

**Draft revised 8/5/09**

**Fellowship Program Guide**

**Division of  
Nephrology and Hypertension**

**Harbor-UCLA Medical Center**

# Harbor-UCLA Medical Center Nephrology Fellowship Program

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## 1. Introduction

The Harbor-UCLA Medical Center Nephrology Fellowship Program is dedicated to providing the highest quality clinical and research training in the subspecialty of Nephrology. It is accredited by the Graduate Medical Education Committee of the Harbor-UCLA Medical Center and by the Residency Review Committee of the ACGME. There are two programs:

- 1) The two year clinical program, chosen by the vast majority of our fellowship trainees, consists of 20 months of clinical experience and 4 months of research experience, inclusive of two months of vacation. It is designed to graduate trainees who will become Board Eligible in Nephrology. While this program provides primarily outstanding clinical training, in addition, the program is designed to provide both an appreciation and understanding of research methodologies and an expectation that the research experience will result in a Nephrology Grand Rounds presentation by each senior fellow covering the area of research, and an abstract or submitted manuscript for most of the fellows. Fellows are placed into on-going faculty research projects and given an opportunity to develop related research interests of their own.
- 2) The three year research program. This program involves one year of clinical training and two years of basic or clinical research. The clinical year is structured so that it is identical to the clinical experience of a year in the two year clinical fellowship. The two years of research are spent under the direction of a faculty member within the Division of Nephrology and Hypertension. Ten per cent of the time during the research years are spent in clinical activities rounding on dialysis patients under the supervision of a faculty mentor.

This guide provides comprehensive information about all aspects of the Program, including:

- Goals and objectives
- Nature of sites where training is performed
- Types of clinical encounters
- Patient case-mix characteristics
- Procedures and services
- Educational activities and resources, including didactic training and conferences
- Nature of supervision and evaluation of fellow's performance
- Faculty research activities
- Fellow research opportunities and policies
- On-call and vacation policies
- Former Fellow information
- Fellow selection policy

## 2. Fellow Selection Policy/Process

- 1) To be eligible for a fellowship in the Division of Nephrology and Hypertension at the Harbor-UCLA Medical Center, an applicant must:

Be a graduate of a U.S. or Canadian medical school accredited by the Liaison Committee on Medical Education (LCME) and have three years residency in an ACGME-approved program, OR

Be a graduate of a U.S. or Canadian medical school accredited by the Liaison Committee on Medical Education (LCME) and have two years residency in an ACGME-approved program, with approved fast-tracking for those interested in a subspecialty research career, OR

Be a graduate of a college of osteopathic medicine in the United States accredited by the American Osteopathic Association (AOA) and have three years residency in an ACGME-approved program, OR

Be a graduate of a medical school outside of the United States who meets one or more of the following qualifications:

- a) Has a currently valid ECFMG certificate plus at least three years training in an ACGME approved program, OR
- b) Has a currently valid ECFMG certificate plus at least two years training in an ACGME approved program, with approved fast-tracking for those interested in a subspecialty research career, OR
- c) Has a full and unrestricted license to practice medicine in a US licensing jurisdiction plus at least one year training in an ACGME-approved program, OR
- d) Is a graduate of a medical school outside the United States who has completed a Fifth Pathway program provided by an LCME-accredited medical school.

Be eligible for American Board of Internal Medicine prior to the time they begin training

- 2) The Division of Nephrology and Hypertension will send an applicant (upon request):

Introduction letter from the Division Chief and/or the Program Director

General information about the Torrance area

Instructions on how to apply for the program through the Electronic Residency Application Service (ERAS)

A statement that "The Harbor-UCLA Medical Center School of Medicine does not discriminate on the basis of sex, race, age, religion, color, national origin, disability, or veteran's status".

- 3) The Division of Nephrology and Hypertension requires the following documentation for application:

Completed fellowship application through ERAS

Curriculum Vitae and Personal Statement through ERAS

Three letters of recommendation through ERAS

International Medical Graduates must include the following in addition to the above:

- Copy of green card, visa (J-1), or documentation of U.S. citizenship
- Valid ECFMG certificate with Clinical Skills Assessment certification
- Evidence of previous training in the United States

- 4) Selection Criteria for Interviewing applicants – Based on criteria developed jointly by the faculty, including USMLE board scores, letters of recommendation, and the quality of the applicant's personal statement, and medical and residency training, applicants with applications submitted to ERAS are subsequently invited for an interview in accordance with the agreed-upon ERAS and Match timelines. On the interview day, applicants receive an information packet and interview with members of the Division of Nephrology and Hypertension and the Nephrology fellows. At the conclusion of the interview, the interviewers complete a standard evaluation form for each applicant they interviewed. The results are tallied and, together with the aforementioned data, form the basis of the preliminary rank order. The Harbor-UCLA Medical Center Nephrology program participates in the Match program for entering fellows.
- 5) The Harbor-UCLA Medical Center Graduate Medical Education Committee requires that fellows have a California Medical License and ACLS certification. Fellows who are not currently certified in ACLS must become so within six months of commencing their training.

### 3. Division of Nephrology and Hypertension Faculty Members

**Sharon Adler, M.D.**  
**Research Interests:**

**Training Program Director, Professor of Medicine**  
 Diabetic nephropathy, CKD progression, CKD CKD,  
 clinical glomerulonephritis

**Lilly Barba, M.D.**  
**Research interests:**

**Associate Professor of Medicine**  
 Renal transplantation

**Arthur Cohen, M.D.**  
**Research interests:**

**Professor of Pathology**  
 Clinical renal pathology

**Ramnanth Dukkupati, M.D.**  
**Research interests:**

**Assistant Professor of Medicine**  
 Interventional nephrology, glomerulonephritis

**Raimund Hirschberg, M.D.**  
**Research Interests:**

**Professor of Medicine**  
 Signal transduction in cell injury and repair

**Kamyar Kalantar-Zadeh, M.D., Ph.D**  
**Research Interests:**

**Associate Professor of Medicine**  
 Epidemiological aspects of CKD and ESRD  
 particularly as they relate to mortality and morbidity

**Joel Kopple, M.D.**  
**Research Interests:**

**Professor of Medicine**  
 Nutritional aspects of CKD and ESRD; ESRD  
 mortality and morbidity risk factors

**Rajnish Mehrotra, M.D.**  
**Research interests:**  
 ESRD; Peritoneal dialysis

**Associate Professor of Medicine**  
 Cardiovascular morbidity and mortality in CKD and

**Lili Tong, M.D.**  
**Research interests:**

**Assistant Professor**  
 Diabetic nephropathy, transplantation, CKD  
 biomarkers

**Ying Wang, M.D.**  
**Research interests:**

**Assistant Researcher**  
 Diabetic nephropathy, CKD progression, CKD  
 biomarkers, cardiovascular complications of CKD

#### **4. Nephrology Fellowship Program Training Sites**

##### **A. Inpatient sites**

- (1) **Harbor-UCLA Medical Center** - This is a Los Angeles County operated inpatient and outpatient medical facility serving the indigent population of southwestern LA County in a catchment area of approximately 2,000,000 population. Harbor-UCLA Medical Center operates approximately 553 inpatient beds containing surgical, neurosurgical, neonatal, pediatric, and medical intensive care units; a coronary care unit; an acute dialysis unit with support for hemodialysis, peritoneal dialysis, and continuous renal replacement therapies; a Renal Transplant unit; radiologic services with modern renal-related procedures and diagnostic vascular and radionucleotide imaging; light, immunofluorescent and electron microscopies for renal biopsy material; biochemical and serologic laboratories; a nutrition support service; and relevant social services. Close working relationships exist with other services including surgery, urology, obstetrics, gynecology, pediatrics and psychiatry.
- (2) **Center for the Health Sciences at UCLA** – This is a tertiary care facility to which first year fellows from the Harbor-UCLA Medical Center rotate for one of their 3 to 4 months of renal transplantation experience. The Center for the Health Sciences is among the busiest renal transplant centers in the world, performing approximately 600 renal transplants per year. The hospital contains surgical and medical intensive care units, a dialysis unit that performs acute and chronic hemodialysis and supports continuous renal replacement therapies and peritoneal dialysis, radiologic services with modern renal-related procedures and diagnostic vascular and radionucleotide imaging, light, immunofluorescent and electron microscopies for renal biopsy material, biochemical and serologic laboratories, a nutrition support service, and relevant social services. A close working relationship exists with other services including surgery, urology and psychiatry.

##### **B. Outpatient sites**

- (1) **DaVita Torrance Dialysis facility** – Located diagonally across the street from the Harbor-UCLA Medical Center, this 30-chair dialysis facility is the site for all outpatient hemodialysis and peritoneal dialysis training in the Harbor-UCLA educational program. Since the County of Los Angeles has no training site for chronic dialysis, an off-site location was developed.

##### **C. Off-campus sites**

- (1) **DaVita Torrance Dialysis Facility** – See (B) above
- (2) **UCLA Center for the Health Sciences Transplantation rotation** – See A(2) above

#### **5) Nephrology Training Program Schedules**

The two year clinical fellowship and the one clinical year of the research fellowship are comprised of four major rotations that cycle throughout the year: Consultation, Transplantation, Research, and Outpatient Nephrology. For the latter Outpatient Nephrology activity, fellows maintain activity in Outpatient Hypertension, General Continuing Care Nephrology and Transplantation clinics, as well as Peritoneal dialysis and Hemodialysis rounding simultaneously while they are assigned to one of the other three major rotations. Therefore, although Outpatient Nephrology is delineated as a “rotation” in terms of a body of knowledge and experience, fellows experience this “rotation” on a continuous basis during the entirety of the fellowship training program.

##### **A. Yearly and daily schedules for fellows on clinical service (only 1 year for research fellows)**

#### **24 MONTH SCHEDULE:**

## 2008/2009 FELLOW SCHEDULE

## DIVISION OF NEPHROLOGY AND HYPERTENSION

	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
NEPHROLOGY/HYPERTENSION CONSULTATION SERVICE HOSPITAL DIALYSIS	PGY4A PGY4C PGY4D PGY5A	PGY4B PGY4C PGY4D	PGY4A PGY4D PGY5A	PGY4A PGY4B PGY4D	PGY4B PGY4C PGY5A	PGY4C PGY4D PGY5A
HARBOR-UCLA TRANSPLANTATION	PGY4B	PGY4A	PGY4C	PGY5A	PGY4D	PGY4B
UCLA-CHS TRANSPLANTATION						PGY4A
MFI/DAVITA A. MORNING B. MIDS SHIFT C. EVENING	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B
NEPHROLOGY CLINIC	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A
TRANSPLANT CLINIC	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A
HYPERTENSION CLINIC	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A
RESEARCH	PGY5A(R)	PGY5A PGY5A(R)	PGY4B PGY5A(R)	PGY4C PGY5A(R)	PGY4A PGY5A(R)	PGY5A(R)

## 2008/2009 FELLOW SCHEDULE

## DIVISION OF NEPHROLOGY AND HYPERTENSION

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
NEPHROLOGY/HYPERTENSION CONSULTATION SERVICE HOSPITAL DIALYSIS	PGY4A PGY5A	PGY4A PGY4B PGY4C	PGY4A PGY4B PGY4C	PGY4B PGY4C PGY4D	PGY4D PGY4A PGY5A	PGY4B PGY4C PGY4D
HARBOR-UCLA TRANSPLANTATION	PGY4C	PGY4D	PGY5A	PGY5A	PGY4B	PGY4A
UCLA-CHS TRANSPLANTATION	PGY4B		PGY4D		PGY4C	
MFI/DAVITA UNIT A. MORNING B. MIDS SHIFT C. EVENING	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B	<u>MWF</u> <u>TThS</u> PGY4D PGY4C PGY5A PGY5A(R) PGY4A PGY4B
NEPHROLOGY CLINIC	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A
TRANSPLANT CLINIC	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A
HYPERTENSION CLINIC	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A	PGY4A PGY4B PGY4C PGY4D PGY5A
RESEARCH	PGY4D PGY5A(R)	PGY5A PGY5A(R)	PGY5A(R)	PGY4A PGY5A(R)	PGY5A(R)	PGY5A PGY5A(R)

**2009/2010 FELLOW SCHEDULE****DIVISION OF NEPHROLOGY AND HYPERTENSION**

	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
NEPHROLOGY/HYPERTENSION CONSULTATION SERVICE HOSPITAL DIALYSIS	PGY4A PGY5A PGY5E	PGY4A PGY5A PGY5B	PGY5C PGY5D PGY5E	PGY5A PGY5C PGY5E	PGY4A PGY5C PGY5D	PGY5A PGY5B PGY5E
HARBOR-UCLA TRANSPLANTATION A	PGY5B	PGY5E	PGY4A	PGY5D PGY5E	PGY5A	PGY5C
HARBOR-UCLA TRANSPLANTATION B	PGY5D	PGY5C	PGY5B	PGY4A (1-15) PGY5B (16-30)	PGY5E	PGY4A
UCLA-CHS TRANSPLANTATION						
MFI/DAVITA A. MORNING B. MIDS SHIFT C. EVENING	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B
NEPHROLOGY CLINIC	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E
TRANSPLANT CLINIC	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E
HYPERTENSION CLINIC	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E
RESEARCH	PGY5C	PGY5D	PGY5A		PGY5B	PGY5D
INTERDISCIPLINARY CARE PLAN AND QUALITY IMPROVEMENT: DIALYSIS FACULTY AND FELLOWS MONTHLY HOSPITAL INTERDISCIPLINARY ESRD CQI: ALL FACULTY AND FELLOWS QUARTERLY						

**2009/2010 FELLOW SCHEDULE****DIVISION OF NEPHROLOGY AND HYPERTENSION**

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
NEPHROLOGY/HYPERTENSION CONSULTATION SERVICE HOSPITAL DIALYSIS	PGY5C PGY5D	PGY5A PGY5B	PGY4A PGY5C PGY5E	PGY4A PGY5A PGY5B	PGY5C PGY5D PGY5E	PGY5D PGY5E
HARBOR-UCLA TRANSPLANTATION A	PGY4A	PGY5E	PGY5D	PGY5C	PGY4A	PGY5A
HARBOR-UCLA TRANSPLANTATION B	PGY5A	PGY5D	PGY5B	PGY5E	PGY5A	PGY4A
UCLA-CHS TRANSPLANTATION	PGY5E	PGY4A				
MFI/DAVITA UNIT A. MORNING B. MIDS SHIFT C. EVENING	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B	<u>MWF</u> <u>TThS</u> PGY5D PGY5C PGY4A NP PGY5A PGY5B
NEPHROLOGY CLINIC	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E
TRANSPLANT CLINIC	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E
HYPERTENSION CLINIC	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E	PGY4A PGY5A PGY5B PGY5C PGY5D PGY5E
RESEARCH	PGY5B	PGY5C	PGY5A	PGY5D	PGY5B	PGY5C
INTERDISCIPLINARY CARE PLAN AND QUALITY IMPROVEMENT: DIALYSIS FACULTY AND FELLOWS MONTHLY HOSPITAL INTERDISCIPLINARY ESRD CQI: ALL FACULTY AND FELLOWS QUARTERLY						

**WEEKLY CLINICAL SCHEDULE:**

## DIVISION OF NEPHROLOGY WEEKLY SCHEDULED ACTIVITIES

(Nephrology Core Curriculum for Residents and Students as per Separate Schedule)

DAY & TIME	ACTIVITY	LOCATION	PARTICIPANTS
<b>MONDAY</b>			
12:00 - 1:00	Lecture Series in Internal Medicine	Assembly Room	Fellows, Residents, Students
1:00 - 1:30	Case Presentations	Parlow Library	Staff, Clinical and Research Fellows, Residents, Students, Attending Physicians
1:30 - 2:30	Nephrology Grand Rounds	Parlow Library	Staff, Clinical and Research Fellows, Residents, Students, Attending Physicians
Start 2:00*	Nephrology Consult Attending Rounds Transplant Attending Rounds	5 <sup>th</sup> Floor - Hospital	Staff, Fellows, Residents, Students
<b>TUESDAY</b>			
8:30 - 9:30	Medical Grand Rounds	Parlow Library	Staff, Clinical and Research Fellows, Residents, Students
All Day – Flexible 2:00	Nephrology Consult Attending Rounds Transplant Attending Rounds	5 <sup>th</sup> Floor - Hospital	Staff, Consult Fellows
<b>WEDNESDAY</b>			
8:30 - 12:00	Transplant Clinic	POB	Staff, Clinical Fellows
Start 2:00*	Nephrology Consult Attending Rounds Transplant Attending Rounds	5 <sup>th</sup> Floor - Hospital	Staff, Consult Fellows, Residents, Students
4:30 – 6:00	Nephrology Journal Club or Renal Pathology Conference <sup>+</sup>	C1-Annex	Staff, Clinical and Research Fellows, Residents, Students
<b>THURSDAY</b>			
8:00 - 1:00	Nephrology Clinic	PCDC - Module A in Basement	Staff, Clinical Fellows, Residents, Students
12:00 - 1:00	Morbidity and Mortality Conference	Auditorium	Fellows, Residents, Students
Start 3:00*	Nephrology Consult Attending Rounds Transplant Attending Rounds	5 <sup>th</sup> Floor - Hospital	Staff, Clinical and Research Fellows, Residents, Students, Attending Physicians
<b>FRIDAY</b>			
7:15 - 8:15	Basic Science Seminar	Wadsworth VA Bldg 500, Room 3400	1 <sup>st</sup> Year Clinical Research Fellows
Start 10:00*	Nephrology Consult Attending Rounds Transplant Attending Rounds	5 <sup>th</sup> Floor - Hospital	Staff, Consult Fellows, Residents, Students
1:00 - 4:00	Hypertension Clinic	PCDC Module A	Staff, Clinical Fellows, Residents, Students
4:00 - 5:00	Transplant Rounds and Weekend Check Out	Renal Transplant Unit	Staff, Fellow on Call

\* These starting times for Attending Rounds in transplantation or renal nephrology are approximate and will vary according to the specific schedule of the participants.

<sup>+</sup> Renal Pathology Conference every third Wednesday of each month from 4:30 to 6:00 p.m.

**THE UCLA TRANSPLANT ROTATION SCHEDULE:**

	<b>Mon</b>	<b>Tue</b>	<b>Wed</b>	<b>Thu</b>	<b>Fri</b>	<b>Sat/Sun/Holiday</b>
<b>6 a.m</b>	Pre Round	Pre Round	Pre Round	Pre Round	Pre Round	
<b>7</b>					7:30 am Transplant conference (once/month) Donor selection meeting (remaining weeks)	
<b>8</b>	Clinic	Clinic	Clinic	Clinic	Clinic	
<b>9</b>	Peds.					
<b>10</b>	Clinic					In Patient Rounds
<b>11</b>						
<b>12 noon</b>	Lunch	Lunch	Lunch	Lunch	Lunch	
<b>1</b>	In Patient Round	In Patient Round	In Patient Round	In Patient Round	In Patient Round	
<b>2</b>						
<b>3</b>	Eval. Clinic	Eval. Clinic	Selection	Eval. Clinic	Donor Eval	
<b>4</b>			Meeting		Clinic	
<b>5</b>						
<b>6 p.m.</b>						

## **RESEARCH ROTATION SCHEDULE:**

Initial activity is to take home study course on ethics and laws regulating research, and on HIPPA regulations, take on-line test, and obtain the certificates

### **Monday**

- 8am - 12:30\* Any of the following activities may take place: Meet with mentor, independent time for literature evaluation, didactic course work, study design, subject recruitment, subject follow-up, benchwork (if applicable), data analysis, regulatory reporting, Lab meetings, manuscript preparation
- 12:30 - 1:00 Lunch
- 1:00 - 1:30 Practice based learning and improvement conference
- 1:30 - 2:30 Nephrology Grand Rounds
- 2:30 - 6:00 Any of the following activities may take place: Meet with mentor, independent time for literature evaluation, didactic course work, study design, subject recruitment, subject follow-up, bench work (if applicable), data analysis, regulatory reporting, Lab meetings, manuscript preparation

### **Tuesday**

- 8:30 - 9:30 am Medical Grand Rounds
- 9:30 - Noon Any of the following activities may take place: Meet with mentor, independent time for literature evaluation, didactic course work, study design, subject recruitment, subject follow-up, benchwork (if applicable), data analysis, regulatory reporting, Lab meetings, manuscript preparation
- Noon - 1:00 pm Lunch at the Basic Science Conference
- 1:00 - 4:30 pm Two Tuesdays a month: Peritoneal Dialysis clinic  
All other Tuesdays: Any of the following activities may take place: Meet with mentor, independent time for literature evaluation, didactic course work, study design, subject recruitment, subject follow-up, benchwork (if applicable), data analysis, regulatory reporting, Lab meetings, manuscript preparation
- 4:30 - 5:00 pm Clinical science journal club
- 5:00 - 6:00 pm Basic science journal club

### **Wednesday**

- 8:00 - Noon Transplant clinic
- Noon - 12:30 pm Lunch

12:30 - 6:00 pm Any of the following activities may take place: Meet with mentor, independent time for literature evaluation, didactic course work, study design, subject recruitment, subject follow-up, benchwork (if applicable), data analysis, regulatory reporting, Lab meetings, manuscript preparation

**Thursday**

8:00 - 1:00 pm Nephrology clinic

1:00 - 1:30 pm Lunch

1:30 - 6:00 pm Any of the following activities may take place: Meet with mentor, independent time for literature evaluation, didactic course work, study design, subject recruitment, subject follow-up, benchwork (if applicable), data analysis, regulatory reporting, Lab meetings, manuscript preparation

**Friday**

8:00 - 12:30 pm Any of the following activities may take place: Meet with mentor, independent time for literature evaluation, didactic course work, study design, subject recruitment, subject follow-up, benchwork (if applicable), data analysis, regulatory reporting, Lab meetings, manuscript preparation

12:30 - 1:00 pm Lunch

1:00 - 5:00 pm Hypertension clinic

5:00 - 6:00 pm Any of the following activities may take place: Meet with mentor, independent time for literature evaluation, didactic course work, study design, subject recruitment, subject follow-up, benchwork (if applicable), data analysis, regulatory reporting, Lab meetings, manuscript preparation

\*A 3-hour block of time once per week is variably used for rounds in the chronic dialysis facility

Total didactic and practical research protected hours per week: 26.5 hrs

## 6) Nephrology Clinical Training Program Curriculum – Overview

### A. Clinical Curriculum Introduction

The Nephrology Fellowship Clinical Training Program is designed to provide individuals with the opportunity to achieve the fundamental knowledge, procedural skills, practical experience, and professional and ethical behavior necessary for the subspecialty of Nephrology. Fellows care for patients with the full spectrum of renal disorders at all stages of the disease process. Efforts are made at every point to emphasize the integration of fundamental medical knowledge, disease prevention, social, psychological, and economic issues.

This section describes the clinical curriculum. The first part presents an outline of the Clinical Program goals and objectives. Subsequently, the full clinical curriculum is described, relating Clinical Program goals and objectives to the manner in which they are achieved.

### B. Overview of Clinical Program Goals and Objectives

The Nephrology Fellowship Clinical Training Program is structured around goals and objectives derived from three major sources: 1) the ACGME Core Competencies; 2) the ACGME subspecialty requirements for Nephrology training programs; and 3) additional input derived from Harbor-UCLA Medical Center Nephrology and Hypertension faculty. These various components are combined to achieve an integrated set of goals and objectives that cover all aspects of the training program.

In this first section, an overview of the training program's goals and objectives is presented, broken down by the six core competencies and then the specific Nephrology areas. This should be reviewed so that Fellows understand each of these components. The following section, devoted to the detailed curriculum, then combines the core competencies and specific nephrology issues into an integrated and comprehensive set of goals and objectives.

### Core competencies

- (1) **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 are expected to:
  - Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families
  - Gather essential and accurate information about their patients
  - Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment
  - Develop and carry out patient management plans
  - Counsel and educate patients and their families
  - Use information technology to support patient care decisions and patient education
  - Perform competently all medical and invasive procedures considered essential for the area of practice
  - Provide health care services aimed at preventing health problems or maintaining health
  - Work with health care professionals, including those from other disciplines, to provide patient-focused care
- (2) **Medical knowledge** - Fellows must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Fellows are expected to:
  - Demonstrate an investigatory and analytic thinking approach to clinical situations

- Know and apply the basic and clinically supportive sciences which are appropriate to their discipline
- (3) **Practice-based learning and improvement** – Fellows must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Fellows are expected to:
- Analyze practice experience and perform practice-based improvement activities using a systematic methodology
  - Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems
  - Obtain and use information about their own population of patients and the larger population from which their patients are drawn
  - Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
  - Use information technology to manage information, access on-line medical information; and support their own education
  - Facilitate the learning of students and other health care professionals
- (4) **Interpersonal and communication skills** - Fellows must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Fellows are expected to:
- Create and sustain a therapeutic and ethically sound relationship with patients
  - Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills
  - Work effectively with others as a member or leader of a health care team or other professional group
- (5) **Professionalism** - Fellows must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Fellows are expected to:
- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development
  - Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices
  - Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities
- (6) **Systems-based practice** - Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Fellows are expected to:
- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice
  - Know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources
  - Practice cost-effective health care 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 health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance

**Specific renal competencies** - Fellows will acquire expertise in:

**(1) An understanding of normal renal biology including:**

- a. Renal anatomy and histology
- b. Renal physiology, including in the elderly
- c. Fluid, electrolyte and acid-base regulation
- d. Mineral metabolism
- e. Blood pressure regulation - normal and abnormal
- f. Renal drug metabolism and pharmacokinetics, including drug effects on renal function and including in the elderly
- g. Renal function in pregnancy
- h. Basic immunologic principles, including mechanisms of disease and diagnostic laboratory testing relevant to renal diseases
- i. Medical genetics

**(2) Prevention, evaluation, and management of general nephrologic disorders including:**

- a. Acute renal failure
- b. Chronic renal failure
- c. End-stage renal disease
- d. Fluid, electrolyte, and acid-base disorders
- e. Disorders of mineral metabolism including nephrolithiasis and renal osteodystrophy (including use of lithotripsy)
- f. Urinary tract infections
- g. Hypertensive disorders
- h. Renal disorders related to pregnancy
- i. Primary and secondary glomerulopathies including infection-related glomerulopathies. This also entails a basic understanding of immunologic mechanisms of renal disease and the laboratory tests necessary for their diagnosis.
- j. Diabetic nephropathy
- k. Tubulointerstitial nephritis including papillary necrosis
- l. Genetic and developmental renal diseases including renal cystic diseases, hereditary glomerulopathies and interstitial nephritis, phakomatoses, systemic diseases with renal involvement, congenital malformations of the urinary tract, maternally inherited mitochondrial diseases, and renal cell carcinoma.
- m. Vascular diseases including atheroembolic disease
- n. Disorders of drug metabolism and renal drug toxicity
- o. Renal disorders associated with the elderly including altered drug metabolism
- p. Renal cystic diseases without a recognized genetic basis
- q. Nutritional management of general nephrologic disorders

**(3) Pre- and post-renal transplant care including:**

- a. Pre-transplant selection, evaluation and preparation of transplant recipients and donors
- b. Immunosuppressant drug effects and toxicity
- c. Immediate postoperative management of transplant recipients
- d. Immunologic principals of types and mechanisms of renal allograft rejection
- e. Clinical diagnosis of all forms of rejection including laboratory, histopathologic and imaging techniques
- f. Prophylaxis and treatment of allograft rejection
- g. Recognition and medical management of nonrejection causes of allograft dysfunction including urinary tract infections, acute renal failure, and others
- h. Understanding major causes of post-transplant morbidity and mortality
- i. Fluid, electrolyte, mineral and acid-base regulation in post-transplant patients
- j. Long-term follow-up of transplant recipients in the ambulatory setting including

- economic and psychosocial issues
- k. Principles of organ harvesting, preservation and sharing
- l. Renal disease in liver, heart and bone marrow transplant recipients

**(4) Dialysis and extracorporeal therapy including:**

- a. Evaluation and selection of patients for acute hemodialysis or continuous renal replacement therapies
- b. Evaluation of end-stage renal disease patients for various forms of therapy and their instruction regarding treatment options
- c. Drug dosage modification during dialysis and other extra-corporeal therapies
- d. Evaluation and management of medical complications in patients during and between dialyses and other extra-corporeal therapies, and an understanding of their pathogenesis and prevention
- e. Long-term follow-up of patients undergoing chronic dialysis including their dialysis prescription modification and assessment of adequacy of dialysis
- f. An understanding of the principles and practice of peritoneal dialysis including the establishment of peritoneal access, the principles of dialysis catheters, and how to choose appropriate catheters.
- g. An understanding of the technology of peritoneal dialysis including the use of cyclers
- h. Assessment of peritoneal dialysis efficiency using peritoneal equilibration testing and the principles of peritoneal biopsy
- i. An understanding of how to write a peritoneal dialysis prescription and how to assess peritoneal dialysis adequacy
- j. The pharmacology of commonly used medications and their kinetic and dosage alteration with peritoneal dialysis
- k. An understanding of the complications of peritoneal dialysis including peritonitis and its treatment, exit site and tunnel infections and their management, hernias, plural effusions and other less common complications and their management
- l. An understanding of the special nutritional requirements of the hemodialysis and peritoneal dialysis patient
- m. An understanding of the psychosocial, economic and ethical issues of dialysis
- n. An understanding of dialysis water treatment, delivery systems and dialyzer reuse
- o. An understanding of end-of-life care and pain management in the care of patients undergoing chronic dialysis.

**(5) Personally conducting the following procedures:**

- a. Urinalysis
- b. Percutaneous biopsy of native and transplanted kidneys
- c. Peritoneal dialysis
- d. Placement of temporary vascular access for hemodialysis and related procedures including use of vascular ultrasound guidance
- e. Acute and chronic hemodialysis
- f. Continuous renal replacement therapies

**(6) Understanding indications, complications (if relevant), and interpretation of the following procedures:**

- a. Placement of peritoneal catheters
- b. Renal imaging - ultrasound, CT, IVP, MRI, angiography, and nuclear medicine studies
- c. Therapeutic plasmapheresis
- d. Radiology, angioplasty and declotting of vascular access

**(7) Special areas in the management of patients of renal diseases including:**

- a. Psychosocial and economic issues confronting patients with renal disease
- b. Ethical issues relevant to care of patients with renal disease
- c. Optimizing the relationship of the nephrologist with other health care providers
- d. Optimizing mechanisms towards achieving life-long learning as a nephrologist
- e. Quality assessment and improvement, patient safety, risk management, preventative medicine, and physician impairment as it relates to the nephrologist
- f. Psychosocial and medical issues pertaining to the transition of the pediatric and/or adolescent renal patient to adulthood

**Progressive objectives**

The objectives of the nephrology fellowship program are designed to reflect a progressive increase in learning and independence. The learning principles are based on Bloom's taxonomy, describing progression through the six learning domains: knowledge, comprehension, application, analysis, synthesis and evaluation. In practice, the program's objectives change at the completion of the first year of the 2-year training period. The progressive change in objectives are summarized in the sections addressing the **four major rotations: Consultation, Transplantation, Research, and Outpatient Nephrology**. These progressive objectives are provided to the fellows at the start of training and reviewed by the Program Director at the beginning of the second 12 months of training. Major areas in which a graduated level of function are anticipated in year 2 include:

- Consultation

Greater responsibility for teaching residents and medical students on the Nephrology Consultation service, including participating in the Core Curriculum lecture series for residents and greater oversight of resident cases on service

Conjoint responsibility with faculty in instructing and certifying first year fellows in internal jugular and femoral vein catheterization

Greater independence in deciding which cases to present to the on-call attending over weekends

- Transplantation

More independence in the evaluation of transplant recipients and donors

- Research

Requirement for delivering Nephrology Grand Rounds on the chosen research topic

Expectation to submit for publication an abstract or paper covering the work

**7. Full Clinical Curriculum** - in this section, specific Clinical Program goals and objectives, as outlined above, are related to the methods by which they are achieved. The methods of achieving the Clinical Program goals include:

- ◆ Types and locations of clinical encounters
- ◆ Patient characteristics including case-mix, population size, sex, age, and race
- ◆ Relevant procedural training
- ◆ Relevant educational training, including resources and teaching methods
- ◆ Nature of supervision
- ◆ Means of feedback and evaluation of Fellow's performance

**A. Renal structure and function** - Fellows will acquire expertise in understanding normal renal biology including renal anatomy and histology, renal physiology, fluid and electrolyte regulation, acid-base balance, mineral metabolism, blood pressure regulation, renal drug metabolism and pharmacokinetics, drug effects on renal function, renal function in pregnancy, renal functional changes with aging, and basic immunologic principles.

**1) Educational training**

- a. **Handouts** - At the beginning of the Fellowship, Fellows are provided with associate membership to the American Society of Nephrology and the National Kidney Foundation, providing them with their own subscriptions to JASN, NephSap, CJASN and AJKD journals. Fellows are also given access to UpToDate on the hospital computer system, and in their on-call room. Hundreds of additional journals and thousands of textbooks are available at the Parlow Library adjacent to the hospital, and is open Monday through Friday from 8:00 am to 7:30 pm.
- b. **Didactic sessions** - While normal renal biology is discussed during more informal sessions (attending rounds, renal clinics) it is recognized that a structured approach is necessary to guarantee coverage of the basics of normal renal biology and pathology. The following didactic lecture and conference series covers the full range of Nephrology education as they relate to the four core rotations, Consultation, Transplantation, Research, and Outpatient clinics.
- c. **Introductory General Nephrology Course.** At the beginning of the Fellowship, a 2 day course is given to provide trainees with a basic level of instruction regarding several issues in Nephrology. While it is geared primarily towards a basic level of instruction regarding topics in Nephrology that the fellow is unlikely to have covered during residency and will need to understand immediately at the outset of their fellowship (mechanics of dialysis and transplant protocols), some general nephrology issues are also discussed. The course continues over the first month of the fellowship, and is comprised of approximately 20 lectures.
- d. **Introductory Renal pathology course.** Held for 3 hours during the first few weeks of the beginning of the fellowship, an introductory course is provided by the Renal Pathologists covering technical issues of fixation and staining and the interpretation of renal biopsy material by light, immunofluorescent, and electron microscopies.
- e. **Pathophysiology conference** is held each Friday from 7-8 AM for 1 year. This conference is given by the faculty of all of the UCLA-affiliated training programs, including Harbor-UCLA Medical Center, the David Geffen School of Medicine at UCLA, the West Los Angeles VA Medical Center, Olive View Medical Center, and Cedars-Sinai Medical Center, and is attended by all of the first-year fellows in these programs. A yearly schedule is provided and an inservice examination is given at the end of the year. At least a one-hour session is devoted to each of the following normal renal biology topics: water handling, potassium balance, sodium and volume, acid-base balance, Ca/Mg/PO<sub>4</sub> metabolism, renal immunology, blood pressure regulation, and renal function in pregnancy. Drug metabolism is discussed during several sessions dealing with antihypertensives, immunosuppressants, and other topics. Renal anatomy and histology are extensively discussed during several sessions on glomerular and interstitial diseases in which diseased kidneys are compared to normal kidneys. Mechanics of peritoneal and hemodialysis are discussed, as are topics in the evaluation and management of transplant recipients and donors. Nature of supervision - Faculty members facilitate discussion of the material during the didactic sessions. Means of Fellow evaluation – Fellows are

encouraged to participate actively in learning through question and answer interchange and receive immediate feedback on their knowledge base during the didactic sessions. A locally administered inservice examination is given at the end of the year-long course.

- f. **Renal pathology conference** is held one Wednesday a month from 4:30 to 6PM covering 3-4 cases recently biopsied by the fellows. Fellows present the clinical data and the light, immunofluorescent and electron microscopy images are presented by the Renal Pathologist. A discussion of the clinical course, plans and follow-up are discussed for each case. Nature of supervision - Faculty members (Nephrology and Renal Pathology) facilitate discussion of the material during the didactic sessions. Means of Fellow evaluation – Fellows are encouraged to interpret the images presented and receive immediate feedback regarding their interpretations.
  
- g. **Nephrology Grand Rounds** is held each Monday from 1:30 to 2:30 PM. A faculty member or invited speaker covers an area of relevance in nephrology as a didactic lecture or as a case-based discussion. Nature of supervision - Faculty members give the didactic lecture and/or facilitate discussion of the material during the didactic sessions. Means of Fellow evaluation – Fellows are encouraged to participate actively in learning through question and answer interchange and receive immediate feedback on their knowledge base during the didactic sessions.
  
- h.. **Practice-based Learning and Improvement and System-based Practice conference** is held each Monday from 1:00 to 1:30 PM. Fellows may present one of two types of presentation. 1. Fellows may pose a specific question stimulated by a patient-based therapeutic or diagnostic problem posed in a pre-test form, discuss the answer to this question based on a review of the literature and/or other sources, define the sources used to answer the question, and then pose a post-test question for answer by the audience. 2. Alternatively, Fellows may use this conference to present the results of their personal System-based Practice study. Each fellow is required to carry out one System-based practice study each year. Nature of supervision - Faculty members facilitate discussion of the material during the didactic sessions. Means of Fellow evaluation – Fellows are encouraged to participate actively in learning through question and answer interchange and receive immediate feedback on their knowledge base during the didactic sessions. A post-test question(s) is included in the structure of this didactic exercise to measure the success of the learning experience.
  
- i. **Comprehensive Renal Ultrasonography course.** Fellows receive a practicum comprised of four lectures coupled with hand-on experience in renal and vascular ultrasonography. Practicum is carried out each year in the first 6 months of the start of training of the PGY4 fellows. Practicum is required for the PGY4 fellows. Repeat attendance is optional for the PGY5 fellows. Practicum includes using simulation models for invasive procedures in nephrology including renal biopsy and venous catheter placement. Nature of supervision - Faculty member facilitates discussion of the material during the didactic sessions and provides hands-on learning with the fellows. Means of Fellow evaluation – Fellows participate actively in learning through question and answer interchange, interpretation of ultrasound images, and through hands-on use of the ultrasound machine in simulation. They receive immediate feedback on their knowledge base and interpretative skills during these didactic sessions.
  
- j. **Clinical Journal Club** is held each Wednesday from 4:30 to 5:00 PM. All faculty and fellows rotate on a weekly basis as the presenter. The paper is chosen by the presenter and may be a paper from the recent medical literature, a landmark paper, a NephSap issue, or a recent set of guidelines. It is the responsibility of the presenter to review the clinical problem addressed as well as the design, implementation, results, and statistical

analysis, and critique the overall validity of the conclusions drawn. Over the 2 year period,, the broad range of Nephrology topics are covered including general nephrology and transplantation, ethical issues, normal physiology in health and pregnancy, issues relating to care of the aged, and special pharmacology concerns in patients with CKD and ESRD. Robust audience participation in the discussion is encouraged and expected. Nature of supervision - Faculty members facilitate discussion of the material during the didactic sessions. Means of Fellow evaluation – Evaluation forms are distributed at the start of the journal club for the formal evaluation of this activity.

- k. **Basic Science Journal Club** is held each Wednesday from 5:00 to 5:30 PM. All faculty and fellows rotate on a weekly basis as the presenter. A paper from the recent medical literature is chosen by the presenter, whose responsibility is to review the basic science pathway addressed as well as the design, implementation, results, and statistical analysis, and critique the overall validity of the conclusions drawn. Robust audience participation in the discussion is encouraged and expected. Nature of supervision - Faculty members facilitate discussion of the material during the didactic sessions. Means of Fellow evaluation – Evaluation forms are distributed at the start of the journal club for the formal evaluation of this activity.
- l. **Comprehensive Advanced Dialysis Course** is held every other year, so that each PGY4 and PGY5 fellow participates once in the course of his/her training. The course is given by the faculty, and proceeds weekly for 20 weeks. It includes lectures on the peritoneal and hemodialysis urea kinetics, vascular and peritoneal dialysis access, nutrition in ESRD, management of anemia and metabolic bone disease, and general medical care of the ESRD patient. The full curriculum can be viewed on the Divisional Website Fellow Educational Corner. Nature of supervision - Faculty members facilitate discussion of the material during the didactic sessions. Means of Fellow evaluation – Fellows are encouraged to participate actively in learning through question and answer interchange and receive immediate feedback on their knowledge base during the didactic sessions.
- m. **Transplant-Infectious Disease Combined conference** is held quarterly. A recent case of a renal transplant patient with an infectious complication is presented and discussed by the Renal and Infectious disease fellows with active audience participation by the fellows and faculty of both Divisions. Nature of supervision - Faculty members facilitate discussion of the material during the didactic sessions. Means of Fellow evaluation – Fellows are encouraged to participate actively in learning through question and answer interchange and receive immediate feedback on their knowledge base during the didactic sessions.
- n. **Medical Grand Rounds** is held each Tuesday from 8:30 to 9:30 PM. A faculty member or invited speaker covers an area of relevance in Internal Medicine as a didactic lecture or as a case-based discussion. Nature of supervision - Faculty members give the didactic lecture and/or facilitate discussion of the material during the didactic sessions. Means of Fellow evaluation – Fellows are encouraged to attend and participate actively.
- o. **Pediatric Nephrology lecture series.** Harbor-UCLA Medical Center has on faculty two Pediatric nephrologists, who participate actively in Nephrology Grand Rounds, Journal Club, Pathology conference, and Research conference as presenters and as audience participants. The Pediatric Nephrologist give lectures series throughout the year on topics including renal pathophysiology, genetics, pharmacology, and adolescent nephrology. Nephrology fellows in the Adult Nephrology program attend those lectures that are relevant to their educational needs. The latter are identified by the Program Director.

- 3) **Means of Fellow evaluation** – In addition to the fellow evaluations accompanying each of the didactic and clinical activities of fellow trainees, comprehensive quarterly formal evaluations are provided during which fellows are counseled on areas of weakness and strength by the Program Director. Procedure logs are reviewed quarterly at this time.

## **B. General Nephrology**

### 1) Goal

Fellows will become competent in caring for patients with general nephrology problems.

### 2) Objectives

Detailed objectives for general nephrology are described in the General Nephrology table. There are separate tables that address objectives for each rotation on general nephrology. A rotation is defined as a 1-month period on one of the four Core Rotations – Consultation, Transplantation, Research, and Outpatient Nephrology, so there are separate objectives for these four rotations during Years 1 and 2. These objectives reflect a progressive increase in expectations for fellows' competency achievement. While these are discussed in detail in the table, the essence of the objectives for each rotation are as follows:

#### **Consultation rotation**

Months 1-12 - Fellows progress from initially reporting of the history, physical and other data, to understanding and comprehending this information, organizing, reviewing and reporting the relevant facts efficiently. Fellows learn to perform urinalysis accurately. Fellows begin to apply this information to make diagnostic and therapeutic decisions, and hone their ability to design a diagnostic plan and therapeutic interventions. proceed to perform this function in an increasingly sophisticated and thoughtful manner.

Months 13-23 – Fellows are expected to take on greater responsibility for teaching residents and medical students on the Nephrology Consultation service, including participating in the Core Curriculum lecture series for residents and providing greater oversight of resident cases on service. Fellows are expected to develop conjoint responsibility with faculty in instructing and certifying first year fellows in internal jugular and femoral vein catheterization. While in Year 1, fellows are expected to present all the patients seen over the weekend to the faculty attending, during Year 2 fellows will be permitted greater independence consistent with clinical maturity in deciding which follow-up cases to present to the on-call attending over weekends and the degree of detail necessary to present new consults.

Month 24 - Fellows are competent in all six core competencies. They function as self-educators, reading and analyzing the literature, and adjusting their care based on this analysis. They also function as educators in a larger context, using their clinical experience and information they have obtained from the literature to teach their juniors, colleagues, staff and faculty.

### 3) Types of clinical encounters and supervision

Consultation encounters – Fellows spend approximately 8 months/year on the inpatient consultation service. Fellows receive consultation requests from the primary care teams of Surgery, Obstetrics-Gynecology, Family Practice, Internal Medicine, Cardiology, Adolescent Medicine, and Psychiatry. The Fellow is the first person from the Nephrology Service to evaluate a new inpatient, including a history, physical examination, and urinalysis (the latter faculty-supervised, especially in the first few months). The Fellow follows all nephrology inpatients with daily history and examinations and, after discussion with faculty, charts recommendations. The

fellow writes all dialysis orders under the supervision of the Attending Nephrologist. The Attending conducts didactic sessions each day on material relevant to the in-house cases in concert with the clinical reviews of the patients. The Fellow is arranged for outpatient renal follow-up to ensure continuity of care. An Attending is on-call with the Fellow 24 hours a day.

### Outpatient Nephrology rotation

- a. **General Nephrology Continuity Clinic** - Each Thursday morning from 8:00 AM – 1:00 PM, all Fellows, regardless of rotation, attend the general nephrology continuity clinic covering all aspects of nephrology except transplantation and dialysis. Patients are assigned to Fellows and followed on a continuity basis throughout their clinical fellowship. The clinic is staffed by Dr. Adler with back-up (for vacation, academic enrichment, or illness) by Drs. Dukkipati and Tong. Outside clinical faculty including Drs. Sires, Le-Pham, Zoller, Sires, Shwayder and Greenfield co-attend in clinic with full-time faculty, covering approximately 8 months of the year. The participation of the clinical faculty provides an additional perspective of outpatient nephrology care and supplements the expertise of the full-time faculty. Both clinical and full-time faculty attend solely to supervise and train the Fellows. Every patient seen in the clinic is presented to faculty. Each Fellow is given a minimum of 1/2 hour for follow-up visits and 1 hour for new patients. Each fellow sees approximately 6-8 patients during a 5-hour session.
- b. **Hypertension Clinic** – Each Friday afternoon from 1:00-5:00 PM all fellows, regardless of the other rotational assignments, attend the Hypertension clinic, which specializes in the care and management of refractory cases of hypertension, as well as the diagnosis and management of secondary forms of hypertension. Despite its name (“Hypertension” clinic), because of the expertise of Dr Hirschberg in Renal Ultrasonography, this clinic also provides renal ultrasonography in the outpatient setting prior to admission for a renal biopsy. It also serves as the clinic for the care of patients with renal stones and cystic renal disease. The clinic is staffed by Dr Hirschberg with back-up from Drs. Kalantar and Dukkipati (for vacation, academic enrichment, or illness). Each patient is presented to the attending who is in the clinic solely to supervise and teach. Each Fellow is given a minimum of 1/2 hour for follow-up visits and 1 hour for new patients. Each fellow sees approximately 4-6 patients during a 4-hour session.
- c. **Peritoneal Dialysis Clinic.** Two Tuesdays a month from 1:30 AM – 5:00 PM, all Fellows, regardless of rotation, attend the Peritoneal dialysis clinic providing a monthly evaluation to 6-8 peritoneal dialysis patients assigned to an individual fellow who provides continuity of care to these patients for the duration of fellowship training. Patients are assigned to Fellows and followed on a continuity basis throughout their clinical fellowship. The clinic is staffed by Dr. Mehrotra with back-up (for vacation, academic enrichment, or illness) by Drs. Kopple and Dukkipati. The full-time faculty supervises and trains the Fellows. Fellows also have the opportunity to interact with and learn from the Peritoneal Dialysis nursing staff. Every patient seen in the clinic is presented to faculty. Each fellow sees approximately 3-5 patients during a 5-hour session.
- d. **Chronic hemodialysis (DaVita facility)**
- e. **Transplantation Clinic**  

Each Wednesday morning from 8:00 AM – 1:00 PM, all Fellows, regardless of rotation, attend the Transplantation clinic following both recently transplanted patients and long-term follow-up of stable transplant patients. The clinic is staffed by Drs. Barba and Tong who back-up each other up for vacation, academic enrichment, or illness. Both clinical faculty attend solely to supervise and train the Fellows. Every patient seen in the clinic is presented to faculty. Each Fellow is given a minimum of 1/2 hour for follow-up visits and 1 hour for new patients. Each fellow sees approximately 6-8 patients during a 5-hour session.

#### 4) Patient characteristics (number, demographics)

1. **Inpatients** - The average inpatient General Nephrology consult service census ranges from 12 to 40 patients. The consultation service generally is comprised of 2-3 fellows and 1-2 internal medicine residents, plus the Attending physician. Approximately 30% of the consult requests come from the intensive care units. There is equal gender representation with ages ranging from 18 to 90 years. The patients are largely indigent and uninsured, and the clinical problems presented represent the full spectrum of general nephrology problems.
2. **Outpatients**
  - a. **General Nephrology Continuity Clinic** - Over the course of two years, each Fellow will follow a total of approximately 150 general nephrology patients on a continuity basis. All aspects of general nephrology are represented with equal numbers of male:female patients and ages ranging from 18-90 years. The majority of patients are Hispanic, however there are significant numbers of African-Americans, Asians and Asian-Americans, individuals from the South Pacific (Philippines, Tonga and Samoa), Native Americans, and European-Americans. Translation services are available both through live translators and through a computer-based translation service available in each clinic examining room. A broad range of renal disorders are seen with particular emphasis on diabetes (40%), primary and secondary glomerulopathies (30%), tubulointerstitial diseases (10%), genetic renal disease (10%) and miscellaneous disorders including drug toxicity (10%). The 5 fellows in the General Nephrology Continuity clinic complete in the aggregate approximately 35 visits per week.
  - b. **Hypertension Clinic** – Demographics are as above in (a). An average of 25 patients are seen in each clinic. Patients are referred for refractory hypertension, diagnostic and therapeutic recommendations for patients suspected of having a secondary form of hypertension, for renal ultrasonography, and for the diagnostic and therapeutic evaluation and care for patients with renal stones and cystic diseases. The 5 fellows in the General Nephrology Continuity clinic complete in the aggregate approximately 25 visits per week.
  - c. **Peritoneal Dialysis Clinic.** Demographics are as above in (a). An average of 12 patients are seen in each clinic. Patients are evaluated on a monthly basis for their overall renal replacement care, including adequacy of dialysis, maintenance of their PD exchange procedures, and management of anemia and renal osteodystrophy. General internal medicine care with special emphasis on particular morbidity risks for this population are also attended to.

#### 5) Procedural training (see General Nephrology (eq Consultation and Outpatient Nephrology) Table)

**Percutaneous biopsy of native kidneys** – Performed by the Fellow on inpatients in conjunction with a Nephrology consultation and on outpatients in whom the decision is made after a diagnostic evaluation by the fellow in the General Nephrology Continuity clinic, or on occasion, in the Hypertension clinic. Each Fellow performs about 10 native renal biopsies yearly. Every renal biopsy is performed under the direct supervision of a Nephrology faculty member during the entire clinical training period.

**Percutaneous biopsy of renal allografts** – Performed by the Fellow when a decision is made for this diagnostic evaluation on patients either on the inpatient Renal Transplant service or in the Renal Transplant clinic. Each Fellow performs about 10 allograft biopsies yearly. Every renal biopsy is performed under the direct supervision of a Nephrology faculty member during the entire clinical training period.

**Urinalysis** – Performed by the Fellow on most new inpatients and outpatients, and on follow-up evaluation as necessary. One didactic lecture per year is given. Urinalyses are also reviewed with fellows by faculty on the Consultation service and in the General Nephrology Continuity clinic.

**Renal ultrasound** – Fellows receive didactic training in the performance of renal ultrasonography and of vascular ultrasonography for the performance of venous catheter placement for dialysis. They are certified for the use of ultrasonography for venous catheter placement either by Nephrology faculty and/or by the previously certified PGY5 fellow(s) on the service. This certification process involves the observation of at least 5 catheter placements at the internal jugular and femoral vein sites, or observation until the fellow is deemed competent to perform these procedures independently and without observation. For native renal biopsies, fellows receive instruction in ultrasonography interpretation during the performance of the renal biopsy, as well as didactic lectures and hand-on experience as described above. The Division of Nephrology and Hypertension has its own Ultrasound machine for teaching and clinical use.

**Therapeutic plasmapheresis** – Performed by the Blood Bank staff. Fellows are given didactic instruction in its indications, contraindications and outcomes.

**Acute hemodialysis** – Fellows are trained to evaluate patients, determine the indications for acute hemodialysis, and to write appropriate dialysis prescriptions.

**Peritoneal dialysis** – Fellows are trained in performing peritoneal dialysis including CAPD and CCPD, to write appropriate dialysis prescriptions, and to longitudinally evaluate and address dialysis complications and its comorbidities.

**Chronic hemodialysis** – Fellows are trained to evaluate patients, determine the indications for chronic hemodialysis, to write appropriate dialysis prescriptions, and to longitudinally evaluate and address dialysis complications and its comorbidities.

**CRRT** – Fellows are trained to evaluate patients, determine the indications for acute CRRT, and to write appropriate dialysis prescriptions, including the appropriate anticoagulation (eg citrate vs heparin).

6) Teaching methods (see General Nephrology Table and Conferences described above)

7) Assessment and evaluation of Fellows (see General Nephrology Table)

1. Clinical encounters – A variety of instruments are used to assess Fellow performance. The specific evaluation utilized is indicated in the General Nephrology Table. These include:

Checklist

- 1) Fellows are evaluated on a quarterly basis based on interactions with the attending in a 2-week Consultation block with a given attending and on the basis of a quarterly interaction with the attendings on the Outpatient rotation. The attending uses a scale from 1-7 to assess patient care knowledge, skills, attitudes and behaviors. Fellows review these orally with the Program Director and both individuals sign the review form. If significant issues are noted, the attending immediately communicates this to the Program Director who meets with the attending and fellow to develop an action plan to address the issue. The Fellow's performance in this area is then reassessed, by Checklist by the inpatient attendings, in one month and reviewed with the Program Director. During the first 6 months of fellowship, all scores must be "4" (satisfactory) or higher; scores under this will be reviewed with the Program Director, specific problem areas identified, and the appropriate corrective action taken. The problem areas are re-evaluated in one month.

- 2) Fellows are evaluated by the Program Director quarterly. The Director uses a scale from 1-7 to evaluate the Fellow's patient care, medical knowledge, professionalism, interpersonal and communication skills, practice-based learning and improvement, and systems-based practice as it pertains to general nephrology. Fellows review this with the Program Director. These assessments are based on a composite of the assessments of all of the teaching faculty, 360 degree evaluations (see below), and any other pertinent information. If any significant issues exist, an action plan is developed and the fellow re-evaluated by the Program Director in 3 months using the same evaluation measurements as above. Importantly, this evaluation is also based on discussions among all of the clinical faculty and the Program Director. In addition, even if no significant issues are identified, goals are established for the fellow to work on over the next 3 months. These goals typically do not reflect needed attention to sub-par performance, but instead are intended to help the Fellow focus efforts. For example, faculty may note that the fellow did relatively few native kidney biopsies or that attending comments reflected a need to increased general nephrology knowledge base – appropriate recommendations to work on these areas would be made, and progress evaluated at the next quarterly Program Director review.
- 3) 360 evaluation – this evaluation is completed by patients, administrative assistants, secretaries, renal social workers, renal dieticians, nurses, and technicians in order to give a broad sense of how the Fellow delivers patient care and interacts with members of the general nephrology health care interdisciplinary team. It is completed yearly. Fellows review this with the Program Director. Problem areas (scores under "4") are identified and an action plan developed. Fellows with unsatisfactory ratings are reassessed in 6 months with particular attention to these problem areas.
- 4) Written exam – At the end of the first year, Fellow's are given a multiple choice test covering the curriculum of the Friday morning Pathophysiology course. Their performance is reviewed with the Program Director. General nephrology areas in need of improvement are identified and an action plan is developed to address these. Fellow's fund of knowledge in these areas is reassessed during the quarterly reviews by the Program Director.
- 5) Fellow portfolio – This is partly intended to evaluate Fellow's practice-based learning and improvement. The Monday 1PM conference time is utilized for this purposed. Several approaches are utilized:
  - a) **Faculty or fellow-initiated CQI project.** The Fellow catalogues over time questions and issues that arose during patient care activities and identifies, with a faculty mentor, and issue to address. Once identified, an action plan is developed, the rationale expounded (including identifying data sources used), actions taken, and the effect of such interventions assessed. This is presented at the Practice-based learning improvement and continuous quality initiative conference (Mondays at 1PM).
  - b) **Practice Improvement Module (PIM)** from ABIM. In place of a fellow or faculty-initiated CQI project, fellows may participate in the PIM in Hypertension, Specialty Referrals, or other areas.
  - c) **Morbidity and mortality conference.** Identification of practice and/or system-based problems contributing to morbidity and mortality is an important aspect of meeting these core competencies. Fellows attendance at these conferences, and identification of the issues discussed and actions taken, is documented and included in the portfolio. These cases are also presented at the Monday 1PM conference.
  - d) **Case-based presentations** with targeted question, a pre-test, a post-test, and documentation of the literature cited to answer the question. These presentations assist in improving the fellow's practice, detailing how they researched a topic relevant to a case they encountered and how such research impacted their care, or plan for subsequent care. The topics covered are listed in the portfolio and the actual presentations are maintained as files in the portfolio.

- e) **Log of adverse events** and actions taken. Fellows keep a log of this, independent of their M&M presentations.
- f) **Summative evaluations.** Each fellow is provided a copy of their evaluation from the Program Director on a quarterly basis and a meeting to discuss the fellow's progress.
- g) **Mini-clinical examination (Mini-CEX)** – These provide formative input on the fellow's progression towards obtaining clinical competence relevant to general nephrology patient care.
- h) **Procedures** – Fellows are required to keep a log of all native and allograft kidney biopsies, and femoral and internal jugular vascular access catheters, indicating date, attending, patient identifier, indication and complications. Biopsies are always done in the presence of an attending, regardless of fellow competency and experience. Catheter placements are performed under supervision until competency is achieved, and then may be placed unsupervised. Most renal fellows begin Nephrology fellowship having been certified for central line placement by their Internal Medicine programs. Nevertheless, we re-ascertain competence at the start of the fellowship program. Procedure logs are reviewed with the Program Director on a quarterly basis. Copies of the Procedure logs are kept in the Fellow's file. Fellows are not required to keep a log of urinalyses, but must be certified as competent in these by the Program Director, based on faculty input, prior to being able to conduct these unsupervised.
- i) **End of first year evaluation** - This evaluation includes a review of the Fellow's performance during the first year of education, and verifies that the Fellow demonstrated sufficient professional ability to advance to a greater degree of autonomy. This includes the opportunity to proctor catheter placement by first year fellows, participation as a lecturer in the Core Lecture series that the Division gives to Internal Medicine residents rotating on the Nephrology consultation service, more autonomy in deciding which patients to present to the attending during weekend call, more oversight of the assignment of patients and initial evaluation of the Internal Medicine residents who rotate on the consultation service, and an expectation to complete a didactic Nephrology Grand Rounds.
- j) **Final (summative) evaluation** - This evaluation includes a review of the Fellow's performance during the final period of education, and verifies that the Fellow demonstrated sufficient professional ability to practice competently and independently.
- k) **Assessment and evaluation of attendings by Fellows** - discussed in section below devoted to this topic.

## General Nephrology Table (Consultation and Outpatient rotations) - Months 1-12

Competency category	Competency objectives	General Nephrology objectives relevant to competency	Teaching Methods	Evaluation Methods	Acceptable Performance
Patient care	Exhibit caring and respectful behaviors	Exhibit caring and respectful behaviors towards general nephrology patients	Attending teaching Conferences Orientation Core lectures	360 evaluation Mini-CEX	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter  Quarterly checklist
	Gather essential and accurate information about their patients	Gather essential information about fellow's general nephrology patient	Attending teaching Conferences Core lectures	360 evaluation Mini-CEX Quarterly checklist	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter
	Make informed decisions about diagnostic and therapeutic interventions	Begin to understand the basics of making informed decisions about diagnostic and therapeutic interventions in general nephrology patients	Attending teaching Conferences Core lectures	Post-tests Quarterly checklist	Correct ≥ 3 first quarter ≥ 4 last quarter
	Develop and carry out patient management plans	Begin to develop general nephrology patient management plans	Attending teaching Conferences Core lectures	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter
	Counsel and educate patients and families	Counsel and educate, with direct attending supervision, general nephrology patients and families with regard to their disease, socioeconomics, support systems, diet, lifestyle, medications	Attending teaching Conferences Core lectures	360 evaluation Mini-CEX Quarterly checklist	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter
	Use information technology	Use information technology to assist caring for general nephrology patients, including UpToDate, NIH information and databases, NephSAP, electronic medical records, PubMed, and other sources	Attending teaching Orientation Conferences	Quarterly checklist Evaluations of Journal Clubs and PBLI conferences	≥ 3 first quarter ≥ 4 last quarter
	Perform: Physical exam	Examine the general nephrology patient, particularly with regard to the renal examination and organ systems affected by renal dysfunction	Attending teaching Conferences Core lectures	Mini-CEX Quarterly checklist	≥ 3 first quarter ≥ 4 last quarter
	Perform: Procedures	Understand the principles of informed consent, indications, contraindications, alternative procedures, and the risks and benefits, and understand the correct procedural techniques for: 1. Percutaneous native and allograft renal biopsy, catheters Understand interpretation and the correct technique for: 2. Urinalysis	Attending teaching Conferences Core lectures	Procedure logs and review Quarterly checklist	Satisfactory ≥ 3 first quarter ≥ 4 last quarter
	Provide preventative health care services	Understand preventative health care services relevant to general nephrology patients	Conferences Attending teaching	PBLI post-tests Quarterly checklist	Correct ≥ 3 first quarter ≥ 4 last quarter
	Work within a team of health care professionals	Work within the general nephrology health care team, including attendings, nurses, dietitians, social workers, physician extenders, pharmacists and administrative assistants	Conferences Attending teaching Orientation	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter

<b>Medical knowledge</b>	Demonstrate investigatory and analytic thinking about clinical situations	Begin to demonstrate investigatory and analytic thinking about clinical general nephrology situations	Attending teaching Core lectures Conferences Journal club Clinical meetings Orientation	Mini-CEX  Local inservice exam	≥ 3 first quarter ≥ 4 last quarter Pass
	Know and apply the basic and clinically supportive sciences	Fellows will gather the data and begin to develop the fund of knowledge necessary for prevention, evaluation, and management of general nephrologic disorders in: a. Acute renal failure b. Chronic renal failure c. Fluid, electrolyte, and acid-base disorders d. Disorders of mineral metabolism including nephrolithiasis and renal osteodystrophy (including use of lithotripsy) e. Urinary tract infections and pyelonephritis f. Hypertensive disorders g. Renal disorders related to pregnancy h. Primary and secondary glomerulopathies, including understanding of immunologic mechanisms of renal disease and the laboratory tests necessary for their diagnosis i. Diabetic nephropathy j. Tubulointerstitial nephritis including papillary necrosis k. Genetic and developmental renal diseases including renal cystic diseases, hereditary glomerulopathies and interstitial nephritis, phakomatoses, systemic diseases with renal involvement, congenital malformations of the urinary tract, maternally inherited mitochondrial diseases, and renal cell carcinoma l. Vascular diseases including atheroembolic disease m. Disorders of drug metabolism and renal drug toxicity, including in geriatric patients n. Renal disorders associated with geriatric patients o. Renal cystic diseases without a recognized genetic basis Understand nutritional management of general nephrologic disorders Understand indications and interpretation of renal imaging, including ultrasound, CT, IVP, MRI, angiography, nuclear medicine studies Understand indications, complications and outcomes in therapeutic plasmapheresis	Attending teaching Core lectures Conferences Journal club Clinical meetings Orientation	Mini-CEX  Local inservice exam	≥ 3 first quarter ≥ 4 last quarter Pass

<b>Practice-based learning and improvement</b>	Analyze own practice and perform practice-based improvement using a systematic methodology	Fellow will hold up a mirror to themselves to document, assess, and improve their practice. This will involve: a. Monitoring their practice b. Reflecting on or analyzing their practice to identify learning or improvement needs c. Begin a learning or improvement plan	Attending teaching Case-based presentations on fellow's own pts. Journal club Participation in CQI activities Exit rounds on patient discharge M&M on fellow's own patients Conferences Log of significant events and plan to address Assigned faculty mentor PIM Dialysis CQI	Resident portfolio (Fellow catalogues over time questions and issues that arose during patient care activities along with copies of the data sources used, and actions taken, to address the specific question or issue). Quarterly checklist	Case-based talks* Journal clubs* Mortality/ Morbidity  Procedure log reviews  CQI project started  *Conference performance evaluated by TPD and other faculty and fellows ≥ 3 first quarter ≥ 4 last quarter
	Use evidence from scientific studies related to patients' health problems	Use evidence from scientific studies related to general nephrology patients' health problems	Attending teaching Case-based presentations on fellow's own pts. Journal club	PBLI/CQI/M&M conference evaluations Quarterly checklist	Correct  ≥ 3 first quarter ≥ 4 last quarter
	Apply knowledge of study designs and statistical methods to appraising clinical studies and other information	Begin to understand study designs and statistical methods to appraising clinical studies and other information	Statistics and epidemiology course Conferences Journal club Assigned faculty mentor	Quarterly checklist Evaluations of lectures and Journal clubs	≥ 3 first quarter ≥ 4 last quarter on Journal club evaluation
	Use information technology	Use information technology as itemized in Patient Care above	Attending teaching Orientation Conferences	Checklist evaluations Resident portfolio	≥ 3 first quarter ≥ 4 last quarter
	Facilitate the learning of others	Facilitate the learning of others, including, residents, fellows, physician extenders, nurses and dialysis technicians. Initially, this is based on assigned literature review.	Role models Attending teaching Conferences	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter
<b>Interpersonal &amp; communication skills</b>	Maintain a therapeutic and ethical relationship with patients	Maintain a therapeutic and ethical relationship with general nephrology patients	Role models Attending teaching Conferences Core lectures	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter
	Demonstrate effective listening and writing skills	Demonstrate effective listening and writing skills	Role models Attending teaching	360 evaluation Mini-CEX Quarterly checklist	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter

<b>Professionalism</b>	Demonstrate respect, compassion, and integrity	Demonstrate respect, compassion, and integrity	Role models Attending teaching	360 evaluation Mini-CEX	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter
	Demonstrate an ethically sound practice	Demonstrate an ethically sound practice	Role models Attending teaching Conferences	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 4 ≥ 3 first quarter ≥ 4 last quarter
	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Role models Attending teaching Conferences	360 evaluation Mini-CEX Quarterly checklist	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter
<b>Systems-based practice</b>	Understand interaction of their practices with the larger system	Begin to understand interaction between fellow's practice and the hospital and clinic staff, administration, surgical service, radiology, and medical consult services	Conferences Attending teaching ESRD QA	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter
	Practice cost-effective health care	Begin to understand how to practice cost-effective general nephrology patient care	Conferences Core lectures Attending teaching	Post-test 360 evaluation Quarterly checklist	Correct ≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter
	Advocate for quality patient care	Begin to understand how to advocate for general nephrology patient quality care	Attending teaching Participation in CQI Conferences	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter

## General Nephrology Table (Consultation and Outpatient rotations) - Months 13-23

Competency category	Competency objectives	General Nephrology objectives relevant to competency	Teaching Methods	Evaluation Methods	Acceptable Performance
Patient care	Exhibit caring and respectful behaviors	Exhibit caring and respectful behaviors towards general nephrology patients	Attending teaching Conferences Core lectures	Quarterly checklist Mini-CEX 360 evaluation	≥4.5  ≤10% unacceptable
	Gather essential and accurate information about their patients	Gather essential information about fellow's general nephrology patient	Attending teaching Conferences Core lectures	360 evaluation Mini-CEX Quarterly checklist	≤10% unacceptable ≥ 4.5
	Make informed decisions about diagnostic and therapeutic interventions	Synthesize data to begin to make informed decisions about diagnostic and therapeutic interventions in general nephrology patients	Attending teaching Conferences Core lectures	360 evaluation Mini-CEX Quarterly checklist	≤10% unacceptable ≥ 4.5
	Develop and carry out patient management plans	Develop general nephrology patient management plans. Understand how to carry out such plans.	Attending teaching Conferences Core lectures	Post-tests Quarterly checklist	Correct ≥ 4.5
	Counsel and educate patients and families	Counsel and educate general nephrology patients and families with regard to their disease, socioeconomics, support systems, diet, lifestyle, medications	Attending teaching Conferences Core lectures	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 4.5
	Use information technology	Use information technology to assist caring for general nephrology patients, including UpToDate, NIH information and databases, NephSAP, electronic medical records, PubMed, and other sources	Attending teaching Conferences	360 evaluation Mini-CEX Quarterly checklist	≤10% unacceptable ≥ 4.5
	Perform: Physical exam	Examine the general nephrology patient, particularly with regard to the renal examination and organ systems affected by renal dysfunction	Attending teaching Conferences Core lectures	Checklist evaluations of Journal Clubs and PBLI conferences Quarterly checklist	≥ 4.5
	Perform: Procedures	Understand the principles of informed consent, indications, contraindications, alternative procedures, and the risks and benefits, and demonstrate the correct procedural techniques for: 1. Percutaneous native renal biopsy Understand interpretation and demonstrate the correct technique for: 2. Urinalysis	Attending teaching Conferences Core lectures	Mini-CEX Quarterly checklist	≥ 4.5
	Provide preventative health care services	Provide preventative health care services relevant to general nephrology patients	Conferences Attending teaching	PBLI post-tests 360 evaluation Quarterly checklist	Correct ≤10% unacceptable
Work within a team of health care professionals	Work within the general nephrology health care team, including attendings, nurses, dieticians, social workers, physician extenders, pharmacists and administrative assistants	Conferences Attending teaching	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 4.5	

<b>Medical knowledge</b>	Demonstrate investigatory and analytic thinking about clinical situations	Demonstrate investigatory and analytic thinking about clinical general nephrology situations	Attending teaching Core lectures Conferences Journal club Clinical meetings	Mini-CEX Quarterly checklist National inservice exam	≥ 4.5  Pass
	Know and apply the basic and clinically supportive sciences	<p>Fellows will continue to acquire the fund of knowledge necessary for prevention, evaluation, and management of the general nephrologic disorders below. They will begin to apply this information.</p> <ul style="list-style-type: none"> <li>a. Acute renal failure</li> <li>b. Chronic renal failure</li> <li>c. Fluid, electrolyte, and acid-base disorders</li> <li>d. Disorders of mineral metabolism including nephrolithiasis and renal osteodystrophy (including use of lithotripsy)</li> <li>e. Urinary tract infections and pyelonephritis</li> <li>f. Hypertensive disorders</li> <li>g. Renal disorders related to pregnancy</li> <li>h. Primary and secondary glomerulopathies, including understanding of immunologic mechanisms of renal disease and the laboratory tests necessary for their diagnosis</li> <li>i. Diabetic nephropathy</li> <li>j. Tubulointerstitial nephritis including papillary necrosis</li> <li>k. Genetic and developmental renal diseases including renal cystic diseases, hereditary glomerulopathies and interstitial nephritis, phakomatoses, systemic diseases with renal involvement, congenital malformations of the urinary tract, maternally inherited mitochondrial diseases, and renal cell carcinoma</li> <li>l. Vascular diseases including atheroembolic disease</li> <li>m. Disorders of drug metabolism and renal drug toxicity, including in geriatric patients</li> <li>n. Renal disorders associated with geriatric patients</li> <li>o. Renal cystic diseases without a recognized genetic basis</li> </ul> <p>Understand nutritional management of general nephrologic disorders Understand indications and interpretation of renal imaging, including ultrasound, CT, IVP, MRI, angiography, nuclear medicine studies Understand indications, complications and outcomes in therapeutic plasmapheresis</p>	Attending teaching Core lectures Conferences Journal club Clinical meetings	Mini-CEX Quarterly checklist National inservice exam	≥ 4.5 Pass

<b>Practice-based learning and improvement</b>	Analyze own practice and perform practice-based improvement using a systematic methodology	Fellow will hold up a mirror to themselves to document, assess, and improve their practice. This will involve: a. Monitoring their practice b. Reflecting on or analyzing their practice to identify learning or improvement needs c. Engaging in a learning or plan improvement	Attending teaching Case-based presentations on fellow's own pts. Journal club Participation in CQI activities Exit rounds on patient discharge M&M on fellow's own patients Conferences Log of significant events and plan to address Assigned faculty mentor PIM Dialysis CQI	Resident portfolio (Fellow catalogues over time questions and issues that arose during patient care activities along with copies of the data sources used, and actions taken, to address the specific question or issue).	≥ 4.5
	Use evidence from scientific studies related to patients' health problems	Use evidence from scientific studies related to general nephrology patients' health problems	Attending teaching Case-based presentations on fellow's own pts. Journal club	PBLI/CQI/M&M Conference evaluations Quarterly checklist	<u>Correct</u> ≥ 4.5
	Apply knowledge of study designs and statistical methods to appraising clinical studies and other information	Apply knowledge of study designs and statistical methods to appraising clinical studies and other information	Statistics and epidemiology course Conferences Journal club Assigned faculty mentor	Evaluations of lectures and Journal clubs	≥ 4.5
	Use information technology	Use information technology as itemized in Patient Care above	Attending teaching Orientation Conferences	Checklist evaluations Resident portfolio	≥ 4.5
	Facilitate the learning of others	Facilitate the learning of others, including faculty, residents, fellows, physician extenders, nurses and dialysis technicians	Role models Attending teaching Conferences	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 4.5
<b>Interpersonal &amp; communication skills</b>	Maintain a therapeutic and ethical relationship with patients	Maintain a therapeutic and ethical relationship with general nephrology patients	Role models Attending teaching Conferences Core lectures	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 4.5
	Demonstrate effective listening and writing skills	Demonstrate effective listening and writing skills	Role models Attending teaching	360 evaluation Mini-CEX Quarterly checklist	≤10% unacceptable ≥ 4.5

<b>Profession- alism</b>	Demonstrate respect, compassion, and integrity	Demonstrate respect, compassion, and integrity	Role models Attending teaching	Quarterly checklist Mini-CEX 360 evaluation	≥ 4.5  ≤10% unacceptable
	Demonstrate an ethically sound practice	Demonstrate an ethically sound practice	Role models Attending teaching Conferences	Quarterly checklist 360 evaluation	≥ 4.5 ≤10% unacceptable
	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Role models Attending teaching Conferences	Quarterly checklist Mini-CEX 360 evaluation	≥ 4.5  ≤10% unacceptable
<b>Systems- based practice</b>	Understand interaction of their practices with the larger system	Understand interaction between fellow's practice and the hospital and clinic staff, administration, surgical service, radiology, and medical consult services	Conferences Attending teaching Dialysis QA	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 4.5
	Practice cost-effective health care	Understand cost-effective general nephrology patient care and begin to apply these principles	Conferences Core lectures Attending teaching	Quarterly checklist 360 evaluation	≥ 4.5 ≤10% unacceptable
	Advocate for quality patient care	Advocate for general nephrology patient quality care by demonstrating proactive efforts towards general nephrology patient care	Attending teaching Participation in CQI Conferences	Quarterly checklist 360 evaluation	≥ 4.5  ≤10% unacceptable

## General Nephrology Table (Consultation and Outpatient rotations) – Month 24

Competency category	Competency objectives	General Nephrology objectives relevant to competency	Teaching Methods	Evaluation Methods	Acceptable Performance
Patient care	Exhibit caring and respectful behaviors	Exhibit caring and respectful behaviors towards general nephrology patients	Attending teaching Conferences Core lectures	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 5
	Gather essential and accurate information about their patients	Gather essential information about fellow's general nephrology patient	Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Make informed decisions about diagnostic and therapeutic interventions	Make informed decisions about diagnostic and therapeutic interventions in general nephrology patients	Attending teaching Conferences Core lectures	Quarterly checklist	≥ 5
	Develop and carry out patient management plans	Develop and carry out general nephrology patient management plans	Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable Formative
	Counsel and educate patients and families	Counsel and educate general nephrology patients and families with regard to their disease, socioeconomics, support systems, diet, lifestyle, medications	Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Use information technology	Use information technology to assist caring for general nephrology patients, including UpToDate, NIH information and databases, NephSAP, electronic medical records, PubMed, and other sources	Attending teaching Conferences	Quarterly checklist	≥ 5
	Perform: Physical exam	Examine the general nephrology patient, particularly with regard to the renal examination and organ systems affected by renal dysfunction	Attending teaching Conferences Core lectures	Quarterly checklist	≥ 5
	Perform: Procedures	Understand the principles of informed consent, indications, contraindications, alternative procedures, and the risks and benefits, and demonstrate the correct procedural techniques for: 1. Percutaneous native and allograft renal biopsy and venous catheter placement Understand interpretation and demonstrate the correct technique for: 2. Urinalysis	Attending teaching Conferences Core lectures	Quarterly checklist	≥ 5
	Provide preventative health care services	Provide preventative health care services relevant to general nephrology patients	Conferences Attending teaching	Quarterly checklist	≥ 5
Work within a team of health care professionals	Work within the general nephrology health care team, including attendings, nurses, dieticians, social workers, physician extenders, pharmacists and administrative assistants	Conferences Attending teaching	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable	

<b>Medical knowledge</b>	Demonstrate investigatory and analytic thinking about clinical situations	Demonstrate investigatory and analytic thinking about clinical general nephrology situations	Attending teaching Core lectures Conferences Journal club Clinical meetings	Quarterly checklist National inservice examination	≥ 5 Obtain a passing grade
	Know and apply the basic and clinically supportive sciences	<p>Fellows have acquired the fund of knowledge necessary for prevention, evaluation, and management of general nephrologic disorders in the areas below. They will serve as educators for other fellows, faculty and staff in these areas, whenever possible.</p> <ul style="list-style-type: none"> <li>a. Acute renal failure</li> <li>b. Chronic renal failure</li> <li>c. Fluid, electrolyte, and acid-base disorders</li> <li>d. Disorders of mineral metabolism including nephrolithiasis and renal osteodystrophy (including use of lithotripsy)</li> <li>e. Urinary tract infections and pyelonephritis</li> <li>f. Hypertensive disorders</li> <li>g. Renal disorders related to pregnancy</li> <li>h. Primary and secondary glomerulopathies, including understanding of immunologic mechanisms of renal disease and the laboratory tests necessary for their diagnosis</li> <li>i. Diabetic nephropathy</li> <li>j. Tubulointerstitial nephritis including papillary necrosis</li> <li>k. Genetic and developmental renal diseases including renal cystic diseases, hereditary glomerulopathies and interstitial nephritis, phakomatoses, systemic diseases with renal involvement, congenital malformations of the urinary tract, maternally inherited mitochondrial diseases, and renal cell carcinoma</li> <li>l. Vascular diseases including atheroembolic disease</li> <li>m. Disorders of drug metabolism and renal drug toxicity, including in geriatric patients</li> <li>n. Renal disorders associated with geriatric patients</li> <li>o. Renal cystic diseases without a recognized genetic basis</li> <li>p. Understand nutritional management of general nephrologic disorders</li> <li>q. Understand indications and interpretation of renal imaging, including ultrasound, CT, IVP, MRI, angiography, nuclear medicine studies</li> <li>r. Understand indications, complications and outcomes in therapeutic plasmapheresis</li> </ul>	Attending teaching Core lectures Conferences Journal club Clinical meetings	Quarterly checklist National inservice exam	≥ 5 Pass

<b>Practice-based learning and improvement</b>	Analyze own practice and perform practice-based improvement using a systematic methodology	Fellow will hold up a mirror to themselves to document, assess, and improve their practice. This will involve: a. Monitoring their practice b. Reflecting on or analyzing their practice to identify learning or improvement needs c. Engaging in a learning or plan improvement d. Applying the new learning or improvement e. Monitoring the impact of the learning or improvement	Attending teaching Case-based presentations on fellow's own pts. Journal club Participation in CQI activities Exit rounds on patient discharge M&M on fellow's own patients Conferences Log of significant events and plan to address Assigned faculty mentor PIM	Resident portfolio (Fellow catalogues over time questions and issues that arose during patient care activities along with copies of the data sources used, and actions taken, to address the specific question or issue).	Case-base talks* Journal clubs* M&M ≥5 on checklists Log of ≥4 significant events and how addressed CQI project - analysis & reporting  *Conference performance evaluated by TPD
	Use evidence from scientific studies related to patients' health problems	Use evidence from scientific studies related to general nephrology patients' health problems	Attending teaching Case-based presentations on fellow's own pts. Journal club	Quarterly checklist	≥ 5
	Apply knowledge of study designs and statistical methods to appraising clinical studies and other information	Apply knowledge of study designs and statistical methods to appraising clinical studies and other information. Apply knowledge of study design and statistical methods to the research project to be completed by the end of the fellow's training.	Statistics and epidemiology course Conferences Journal club Assigned faculty mentor	Evaluations at Journal Club and PBLI conferences	≥ 5 Correct
	Use information technology	Use information technology as itemized in Patient Care above	Attending teaching Conferences	Quarterly checklist Resident portfolio	≥ 5
	Facilitate the learning of others	Facilitate the learning of others, including faculty, residents, fellows, physician extenders, nurses and dialysis technicians. The degree of such education is one of the main differences from the preceding twelve months.	Role models Attending teaching Conferences	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
<b>Interpersonal &amp; communication skills</b>	Maintain a therapeutic and ethical relationship with patients	Maintain a therapeutic and ethical relationship with general nephrology patients	Role models Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Demonstrate effective listening and writing skills	Demonstrate effective listening and writing skills	Role models Attending teaching	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable

<b>Professionalism</b>	Demonstrate respect, compassion, and integrity	Demonstrate respect, compassion, and integrity	Role models Attending teaching	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Demonstrate an ethically sound practice	Demonstrate an ethically sound practice Demonstrate a knowledge of HIPPA regulations and the laws and ethics surrounding medical research	Role models Attending teaching Conferences Research ethics reading and/or course	Quarterly checklist 360 evaluation  HIPPA and IRB ethics test	≥ 5 ≤10% unacceptable  Obtain passing grades and certificates
	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Role models Attending teaching Conferences	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
<b>Systems-based practice</b>	Understand interaction of their practices with the larger system	Understand interaction between fellow's practice and the hospital and clinic staff, administration, surgical service, radiology, and medical consult services	Conferences Attending teaching	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Understand types of medical practice and delivery systems	Understand how types of general nephrology practice and providers deliver care	Conferences Attending teaching	Quarterly checklist	≥ 5
	Practice cost-effective health care	Practice cost-effective general nephrology patient care	Conferences Core lectures Attending teaching	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Advocate for quality patient care	Advocate for general nephrology patient quality care by demonstrating proactive efforts towards dialysis CQI	Attending teaching Participation in CQI Conferences	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable

## C. Transplant Nephrology

### 1) Goal

Fellows will become competent in caring for inpatient and outpatient renal transplant patients.

### 2) Objectives

Detailed objectives for transplant are described in the Transplant table. There are 3 separate tables that address objectives for advancing competence over time (eg, novice period during training months 1-12; increasing competence during months 13-23; independence at completion at month 24).

**Months 1-12** - Fellows function at least at the level of accurate reporting of the history, physical and other data, i.e., they correctly recall and state the relevant facts. Fellows begin to understand or comprehend this information, reviewing and reporting the relevant facts in an organized and efficient manner. Fellows begin to describe how to apply this information to make diagnostic and therapeutic decision. With more experience, Fellows are able to accurately interpret the history, physical examination and data. The information is analyzed and an accurate differential diagnosis is formulated. Fellows are able to perform urinalysis accurately. Fellows continue in their abilities to design a diagnostic plan and therapeutic interventions.

**Months 13-23** - Fellows are able to correctly manage general nephrology patient care. This extends previous expectations to formulating a correct diagnostic plan, making the correct diagnosis. They should be beginning to critically analyze literature relevant to the care issues.

**Month 24** - Fellows are competent in all six core competencies. They function as self-educators, reading and analyzing the literature, and adjusting their care based on this analysis. They also function as educators in a larger context, using their clinical experience and information they have obtained from the literature to teach their colleagues, staff and faculty.

### 3) Types of clinical encounters and supervision on the Transplantation rotation.

Each Fellow spends 3-4 months/year on the Transplantation rotation at Harbor-UCLA Medical Center. Two of the months include focus on inpatient evaluation and management while the remaining two months focus more exclusively on the outpatient evaluation and management of Transplant recipients and donors. Since we do approximately 40 renal transplants/year, each first year fellow sees approximately 6-7 newly transplanted patients at Harbor/year. In order to enhance the exposure to acute transplantation, first year Fellows also spend one month on the inpatient Transplant service at the UCLA Center for the Health Sciences, where the number of renal transplants is now more than 500/year. Each first year fellow rotating at UCLA will see at least 30 patients in the one month rotation.

1. **Inpatient transplant encounters** – During two of the months that the Fellows are assigned to the Transplantation service at Harbor-UCLA Medical Center. The focus is on inpatient transplantation evaluation and management taking place 5 half-days per week with rounds under the direct supervision of the Transplant attending covering the inpatient evaluation and management of newly transplanted patients and patients hospitalized for acute or chronic rejections, infection-related complications, or other complications or medical issues in transplant recipients requiring hospitalization. All patients admitted for renal transplantation at Harbor-UCLA Medical Center are admitted to the Surgical service. The patients are evaluated by the Nephrology Fellow immediately prior to the transplant under the direction of the Nephrology Transplant Attending Physician to ensure that the patient is medically suitable for transplantation, assuming the cross-match permits. The Nephrology fellow under the supervision of the Nephrology attending also follows the patient during the peri- and post-

operative period. The Fellow discusses peri- and post-operative care with the Transplant Surgery Team, and is responsible for writing the immunosuppression orders under the supervision of the Transplant nephrologist. After discharge, any subsequent admissions of renal transplant recipients are made to the Internal Medicine service (unless the problem is likely to require surgery). The Fellow is the primary consultant for these patients, seeing them and writing notes on a daily basis, and for all practical purposes, directing the care of these patients on the Internal Medicine service under the supervision of the Transplant nephrologist. The Fellow makes sit-down interdisciplinary rounds with the renal transplant team in which the patient's current status and care plan are discussed. The Transplant nephrologist is on-call with the Fellow 24 hours a day for discussion of both routine and difficult transplant issues.

2. **UCLA Center for the Health Science Inpatient Transplantation experience.** See description of the Transplant rotation in section 4A.2 and 5C.
3. **Outpatient transplant encounters - General post-transplant follow-up clinic.** Demographics are as above for General Nephrology. All fellows attend the General Transplant Clinic on an ongoing basis during the entire clinical training program  $\frac{1}{2}$  day per week (Wednesday mornings). An average of 40-45 patients are seen in each clinic. Patients seen have had their transplants as early as the prior week or as long as 30 years ago. This clinic is an opportunity for fellows to learn both the acute outpatient management of patients with a renal allograft and to manage the patient who has had an allograft for decades. Unlike other transplantation programs in private institutions where there is pressure to return the patients to the referring physician for post-transplantation management, the vast majority of the patients transplanted at Harbor-UCLA Medical Center are from our own program and their post-transplant management is continuous with the Transplant team and includes long duration follow-up. Differences in the risk of rejection, the nature of the infections observed over time and the extra-renal complications and morbidity events are appreciated and managed.

**Recipient evaluations, wait-list follow-up, and live renal donor clinics.** Demographics are as above in for General Nephrology. During approximately two of the months that the Fellows are assigned to the Transplantation service at Harbor-UCLA Medical Center, the focus is on outpatient transplantation evaluation and management rather than inpatient activities. In place of the five  $\frac{1}{2}$  days spent on inpatient activities by the Fellow focusing on hospitalized patients, during this period of time the Fellow spends four  $\frac{1}{2}$  days for intensive education on the outpatient evaluation of new transplant referrals, re-evaluation of patients on the waiting list, and evaluations of live renal donors. Since most Nephrologists will not be involved in the acute care of the newly transplanted patient, but instead will be heavily involved in the referral of patients for transplantation, the need to maintain the patients' care so that the patient is not on the "on-hold" list is also key to the training of a nephrologist. In the case of the live renal donor evaluation, understanding both the ethical issues and the medical issues will help the Nephrologist consultant to explain the results of donor evaluations to patients, so we believe that some education in this area is also helpful, and we have expanded our education program to some targeted experience in this area. Furthermore, some nephrologists are needed to perform these independent evaluations on live Transplant donors. This targeted educational experience may serve to stimulate a trainee to pursue this niche area of practice. The Outpatient transplant encounter also includes one  $\frac{1}{2}$  day per week that is free. Fellows may elect to use the time off, or may wish to spend extra time on their research projects, on more advanced training in renal Ultrasonography, on their PBLI/CQI projects, or on a self-learning program. This time is intended to be used in the most fruitful way envisioned by the individual trainee. For some, that may be some additional needed free-time. For others, using it for didactic purposes would be more advantageous. These choices will be made in consultation with the Program Director.

#### 4) Patient characteristics (number, demographics)

**Inpatients** - The average inpatient renal transplant census at Harbor-UCLA Medical Center is 2-6 patients. Approximately 40 patients received renal transplants at Harbor-UCLA Medical Center in 2008. Patient demographics are similar to those for general nephrology patients. The average inpatient renal transplant census at the UCLA Medical Center is 25-40 patients. Approximately 600 patients received renal transplants at UCLA Center for the Health Sciences in 2008. Patient demographics are similar to those for general nephrology patients.

The demographic at the UCLA Center for the Health Sciences is different than that at Harbor-UCLA. The patient population more closely reflects the demographic of Los Angeles County, which is approximately 44% Hispanic, 33% European-American, 11% African-American, and 12% others. Patients tend to be of middle and upper middle class. The program carries out more than 500 renal transplants a year, which is the primary focus of training. However, there is additional exposure to renal disease in patients with liver, heart, lung and bone marrow transplants.

**Outpatients** – Over 1,000 patients are followed in the Harbor-UCLA Post-Transplant Clinic. An average of 35 - 40 patients are seen in the weekly Post-Transplant Clinic at Harbor-UCLA. The Pre-Transplant and bi-annual Re-evaluation Transplant Evaluation Clinics evaluate up to twelve patients per session, five days each week. Patient demographics are similar to those for general nephrology patients.

#### 5) Procedural training (see Transplant Table)

1. **Percutaneous biopsy of transplanted kidneys** – performed by the Fellow on inpatients on their service or outpatients they have seen in Post-Transplant Clinic. All renal transplant biopsies on inpatients are performed by the Fellow in the presence of the Attending.

#### 6) Teaching methods (see Transplant Table)

##### 1. Educational training

- a. **Handouts** - At the beginning of the Fellowship, Fellows are provided with associate membership to the American Society of Nephrology and the National Kidney Foundation, providing them with their own subscriptions to JASN, NephSap, CJASN and AJKD journals. Fellows are also given access to UpToDate on the hospital computer system, and in their on-call room. Hundreds of additional journals and thousands of textbooks are available at the Parlow Library adjacent to the hospital, and is open Monday through Friday from 8:00 am to 7:30 pm. Additionally, they are provided access to the Handbook of Renal Transplant Protocols for the Harbor-UCLA Medical Center.

##### 2. Didactic sessions

- a. **Conferences as outlined above.** All of the conferences outlined above, including Nephrology Grand Rounds, Practice-based learning and improvement conference, Journal clubs, Medical Grand Rounds, Pathophysiology conference, Research conference, Introductory course, and Pathology conference include educational experiences involving renal transplantation. In addition to those venues, the Renal Transplant service also provides the following didactics:

- 1) **Weekly Transplant conference** – Renal transplant issues are covered in detail in the didactic conference held each Wednesday just prior to the start of the Transplant clinic. Sessions are devoted to recipient evaluation, mechanisms of allograft

rejection, immunosuppressive drugs, prophylaxis and treatment of graft rejection, non-rejection causes of graft dysfunction, major causes of post-transplant morbidity and mortality, and renal disease associated with liver, heart and bone marrow transplantation.

- b. **Primer Course** - At the beginning of the Fellowship, a series of lectures are given during our intensive introductory course to provide a basic level of instruction regarding the evaluation and management of newly transplanted patients. The lectures cover the medical evaluation of the immediate pre-transplant patient, immunosuppression, the approach to an elevated creatinine post-transplantation, and fever in transplant recipients.
  - 3. **Combined Renal Transplant/Infectious Diseases Conference** – Classical, as well as unusual infectious disease complications are presented and discussed by the Renal Fellow and the Infectious Disease Fellow in a joint presentation. Nephrology Transplant and Infectious Disease faculty are also both in attendance to facilitate discussion.
  - 4. **Inpatient attending rounds** – Fellows round daily with the Nephrology Transplant attending.
- 7) **Assessment and evaluation of Fellows (see Transplant Table)**
- A. Clinical encounters – A variety of instruments are used to assess Fellow performance. The specific evaluation utilized is indicated in the Transplant Table. These include:
    - 1) **Checklist** - First, the goals and objectives of the Transplant rotation are reviewed at the start of the rotation. Then, Fellows are evaluated quarterly by the Transplant attendings (Drs. Barba and Tong), and the results are collated and discussed with the Program Director. The Transplant and Program Directors use a scale from 1-7 to evaluate the Fellow's patient care, medical knowledge, professionalism, interpersonal and communication skills, practice-based learning and improvement, and systems-based practice as it pertains to transplant. Fellows receive a written copy of the evaluation and review these orally with the Program Director. If there is any significant issue, the attending immediately communicates this to the Program Director who meets with the attending and fellow to develop an action plan to address the issue. The Fellow's performance in this area is then reassessed, by Checklist by the inpatient attendings, in three months and reviewed with the Program Director.
    - 2) **360 evaluation** – this evaluation is completed by patients, transplant nurses, social workers, dieticians, pharmacists, and nurse practitioners in order to give a broad sense of how the Fellow delivers patient care and interacts with members of the transplant health care interdisciplinary team. It is completed every 6 months. Fellows review this with the Program Director. Problem areas (scores under "5") are identified and an action plan developed. Fellows are reassessed in 6 months with particular attention to these problem areas.
    - 3) **Written exam** – At the end of the first year, Fellow's are given the local UCLA-wide written examination (multiple choice style). Their performance is reviewed with the Program Director. Transplant areas in need of improvement are identified and an action plan is developed to address these with the Transplant Nephrology Attending.
    - 4) **Resident portfolio** – The fellow will keep a log of the number of acute Transplant patients for whom they participated in management, and also a log on the number of allograft biopsies performed, indication, list any complications, and data on who the proctor of the procedure was. These logs will be reviewed by the Program Director quarterly and kept in the Fellow's portfolio.

- 5) **Mini-clinical examination (Mini-CEX)** – These are given about twice in the first year in the inpatient and outpatient setting, to provide formative input on the fellow's progression towards obtaining clinical competence relevant to transplant patient care.
- 6) **Procedures** – Fellows must keep a log of all transplant kidney biopsies indicating date, attending, patient identifier, indication and complications.
- 7) **Conferences** – Fellows attendance at conferences is documented. Participation in journal clubs and case-based presentations, as they relate to transplant, is discussed with the Program Director during the quarterly evaluation.
- 8) **Final (summative) evaluation** - This evaluation includes a review of the Fellow's performance during the final period of education, and verifies that the Fellow demonstrated sufficient professional ability to practice competently and independently

## Transplant Nephrology Table - Months 1-12

Competency category	Competency objectives	Transplant objectives relevant to competency	Teaching Methods	Evaluation Methods	Acceptable Performance
Patient care	Exhibit caring and respectful behaviors	Exhibit caring and respectful behaviors towards transplant patients	Attending teaching Conferences Orientation Core lectures	360 evaluation Quarterly checklist Mini-CEX	≤10% unacceptable ≥ 3 first quarter ≥ 4 last quarter
	Gather essential and accurate information about their patients	Gather essential information about fellow's transplant patient	Attending teaching Conferences Core lectures	Quarterly checklist Mini-CEX 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable
	Make informed decisions about diagnostic and therapeutic interventions	Begin to understand the basics of making informed decisions about diagnostic and therapeutic interventions in transplant patients	Attending teaching Conferences Core lectures	Quarterly checklist	≥ 3 first quarter ≥ 4 last quarter
	Develop and carry out patient management plans	Begin to develop transplant patient management plans	Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable
	Counsel and educate patients and families	Counsel and educate transplant patients and families with regard to renal transplant types, socioeconomics, support systems, diet, lifestyle, medications	Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation Mini-CEX	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable
	Use information technology	Use information technology to assist caring for transplant patients, including UpToDate, NIH information and databases, NephSAP, electronic medical records, PubMed, and other sources	Attending teaching Orientation Conferences	Quarterly checklist	≥ 3 first quarter ≥ 4 last quarter
	Perform: Physical exam	Examine the transplant patient, particularly with regard to transplant-related problems, including examination of the transplant site	Attending teaching Conferences Core lectures	Quarterly checklist Mini-CEX	≥ 3 first quarter ≥ 4 last quarter
	Perform: Procedures	Understand the principles of informed consent, indications, contraindications, alternative procedures, and the risks and benefits, and understand the correct procedural techniques for: 1. Renal transplant biopsy	Attending teaching Conferences Core lectures	Quarterly checklist	≥ 3 first quarter ≥ 4 last quarter
	Provide preventative health care services	Understand preventative health care services relevant to transplant patients	Conferences Attending teaching	Quarterly checklist Chart-stimulated recall	≥ 3 first quarter ≥ 4 last quarter
Work within a team of health care professionals	Work within the transplant health care team, including attendings, nurses, nurse coordinators, social workers, physician extenders, pharmacists, and administrative assistants	Conferences Attending teaching Orientation	Quarterly checklist 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable	

<b>Medical knowledge</b>	Demonstrate investigatory and analytic thinking about clinical situations	Begin to demonstrate investigatory and analytic thinking about clinical transplant situations	Attending teaching Core lectures Conferences Journal club Clinical meetings Orientation	Quarterly checklist Mini-CEX	≥ 3 first quarter ≥ 4 last quarter
	Know and apply the basic and clinically supportive sciences	Fellows will gather the data and begin to develop the fund of knowledge necessary for: a. Pre-transplant selection, evaluation and preparation of transplant recipients and donors b. Understanding of immunosuppressant drug effects and toxicity c. Immediate postoperative management of transplant recipients d. Understanding of immunologic principals of types and mechanisms of renal allograft rejection e. Clinical diagnosis of all forms of rejection including laboratory, histopathologic and imaging techniques f. Prophylaxis and treatment of allograft rejection g. Recognition and medical management of nonrejection causes of allograft dysfunction, including urinary tract infections, acute renal failure, and others h. Understanding major causes of post-transplant morbidity and mortality i. Understanding of fluid, electrolyte, mineral and acid-base regulation in post-transplant patients j. Long-term follow-up of transplant recipients in the ambulatory setting including economic and psychosocial issues k. Understanding of principles of organ harvesting, preservation and sharing l. Understanding of renal disease in liver, heart and bone marrow transplant recipients	Attending teaching Core lectures Conferences Journal club Clinical meetings Orientation	Quarterly checklist Mini-CEX	≥ 3 first quarter ≥ 4 last quarter
<b>Practice-based learning and improvement</b>	Analyze own practice and perform practice-based improvement using a systematic methodology	Fellow will hold up a mirror to themselves to document, assess, and improve their practice. This will involve: a. Monitoring their practice b. Reflecting on or analyzing their practice to identify learning or improvement needs c. Engaging in a learning or plan improvement While these objectives are relevant to transplant care, the Fellow may do this PBLI project as part of another area (dialysis, general nephrology).	Attending teaching Case-based presentations Journal club Participation in CQI Exit rounds on patient discharge M&M on own patients Conferences Log of significant events and plan to address Assigned faculty mentor	Fellow portfolio (Catalogue of questions and issues that arose during patient care along with copies of the data sources used, and actions taken, to address the specific question or issue).	Case-based talks* Journal clubs* M&M* Checklists Log of significant event and how addressed CQI project started ≥ 3 first quarter ≥ 4 last quarter  *Conference performance evaluated by TPD

	Use evidence from scientific studies related to patients' health problems	Use evidence from scientific studies related to transplant patients' health problems	Attending teaching Case-based presentations on fellow's own pts. Journal club	Quarterly checklist Fresno Test	≥ 3 first quarter ≥ 4 last quarter  Formative
	Apply knowledge of study designs and statistical methods to appraising clinical studies and other information	Begin to understand study designs and statistical methods to appraising clinical studies and other information	Statistics and epidemiology course Conferences Journal club Assigned faculty mentor	Quarterly checklist Fresno Test	≥ 3 first quarter ≥ 4 last quarter Formative
	Use information technology	Use information technology as itemized in Patient Care above	Attending teaching Orientation Conferences	Quarterly checklist Resident portfolio	≥ 3 first quarter ≥ 4 last quarter See "Analyze own practice..." above
	Facilitate the learning of others	Facilitate the learning of others, including faculty, residents, fellows, physician extenders and nurses. Initially, this is based on assigned literature review.	Role models Attending teaching Conferences	Quarterly checklist 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable
<b>Interpersonal &amp; communication skills</b>	Maintain a therapeutic and ethical relationship with patients	Maintain a therapeutic and ethical relationship with transplant patients	Role models Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable
	Demonstrate effective listening and writing skills	Demonstrate effective listening and writing skills	Role models Attending teaching	Quarterly checklist Mini-CEX 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable
<b>Professionalism</b>	Demonstrate respect, compassion, and integrity	Demonstrate respect, compassion, and integrity	Role models Attending teaching	Quarterly checklist Mini-CEX 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable
	Demonstrate an ethically sound practice	Demonstrate an ethically sound practice	Role models Attending teaching Conferences	Quarterly checklist 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable
	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Role models Attending teaching Conferences	Quarterly checklist Mini-CEX 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable

<b>Systems-based practice</b>	Understand interaction of their practices with the larger system	Begin to understand interaction between fellow's practice and the transplant staff, administration, surgical service, radiology, medical consult services, the clinic, and the hospital	Interdisciplinary rounds Conferences Attending teaching	360 evaluation	≤10% unacceptable
	Understand types of medical practice and delivery systems	Begin to understand how transplant programs are organized	Conferences Attending teaching	Quarterly checklist	≥ 3 first quarter ≥ 4 last quarter
	Practice cost-effective health care	Begin to understand how to practice cost-effective transplant care	Conferences Core lectures Attending teaching	Quarterly checklist 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable
	Advocate for quality patient care	Begin to understand how to advocate for transplant patient quality care	Attending teaching Participation in CQI Conferences	Quarterly checklist 360 evaluation	≥ 3 first quarter ≥ 4 last quarter ≤10% unacceptable

## Transplant Nephrology Table - Months 13-23

Competency category	Competency objectives	Transplant objectives relevant to competency	Teaching Methods	Evaluation Methods	Acceptable Performance
Patient care	Exhibit caring and respectful behaviors	Exhibit caring and respectful behaviors towards transplant patients	Attending teaching Conferences Core lectures	360 evaluation Quarterly checklist Mini-CEX	≤10% unacceptable ≥ 4.5
	Gather essential and accurate information about their patients	Gather essential information about fellow's transplant patient	Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation Mini-CEX	≥ 4.5 ≤10% unacceptable
	Make informed decisions about diagnostic and therapeutic interventions	Synthesize data and begin to make informed decisions about diagnostic and therapeutic interventions in transplant patients	Attending teaching Conferences Core lectures	Quarterly checklist	≥ 4.5
	Develop and carry out patient management plans	Develop transplant patient management plans. Understand how to carry out such plans.	Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 4.5 ≤10% unacceptable
	Counsel and educate patients and families	Counsel and educate transplant patients and families with regard to renal transplant types, socioeconomics, support systems, diet, lifestyle, medications	Attending teaching Conferences Core lectures	Quarterly checklist Mini-CEX 360 evaluation	≥ 4.5 ≤10% unacceptable
	Use information technology	Use information technology to assist caring for transplant patients, including UpToDate, NIH information and databases, NephSAP, electronic medical records, PubMed, and other sources	Attending teaching Conferences	Quarterly checklist	≥ 4.5
	Perform: Physical exam	Examine the transplant patient, particularly with regard to transplant-related problems, including examination of the transplant site	Attending teaching Conferences Core lectures	Quarterly checklist Mini-CEX	≥ 4.5
	Perform: Procedures	Understand the principles of informed consent, indications, contraindications, alternative procedures, and the risks and benefits, and demonstrate the correct procedural techniques for: 1. Renal transplant biopsy	Attending teaching Conferences Core lectures	Quarterly checklist	≥ 4.5
	Provide preventative health care services	Provide preventative health care services relevant to transplant patients	Conferences Attending teaching	Quarterly checklist	≥ 4.5
Work within a team of health care professionals	Work within the transplant health care team, including attendings, nurses, nurse coordinators, social workers, physician extenders, pharmacists, and administrative assistants	Conferences Attending teaching	Quarterly checklist 360 evaluation	≥ 4.5 ≤10% unacceptable	

<b>Medical knowledge</b>	Demonstrate investigatory and analytic thinking about clinical situations	Demonstrate investigatory and analytic thinking about clinical transplant situations	Attending teaching Core lectures Conferences Journal club Clinical meetings	Quarterly checklist Written exam	≥ 4.5  Pass
	Know and apply the basic and clinically supportive sciences	Fellows will continue to acquire the fund of knowledge necessary for: a. Pre-transplant selection, evaluation and preparation of transplant recipients and donors b. Understanding of immunosuppressant drug effects and toxicity c. Immediate postoperative management of transplant recipients d. Understanding of immunologic principals of types and mechanisms of renal allograft rejection e. Clinical diagnosis of all forms of rejection including laboratory, histopathologic and imaging techniques f. Prophylaxis and treatment of allograft rejection g. Recognition and medical management of nonrejection causes of allograft dysfunction, including urinary tract infections, acute renal failure, and others h. Understanding major causes of post-transplant morbidity and mortality i. Understanding of fluid, electrolyte, mineral and acid-base regulation in post-transplant patients j. Long-term follow-up of transplant recipients in the ambulatory setting including economic and psychosocial issues k. Understanding of principles of organ harvesting, preservation and sharing l. Understanding of renal disease in liver, heart and bone marrow transplant recipients	Attending teaching Core lectures Conferences Journal club Clinical meetings	Quarterly checklist Mini-CEX Written exam	≥ 4.5  Pass
<b>Practice-based learning and improvement</b>	Analyze own practice and perform practice-based improvement using a systematic methodology	Fellow will hold up a mirror to themselves to document, assess, and improve their practice. This will involve: a. Monitoring their practice b. Reflecting on or analyzing their practice to identify learning or improvement needs c. Engaging in a learning or plan improvement  While these objectives are relevant to transplant care, the Fellow may do this PBLI project as part of another area (dialysis, general nephrology).	Attending teaching Case-based presentations Journal club Participation in CQI Exit rounds on patient discharge M&M on own patients Conferences Log of significant events and plan to address Assigned faculty mentor	Fellow portfolio (Catalogue of questions and issues that arose during patient care along with copies of the data sources used, and actions taken, to address the specific question or issue).	Case-base talks* Journal clubs* M&M* ≥ 6 on checklists Log of significant events and how addressed CQI project data analyzed and improvement plan developed ≥ 4.5  *Conference performance evaluated by TPD

	Use evidence from scientific studies related to patients' health problems	Use evidence from scientific studies related to transplant patients' health problems	Attending teaching Case-based presentations on fellow's own pts. Journal club	Journal Club Written exam	≥ 4.5 Pass
	Apply knowledge of study designs and statistical methods to appraising clinical studies and other information	Apply knowledge of study designs and statistical methods to appraising clinical studies and other information	Statistics and epidemiology course Conferences Journal club Assigned faculty mentor	Journal club and PBLI conference evaluations	≥ 4.5 Correct
	Use information technology	Use information technology as itemized in Patient Care above	Attending teaching Orientation Conferences	Quarterly checklist Resident portfolio	≥ 4.5 See "Analyze own practice..." above
	Facilitate the learning of others	Facilitate the learning of others, including faculty, residents, fellows, physician extenders and nurses	Role models Attending teaching Conferences	Quarterly checklist 360 evaluation	≥ 4.5 ≤10% unacceptable
<b>Interpersonal &amp; communication skills</b>	Maintain a therapeutic and ethical relationship with patients	Maintain a therapeutic and ethical relationship with transplant patients	Role models Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 4.5 ≤10% unacceptable
	Demonstrate effective listening and writing skills	Demonstrate effective listening and writing skills	Role models Attending teaching	Quarterly checklist Mini-CEX 360 evaluation	≥ 4.5 ≤10% unacceptable
<b>Professionalism</b>	Demonstrate respect, compassion, and integrity	Demonstrate respect, compassion, and integrity	Role models Attending teaching	Quarterly checklist Mini-CEX 360 evaluation	≥ 4.5 ≤10% unacceptable
	Demonstrate an ethically sound practice	Demonstrate an ethically sound practice	Role models Attending teaching Conferences	Quarterly checklist 360 evaluation	≥ 4.5 ≤10% unacceptable
	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Role models Attending teaching Conferences	Quarterly checklist Mini-CEX 360 evaluation	≥ 4.5 ≤10% unacceptable

<b>Systems-based practice</b>	Understand interaction of their practices with the larger system	Understand interaction between fellow's practice and the transplant staff, administration, surgical service, radiology, medical consult services, the clinic, and the hospital	Interdisciplinary rounds Conferences Attending teaching	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 4.5
	Understand types of medical practice and delivery systems	Understand how transplant programs are organized	Conferences Attending teaching	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 4.5
	Practice cost-effective health care	Practice cost-effective transplant care	Conferences Attending teaching	Written exam Quarterly checklist	Pass ≥ 4.5
	Advocate for quality patient care	Advocate for transplant patient quality care by demonstrating proactive efforts towards transplant CQI	Conferences Core lectures Attending teaching	Quarterly checklist 360 evaluation	≥ 4.5 ≤10% unacceptable

## Transplant Nephrology Table – Month 24

Competency category	Competency objectives	Transplant objectives relevant to competency	Teaching Methods	Evaluation Methods	Acceptable Performance
Patient care	Exhibit caring and respectful behaviors	Exhibit caring and respectful behaviors towards transplant patients	Attending teaching Conferences Core lectures	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 5
	Gather essential and accurate information about their patients	Gather essential information about fellow's transplant patient	Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Make informed decisions about diagnostic and therapeutic interventions	Make informed decisions about diagnostic and therapeutic interventions in transplant patients	Attending teaching Conferences Core lectures	Quarterly checklist	≥ 5
	Develop and carry out patient management plans	Develop and carry out transplant patient management plans	Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Counsel and educate patients and families	Counsel and educate transplant patients and families with regard to renal transplant types, socioeconomics, support systems, diet, lifestyle, medications	Attending teaching Conferences Core lectures Interdisciplinary rounds	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Use information technology	Use information technology to assist caring for transplant patients, including UpToDate, NIH information and databases, NephSAP, electronic medical records, PubMed, and other sources	Attending teaching Conferences	Quarterly checklist	≥ 5
	Perform: Physical exam	Examine the transplant patient, particularly with regard to transplant-related problems, including examination of the transplant site	Attending teaching Conferences Core lectures	Quarterly checklist	≥ 5
	Perform: Procedures	Understand the principles of informed consent, indications, contraindications, alternative procedures, and the risks and benefits, and demonstrate the correct procedural techniques for: 1. Renal transplant biopsy	Attending teaching Conferences Core lectures	Quarterly checklist	≥ 5
	Provide preventative health care services	Provide preventative health care services relevant to transplant patients	Interdisciplinary rounds Conferences Attending teaching	Quarterly checklist	≥ 5
	Work within a team of health care professionals	Work within the transplant health care team, including attendings, nurses, nurse coordinators, social workers, physician extenders, pharmacists, and administrative assistants	Interdisciplinary rounds Conferences Attending teaching	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable

<b>Medical knowledge</b>	Demonstrate investigatory and analytic thinking about clinical situations	Demonstrate investigatory and analytic thinking about clinical transplant situations	Attending teaching Core lectures Conferences Journal club Clinical meetings	Quarterly checklist	≥ 5
	Know and apply the basic and clinically supportive sciences	Fellows will acquire the fund of knowledge necessary for: a. Pre-transplant selection, evaluation and preparation of transplant recipients and donors b. Understanding of immunosuppressant drug effects and toxicity c. Immediate postoperative management of transplant recipients d. Understanding of immunologic principals of types and mechanisms of renal allograft rejection e. Clinical diagnosis of all forms of rejection including laboratory, histopathologic and imaging techniques f. Prophylaxis and treatment of allograft rejection g. Recognition and medical management of nonrejection causes of allograft dysfunction, including urinary tract infections, acute renal failure, and others h. Understanding major causes of post-transplant morbidity and mortality i. Understanding of fluid, electrolyte, mineral and acid-base regulation in post-transplant patients j. Long-term follow-up of transplant recipients in the ambulatory setting including economic and psychosocial issues k. Understanding of principles of organ harvesting, preservation and sharing l. Understanding of renal disease in liver, heart and bone marrow transplant recipients	Attending teaching Core lectures Conferences Journal club Clinical meetings	Quarterly checklist	≥ 5
<b>Practice-based learning and improvement</b>	Analyze own practice and perform practice-based improvement using a systematic methodology	Fellow will hold up a mirror to themselves to document, assess, and improve their practice. This will involve: a. Monitoring their practice b. Reflecting on or analyzing their practice to identify learning or improvement needs c. Engaging in a learning or plan improvement d. Applying the new learning or improvement  While these objectives are relevant to transplant care, the Fellow may do this PBLI project as part of another area (dialysis, general nephrology).	Attending teaching Case-based presentations Journal club Participation in CQI Exit rounds on patient discharge M&M on own patients Conferences Log of significant events and plan to address Assigned faculty mentor	Fellow portfolio (Catalogue of questions and issues that arose during patient care along with copies of the data sources used, and actions taken, to address the specific question or issue).	Case-based talks* Journal clubs* M&M* ≥ 5 on checklists Log of significant events and how addressed CQI project - intervention/begin data analysis  *Conference performance evaluated by TPD

	Use evidence from scientific studies related to patients' health problems	Use evidence from scientific studies related to transplant patients' health problems	Attending teaching Case-based presentations Journal club	Quarterly checklist	≥ 5
	Apply knowledge of study designs and statistical methods to appraising clinical studies and other information	Apply knowledge of study designs and statistical methods to appraising clinical studies and other information	Statistics and epidemiology course Conferences Journal club Assigned faculty mentor	Quarterly checklist	≥ 5
	Use information technology	Use information technology as itemized in Patient Care above	Attending teaching Orientation Conferences	Quarterly checklist Resident portfolio	≥ 5 See "Analyze own practice..." above
	Facilitate the learning of others	Facilitate the learning of others, including faculty, residents, fellows, physician extenders and nurses	Role models Attending teaching Conferences	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
<b>Interpersonal &amp; communication skills</b>	Maintain a therapeutic and ethical relationship with patients	Maintain a therapeutic and ethical relationship with transplant patients	Role models Attending teaching Conferences Core lectures	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Demonstrate effective listening and writing skills	Demonstrate effective listening and writing skills	Role models Attending teaching	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
<b>Professionalism</b>	Demonstrate respect, compassion, and integrity	Demonstrate respect, compassion, and integrity	Role models Attending teaching	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable ≥ 4.5
	Demonstrate an ethically sound practice	Demonstrate an ethically sound practice	Role models Attending teaching Conferences	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Demonstrate sensitivity to patients' culture, age, gender, and disabilities	Role models Attending teaching Conferences	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable

<b>Systems-based practice</b>	Understand interaction of their practices with the larger system	Understand interaction between fellow's practice and the transplant staff, administration, surgical service, radiology, medical consult services, the clinic, and the hospital	Interdisciplinary rounds Conferences Attending teaching	360 evaluation Quarterly checklist	≤10% unacceptable ≥ 5
	Understand types of medical practice and delivery systems	Understand how transplant programs are organized	Conferences Attending teaching	Checklist Quarterly checklist	≥ 5
	Practice cost-effective health care	Practice cost-effective transplant care	Conferences Core lectures Attending teaching	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable
	Advocate for quality patient care	Advocate for transplant patient quality care by demonstrating proactive efforts towards transplant CQI	Attending teaching Participation in CQI Conferences	Quarterly checklist 360 evaluation	≥ 5 ≤10% unacceptable

## 7) Assessment and evaluation of Fellows:

Clinical encounters – A variety of instruments are used to assess Fellow performance. These include:

- 1) **Checklist** - Fellows are evaluated quarterly by all attendings who have had interactions with the individual Fellow. The attending uses a scale from 1-7 to assess patient care knowledge, skills, attitudes and behaviors. Fellows review these orally with the attending and both individuals sign the review form. If there is any significant issue, the attending immediately communicates this to the Program Director who meets with the attending and fellow to develop an action plan to address the issue. The Fellow's performance in this area is then reassessed, by Checklist by the inpatient attendings, in one month and reviewed with the Program Director. During the first 3 months, scores must be  $\geq 3$  (novice level performance); by 12 months of fellowship, all scores must be " $\geq 4$ " (satisfactory) or higher; scores under this will be reviewed with the Program Director, specific problem areas identified, and the appropriate corrective action taken. The problem areas are re-evaluated. During the next 11 months, scores must average "4.5" or over; during the last month (Month 24), scores must average "5".
- 2) **360 evaluation** – this evaluation is completed by patients, dialysis technicians, dialysis nurses, social workers, dieticians, pharmacists, and nurse practitioners in order to give a broad sense of how the Fellow delivers patient care and interacts with members of the dialysis health care interdisciplinary team. It is completed yearly. Fellows review this with the Program Director. Problem areas (<10% satisfaction) are identified and an action plan developed. Fellows are reassessed with particular attention to these problem areas.
- 3) **Written exams** – At the end of the first year, Fellow's are given a local in-service exam based on the year-long Pathophysiology course (written examination, multiple choice style). Their performance is reviewed with the Program Director. Areas in need of improvement are identified. Second year fellows take the national inservice exam. Results are reviewed with the Program Director **and an action plan is developed to address these.**
- 4) **Resident portfolio** – Please see details under General Nephrology section. A fellow's project may be in the consult, outpatient, or transplant areas.
- 5) **Mini-clinical examination (Mini-CEX)** – These are given about two times in the first year, in the inpatient and outpatient setting, to provide formative input on the fellow's progression towards obtaining clinical competence relevant to dialysis patient care.
- 6) **Procedures** – Fellows are required to keep a log of temporary vascular access procedures (for hemodialysis or CRRT). Competence is determined by supervising attendings; there is no minimum number of temporary vascular access procedures required. Once deemed competent, fellows may place temporary vascular access without direct attending supervision of the procedure. There is no defined minimum requirement for number of hemodialysis, PD or CRRT patients.
- 7) **Conferences** – Fellows attendance at conferences is documented. Participation in journal clubs, case-based presentations, and Landmark articles review, as they relate to dialysis, is discussed with the Program Director during the 6-month evaluation.
- 8) **Final (summative) evaluation** - This evaluation includes a review of the Fellow's performance during the final period of education, and verifies that the Fellow demonstrated sufficient professional ability to practice competently and independently

- 8) **Assessment and evaluation of attendings by Fellows** - discussed in section below devoted to this topic.
- E. **Special areas** - It is critical to emphasize the importance of psychosocial and economic issues confronting patients with renal disease, ethical issues relevant to care of patients with renal disease, optimizing the relationship of the nephrologist with other health care providers, and optimizing mechanisms towards achieving life-long learning as a nephrologist. These issues are covered in detail in the above curriculum, however, they are not always clearly identified in the curriculum's goals as being of paramount significance. In addition, formal lectures on statistics and epidemiology, geriatric evaluation, nursing home care, the transition from Pediatrics and Adolescent Nephrology care to Adult Nephrology care, the physiology and pathophysiology of pregnancy, CKD and ESRD pharmacology issues, and dialysis discontinuation/end-of-life issues are offered. These special aspects of the curriculum are discussed below, and the "lectures" may be experienced in the context of the Nephrology Grand Rounds, Medical Grand Rounds, Journal Club, Pathophysiology course, or a special lecture given by a visiting professor:
- a. **Dialysis initiation, discontinuation and end-of-life issues** – Fellows are given at least one one-hour lecture on dialysis discontinuation and end-of-life issues. In addition, the issues surrounding dialysis initiation are discussed. These issues are also addressed on the inpatient service and in the clinics. The RPA/ASN Clinical Practice Guidelines for Shared Decision-Making in the Appropriate Initiation of and Withdrawal from Dialysis form part of the discussion basis.
  - b. **Geriatric assessment** – Fellows are given at least one hour of didactic lectures devoted to the physiology and pathology of the aging kidney, altered drug metabolism with aging, and drug toxicity in the elderly.
  - c. **Medical ethics** – Fellows attend at least one one-hour lecture during the course of their fellowship devoted to renal-related ethical issues. These focus on dialysis initiation and withdrawal, dialysis funding, renal transplant donor and recipient selection, kidney transplant availability, and other renal-related issues. The social and economic impact of their decisions and the need to be the patient's advocate are discussed. All fellows performing clinical research will obtain education and certification in HIPAA rights and the ethical conduct of research.
  - d. **Health care policy and legal medicine** – In addition to health policy issues related to end-of-life care, fellows attend at least one one-hour lectures on health care policy and legal medicine, focusing on dialysis and renal transplant.
  - e. **Physician impairment, risk management, patient safety** – At the time of initial hire, all fellows spend a full day of orientation. During this time, they are given instruction in physician impairment, OSHA, infection control, risk management, and HIPAA compliance, which is reiterated to them by the Program Director.
  - f. **Quality assessment and quality improvement** - These processes are addressed by relevant projects as described in each section (General Nephrology, Transplant and Dialysis) above. Each fellow chooses at least one System-based problem to evaluate and report on, and at least one Practice-Based Learning and Improvement Project. Along with Case-based reviews, and Morality and Morbidity conferences, these form the subjects of the Monday 1PM Fellows Practice-Based Learning and Improvement weekly conference.
  - g. **Medical genetics** – Fellows are given several lectures focusing on renal-related medical genetics issues, including discussion of relevant techniques, single gene mutations, and polygenic disorders.
  - h. **Pain control** – The California Board of Medical Quality Assurance has required 12 hours of CME for license renewal, so this is handled outside of the scope of the training program by independent study.
  - i. **Transition from Pediatrics and Adolescent Nephrology care to Adult Nephrology care.** Fellows attend at least one one-hour lecture during the course of their fellowship devoted to adolescent to adult care transition, with special attention to medical and psychosocial differences.

- j. **Physiology and pathophysiology of pregnancy.** Fellows attend at least one one-hour lecture during the course of their fellowship devoted to the function and malfunction of the kidney in pregnancy. Fellows keep a log of pregnant women that they have followed during pregnancy.
- k. **CKD and ESRD pharmacology issues.** Fellows attend at least one one-hour lecture during the course of their fellowship devoted to special considerations regarding drug dosing in CKD, nephrotic syndrome, ESRD and in patients receiving dialysis and CRRT.
- l. **Research courses** – All Fellows participating in clinical research take a self-education course in HIPAA regulations and on the ethics and laws governing clinical research. The courses are followed by two examinations, which, upon successful completion, results in the awarding of a certificate in each area. Fellows with an interest in academic medicine also take a course given by the NIH-sponsored GCRC, which includes the following lecture topics :

- Introduction to hypothesis testing- power and limitations of p value
- Analysis of continuous variables - T-test, ANOVA, linear regression
- Analysis of categorical variables - Chi-square. logistic regression
- Survival analysis
- Interpreting studies on therapeutic benefit
- Interpreting studies on harm
- Interpreting studies on diagnostic tests
- Interpreting studies on cost-effectiveness

In addition, fellows with a primary interest in basic science research are encouraged to attend the weekly Tuesday Basic Science Lecture series held in the GCRC Building.

#### F. **Assessment and evaluation of attendings by Fellows**

1. **Annual evaluation of faculty and training program** – Fellows complete a written form annually that confidentially evaluates the faculty and training program. They evaluate the effectiveness of the program in achieving of the goals and objectives identified in the curriculum above. The evaluation includes utilization of the resources, contribution of each institution, the financial and administrative support, the volume and variety of patients, effectiveness of inpatient and ambulatory teaching, the performance of all faculty members, and the quality of supervision. Fellows meet with the Program Director and any changes in the program that are made as a result of the review are documented. These evaluations are also reviewed with each attending (keeping the Fellow's name unknown) and documented in writing.
2. **Semi-annual program evaluation by Faculty** – All fellows and faculty formally meet to discuss how well the training program is meeting the goals and objectives of the curriculum. In addition, the curriculum itself is critically evaluated, along with all other issues raised during the Fellow and faculty evaluation of the program. Problems or areas of improvement are identified, a plan of action established, and the issues revisited, along with any new matters, at the next semi-annual meeting. Written minutes of these meetings are made and are available to all faculty. Any changes in the curriculum are presented to the entire clinical nephrology faculty for their approval. In practice, this committee meets as often as is felt necessary, but no less than every 6 months.

**G. Self-evaluation by Fellows** – The process of self-evaluation is important in the Fellow's development into a competent nephrologist and is intended to help establish a life-long pattern of self-assessment and self-improvement. Consequently, Fellows complete a self-evaluation semi-annually that they review with the Program Director. The goal is for the Program Director and Fellow to develop goals, and related action plans, based on this self-evaluation, so that the Fellow can continue to improve. This self-evaluation is not used to critique fellow performance, but only as a tool to help focus the Fellow's development.

## 8. Nephrology Research Training Program

**A. Research options in the Harbor-UCLA Fellowship program.** For most of our fellows, whose goal it is to enter the clinical practice of nephrology, research is conducted generally during 4 months, on average, in specific 1-month blocks. For those individuals who are planning a career in academic medicine, individualized programs are designed to meet the Fellow's specific needs. For the individuals wishing to have a career in academic medicine, 1-3 years of time devoted to research has been provided, with designated time for attending didactic courses at local colleges and research institutes, attending courses offered by the GCRC, weekly lab meetings with a designated mentor, laboratory journal clubs separate from the Divisional journal clubs, and performance of research projects under the guidance of faculty mentors who meet at least once a week with the Fellow. All fellows are able to choose their own mentors and projects.

### (1) Research Schedule:

Fellows meet with all research faculty to discuss possible research projects and mentorship. Fellows are expected may become involved in projects already in progress and not to be responsible for completely designing a new project, but, in rare instances, may be able to do so. Clinical fellows are not expected to obtain independent funding to support their salary or research activities. Fellows anticipating a career in academic medicine are expected to actively participate in the writing of grants for the support of the research training, although for such individuals, the Division will make a commitment for salary support in the event such a grant is not obtained after an appropriate effort is made. After identifying a mentor and project, Fellows are actively involved in the research project under the direction of the faculty mentor during the times allotted for research. Additional time may be devoted to this during the Transplant outpatient rotation if the fellow so elects. Thus, during the two years of fellowship, on average each Fellow is assigned approximately 4 months to research, although those interested in a career in academic medicine are encouraged to spend at least 1 year 9and some have spent 3 years) devoted to research.

### (2) Goals and Objectives of Research Program:

- a. Understand fundamentals of research including basics of research design, data analysis (biostatistics), public policy, economics, health education, designing trials, recruiting subjects, responsible use of informed consent, standards of ethical conduct of research, clinical epidemiology, outcomes analysis, and in the case of the basic research trainee, an understanding of the basic science area, techniques, study design, and interpretation.
- b. Gain hands-on experience with conducting a clinical research project including research design (where feasible), data analysis, subject recruitment, data collection, and manuscript preparation.
- c. Understand principles of grant and paper writing.
- d. Provide sufficient exposure to research to allow Fellows to make an informed decision about pursuing a career involving research.
- e. Provide sufficient exposure to research to allow Fellows to critically assess basic and clinical research literature and to be competent in using available medical informatics systems. Bibliographic retrieval and critical appraisal skills are of paramount importance.
- f. Become a co-author on a published manuscript or abstract, or present research at a national meeting.
- g. Give a Nephrology Grand Rounds lecture at the end of Year 2 based on the Fellow's research project
- h. For the Fellow with an interest in pursuing a career in academic medicine, submission of a K award with a faculty mentor is encouraged

**(3) Educational Training:**

**a. Didactic courses**

1. **GCRC course** - Fellows interested in research may attend the GCRC-sponsored courses. Topics covered include basics of research design, ethical conduct of research, responsible use of informed consent, data analysis (biostatistics), public policy, economics, health education, designing trials, recruiting subjects and other epidemiology issues, and outcomes analysis.
  2. **Division of Nephrology and Hypertension Clinical Research course** – Fellows perform self-directed study on HIPPA and ethics in research using a curriculum available at the Parlow Library, and take on-line tests leading to certification.
- b.** The research mentor-Fellow relationship is the primary means by which Fellows will achieve training in research and will include specific education that results in an understanding of fundamentals of research including basics of research design, data analysis (biostatistics), public policy, economics, health education, designing trials, recruiting subjects, responsible use of informed consent, standards of ethical conduct of research, clinical epidemiology, outcomes analysis, and in the case of the basic research trainee, an understanding of the basic science area, techniques, study design, and interpretation.

**(4) Nature of Supervision:**

Fellows should select a project and mentor, which must be approved by the Nephrology Fellowship Program Director. The Fellow's research activities will then be guided by the Research Mentor. This involves frequent meetings between the Fellow and mentor during which all aspects of conducting the research projects are addressed.

**(5) Means of Fellow Evaluation:**

The mentor provides the Fellow with ongoing informal feedback. In addition, the mentor meets with the Nephrology Training Program Director semiannually to report on the Fellow's progress. The Training Program Director also discusses the research progress with the Fellow during their semi-annual meetings. Evidence of successful completion of the Fellow research requirement includes presenting an abstract at a national meeting, publishing an abstract or manuscript, and/or presentation of the research to the Division of Nephrology and Hypertension for the one hour research conference and nephrology Grand Rounds.

- 9) Dealing with unsatisfactory Fellow performance** – This information is provided in the unlikely event that a serious problem is encountered with a Fellow; fortunately, this is an extremely rare event in the Division of Nephrology and Hypertension. In the event of a repeated unsatisfactory rating (failure to improve despite counseling and supervision), the Fellow meets with the Program Director and/or the faculty member involved to discuss his/her deficiencies. Written documentation is made of these meetings. If the Program Director and the faculty involved deems the Fellow's deficiencies severe enough, because of clinical incompetence or inability to exhibit professional attitudes, then the Fellow will be placed on probation. Short of probation, the Program Director may, in certain cases, require counseling for that Fellow. The Fellow will be advised of specific steps required to correct the stated deficiencies. One month later, the Fellow will be re-evaluated by the Program Director and the Attending(s) involved and written documentation made. If correction is not seen at this point, the Program Director will meet with all Nephrology faculty to make a decision whether to refuse to renew a Fellow's contract at the end of the year or to refuse to sign off on the Fellow's training. At any time a Fellow may express a grievance in writing either by requesting to meet all full-time faculty or entering

the appeal process of the University via the Chairman of the Department of Internal Medicine or via the Dean of the Medical School.

## **10) Guidelines for Promotion and Graduation**

### A. Clinical Track – 2 year clinical fellowship

(1) Promotion from 1<sup>st</sup> to 2<sup>nd</sup> year – The criteria for promotion are listed in the General Nephrology, Dialysis, and Transplant tables. All of these criteria must be met in order to be promoted. They must have been met within the last month of the 1<sup>st</sup> year of fellowship. Failure to meet all criteria will result in review by all Clinical Faculty with whom the Fellow has had contact in the past year, and placement on probation. The Fellows must demonstrate satisfactory performance over the next 1 month of clinical activities, as determined by the criteria for performance during year 1, in order to be allowed to continue in their training. Any exceptions will be determined on an individual basis by the entire Clinical Faculty, and will be based on all circumstances surrounding the Fellow's activities.

(2) Graduation – The criteria for graduation are listed in the General Nephrology and Transplant tables (labeled as 2<sup>nd</sup> year performance). All of these criteria must have been met over the last 3 months of fellowship in order to graduate. Failure to meet all criteria will result in review by all Clinical Faculty with whom the Fellow has had contact in the past year, and a decision made on a necessary course of action. Such action may include, but is not limited to, requirement for additional clinical activities, counseling, or other actions.

B. Research Track – 1 year clinical fellowship. The criteria for graduation are listed in the General Nephrology and Transplant tables are the same as for Month 24 in the Fellows who have a 24-month predominantly clinical training experience. Note that these criteria are labeled 2<sup>nd</sup> year since they pertain to the 2<sup>nd</sup> year clinical fellows, but they apply to fellows doing only 1 year of clinical fellowship. These criteria must have been met over the last 3 months of fellowship. All of these criteria must be met in order to graduate. Failure to meet all criteria will result in review by all Clinical Faculty with whom the Fellow has had contact in the past year, and a decision made on a necessary course of action. Such action may include, but is not limited to, requirement for additional clinical activities, counseling, or other actions.

## **11. Nephrology Fellowship Work, Duty Hours, Moonlighting and On-Call Policy**

### A. Work and duty hours

- (1) ACGME requires that Fellows not work more than 80 hours per week averaged over a 4-week period. Our program adheres to these guidelines.
- (2) Fellows are required by ACGME to be free of all work obligations for one day out of seven over a 4-week period. The Division strictly adheres to this policy. In reality, over the course of the Fellowship, Fellows are free of all work obligations for substantially more than the ACGME-required minimum.
- (3) The ACGME requires that adequate time for rest and personal activities is provided by a 10-hour time period between all daily duty periods and after in-house call. There is no in-house call (see C. below). Fellows may have to return at night to the hospital from home while on call. However, 6 fellows share this call, placing each at risk less than once a week during the 5 weekdays, and at-risk during on-call weekends.

B. The Division of Nephrology and Hypertension recognizes that fellow moonlighting can be complementary to the fellowship training experience. However, any fellow choosing to moonlight must do so with the clear understanding that fellowship training is their first priority and any actions interfering with the fellowship training program are strictly prohibited. Each moonlighting activity

must be approved in advance by the program director after being provided with a written description of the specific moonlighting activity, hours and frequency. This reporting must be completed and approval obtained from the Program Director before any moonlighting can begin. The following restrictions apply to fellow moonlighting:

- The fellow must be performing satisfactorily in the program.
  - If a fellow chooses to “moonlight,” he or she is responsible for their own liability coverage. Even if this activity is being performed at the University, or an affiliated hospital, and/or additional compensation is being provided to the fellow, it is outside the scope of a fellow’s duties as a house officer. The fellow should not wear a University lab coat or nametag while moonlighting.
  - If the fellowship director feels that the fellow’s “good standing” is at risk by the time spent moonlighting, he or she can prohibit such moonlighting even without placing the fellow on probation. This action and an explanation for it must be transmitted to the fellow both in person and in writing and to the fellow’s file.
  - As per GME regulations, fellows should not work more than 80 hours a week, when averaged over a four week period. Hours worked include training program hours and moonlighting hours.
  - Fellows may not moonlight while on-call.
- C. Fellows will be on-call about one out of six days. All call is from home – there is no in-house call. Fellows average one weekend in six on call (5 PM Friday to 8 AM Monday). Weekday call is from 6 PM until 8 AM the next morning and occurs approximately once every four weekdays (eg, Monday to Thursday). The On-call Fellow covers the Transplant Consultation and Outpatient phone calls. The On-call fellow sees and writes notes on all Transplant inpatients (weekends) and new admissions (nights and weekends), writing necessary dialysis orders and following patients on dialysis, and any other business relevant to covering the Nephrology and Transplant Services. On Friday, the Consult team will develop a list of the Consult patients who also should be seen and evaluated and have notes written on over the weekend. First year fellows must present all patients to the On-call Transplant and Consult nephrologists on Saturday and Sunday over the weekend. Any acute dialysis must be presented to the On-call nephrologist over the weekend and on weekday nights. One or two residents are typically on Nephrology Service at any time, but Internal Medicine residents do not take Nephrology call. Nephrology Attending physicians are responsible for supervising all care provided to inpatients and outpatients. The Attending physician is on-call 24 hours a day, providing teaching and back-up to the Fellow as needed.
- D. Fellows receive four weeks of paid vacation each year. All applications for leave, or special requests with respect to the call schedule, must be submitted preceding the intended absence.
- E. Two examples of the monthly call schedule are as follows. In July, first year fellows are paired with second year fellows. In August, first year fellows are independent.

July and August – June schedules pending. Insert our call schedule here.

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	1 VA Fellow	2 Residents	3 UH Fellow	4 VA Fellow	5 UH Fellow	6 UH Fellow
7 UH Fellow	8 VA Fellow	9 Residents	10 UH Fellow	11 VA Fellow	12 Residents	13 Residents
14	15	16	17	18	19	20

Residents	VA Fellow	Residents	UH Fellow	VA Fellow	UH Fellow	UH Fellow
21 UH Fellow	22 VA Fellow	23 Residents	24 UH Fellow	25 VA Fellow	26 Residents	27 Residents
28 Residents	29 VA Fellow	30 Residents	31 UH Fellow			

- F. Policies regarding medical leave, family leave, maternity leave, leave for examinations, educational leave, sexual harassment, physician impairment and disability, jury duty, counseling services, and grievance procedures can be found in the Harbor-UCLA Medical Center Housestaff Policies and Procedures Manual. This manual is distributed to all new Fellows at orientation during first week of Fellowship. Information can be obtained prior to then by contacting the Fellowship Program Director (Dr. Adler) at [sadler@LABiomed.org](mailto:sadler@LABiomed.org)
- G. There is no liability insurance by the Harbor-UCLA Medical Center for clinical activities outside the State of California or outside the country. Fellows will, therefore, perform all clinical activities in the State of California.

## **12. Nephrology Fellow Stipend and Benefits**

- A. Fellows are paid PGY4 and PGY5 salaries according to Harbor-UCLA Medical Center School of Medicine policy. Salary pay scales are paid by and determined by the Board of Supervisors of the County of Los Angeles.
- B. Benefits include malpractice insurance, medical insurance and dental insurance for the Fellow, group life insurance, 24-hour accident insurance, and long term disability insurance. Additional insurance to cover family members may be purchased by the Fellow. More details can be found in the Harbor-UCLA Medical Center Housestaff Policies and Procedures Manual.
- C. Fellows are provided with the following:
- (1) Pager
  - (2) An office in the hospital (shared with other fellows)
  - (3) Journal subscriptions and handouts (see Curriculum)
  - (4) Access to Up-to-Date
  - (5) At least one trip to a national meeting, including registration, airfare, meals, and hotel expenses.

**13. Policy on Fellow Teaching and Supervision of Residents** – Fellows interact with residents on the inpatient wards, during clinics, and in division conferences. Fellows are expected to behave in a professional manner towards residents. This includes answering resident questions to the best of the fellow's ability, directing the resident towards known appropriate learning resources, and notifying residents of the timing of attending rounds each day (since the time may change from day to day). Fellows may teach residents as they are able, but the burden of resident teaching, as it relates to the nephrology rotation goals and objectives, falls predominantly on the attending. In recognition of their increasing independence and knowledge attainment, second year fellows are required to deliver one Core lecture a month to residents who rotate on the Nephrology and Hypertension service. Fellows may assign inpatients to residents and pre-round on those patients with the resident, but attendings have the final approval for all assignments. Fellows may rarely supervise temporary dialysis vascular access placement by residents only after the fellow has demonstrated mastery of this skill and such mastery is documented in their record. Fellows and residents may not render decisions about nephrology patient care (including consults, outpatients, and transplants), either written or verbally, without the attending's verbal or written approval. Hence, fellows may not direct residents to advise primary providers, or their assistants (e.g., nurses, technicians, residents) on medical matters without the direct guidance on such matters by the attending.

**14. Faculty Research Interests**

The research interests of faculty in the Nephrology Division, as well as research faculty with the Pediatric Nephrology Division, are listed below. This information, combined with the list of faculty publications in the subsequent section, as intended to help Fellows identify a faculty mentor and research project.

**Sharon Adler, M.D., Professor of Medicine and Training Program Director.** Dr. Adler's research includes basic, clinical, and translational science. Her work includes an elucidation of cellular mechanisms contributing to the development of both diabetes and diabetic nephropathy. More recent basic research involves testing the hypothesis that the inflammatory tubulointerstitial processes that contribute to progressive loss of kidney function in glomerular and non-glomerular renal injury also induce systemic inflammation and progressive cardiovascular disease. Bridging observations from the bench to clinical medicine, her laboratory is working on validating two novel biomarkers of kidney injury and progression. She designed and is currently carrying out a clinical trial to test the efficacy of minocycline as an antiproteinuric agent in diabetic nephropathy. She has been an active Principal Investigator in the NIH-sponsored Family Investigation of Nephropathy and Diabetes (FIND) consortium for the past ten years. This consortium has, among other observations, identified myosin heavy chain 9 (MYH9) as conferring risk for non-diabetic nephropathy in African-Americans. She is a co-investigator in a recently funded NIH-sponsored research consortium to define the pathophysiology of minimal change disease, focal and segmental glomerulosclerosis, and membranous nephropathy on a molecular level.

**Lilly Barba, M.D. Associate Professor of Medicine.** Dr. Lilly Barba is the medical director of the Renal Transplant Program at Harbor-UCLA Medical Center, overseeing the deceased and living related transplant programs. Her interests include long term allograft survival and the transplantation of the high immunologic risk patient.

**Arthur Cohen, M.D. Professor of Pathology.** An astute and world-renown renal pathologist, Dr Cohen's work spans the gamut from interpretation of renal histopathological changes in experimental models of renal disease to novel observations regarding histopathological change in human renal disease.

**Ramanath Dukkipati, M.D. Assistant Professor of Medicine.** Dr. Dukkipati's research interests focus on methods and technology in Interventional Nephrology, and pathophysiology and treatment of clinical glomerulonephritis.

**Raimund Hirschberg, M.D. Professor of Medicine.** Dr. Hirschberg's research is aimed at unraveling mechanisms of renal fibrogenesis and its opposition, anti-fibrogenesis. The laboratory has found that another member of the TGF $\beta$  superfamily of cytokines, namely bone morphogenetic protein-1 (BMP7) is expressed in adult kidney and displays antifibrogenic activity by opposing TGF $\beta$ 's pro-fibrogenic signaling mechanisms. In collaboration with Dr. Leof's laboratory at Mayo Clinic College of Medicine our lab has demonstrated novel non-canonical TGF $\beta$  pathways involving PAK2 $\rightarrow$ Abl and tuberin $\rightarrow$ mTORC1 as pro-fibrogenic mechanisms in kidney, specifically in fibroblasts. The lab uses cell culture as well as in-vivo animal models of renal disease. Recently, we unraveled the high glucose – and TGF $\beta$ -dependent, transcriptional regulation of BMP7 and found that Y-box protein-1 is a mediating transcription factor. Other projects examine the fate of renal macrophage phenotype after renal immigration, specifically the role of renally expressed growth differentiation factor-15 (GDF15) which is induced specifically in diabetic nephropathy and appears to maintain renal macrophages in an M2c phenotype specifically in this latter disease. This may substantially contribute to the relatively uninflammatory state of diabetic nephropathy. Another project that is presently in its infancy examines the role of BMP7 and BMP4 in the regulation of adult renal stem cells.

**Kamyar Kalantar-Zadeh, M.D., Ph.D. Associate Professor of Medicine.** Dr. Kalantar-Zadeh is involved in epidemiology and outcomes research in CKD and ESRD patients, as well as clinical and data collection studies in prospective cohorts and randomized controlled trials. His main interests include studying predictors of longevity and survival in CKD and dialysis patients including nutritional status and inflammation, bone disease, iron and anemia, fluid status, and acid-base disorders as well as novel biomarkers of cardiovascular disease and death in CKD patients. He has been one of the field's foremost contributors in defining epidemiologic links between nutritional and inflammation status and survival in patients with ESRD.

**Joel Kopple, M.D. Professor of Medicine.** Dr. Kopple conducts research on nutritional requirements and nutritional and metabolic disorders in kidney disease and kidney failure. He has recently examined the dietary protein requirements of maintenance hemodialysis patients and the effects of different types of exercise training on exercise capacity, skeletal muscle metabolism, body composition and quality of life in maintenance hemodialysis patients. Dr. Kopple has also recently investigated the interrelationships of disease comprehension and attitudes of these individuals on their adherence to prescribed diets and medicinal intake

**Rajnish Mehrotra, M.D. Professor of Medicine.** Dr. Mehrotra's work focuses on morbidity and mortality risk factors in ESRD, with an emphasis on cardiovascular risk. He has made key observations demonstrating associations between fetuin, and Vitamin D, and cardiovascular disease, and mortality, in CKD and ESRD and has published on factors that contribute to vascular calcification in CKD and ESRD. His research interests extend to racial/ethnic disparities in outcomes, both in CKD and ESRD. Over the last few years, he has defined the determinants of utilization and outcomes of patients undergoing peritoneal dialysis in the United States. He is a world-renowned expert in ESRD research and care, with a special emphasis on peritoneal dialysis.

**Lili Tong, M.D. Assistant Professor.** Dr Tong's main research interests include the clinical aspects and pathophysiology of diabetic nephropathy, transplantation, and CKD biomarkers.

**Ying Wang, M.D. Assistant Researcher.** Dr. Wang is a basic science researcher with expertise in histology, immunopathology, and molecular biology. She applies these skills using cell culture and animal experimental and models of diabetic nephropathy and chronic kidney disease to unravel the pathophysiology of these disorders, with the ultimate goal of finding drugable targets to test potential therapies.

**15. Publications by Nephrology Faculty 2003-2008. (Fellow co-authors in BOLD).**

**Original Manuscripts:**

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2. Hirschberg R, Bennett W, Scheinman J, Coppo R, Ponticelli C: Acute kidney injury due to deferoxamine in a renal transplant patient. *Nephrol Dial Transplant* 23:2704-2705, 2008.
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4. **Merjanian R**, Budoff M, Adler S, Berman N, Mehrotra R: Coronary artery, aortic and valvular calcification in non-dialyzed individuals with type 2 diabetes and renal disease. *Kidney Int* 64:263-271, 2003.
5. Mehrotra R, Kopple JD, Wolfson M: Metabolic Acidosis in maintenance dialysis patients: Clinical Considerations. *Kidney Int suppl* 64 (suppl 88):S13-S25, 2003.
6. Mehrotra R, Marsh D, Peters V, Nissenson A. Emphasizing Patient Choice: The Modality Selection Project in ESRD Network 18. *Nephrol News Issues* 17:30-36, 2003.
7. Mehrotra R, Kopple JD: Protein and energy nutrition among adult patients treated with chronic peritoneal dialysis. *Adv Ren Replacement Ther* 10:194-212, 2003.
8. Hirschberg R: Ernä Wang S, Hirschberg R: BMP7 antagonizes TGF-beta – dependent fibrogenesis in mesangial cells. *Am J Physiol Renal Physiol* 284:F1006-F1013, 2003.
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10. The Family Investigation of Nephropathy and Diabetes Research Group: Genetic Determinants of Diabetic Nephropathy: The Family Investigation of Nephropathy and Diabetes (FIND). *J Am Soc Nephrol* 14:S202-S204, 2003.
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15. Kalantar-Zadeh K, Ikizler TA, Block G, Avram MM, Kopple JD: Malnutrition inflammation complex syndrome in dialysis patients: causes and consequences *Am J Kid Dis* 42:864-881, 2003.

16. Kalantar-Zadeh K, Stenvinkel P, Pillon L, Kopple JD: Inflammation and nutrition in renal failure. *Adv Ren Replace Ther* 10(3):155-169, 2003.
17. Kalantar-Zadeh K, Block G, Humphreys MH, Kopple JD: Reverse epidemiology of cardiovascular risk factors in maintenance dialysis patients. *Kidney International*, 63:793-808, 2003 [feature article of the month].
18. Kalantar-Zadeh K, Kopple JD: Trace elements and vitamins in maintenance dialysis patients. In *Symposium on Renal Nutrition. Adv Ren Replacement Ther* 10:170-182, 2003.
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- Failure. In Kopple JD, Massry SG (eds). "Nutritional Management of Renal Disease". 2<sup>nd</sup> Edition, Lippincott Williams & Wilkins. Baltimore, pp 315-356, 2004.
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- Transplant-wait-listed Hemodialysis Patients. *Circulation*, 2008 [AHA abstract](oral presentation)
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### **16. Nephrology Fellows previous ten years :**

Fellow Name	Year in Program	Board Certified Internal Medicine	Board Certified Nephrology	Medical School	Residency	Current Position
Dennis Talon	1995-1997	1996	1998	Univ of the East, Philippines	Metropolitan Hospital Medical Ctr	
Bryan Stone	1996-1998	1996	1998	Boston University	Harbor-UCLA	Private Practice
Tuan Le	1997-1998 (combined prog)	1997	1999	UCLA	Sepulveda VA	
Shailesh Patel	1996-1998	1998	1999	B.J. Medical College, India	Maricopa Med Center	
E.Mohamedy	1997-1998		-	Sind Med College, Karachi, Pakistan	McKeesport Hospital, PA	
A. Alistwani	1998-2000	1998	2000	Damascus Univ., Syria	St. Luke Med Ctr, Case Western Univ	Private Practice
Steve Tran	1998-2000	1998	2000	Univ of Kansas School of Med,	Univ of Kansas School of Med, Wichita	Private Practice
Anup Rai	1998-2000	1999	2000	Govt. Medical College, India	LAC/USC	Private Practice
Eve Makoff**	7/1-9/30/99			Brown University	Cedars-Sinai Medical Ctr	
H. Movahedi	1999-2001	1999	2002	UC Irvine	UC Irvine	Private Practice
Hosayn Khaleeli	2000-2002	1998	2002	Tufts, Boston	Harbor-UCLA	Private Practice
Fellow Name	Year in Program	Board Certified Internal Medicine	Board Certified Nephrology	Medical School	Residency	Current Position
Mark Lee	2000-2002	2000	2002	Univ. of Illinois	LAC/USC	
Tarun Marwaha	2000-2002	2000	2002	Maulana Azad Medical College	Wright State Univ, Ohio	
Sousan Karimi	2000-2002 (9/16/00-10/7/02)	2001	2002	George Washington University	UC Irvine	
Hamik Martirosyan	2002-2004	2002	2004	St. Louis Univ., School of Medicine	Harbor-UCLA	Private Practice
John Hsieh	2002-2004	2002	2004	Tufts Univ School of Medicine	UC Irvine	Private Practice
Kevin Pham	2002-2004	2000	2004	UC San Diego	UC San Diego	Private Practice
Ravi Ramsamoj	2002-2004	2002	2004	Medical School of Wisconsin	UC Irvine	Private Practice
Robert DeMello	2004-2006	2003	2006	University of Hawaii, John Burns School of Medicine, Honolulu	Harbor-UCLA	
Raffi Merjanian	2004-2006	2003	2006	UCLA	Harbor-UCLA	

Fellow Name	Year in Program	Board Certified Internal Medicine	Board Certified Nephrology	Medical School	Residency	Current Position
Li-Li Tong	2004-2006	2003	2006	UCLA	Harbor-UCLA	Asst. Professor, Harbor-UCLA
Dennis Wu	2004-2006	2003	2006	Univ School of Michigan, School of Medicine		
Mary A. Kalpakian	2005-2007	2005	2007	UC Irvine	Olive-View Medical Ctr	
Ramanth Dukkupati	2006-2008	2005	2008	Kasturba Medical College, Mangalore, India		Asst. Professor, Harbor-UCLA
Osman Khawar	2006-2008	2006	2008	Glasgow University	St. Mary Medical Ctr	Private Practice
Pierre Souraty	2006-2008	2006	2008	St. Joseph Univ School of Medicine, Beirut, Lebanon		Private Practice
Edwardo Nam	2006-2008	2005	2008	Loma Linda University	LAC/USC	Loma Linda, University
Tarang Patel	2007-2009			St. George's Univ. School of Med		Private Practice
**fellow left program						