by attending physician
- All procedures should be supervised by the attending physician or a senior fellow during normal hours
- All notes will be reviewed by the attending physician

Teaching Methods/Learning Activities

What teaching methods and learning activities are you using on this rotation or educational experience?

- HCMC Core Curriculum, Wednesday at noon
- HCMC Renal Conference, Friday at noon.
- Transplant multi-disciplinary team meeting, Friday at 7am.
- Optional: HCMC Medicine Grand Rounds, Thursday at noon

Educational Resources

- Handbook of Kidney Transplantation
- Primer on Transplantation, American Society of Transplantation

Hennepin County Medical Center Pathology

Description of Rotation

- The fellow will examine renal pathology cases with the renal pathology faculty at Hennepin County Medical Center
- One month during first year¹
- There may also be a pathology resident on this service
- There are monthly pathology conferences at which the fellow is expected to present at the end of their rotation

Goals and Objectives

1. Become familiar with the preparation of renal biopsy specimens:
 - Type of solutions used for light (LM), immunofluorescence (IF), and electron microscopy (EM) specimens immediately post-biopsy
 - The basics of specimen preparation for LM, IF, and EM
2. Explain the uses and advantages of specific stains to include hematoxylin and eosin, periodic acid Schiff, Trichrome (Masson), silver-stains, elastin stain, congo red, methyl violet, thioflavine T, immunoperoxidase staining.
3. Recognize the histopathologic characteristics of the normal kidney on LM, IF, and EM.
4. Recognize the histopathologic characteristics of the following disease states on LM, IF, and EM (using a combination of actual cases and teaching slides):
 - Minimal change disease
 - Focal glomerulosclerosis
 - Membranoproliferative GN
 - Membranous GN
 - Various classification systems of lupus nephritis
 - IgA nephropathy
 - Diabetic nephropathy
 - Amyloidosis
 - Myeloma kidney
 - Pauci-Immune GN
 - Anti-GBM disease
 - Post-infections GN (especially PSGN and SBE)
 - Renal vasculitis
 - Scleroderma kidney
 - Hypertensive nephropathy/nephrosclerosis
 - Thrombotic microangiopathy
 - Interstitial nephritis, chronic and acute
 - Acute tubular necrosis
 - Transplant: acute cellular rejection, acute vascular rejection, cyclosporine toxicity, chronic rejection
5. Obtain adequate clinical background and information from the appropriate nephrologist submitting the specimen to allow optimal interpretation of the biopsy.

6. Upon completion of the rotation, a 45-60 minute presentation of cases and discussion that demonstrates the acquisition of the above knowledge.

Evaluation/Assessment

- An end of rotation evaluations is provided for each fellow
- Because no direct patient care is performed during this rotation, clinical competencies are not assessed. However, fellows are expected to maintain a high standard of professionalism during the rotation

Level of Supervision

- All biopsies are read by an HCMC renal pathologist

Teaching Methods/Learning Activities

What teaching methods and learning activities are you using on this rotation or educational experience?

- HCMC Core Curriculum, Wednesday at noon
- HCMC Renal Conference, Friday at noon.
- Optional: HCMC Medicine Grand Rounds, Thursday at noon

Hennepin County Medical Center Inpatient Consult Service

Description of Rotation

- Hennepin County Medical Center
- Inpatient Nephrology Consultation Service
- There is generally a resident on service
- There are occasional medical students on service

Patient Care

Goal: Fellows must obtain the skills required to effectively and independently care for acutely/critically ill patients with a variety of renal disorders.

Objectives:

- Manage AKI in hospitalized patients
- Manage fluid and electrolyte abnormalities in hospitalized patients
- Manage plasmapheresis in hospitalized patients
- Understand the principles and practice of percutaneous kidney biopsy
- Understand the principles and practice of dialysis access management in hospitalized patients with AKI including the insertion of temporary dialysis catheters

Medical Knowledge

Goal: Fellows must acquire the necessary medical knowledge to effectively and independently care for acutely/critically ill patients with a variety of renal disorders.

Objectives:

- Understand the underlying pathophysiology and presentation of acid base and fluid and electrolyte disorders
- Understand the underlying pathophysiology and presentation of AKI and chronic kidney disease
- Learn the principles and practice of acute dialysis therapies for AKI including the use of continuous dialysis modalities
- Understand the underlying pathophysiology and presentation of hypertensive disorders
- Understand the underlying pathophysiology and presentation of glomerular, tubular, and renovascular disorders

Practice- Based Learning and Improvement

Goal: Fellows must demonstrate the abilities to appraise and assimilate scientific evidence and continuously improve patient care based on constant self-evaluation and life-long learning.

Objectives:

- Accurately identify strengths, deficiencies and limits in one's knowledge and expertise
- Appropriately seek feedback on his/her performance via daily interaction with attendings, and by end-of-the-rotation global evaluations

- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems
- Understand and apply relevant practice guidelines to clinical conditions
- Use information technology to optimize learning
- Set learning improvement goals
- Participate in the education of others including students, nurses, other providers

Professionalism

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

Objectives:

- Compassionately and promptly respond to patient/family needs and requests
- Fulfill clinical duties in a timely manner and alerts appropriate supervisory personnel (i.e. attending physician) when difficulty is encountered
- Follow through on patient care activities and effectively transition care when necessary.
- Demonstrate effective, professional, and respectful working relationships with nursing and social services staff
- Respect patient privacy and autonomy
- Demonstrate sensitivity to diversity in patients and colleagues including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation
- Complete medical record documentation in a timely and appropriate manner
- Respond to pages, calls and email correspondence in a timely and effective manner
- Maintain professional appearance and demeanor

Interpersonal and Communication Skills

Goal: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information with patients, their families, and professional associates (including the primary team, floor and dialysis nurses, and social workers).

Objectives:

- Clearly and compassionately communicates key issues and treatment plans to patients and families
- Gather essential and accurate information from patients and families in a respectful manner
- Communicate effectively with physicians, other health professionals, and health related agencies while respecting patient privacy
- Effectively and succinctly presents patient cases with necessary and relevant detail included
- Maintain comprehensive, timely, and legible medical records
- Ensure safe "hand-offs" by communicating essential information to on call fellows and staff (nights and weekends)
- Specifically communicate with the primary nephrologist before patient is discharged from the hospital describing their hospital course and changes to dialysis/other prescription

Systems Based Practice

Goal: Fellows must be able to work as a consultant in assisting the primary team in the management of their patients to the best of their ability using the available resources in the hospital. Fellows must also gain the necessary skills to effectively manage patient transitions between inpatient and outpatient settings.

Objectives:

- Conduct daily review of data and ensure proper patient progress during hospitalization
- Prioritize dialysis schedules to accommodate acuity and disposition of patients
- Understand basic coding levels and necessary elements of documentation for each level of billing
- Ensure safe and appropriate patient transitions between inpatient and outpatient settings

Teaching Methods/Learning Activities

What teaching methods and learning activities are you using on this rotation or educational experience?

- HCMC Core Curriculum, Wednesday at noon
- HCMC Renal Conference, Friday at noon.
- Optional: HCMC Medicine Grand Rounds, Thursday at noon

Evaluation/Assessment

- Evaluations by each attending physician throughout the rotation as well as a global assessment at the end of the rotation
- Procedural skill assessments by supervising staff

Level of Supervision

- An environment of graded responsibility is the an underlying theme for all supervision
- All consults and follow up visits will be seen by attending physician
- All procedures should be supervised by the attending physician or a senior fellow during normal hours
- All notes will be reviewed by the attending physician

Teaching Methods/Learning Activities

What teaching methods and learning activities are you using on this rotation or educational experience?

- HCMC Core Curriculum, Wednesday at noon
- HCMC Renal Conference, Friday at noon.
- Optional: HCMC Medicine Grand Rounds, Thursday at noon

Educational Resources

- Handbook of Dialysis
- On-line library access

Hennepin County Medical Center Dialysis

Description of Rotation

- The purpose of this rotation is to expose fellows to a critical number of home-based therapy patients as active participation in the care of these PD and HHD patients is essential to achieving competency in the care of home dialysis patients.
 - Observation and participation in the initial PD and HHD training of at least one new patient in each therapy.
 - Observation and participation in the PD training of a patient for cycler therapy
 - Home visit to at least one PD and one HHD patient for evaluation of environmental safety
 - Observation and participation of a PET and adequacy collection and subsequent calculation.
 - Observation and participation of adequacy review of a home hemodialysis patient.
- Participation in a chronic kidney disease education class and Objectively Structured Clinical Examination (OSCE) focused on the dialysis choices.
- Fellows must actively participate in didactic sessions covering key content areas of medical knowledge.
- Attend a multi-disciplinary Quality Assurance/Performance Improvement meeting of the PD and HHD program
- Attend a “Kidney Smart” Class
- Fellows must participate in the evaluation of PD and Home HD patients preferably during the monthly patient visits in a multidisciplinary clinic with the PD and HHD nurse.
- This rotation is centered at the Davita Minneapolis home therapies clinic

Patient Care

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

Fellows must demonstrate competence evaluating and management in the following:

- Providing education and support to advanced CKD patients about various dialysis modalities, including PD/HHD.
- Acquiring a thorough H&P, identify patient supports and living conditions, and assess motivation to determine suitability for PD/HHD
- Determining adequacy of PD/HHD for patients, including how and when to alter prescription based on:
 - Results of solute clearance studies including Kt/V, acid base balance, inflammation, CKD-MBD, cardiovascular risk, and ultrafiltration concerns
 - Determining how and when to perform PET, and discuss prescription changes required depending on results
- Diagnostic and laboratory testing in the routine evaluation & management of PD/HHD patients.
- Pre- and post-operative PD catheter-care complications including catheter inflow and outflow problems and related pain.
- Infectious complications of PD/HHD, including exit site or tunnel infections, peritonitis, and approaches to reduce risk for infection.

- Increased intrabdominal pressure (e.g. hernias, leaks, hydrothorax)
- Abnormal PD fluid appearance (e.g. hemoperitoneum, chyloperitoneum)
- Encapsulating peritoneal sclerosis
- Recognize and manage blood pressure abnormalities and volume overload.
- Discontinuation of PD/HHD and transition to other therapies.
 - Eg. in-center respite care or permanently by transfer to in-center dialysis or peritoneal dialysis for HHD patients
- The discussion of end-of-life issues when clinically indicated.

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.

Fellows must demonstrate knowledge of:

- The absolute and relative contraindications to PD/HHD
- Discuss how to evaluate the “home dialysis team” (patient and partner), their living space and psychosocial environment with comments on how one might problem solve so that PD/HHD can be done safely when there is a desire to do home therapy but there is a relative contraindication.
- The different hemodialysis platforms available for home use (HHD).
- The structure and function of the peritoneal membrane, including ultrafiltration, reabsorption, and solute transport characteristics
- The techniques, indications, contraindications, and complications of PD catheter placement
- Peritoneal dialysis prescription requirements, including composition of PD solutions, available modalities (CAPD/CCPD/NIPD/tidal PD), consideration of volume status, and importance of residual renal function
- Kt/V calculations and other important components of overall dialysis adequacy in PD patients.
- The dialysis adequacy targets, considering the variability in treatment prescription (platform, frequency and length of treatment that are unique to HHD).
- Performance and interpretation of the peritoneal equilibration test (PET).
- The infectious and non-infectious complications specific to PD/HHD.
- The appropriate use and interpretation of laboratory and imaging modalities in the evaluation and management of PD/HHD patients.
 - Access issues, management of anemia, CKD-MBD, BP and volume control
- The clinical pharmacology and adverse effects of drugs used in the setting of PD/HHD.
- The management of dialysis associated co-morbidities with particular attention to what is unique to PD/HHD.
- The indications and considerations for change in modality, in-center respite care if needed.

Systems-based Practice

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

Fellows are expected to:

- Facilitate timely placement of PD catheter or vascular access to allow for smooth transition to home dialysis

- Utilize a multidisciplinary coordinated approach for patient initiation & ongoing management with dietitians, social workers, nursing staff, and physician input, including transfers of care and employment-related issues.
- Incorporate risk-benefit analysis and cost considerations in diagnostic and treatment decisions for PD/HHD patients.
- Identify and address financial, cultural, and social barriers to diagnostic and treatment recommendations.
- Participate and identify the structure and training necessary to successfully manage hospitalized PD/HHD patients.

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 life-long learning.

Fellows are expected to develop skills and habits to be able to meet the following goals:

- Identify competency gaps and engage in opportunities to achieve focused education and performance improvement, including prior patient experiences to benefit other patients, families, and providers. Issues specific to PH/HHD for monitoring may include:
 - Take-on rates for peritoneal dialysis in the clinical practice and barriers for optimizing utilization of therapy
 - Infection rates of facility
 - Transplantation rates
 - Adequacy measures
 - Transfer of patients in the facility to hemodialysis, causes and trends for such transfers
- Utilize support tools to improve patient care (such as dialysis adequacy and volume management), access guidelines, and gain pharmacologic information at the point of care.

Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Fellows are expected to demonstrate:

- Exhibit sensitivity to patient preferences and adjust dialysis prescription to fit patients' lifestyle
- Appropriately refer patients for transplantation, other dialysis modalities, or other needed care.
- Be able to work as a leader of the home dialysis team comprised of the PD/HHD nurse, dietitian, and social worker.

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:

- Communicate with patient and other non-nephrology physicians regarding suitability for PD/HHD and educate on misconceptions of home modality contraindications.

- Discuss lifestyle and expectations of home dialysis with the patient in order to ensure adherence and satisfaction with modality
- Communicate with and educate patients, families and other providers (such as primary care providers and surgeons) about general PD/HHD care.
- Maintain ongoing communication and follow-up with kidney transplant specialist/program.
- Engage in shared decision-making with patients and families regarding PD/HHD and the options for diagnosis and treatment.
- Communicate to the home dialysis team about expectations to achieve excellent outcomes for patients.

Teaching Methods/Learning Activities

What teaching methods and learning activities are you using on this rotation or educational experience?

- HCMC Core Curriculum, Wednesday at noon
- HCMC Renal Conference, Friday at noon.
- Optional: HCMC Medicine Grand Rounds, Thursday at noon

Evaluation/Assessment

- Evaluations by attending physicians and dialysis nurses at the end of the rotation
- Patient evaluations

Level of Supervision

- All clinics will be staffed by attending physicians

Hennepin County Medical Center Inpatient Dialysis/Transplant Medicine Service (“Red Medicine”)

Description of Rotation

- Hennepin County Medical Center
- Primary Inpatient Service for chronic dialysis patients and established renal transplant patients
- There are always residents rotating on this service

Patient Care

Goal: Fellows must obtain the skills required to effectively and independently care for acutely/critically ill patients who are on dialysis or have established kidney transplants.

Objectives:

- Manage acute and chronic issues in hospitalized established kidney transplant, chronic hemodialysis and peritoneal dialysis patients
- Understand the principles and practice of hemodialysis, peritoneal dialysis, and continuous renal replacement therapy
- Manage long-term complications of kidney transplantation

Medical Knowledge

Goal: Fellows must acquire the necessary medical knowledge to effectively and independently care for acutely/critically ill dialysis and kidney transplant patients

Objectives:

- Know the medical complications occurring in chronic hemodialysis patients
- Know the medical complications occurring in peritoneal dialysis patients
- Know the medical complications occurring in renal transplant patients

Practice-Based Learning and Improvement

Goal: Fellows must demonstrate the abilities to appraise and assimilate scientific evidence and continuously improve patient care based on constant self-evaluation and life-long learning.

Objectives:

- Accurately identify strengths, deficiencies and limits in one’s knowledge and expertise
- Appropriately seek feedback on his/her performance via daily interaction with attendings, and by end-of-the-rotation global evaluations
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems
- Understand and apply relevant practice guidelines to clinical conditions
- Use information technology to optimize learning
- Set learning improvement goals

- Participate in the education of others including students, nurses, other providers

Professionalism

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

Objectives:

- Compassionately and promptly respond to patient/family needs and requests
- Fulfill clinical duties in a timely manner and alerts appropriate supervisory personnel (i.e. attending physician) when difficulty is encountered
- Follow through on patient care activities and effectively transition care when necessary.
- Demonstrate effective, professional, and respectful working relationships with nursing and social services staff
- Respect patient privacy and autonomy
- Demonstrate sensitivity to diversity in patients and colleagues including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation
- Complete medical record documentation in a timely and appropriate manner
- Respond to pages, calls and email correspondence in a timely and effective manner
- Maintain professional appearance and demeanor

Interpersonal and Communication Skills

Goal: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information with patients, their families, and professional associates (including the primary team, floor and dialysis nurses, and social workers).

Objectives:

- Clearly and compassionately communicates key issues and treatment plans to patients and families
- Gather essential and accurate information from patients and families in a respectful manner
- Communicate effectively with physicians, other health professionals, and health related agencies while respecting patient privacy
- Effectively and succinctly presents patient cases with necessary and relevant detail included
- Maintain comprehensive, timely, and legible medical records
- Ensure safe "hand-offs" by communicating essential information to on call fellows and staff (nights and weekends)
- Specifically communicate with the primary nephrologist before patient is discharged from the hospital describing their hospital course and changes to dialysis/other prescription

Systems Based Practice

Goal: Fellows must be able to work as a consultant in assisting the primary team in the management of their patients to the best of their ability using the available resources in the hospital. Fellows must also gain the necessary skills to effectively manage patient transitions between inpatient and outpatient settings.

Objectives:

- Conduct daily review of data and ensure proper patient progress during hospitalization
- Prioritize dialysis schedules to accommodate acuity and disposition of patients
- Understand basic coding levels and necessary elements of documentation for each level of billing
- Ensure safe and appropriate patient transitions between inpatient and outpatient settings

Teaching Methods/Learning Activities

What teaching methods and learning activities are you using on this rotation or educational experience?

- HCMC Core Curriculum, Wednesday at noon
- HCMC Renal Conference, Friday at noon.
- Optional: HCMC Medicine Grand Rounds, Thursday at noon

Evaluation/Assessment

- Evaluations by each attending physician throughout the rotation as well as a global assessment at the end of the rotation
- Procedural skill assessments by supervising staff

Level of Supervision

- An environment of graded responsibility is the an underlying theme for all supervision
- All consults and follow up visits will be seen by attending physician
- All procedures should be supervised by the attending physician or a senior fellow during normal hours
- All notes will be reviewed by the attending physician

VAMC Nephrology Consult Service

Description of Rotation

- VAMC
- Inpatient Nephrology Consultation Service
- There are occasional residents and medical students on service

Patient Care

Goal: Fellows must obtain the skills required to effectively and independently care for acutely/critically ill patients with a variety of renal disorders.

Objectives:

- Manage ESKD patients admitted with acute medical problems
- Manage AKI in hospitalized patients, including those with non-kidney solid organ transplants as well as stem cell transplants
- Understand principles and practical issues involved in dialysis access management including the insertion of temporary dialysis catheters
- Understand principles and practice of percutaneous kidney biopsy
- Understand the principles and management of complex electrolyte and acid-base disturbances
- Understand the principles and management strategies for difficult to control hypertension
- Evaluate and manage glomerular, tubular, and renovascular disorders

Medical Knowledge

Goal: Fellows must acquire the necessary medical knowledge to effectively and independently care for acutely/critically ill patients with a variety of renal disorders.

Objectives:

- Understand the underlying pathophysiology and presentation of acid base and fluid and electrolyte disorders
- Understand the underlying pathophysiology and presentation of AKI and chronic kidney disease
- Learn the principles and practice of acute dialysis therapies for AKI including the use of continuous dialysis modalities
- Understand the underlying pathophysiology and presentation of hypertensive disorders
- Understand the underlying pathophysiology and presentation of glomerular, tubular, and renovascular disorders

Practice-Based Learning and Improvement

Goal: Fellows must demonstrate the abilities to appraise and assimilate scientific evidence and continuously improve patient care based on constant self-evaluation and life-long learning.

Objectives:

- Accurately identify strengths, deficiencies and limits in one's knowledge and expertise

- Appropriately seek feedback on his/her performance via daily interaction with attendings and by end-of-the-rotation global evaluations
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems
- Understand and apply relevant practice guidelines to clinical conditions
- Use information technology to optimize learning
- Set learning improvement goals
- Participate in the education of others including students, nurses, other providers

Professionalism

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

Objectives:

-
- Compassionately and promptly respond to patient/family needs and requests
- Fulfill clinical duties in a timely manner and alerts appropriate supervisory personnel (i.e. attending physician) when difficulty is encountered
- Follow through on patient care activities and effectively transition care when necessary.
- Demonstrate effective, professional, and respectful working relationships with nursing and social services staff
- Respect patient privacy and autonomy
- Demonstrate sensitivity to diversity in patients and colleagues including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation
- Complete medical record documentation in a timely and appropriate manner
- Respond to pages, calls and email correspondence in a timely and effective manner
- Maintain professional appearance and demeanor

Interpersonal and Communication Skills

Goal: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information with patients, their families, and professional associates (including the primary team, floor and dialysis nurses, and social workers).

Objectives:

- Clearly and compassionately communicates key issues and treatment plans to patients and families
- Gather essential and accurate information from patients and families in a respectful manner
- Communicate effectively with physicians, other health professionals, and health related agencies while respecting patient privacy
- Effectively and succinctly presents patient cases with necessary and relevant detail included
- Maintain comprehensive, timely, and legible medical records
- Ensure safe "hand-offs" by communicating essential information to on call fellows and staff (nights and weekends)
- Specifically communicate with the primary nephrologist and VA dialysis nurse before patient is discharged from the hospital describing their hospital course and changes to dialysis/other prescription
-

Systems Based Practice

Goal: Fellows must be able to work as a consultant in assisting the primary team in the management of their patients to the best of their ability using the available resources in the hospital. Fellows must also gain the necessary skills to effectively manage patient transitions between inpatient and outpatient settings.

Objectives:

- Conduct daily review of data and ensure proper patient progress during hospitalization
- Prioritize dialysis schedules to accommodate acuity and disposition of patients
- Understand basic coding levels and necessary elements of documentation for each level of billing
- Ensure safe and appropriate patient transitions between inpatient and outpatient settings

Teaching Methods/Learning Activities

What teaching methods and learning activities are you using on this rotation or educational experience?

- HCMC Core Curriculum, Wednesday at noon (required)
- HCMC Renal Conference, Friday at noon. (required)
- VAMC Journal Club, Monday at noon
- Optional: VAMC Medicine Grand Rounds, weekly

Evaluation/Assessment

- Evaluations by each attending physician throughout the rotation as well as a global assessment at the end of the rotation
- Procedural skill assessments by supervising staff

Level of Supervision

- An environment of graded responsibility is the an underlying theme for all supervision
- All consults and follow up visits will be seen by attending physician
- All procedures should be supervised by the attending physician or a senior fellow during normal hours
- All notes will be reviewed by the attending physician

VAMC Dialysis

Description of Rotation

- The purpose of this rotation is to expose fellows to an intensive of month learning the principles and practices of dialysis and dialysis access at the Veterans Administration Medical Center
- Part of the month is spent learning about dialysis from a nurses perspective by shadowing an inpatient nurse at VAMC
- The fellow is "on-call" for vascular access procedures throughout the rotation in interventional radiology and vascular surgery at VAMC
- The fellow is to undertake self-directed study regarding focusing on the handbook of dialysis

Patient Care

Goal: Fellows must obtain the skills required to effectively and independently care for hemodialysis patients.

Objectives:

- Learn hemodialysis machine set-up
- Learn technique for needle placement or use of catheters for initiating hemodialysis procedure
- Monitor patients during the hemodialysis procedure
- Troubleshoot the hemodialysis machine during dialysis
- Manage patient complications during the dialysis procedure
- Learn water treatment basics
- Understand advanced issues related to access including complications, indications, surveillance, and management

Medical Knowledge

Goal: Fellows must acquire the necessary medical knowledge to effectively and independently care for hemodialysis patients.

Objectives:

- Learn the principles and practice of acute and chronic hemodialysis
- Learn the principles and practical issues involved in dialysis access including the insertion of temporary and tunneled dialysis catheters

Practice-Based Learning and Improvement

Goal: Fellows must demonstrate the abilities to appraise and assimilate scientific evidence and continuously improve patient care based on constant self-evaluation and life-long learning.

Objectives:

- Accurately identify strengths, deficiencies and limits in one's knowledge and expertise
- Appropriately seek feedback on his/her performance via daily interaction with attendings and by end-of-the-rotation global evaluations
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems
- Understand and apply relevant practice guidelines to clinical conditions
- Use information technology to optimize learning
- Set learning improvement goals
- Participate in the education of others including students, nurses, other providers

Professionalism

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

Objectives:

- Compassionately and promptly respond to patient/family needs and requests
- Fulfill clinical duties in a timely manner and alerts appropriate supervisory personnel (i.e. attending physician) when difficulty is encountered
- Follow through on patient care activities and effectively transition care when necessary.
- Demonstrate effective, professional, and respectful working relationships with nursing and social services staff
- Respect patient privacy and autonomy
- Demonstrate sensitivity to diversity in patients and colleagues including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation
- Complete medical record documentation in a timely and appropriate manner
- Respond to pages, calls and email correspondence in a timely and effective manner
- Maintain professional appearance and demeanor

Interpersonal and Communication Skills

Goal: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information with patients, their families, and professional associates (including the primary team, floor and dialysis nurses, and social workers).

Objectives:

- Clearly and compassionately communicates key issues and treatment plans to patients and families
- Gather essential and accurate information from patients and families in a respectful manner
- Communicate effectively with physicians, other health professionals, and health related agencies while respecting patient privacy

- Effectively and succinctly presents patient cases with necessary and relevant detail included
- Maintain comprehensive, timely, and legible medical records
- Specifically communicate with the primary nephrologist and VA dialysis nurse before patient is discharged from the hospital describing their hospital course and changes to dialysis/other prescription

Systems Based Practice

Goal: Fellows must be able to work as a consultant in assisting the primary team in the management of their patients to the best of their ability using the available resources in the hospital. Fellows must also gain the necessary skills to effectively manage patient transitions between inpatient and outpatient settings.

Objectives:

- Conduct daily review of data and ensure proper patient progress during hospitalization
- Prioritize dialysis schedules to accommodate acuity and disposition of patients
- Understand basic coding levels and necessary elements of documentation for each level of billing
- Ensure safe and appropriate patient transitions between inpatient and outpatient settings

Teaching Methods/Learning Activities

What teaching methods and learning activities are you using on this rotation or educational experience?

- HCMC Core Curriculum, Wednesday at noon (required)
- HCMC Renal Conference, Friday at noon. (required)
- VAMC Journal Club, Monday at noon
- Optional: VAMC Medicine Grand Rounds, weekly

Evaluation/Assessment

- Evaluations by each attending physician throughout the rotation as well as a global assessment at the end of the rotation
- Procedural skill assessments by supervising staff

Level of Supervision

- An environment of graded responsibility is the an underlying theme for all supervision
- All procedures should be supervised by the nurse or attending physician
- All notes will be reviewed by the nurse or attending physician

Nephrology Fellowship: Continuity Clinic (VAMC and HCMC)

Description of Rotation

- The purpose of this rotation is to expose fellows to a cohort of patients with a variety of kidney-related problems including CKD, hypertension, electrolyte, and acid-base disorders
- 1-2 fellows per clinic paired with 1 attending
- The rotations are based at the VAMC and HCMC
- The fellow is responsible for managing nephrology care for assigned patients. Fellows are also responsible for coordinating overall care for their patients and ensuring safe transitions between inpatient and outpatient settings.
- First year fellows generally see minimum of 4 patients per clinic and second year fellows see 6 patients per clinic

Patient Care

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

Fellows must demonstrate competence evaluating and management in the following:

- Providing education and support to patients
- Manage CKD in clinic patients
- Understanding principles and practical issues involved in dialysis access planning
- Understanding principles and practice of percutaneous kidney biopsy
- Understanding the principles and management of complex electrolyte and acid-base disturbances
- Understanding the principles and management strategies for difficult to control hypertension
- Evaluation and management of glomerular, tubular, and renovascular disorders
- The discussion of end-of-life issues when clinically indicated

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.

Fellows must demonstrate knowledge of:

- Hemodialysis access and renal replacement options including benefits and drawbacks for each
- The appropriate use and interpretation of laboratory and imaging modalities in the evaluation and management of CKD patients
 - Management of anemia, CKD-MBD, BP and volume management
- The clinical pharmacology and adverse effects of drugs used the setting of CKD
- Understand the underlying pathophysiology and presentation of acid base and fluid and electrolyte disorders
- The underlying pathophysiology and presentation of hypertensive disorders
- The underlying pathophysiology and presentation of glomerular, tubular, and renovascular disorders

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 life-long learning.

Fellows are expected to develop skills and habits to be able to meet the following goals:

- Accurately identify strengths, deficiencies and limits in one's knowledge and expertise
- Appropriately seek feedback on his/her performance via weekly interactions with attendings, and by global evaluations
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems
- Understand and apply relevant practice guidelines to clinical conditions
- Use information technology to optimize learning
- Set learning improvement goals
- Participate in the education of others including students, nurses, other providers

Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Fellows are expected to demonstrate:

- Inform advanced CKD patients about renal replacement options and refer patients for transplantation, dialysis modalities, or hospice care appropriately
- Be able to work as a leader of the clinic team comprised of the nurse, dietitian, social worker, other
- Appropriately and promptly respond to patient/family needs and requests
- Fulfill clinical duties in a timely manner and alerts appropriate supervisory personnel (i.e. attending physician) when difficulty is encountered
- Follow through on patient care activities and effectively transitions care when necessary
- Demonstrate effective, professional and respectful working relationships with nursing and social services staff
- Respect patient privacy and autonomy
- Demonstrate sensitivity to diversity in patients and colleagues including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation
- Complete medical record documentation in a timely and appropriate manner
- Respond to pages, calls and email correspondence in a timely and effective manner
- Maintain professional appearance and demeanor

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:

- Communicate with and educate patients, families and other providers (such as primary care providers and surgeons) about general CKD care
- Clearly and compassionately communicate key issues and treatment plans to patients and families
- Gather essential and accurate information from patients and families in a respectful manner

- Communicate effectively with physicians, other health professionals, and health related agencies while respecting patient privacy
- Effectively and succinctly present patient cases with necessary and relevant detail included.
- Maintain comprehensive, timely, and legible medical records

Systems Based Practice

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

Fellows are expected to:

- Facilitate timely placement of appropriate access if not already present
- Utilize a multidisciplinary coordinated approach for patient initiation & ongoing management with dietitians, social workers, nursing staff, and physician input, including transfers of care and employment-related issues
- Incorporate risk-benefit analysis and cost considerations in diagnostic and treatment decisions for clinic patients
- Identify and address financial, cultural, and social barriers to diagnostic and treatment recommendations
- Participate and identify the structure and training necessary to successfully manage transitions of patients to and from an inpatient setting

Evaluation/Assessment

- Evaluations by attending physician
- Clinic note evaluations
- Chart stimulated recall
- Clinic nurses also have input regarding performance in clinic

Level of Supervision

- The attending physician sees all patients with the fellow

Nephrology Fellowship: Dialysis Continuity (Hemodialysis, Peritoneal)

Description of Rotation

- The purpose of this rotation is to expose fellows to a cohort of patients with ESKD on in-center hemodialysis and for second years, home peritoneal dialysis, who are followed throughout fellowship training
- The rotations are based at the VAMC and HCMC. Fellows are assigned a panel of patients with corresponding attending nephrologist.
- The fellow is responsible for managing assigned patients in a chronic dialysis unit. Fellows are also responsible for coordinating overall care for their patients and ensuring safe transitions between inpatient and outpatient settings.
- Patient cap of 5 for first year and 7 for second year fellows

Patient Care

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

Fellows must demonstrate competence evaluating and management in the following:

- Providing education and support to patients with ESKD on in-center hemodialysis
- Acquiring a thorough H&P, identifying patient supports and living conditions
- Determining adequacy of dialysis for patients, including how and when to alter prescription based on:
 - Results of solute clearance studies including Kt/V, acid base balance, inflammation, CKD-MBD, cardiovascular risk, and ultrafiltration concerns
- Diagnostic and laboratory testing in the routine evaluation & management of in-center hemodialysis
- Infectious complications of in-center hemodialysis including access infections and approaches to reduce risk for infection
- Recognize and manage blood pressure abnormalities and volume overload
- Discontinuation of in-center hemodialysis and transition to other therapies
Eg. PD, HHD, or hospice care
- The discussion of end-of-life issues when clinically indicated

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.

Fellows must demonstrate knowledge of:

- Hemodialysis access options including benefits and drawbacks for each
- Placement of hemodialysis access including peri-operative complications
- Kt/V calculations and other important components of overall dialysis adequacy in in-center hemodialysis.
- The infectious and non-infectious complications specific to in-center hemodialysis
- The infectious and non-infectious complications specific to peritoneal dialysis
- The appropriate use and interpretation of laboratory and imaging modalities in the evaluation and management of in-center hemodialysis patients and peritoneal dialysis patients

- Access issues, management of anemia, CKD-MBD, BP and volume management
- The clinical pharmacology and adverse effects of drugs used in the setting of in-center hemodialysis and peritoneal dialysis

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 life-long learning.

Fellows are expected to develop skills and habits to be able to meet the following goals:

- Identify competency gaps and engage in opportunities to achieve focused education and performance improvement, including prior patient experiences to benefit other patients, families, and providers. Issues specific to in-center hemodialysis for monitoring may include:
 - Take-on rates for all modalities in the clinical practice and barriers for optimizing utilization of therapy
 - Fistula rates
 - Infection rates of facility
 - Transplantation rates
 - Adequacy measures
- Utilize support tools to improve patient care (such as dialysis adequacy and volume management), access guidelines, and gain pharmacologic information at the point of care.

Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Fellows are expected to demonstrate:

- Exhibit sensitivity to patient preferences and adjust dialysis prescription to fit patients' lifestyle
- Appropriately refer patients for transplantation, other dialysis modalities, or other needed care.
- Be able to work as a leader of the home dialysis team comprised of the PD/HHD nurse, dietitian, and social worker.
- Appropriately and promptly respond to patient/family needs and requests
- Fulfill clinical duties in a timely manner and alert appropriate supervisory personnel (i.e. attending physician) when difficulty is encountered
- Follow through on patient care activities and effectively transition care when necessary
- Demonstrate effective, professional and respectful working relationships with nursing and social services staff
- Respect patient privacy and autonomy
- Demonstrate sensitivity to diversity in patients and colleagues including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation
- Complete medical record documentation in a timely and appropriate manner
- Respond to pages, calls and email correspondence in a timely and effective manner
- Maintain professional appearance and demeanor

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:

- Communicate with and educate patients, families and other providers (such as primary care providers and surgeons) about general in-center hemodialysis care
- Maintain ongoing communication and follow-up with kidney transplant program
- Engage in shared decision-making with patients and families regarding PD/HHD and the options for diagnosis and treatment.
- Communicate to the in-center dialysis team about expectations to achieve excellent outcomes for patients
- Clearly and compassionately communicate key issues and treatment plans to patients and families
- Gather essential and accurate information from patients and families in a respectful manner
- Communicate effectively with physicians, other health professionals, and health related agencies while respecting patient privacy
- Effectively and succinctly present patient cases with necessary and relevant detail included.
- Maintain comprehensive, timely, and legible medical records

Systems Based Practice

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

Fellows are expected to:

- Facilitate timely placement of appropriate access if not already present
- Utilize a multidisciplinary coordinated approach for patient initiation & ongoing management with dietitians, social workers, nursing staff, and physician input, including transfers of care and employment-related issues
- Incorporate risk-benefit analysis and cost considerations in diagnostic and treatment decisions for in-center hemodialysis patients
- Identify and address financial, cultural, and social barriers to diagnostic and treatment recommendations
- Participate and identify the structure and training necessary to successfully manage transitions of hospitalized in-center hemodialysis patients to an outpatient setting

Evaluation/Assessment

- Evaluations by attending physician
- Dialysis nurses also have input regarding performance in clinic

Level of Supervision

- The attending physician supervises or is available to assist in all aspects of patient care

Educational Resources

- Handbook of Dialysis

Call schedule/Duty Hours

- Generally, "call" averages to call approximately every fourth night. All call is taken from home.
- Duty hour requirements as specified by the ACGME are strictly adhered to:
 - Fellows do not work greater than 80 hours per week
 - Fellows do not spend more than 30 continuous hours in-house
 - Fellows are guaranteed 1 day off per week free from all educational and clinical responsibilities (averaged over a one month period)
 - Fellows are guaranteed 10 hours off duty between shifts

Call Schedule

1. In general, fellows will be on call one night a week and one weekend a month.
2. Second year "Chief Fellow" will assist in completing the fellow call schedule by the 15th the month prior.
3. Weekend call will be scheduled in 6 months blocks. Changes allowed with prior approval.
4. Changes in the call schedule should be communicated to the program coordinator as soon as possible. The attending physician and the respective hospital operator should also be notified of any changes
5. The fellows should discuss with the attending how to handle off hour calls and when the attending wants to be notified about calls. **When in doubt call the attending.**
6. Unless arranged otherwise night call begins at 5 pm and weekend call is from 5 pm Friday to 8 am Monday.
7. Sign out your patients to the fellow on call.
8. The fellow on call should sign in the next morning issues and new patients to day time fellow or attending physician.
9. Holiday Policy: Each fellow will be assigned a major holiday, this includes one of the following: New Year's Day, Memorial Day, July 4, Labor Day, Thanksgiving, Christmas. For all other holidays (eg. day after Thanksgiving) we treat those as minor holidays and both attendings and fellows work on the services.
10. If there are more weekends in a given month than fellows, then staff will work without fellow coverage.

Fellowship Policies

A. Advisor

Each fellow will be assigned at the start of the fellowship a Division staff member to serve as an advisor. Fellows may change this assigned advisor to another staff based on anticipated work together on a clinical or basic science project. Advisor will serve as a mentor and resource person to help you with any issues that arise during your fellowship, particularly career plans and rotation schedules.

B. Change in Rotation

Please submit in writing a request to change your rotation schedule to the Program Director. These will be granted on an individual basis.

C. Conferences

1. You are **required** to attend the following conferences:
Renal Core Curriculum: Wednesday noon
Renal Clinical Nephrology Conference: Friday noon
2. Attendance will be monitored at the required conferences. To fulfill ACGME rules, you have to attend >60% of conferences.
3. If there are problems getting the time off the clinical services to attend conferences then please notify the Program Director.

D. Procedure Logs

A formal procedure log must be kept for all the renal biopsies and dialysis catheter insertions you perform. The supervising physician must sign off on all procedures. This is a requirement for board certification. The procedure module from RMS will be used for procedure tracking. See separate section from paper log.

E. Vacation

1. All fellows will be given 3 weeks of vacation. One week must be used during the first 6 months of each fellowship year. One week must be used during the second 6 months of each fellowship year. The 3rd week can be used at any time during the fellowship year.
2. There is no carry over of vacation from one year to the next.
3. For sick time, fellows are responsible for notifying the Program Director and the appropriate faculty member of their rotation as soon as possible. Sick leave will be approved for legitimate illness.
4. Submit a request for vacation to the Program Director **6 weeks** prior to your vacation.
5. Fellows may take vacation during any rotation.
6. The final authorization for vacation scheduling will be by the Program Director.
7. Time spent at academic meetings does not count for vacation if it is approved by the Program Director.
8. You can request up to 3 days leave per academic year for interviews.

F. Travel to Outside Meetings

1. Each fellow is allowed and encouraged to attend one meeting per year but will be based on funding. Fellows are guaranteed outside meeting during their fellowship. The time spent at the meeting will not count as vacation time.
2. The most common meetings attended are the American Society of Nephrology Meeting (October/November) and the National Kidney Foundation Meeting (April). Other potential meetings are the American Society of Transplantation (May), Home Dialysis Academy (Jan). Receipts for the expenses must be kept and submitted for reimbursement.
3. In addition fellows will be given academic leave to attend other meetings to present their research work or abstract if accepted. The funding for these meetings is expected to come from the research mentor and the program can assist as budget allows.
4. A one page written summary of your experience at the meeting is to be the program director within one week of returning from the conference.
5. You may be asked to give an oral presentation on what you learned at the conference.

The Renal Division will provide allowance to each fellow to attend a professional meeting. Exact budget will be determined yearly due budget. The meeting requires prior approval by the

Program Director prior to registration. Expenses in excess of given allowance will be the responsibility of the fellow. Reimbursement for travel expenses will be provided as per HCMC policies. Prior to registration, prepare a written request (printed or email) to the Program Director and copy the Program Coordinator. Please include the following information:

- Name of the professional meeting
- Dates of travel
- Location
- Interest in the meeting
- Abstract submission titles
- Poster or oral presentations accepted
- Anticipated Expenses:
 - Registration
 - Airfare
 - Hotel
 - Per diem (rates for US cities can be found at www.gsa.gov)
- Additional comments as needed

Once approval is obtained from the Program Director, Renal Administrative Staff can assist with meeting registration and airfare purchase using the Department Purchasing Card. Hotel reservations are the responsibility of the fellow unless accommodations are included in the registration fee.

Upon return, provide the program coordinator the receipts for expenses requiring reimbursement within 60 days. Receipts for food are not required as reimbursement will be provided at the per diem rates.

If research data is presented at the meeting, a copy of the abstract will be required for the reimbursement.

G. Grievances

In the course of training fellows may have grievances with the nephrology program personnel, policies, and procedures. Many grievances can be resolved by direct discussion and mutual decisions reached to resolve a problem. However, there may be occasions when grievances may not be resolved in this manner and a formal policy to report and resolve these issues is necessary.

The Division recommends that fellows address their grievances to the following individuals in the order listed:

- Trainee's Advisor
- Fellowship Clinical Competency Committee member
- Nephrology Fellowship Program Director
- Central GME office if needed

H. Moonlighting

1. Only second year fellows can moonlight.
2. Moonlighting is a completely voluntary function that requires written permission from the program director and must be in accord with GME policy.
3. Performance is monitored to ensure that moonlighting does not interfere with the

- required function of the fellowship.
4. Fellows must provide a moonlighting schedule to the program director 1 month in advance.
 5. Not permitted on a J1 Visa.
 6. Other moonlighting policy is outlined in the GME manual.

I. Fatigue:

1. When fellows feel too fatigued to perform their duties, they can at any time sign out their remaining work to the supervising staff attending
2. RAP: resident assistance program is available for counseling
3. HCMC GME provides resident/fellow lounge for fatigue mitigation

Indications to Call Nephrology Attending:

The guidelines for contacting the Nephrology Attending serve as a rough guideline for fellows, as always the fellow should use his/her clinical judgment when assessing a patient.

The attending should be called after the fellow has evaluated a patient in any of the following situations:

1. Emergent dialysis possible/obvious
 - a. Line Placement
 - b. Patient has had a change of status requiring renal replacement therapy other than planned during previous encounter/rounds
2. Electrolyte disturbance (not absolutes, can be based on less severe values and clinical judgement)
 - a. Hyponatremia (serum Na <110)
 - b. Hyperkalemia (K >7.0)
 - c. Metabolic Acidosis (serum bicarbonate <10, pH <7.1)
3. Patient requires medical clearance for transplantation
4. Specific Scenarios
 - a. Hemoptysis in the setting of AKI
 - b. Fulminant hepatic failure with AKI
5. Calls from outside hospital where there is a question of transfer that is not obvious.
6. Calls from outside where there is any question on patient management that is not clear
7. Any call regarding critical laboratory results or biopsy results pending from earlier in the day where fellow has concerns or questions
8. Any other time/scenario in which the fellow desires the input of faculty. In general, call the on call staff when it is not clear if patient needs to be seen or evaluated. Staff should be called when fellows has personally evaluated a patient while on call.

HCMC Consult attending Guidelines:

1. Rounds should start no later than 10am to facilitate enough time to see patients and target teaching on rounds.
2. For morning rounds, fellows are responsible for the care of all consult patients (including those seen by residents) up to the service cap. Fellows will provide direct supervision to residents on the consult service.
 - a. First year fellows can follow up to 16 patients during morning rounds.
 - b. Second year fellows can follow up to 20 patients during morning rounds.
 - c. When the census becomes greater than 20 or difficult to manage due to acuity, the fellow and staff will collaborate to balance the workload, teaching and supervisory roles. The attending and trainee can determine which patients are appropriate for “non-teaching” rounds on a daily basis – ie, low acuity and low teaching value patients should be seen independently by the attending.
 - d. Morning service caps apply to both weekdays and weekends. For weekend rounding, patients can be prioritized based on need for evaluation – low priority patients can be chart checked by the fellow without being seen.
3. Fellows are responsible for all new consults received during the day, but attendings are expected to directly contribute to seeing consults independently if the service is busy.
4. Formal afternoon teaching should occur on most days with topics determined by the trainee’s interest.

HCMC Red Medicine Guidelines

- 8:15 multi-disciplinary rounds. Encourage staff to attend to help facilitate information. Accurately portray anticipated date of discharge.
- 8:30: Rounds with night float. Fellow should be present for night float presentation.
- Fellow and Staff concurrently round with their teams. Fellow should find staff upon completion of rounding with on call team.
- On completion of rounds with post-call team, Staff and Fellow should fully share information on patients they have seen independently. Fellow’s should not re-round with staff (staff see on call team alone unless particular educational reasons to do so). Rounds with teams should be complete by noon at latest. Some patients can be discussed and seen on own by staff.
- New admissions during the day: Fellows should at a minimum be present for team presentation to Staff.

Other suggestions:

- Ideal for staff to read notes, admission History and Physicals prior to rounds. Rounds should be focused for shared decision making, teaching and formulation of plans with less time spent on dissemination of information.
- Encourage planning day prior regarding dialysis. Orders in by 3PM day prior or at least communicate to ADU plans for next day's dialysis. Attempt routine dialysis on day of discharge at outside unit.
- Consider 1:30 daily brief educational session similar to "Geo attending's". Can be done by staff and fellow. Suggest discussion and planning week on Monday mornings.