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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:
Program Director: Saugar Maripuri, MD 612-873-6984
Program Coordinator: Hayley Rosenfield 612-873-2382

Hospital Main Operator: 612-873-3000
Nephrology Division: 612-873-6988, 873-6987
EPIC Help Line: 612-873-7485
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Amion.com 612-873-2875

VAMC:
Site Director: Yoav Segal MD 612-725-2000
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 patient's 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

Fellowship Policies

Advisors

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 attending 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 for presentations, career plans, and rotation schedules. Advisors will meet with each fellow quarterly to review progress in fellowship (including procedural competency) and serve as guidance for scholarly and QI activities.

Change in rotation

Fellows should any request for rotation schedule changes in writing to the Program Director. These will be granted on an individual basis.

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. Alternatively, fellows can keep a paper log or alternative form of procedure logging.

Conference attendance

Fellows are expected to attend the following conferences:
- Monday Rotating Conferences (Case Conference, Journal Club, Board Review)
- Tuesday Physiology Conference
- Wednesday Core Curriculum Conference
- Friday Clinical Nephrology Conference.

Fellows on VAMC rotations are encouraged to “dial in” to conferences remotely (Skype for Business for screen sharing, HCMC Shapiro 5 conference room speakerphone for audio) or attend in person.

Attendance will be monitored at the required conferences. To fulfill ACGME rules, you have to attend >60% of conferences.

If there are problems getting the time off the clinical services to attend conferences then please notify the Program Director.
Vacation Policy

- Fellows have three weeks of paid time off (PTO) during each academic year.
- Requests for PTO should be submitted in RMS at least 6 weeks in advance (to allow enough time for clinic cancellation).
- PTO should be taken in one week blocks at a time, with at least one week to be taken in the first 6 months of the calendar year.
- Fellows should make a good faith effort to avoid taking PTO during an inpatient service rotation (HCMC Consults, HCMC Red Medicine, VA Consult Service). Requests to take PTO during inpatient blocks require prior approval from the Program Director.
- Fellows are excused from all weeknight (M-F) call responsibilities during PTO and do NOT need to arrange coverage for cancelled weeknight calls.
- 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.
- There is no carryover to the following academic year for unused PTO.
- Fellows can request up to 3 days leave per academic year for job/training interviews.
- Time spent for academic leave (travel to national meetings) does not count against PTO.

Academic Travel Policy

- Fellows are encouraged to attend NKF Spring Clinical Meeting during their first year and ASN Kidney Week during their second year.
- Fellows will be granted academic leave to attend any meetings where an abstract is accepted for a poster or oral presentation. The primary funding for these meetings is expected to be supported by the research mentor.
- Requests for Academic Travel should be submitted in RMS.
- Travel Assistance Grants are available through the fellowship for fellows in good academic standing. Travel assistance is not guaranteed for fellows who are in remediation or have active Independent Learning Plans.
- The following expenses are reimbursable through Travel Assistance Grants: Registration fees, airfare, hotel expenses, ground transportation. The allowable expense limit of the travel grant varies each academic year based on available GME funding. Expenses in excess of travel grant allowance is the responsibility of the fellow.
- Fellows are required to submit receipts for reimbursable expenses within 30 days of returning from Academic Travel to utilize the Travel Assistance Grant (note that this is more strict that an the HCMC institutional policy, as grant funding is a limited resource and cannot be guaranteed if reimbursement is requested after 30 days).

RAP & Fatigue Mitigation

- HCMC offers free consultation with Resident/Fellow Assistance program (651-430-3383, mmcgmeservices.org/resident--fellow-wellness.html).
- This service can be utilized for various scenarios including but not limited to program related stressors/burnout, significant relationship & family struggles, mental health and chemical use concerns, legal consultations, financial worries, childcare needs etc.
- All consultations are confidential.
- This service is provided at no cost to you and your immediate family members.
- All fellows who are deemed impaired to drive home safely after a call shift can obtain a ride via Yellow Cab. (max voucher: $35.00).
- Call 612-888-8889 and indicate that this is a non-patient transport request for account HCMC GME, Account # 1556 and provide your name.
Moonlighting Policy

- Obtain a written statement of permission from the fellowship program director prior to starting any moonlighting.
- Report all moonlighting activity, both within and without HCMC on a monthly basis using RMS.
- Fellow has to abide by the duty hour limitation rules set forth by ACGME.
- HCMC will provide malpractice coverage for all fellows moonlighting activities at HCMC, but it will not cover moonlighting at outside institutions.
- Physicians with a J-1 Visa sponsored by the ECFMG are not permitted to Moonlight as a fellow or independent practitioner in or outside HHS, in accordance with limitations set by BCIS.
- HHS prohibits H-1B visa holders from Moonlighting unless specifically permitted pursuant to the holder’s individual visa conditions, subject to validation by HCMC Legal Counsel prior to obtaining approval to Moonlight from the Program Director.

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
- Nephrology Fellowship Program Director
- HCMC GME office / DIO if needed
Typical Schedule

Clinical Nephrology Fellowship Training

Note: 13 four week blocks are utilized for the schedule

First Year
8-9 blocks Inpatient Services
1 block Transplantation
1 block Pathology
1 block Dialysis/Access
1 block Quality Improvement and/or Research

Second Year
6-7 blocks Inpatient Services
2 blocks Transplantation
3-4 blocks Quality Improvement and/or Research
1 block Elective time

Electives: Quality Improvement/System Based Practice Research, Palliative Care (VAMC or HHS), Ambulatory Clinic experience (Bone and Mineral Metabolism, Peritoneal Dialysis, Outpatient Transplantation), Vascular Access Surgery, Renal Pathology, Davita Clinical Research

Nephrology and Dialysis Clinics
Fellows have continuity Nephrology clinic ½ day per week for 24 months. Clinics are mandatory. Fellows are expected to cancel clinics at least 6 weeks in advance when on PTO or attending conferences. Beginning fellows will have minimum of 4 patients per session and this will increase to 6 per session 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.
Call Schedule/Duty Hours

- **Generally, “call” averages one weeknight per week and one weekend per month.**
- 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. Fellows will be on call one night a week and one weekend a month.
2. Weekend call will be scheduled in 6 months blocks. Changes allowed with prior approval.
3. Changes in the call schedule should be communicated to the program coordinators (HCMC and VAMC) as soon as possible. The attending physician and the respective hospital operator should also be notified of any changes.
4. 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.**
5. Unless arranged otherwise, night call begins at 5 pm and ends at 8am the next morning.
6. Sign out your patients to the fellow on call.
7. The fellow on call should sign out the next morning any overnight issues and new patients to day time fellow and/or attending physician.
8. 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.
9. If there are more weekends in a given month than fellows, then staff will work without fellow coverage.
## Conference Schedule

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<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>Monday</td>
<td>Noon-1pm</td>
<td>HCMC Case Conference, Board Review, Journal Club</td>
<td>Shapiro 5th floor</td>
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<tr>
<td></td>
<td>Noon-1pm</td>
<td>VAMC Journal Club</td>
<td>MVAMC Nephrology</td>
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<tr>
<td>Tuesday</td>
<td>Noon-1pm</td>
<td>HCMC Renal Physiology Conference</td>
<td>Shapiro 5th floor</td>
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<td>(January-June)</td>
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<tr>
<td>Wednesday</td>
<td>Noon-1pm</td>
<td>HCMC Core Curriculum Conference</td>
<td>Shapiro 5th floor</td>
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<tr>
<td>Thursday</td>
<td>Noon-1pm</td>
<td>HCMC Dept Medicine Grand Rounds</td>
<td>Red LL190</td>
</tr>
<tr>
<td>Friday</td>
<td>Noon-1pm</td>
<td>HCMC Clinical Nephrology Conference</td>
<td>Shapiro 4th floor</td>
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**HCMC Medicine Grand Rounds (optional)**

Faculty from HCMC and other institutions are invited to discuss clinical topics in Internal Medicine. Several times each year, the Nephrology Division presents a speaker to present.

**HCMC Case Conference, Board Review, Journal Club**

Faculty from HCMC lead rotating conferences focused either on interesting clinical cases over the past month, KSAP board review questions, and high-impact article reviews in Journal Club. These rotate throughout the month. Case conference (1st Monday), Board Review (2nd Monday), Journal Club (3rd Monday).

**VAMC Journal Club (optional, highly suggested when on VA rotations)**

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. *VA fellows are excused from attending HCMC Monday conferences if they choose to attend the VAMC Journal Club.*

**HCMC Clinical Nephrology Conference**

Fellows and staff present on a wide variety of topics within Nephrology. Includes Renal Pathology Conference 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 basic physiology. Subsequent topics follow chapters in associated curriculum textbook: Comprehensive Clinical Nephrology, Feethally and Johnson, 6th Edition. Fellows are expected to be doing corresponding reading in the assigned chapter corresponding with the lecture topic.

HCMC Renal Physiology Conference

Faculty and fellows read and review articles from the CJASN “Renal Physiology for the Clinician” series that is available as a free resource from the ASN. This 14-week series occurs from January to May every year, allowing fellows to review topics in Renal Physiology twice during their fellowship.

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. Wednesday 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 Procedure Evaluation (assess competency to perform without supervision)
- Clinic Note Assessment
- Urine Microscopy Skills (assess competency to perform without supervision)
- 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, 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. Once yearly, a detailed evaluation survey addressing the performance of the program is given to the fellows.
**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:

<table>
<thead>
<tr>
<th>Patient Care (PC)</th>
<th>Medical Knowledge (MK)</th>
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<tbody>
<tr>
<td>• Communicate effectively and demonstrate caring and respectful behavior</td>
<td>• Demonstrate knowledge about establishing and evolving biomedical, clinical and</td>
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<tr>
<td>• Gather essential and accurate information about their patients</td>
<td>cognate sciences and how to apply them</td>
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<td>• Make informed decisions about diagnostic and therapeutic interventions</td>
<td>• Demonstrate an investigatory and analytic thinking approach to clinical situations</td>
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<td>• Develop and carry out patient management plans</td>
<td>• Know and apply the basic and clinically supportive sciences</td>
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<td>• Counsel and educate patients and their families</td>
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<tr>
<td>• Use information technology to support patient care decisions and patient</td>
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<tr>
<td>education</td>
<td></td>
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<tr>
<td>• Perform competently all medical and invasive procedures</td>
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<tr>
<td>• Provide healthcare services aimed at preventing and maintaining health</td>
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<td>• Work with healthcare professionals to provide patient-focused care</td>
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<tr>
<th>Practice-Based Learning and Improvement (PBLI)</th>
<th>Interpersonal and Communication Skills (ICS)</th>
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<tbody>
<tr>
<td>• Analyze practice experience and perform practice-based improvement activities</td>
<td>• Create and sustain a therapeutic and ethically sound relationship with patients</td>
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<td>using a systematic methodology</td>
<td>• Use effective listening skills as well as nonverbal clues</td>
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<tr>
<td>• Locate, appraise and assimilate evidence from scientific studies</td>
<td>• Work effectively with others</td>
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<td>• Obtain and use information about their own population of patients and the larger</td>
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<tr>
<td>population of patients in the University</td>
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<tr>
<td>• Apply knowledge of study designs and statistical methods to the appraisal of</td>
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<td>clinical studies and other information on diagnostic and therapeutic effectiveness</td>
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<tr>
<td>• Use information technology to manage information, access online medical</td>
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<td>information and support their own education</td>
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<tr>
<td>• Facilitate the learning of for students and other healthcare professionals</td>
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<tr>
<th>Professionalism (PROF)</th>
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<tbody>
<tr>
<td>• Demonstrate respect, compassion, and integrity, along with responsiveness to</td>
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<td>the needs of patients and society and commitment to excellence</td>
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<tr>
<td>• Develop a commitment to ethical principles</td>
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<tr>
<td>• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender and</td>
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<td>disabilities</td>
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Systems-Based Practice (SBP)

- 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
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.
Hennepin County Medical Center 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 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 year
- 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 dieticians, 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/Access

Description of Rotation

- The purpose of this rotation is to expose fellows to an intensive 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 nurse's 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
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 dieticians, 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
Continuity Dialysis (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
  o 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 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 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 dieticians, 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
HCMC Consult Attending/Fellow 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 Attending/Fellow Guidelines

Rounding Expectations:

- 8:15am: Multi-disciplinary rounds. Encourage attending physician to attend to help facilitate information. Accurately portray anticipated date of discharge.
- 8:30am: Attending and Fellow rounds with night float and post-call team on new overnight admissions. Fellow should be present for night float presentation.
- After seeing new overnight patients, Fellow rounds independently with on-call team and Attending rounds with post-call team for the remainder of the patients. Fellow should find the Attending upon completion of rounding with on-call team.
- When no Fellow is available, Attending will round on post-call team first (aim to finish rounds by 10:30am), then on-call team (aim to finish rounds no later than 12pm).
- Upon completion of rounds, Attending and Fellow should “huddle” to review the care on each respective team, including items that need follow-up or coordination.
  - Fellow’s should not re-round with Attending (Attending should see on-call team’s patients independently unless particular educational reasons require otherwise).
  - Attending should provide 10-15 minutes of focused teaching to the Fellow on a high yield and clinically relevant topics related to patient care from that day.
- Rounds with both teams should be completed by 12pm. If all patients cannot be seen prior to 12pm, the Attending is expected to complete bedside rounds on those patients independently without house-staff.

Workflow Expectations:

- Attendings are encouraged to read notes, admission H&Ps prior to rounds. Rounds should be focused on shared decision making, bedside teaching, and formulation of plans with less time spent on dissemination of information.
• Attendings and fellows should have an afternoon “huddle” with house-staff to review updates and discharge planning.
  o Anticipated discharge orders should be discussed and placed by the resident on patients expected to discharge the next day.
  o Dialysis coordination should be discussed on patients with anticipated discharges (first run for nursing homes, dialysis at outpatient units for ambulatory patients.
  o Dialysis orders for the next day should be placed in Epic by the Fellow and/or Attending by 3pm to help ADU coordinate staffing.

Educational Expectations:

• Fellow and/or Attending should provide focused teaching to the resident house staff and medical students daily, if possible. This could be provided at the afternoon huddle or another time that is convenient to the learners.
• Attending should provide focused teaching to the Fellow during the post-round huddle with a concentration on high-yield topics related to the inpatient care of ESRD patients on dialysis and with transplants.

HCMC Transplant Attending/Fellow Guidelines

1. Fellows will coordinate their experience with the Transplant A attending, who will be primarily responsible for their education and coordination of their responsibilities/schedule during their block on Transplant.

2. Fellows are expected to be involved in the care of at least 10 new transplant recipients during their 3 transplant blocks. Fellows are expected to track the total number of patients to ensure enough exposure.

3. Fellows will pre-round on inpatients listed on “Nephrology Transplant” Epic service list and coordinate care with the primary Red Surgery service. Formal rounds will be scheduled based on the preference of the Transplant A attending. Fellows will attend transplant multidisciplinary rounds when they occur.

4. Starting at 8:30 am, fellows will see clinic patients based on the Transplant A schedule but can see several patients per day off the Transplant B schedule to supplement their learning.
   a. Transplant A visits are mostly new transplant care.
   b. Transplant B visits are mostly pre-transplant evaluations, donor evaluations, waitlist management visits, long-term post-transplant follow-up visits.
   c. Fellows should be assigned clinic patients to see by the Transplant A attending (preferably the day before to allow time to review charts and to ensure a good mix of patients from the A and B lists).
   d. Fellows should staff the clinic patients they see with the assigned Transplant attending (A or B) and write progress notes using the correct Epic templates.

5. Fellows should meet with the Transplant attending(s) in the afternoon to review the labs of the patients they saw in the morning and determine final treatment plans.
6. Fellows should receive daily formal teaching on a transplant topic in the afternoon from the Transplant A attending. These can be informal teaching sessions similar to “chalk talks” done on other services. Fellows should track the topics covered to ensure broad exposure.

7. Fellows should track the number of new transplant patients they are following and the number of other category visits they have seen. Fellows are responsible to ensure they are seeing enough new transplant patients, long-term follow-up patients, and pre-transplant evaluations.

8. Fellows are expected to attend the Selection Committee Meeting on Friday at 7am.

9. **First year fellows** are expected to read relevant chapters from Handbook of Kidney Transplantation (6th Edition) prior to their first transplant block:
   a. Chapter 2: Transplant Immunobiology
   b. Chapter 6: Immunosuppression Medications and Protocols
   c. Chapter 10: Post-Transplant: The First 3 Months
   d. Chapter 11: Post-Transplant: Long Term Management and Complications

10. **Second year fellows** are expected to give a 10 minute presentation on a topic of their choice to Transplant staff during the final week of their block. Scheduling of this talk (location/time) should be coordinated with the Transplant A attending.