

NEPHROLOGY SELECTIVE

Rotation Contacts and Scheduling Details

Rotation Director: Scott Sutherland, MD suthersm@stanford.edu

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Introduction

Come learn about nephrology! The Nephrology faculty is committed to teaching basic pediatric nephrology to every resident. It is our goal to have every resident: a) become comfortable with the workup and management of those basic nephrology problems he/she is most likely to encounter in general or subspecialty pediatric practice; and b) answer every renal question on the Boards correctly.

Weekly Schedule

Below is the general outline of the weekly clinic and conference schedule. However, the actual schedule will vary from week to week. **Residents should contact the Faculty preceptor, Dr Alexander, no later than the week prior to the start of the Selective to receive a detailed clinic and conferences schedule that can then be used throughout the selective.** See annotations on the following page for clinic locations and contact information.

JUNIOR/SENIOR SELECTIVE ROTATION SCHEDULE (4 weeks)

Monday	Tuesday	Wednesday	Thursday	Friday
0800 – 0830 Morning Report	0800 – 0830 Morning Report	0800 – 0830 Morning Report	0800 – 0830 Morning Report	0800 – 0900 Grand Rounds
0900-1230 Renal Clinic ^A Peter Kim, M.D. Kaiser, Santa Teresa	0830 – 1200 Renal Clinic ^C LPCH 770 Welch Road	0830 – 1200 Renal Clinic ^D LPCH 770 Welch Road	0900-1230 Renal Clinic ^F Rajmi Kirpekar SCVMC	0900 – 1200 Urology Clinic ^G LPCH 730 Welch Road
Lunch	Noon Conference	Noon Conference ^E	Lunch	Noon Conference
<u>Conferences</u> ^B 2-3 General Nephrology Case Review 3-4 Nephrology Continuing Education Lectures 4-5 Dialysis/CRRT Quality Meeting	Independent Reading	1300-1700 Renal Clinic LPCH 770 Welch Road	Independent Reading	1300-1600 Urology Clinic LPCH 730 Welch Road

INTERN RED TEAM – RENAL OUTPATIENT PORTION OF ROTATION (2 weeks) *
(Rheumatology experiences noted in red)

Monday	Tuesday	Wednesday	Thursday	Friday
0800-0830 Morning Report	0800-0830 Morning Report	0800-0830 Morning Report	0800-0830 Morning Report	0800-0900 Grand Rounds
<i>First week*:</i> -Rheum Options - <ul style="list-style-type: none"> • SSU Patients, and/or inpt consults, if any • Reading and case- based learning Second Week: Renal (Dr. Kim)	0900-1200 Renal Clinic	0900-1200 Renal Clinic	0900-1200 Renal Clinic (Dr. Kirpekar SCVMC)	0900-1200 Urology Clinic
Noon Conference	Noon Conference or Peds Rheum Fellows Lecture^J	Noon Conference	Noon Conference	Noon Conference
1300-1700 Rheum Clinic^H	<ul style="list-style-type: none"> - Options - • SSU Patients, joint injections, and/or inpt consults, if any • Reading and case- based learning 	<ul style="list-style-type: none"> - Options - • SSU Patients, joint injections, and/or inpt consults if any • Rheum teaching session with Michal Cidon (p14385) • Peds Rheum Clinic in South Bay Los Gatos Clinic^L • Dialysis Clinic (3rd week only) 	1300-1700 Rheum Clinic^H	1300-1700 Urology Clinic

Note: During the first week of rotation, Housestaff are taught a thorough musculoskeletal and strength examination. Please page or contact Michal Cidon (p14385, mjcidon@stanford.edu) or Joyce Hsu (p14147, joycehsu@stanford.edu) to set up this teaching session.

Schedule Annotations

A. Dr. Peter S. Kim

Pediatric Nephrologist
Kaiser Permanente Santa Teresa Medical Center
250 Hospital Parkway, San Jose, CA
276 Family Health Center,
First Floor, Unit D, Pediatrics Department (408 972 7000 x 3792)
Dr Kim's office telephone: 510 784 2703
Dr. Kim's cell 650-504-8750
Dr Kim's pager: 510 251 8055
Email: peter.s.kim@kp.org

B. Conference location: 770 Welch Road, First Floor Conference Room, Suite 100, Palo Alto, CA.
Conference contact: Irene Fantozzi, ifantozzi@lpch.org, 650-724-0353

- C. 770 Welch Road, Third Floor, Suite 300, Palo Alto, CA
Clinic Front desk telephone: 650 724 6708 (Gustavo Oropeza, Rose Espinosa, Veronica Guerterrez)
Contact: Dr Alexander (page 13674; email: sralex@stanford.edu), phone 650-723-7903
Attendings (please see Renal Call Schedule for details): Dr Alexander (page 13674; email: sralex@stanford.edu), Dr. Paul Grimm (page 13983, email: pgrimm@stanford.edu), , Dr Cynthia Wong (page 23076, email: wongcy8@stanford.edu); Dr Scott Sutherland (page 12724; email suthersm@stanford.edu)
- D. 770 Welch Road, Third Floor, Suite 300, Palo Alto, CA
Clinic Front desk telephone: 650 724 6708 (Olivia Solis; Rose Espinosa)
Contact: Dr Alexander (page 13674; email: sralex@stanford.edu), phone 650-723-7903
Attendings (please see Renal Call Schedule for details): Dr. Donald Potter (donaldpotter00@yahoo.com; pager 13572), Dr Steven Alexander, Dr. Paul Grimm (pgrimm@stanford.edu; pager 13983), Dr. Cynthia Wong (wongcy8@stanford.edu; pager 23076), Dr Scott Sutherland (suthersm@stanford.edu; phone 650-723-7903) & Renal Fellows.
- E. May attend instead: General Nephrology “Case of the Week.” 12:30pm to 1:15pm
Conference Location: 770 Welch Road, Third Floor, Suite 300, Palo Alto, CA
Conference Contact: Dr Potter (page 13572)
- F. Dr. Rashmi Kirpekar
Pediatric Nephrologist
Santa Clara Valley Medical Center
Valley Health Center, Specialty Clinic D, Room 200
750 South Bascom Avenue, San Jose, CA
Dr Kirpekar’s office telephone: 408 885 5445; pager: 408 275 3813; email:
rashmi.kirpekar@hhs.scc.gov.org
The first Thursdays of each month, Dr. Kirpekar does not have regular renal clinic for the residents.
- G. Dr. William A. Kennedy II
Associate Professor, Pediatric Urology
LPCH Pediatric Urology Clinic
First Floor Surgical Specialties Clinic
730 Welch Road, Palo Alto, CA
Clinic telephone: 650 497 8370, option 8
Dr Kennedy’s office telephone: 650 725 5530
Dr Kennedy’s pager: 13164
Dr Kennedy’s email: wkennedy@stanford.edu
- H. Outpatient Rheumatology Clinics: 730 Welch Road, 2nd floor, Medical Subspecialties
- I. Optional Outpatient Clinic in South Bay: LPCH outreach clinic in Los Gatos on Wednesday afternoons.
Address: 14777 Los Gatos Blvd., Suite 200, Los Gatos, CA 95032
- J. Every Tuesday from noon to 1 pm, after the clinical care conference, there is a pediatric rheumatology fellows’ teaching session located at the 3rd floor conference room of the Stanford Barn. Residents are more than welcome to join this session or go to noon conference.

Rotation Specifics

Orientation

- 1) The compact Renal Residents’ Handbook and Red Team Handbook contain current handouts, selected reading and extensive reference lists. The Handbooks are focused on basic pediatric nephrology, but contain informative material on critical care nephrology, dialysis and transplantation.

- 2) The LPCH Pediatrics Housestaff website contains presentations in slide/text format of lectures given on hematuria, proteinuria, hypertension, urinary tract infection, nephrotic syndrome, acute glomerulonephritis, acute renal failure, and other nephrology “hot topics.”

Contact Faculty Preceptor:
Steve Alexander, M.D.
Phone 723-7903
Fax 498-6714
e-mail sralex@stanford.edu

Resident Roles and Responsibilities

The Nephrology Selective is intended to give the resident first-hand experience in the out-patient diagnosis and management of the most common renal disorders seen in pediatric patients. Residents attend clinics in four different locations, seeing new and established patients while working closely with sub-specialists. Residents will perform a complete history and physical exam, review all laboratory and imaging data, develop a treatment plan and dictate a complete visit report, all under the close supervision of the attending nephrologists. Opportunities abound for one-on-one and small group didactic experiences with attendings throughout the selective.

On Fridays, residents will "shadow" Dr. William Kennedy as he sees infants, children and adolescents presenting with a wide variety of the most commonly encountered urologic problems in general pediatric medicine: recurrent urinary tract infections; vesico-ureteric reflux; difficult circumcision; hypospadias; antenatal hydronephrosis; undescended testes; penile adhesions; phimosis; enuresis/dysfunctional voiding; posterior urethral valves and other common congenital anomalies of the urinary tract. Residents will master the pediatric genitourinary examination and learn to take an appropriately focused GU history and will receive an introduction to urodynamic testing.

Residents will be given The Renal Resident's Handbook, containing selected reprints, handouts and other materials covering topics included in the list above. Residents will also be given a copy of the new “Red Team Handbook” now used as a quick reference by the team caring for in-patients on the Renal Service. Topics covered in the Red Team Handbook include the basics of renal physiology, along with selected management pearls for children with various renal disorders.

Residents will choose a more specific but related topic for an in-depth literature review leading to a 30 minute oral presentation during the last week of the Selective. Adequate time is provided during the selective for reading and reflection. Residents will also attend weekly general nephrology and continuing medical education conferences with the renal fellows and attendings.

Feedback and Evaluation

Residents will be evaluated through the MedHub system online at the end of each rotation block.

ACGME Competency-based Goals and Objectives*

Goal 1. Understand the role of the general pediatrician in the diagnosis and management of hypertension in children			
Resident Objectives	Instructional Strategies	Assessment of Competence	ACGME Competency Goals
1. Classify a patient with hypertension as to severity according to current national guidelines (i.e., mild, moderate, severe) (PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching module (<i>pending</i>) Review of “Hypertension” PowerPoint lecture 	<ul style="list-style-type: none"> Attending discussion with resident 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
2. Develop a diagnostic plan for a child with hypertension that accounts for the severity of the condition, including recognition and management of hypertensive emergencies (PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> Attending discussion with resident 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
3. Recite or implement the management of a patient with hypertension using a step-wise approach that includes diet, exercise, weight control, and/or medications (PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching module (<i>pending</i>) Care of patients in clinic 	<ul style="list-style-type: none"> Attending discussion with resident 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
4. Compare the commonly-used antihypertensive medications, considering indications and contraindications for use, mechanism of action, and side effects (PGY 1, 2, 3)	<ul style="list-style-type: none"> Independent reading (<i>link to article pending</i>) 	<ul style="list-style-type: none"> Attending discussion with resident 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
5. List the indicators for a nephrology or cardiology referral for a child with hypertension (PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching module (<i>pending</i>) Discussion with attending in context of patient care 	<ul style="list-style-type: none"> Attending discussion with resident 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
Goal 2. Understand the role of the general pediatrician in recognizing subtle signs and symptoms of chronic kidney disease			
Resident Objectives	Instructional Strategies	Assessment of Competence	ACGME Competency Goals
1. Provide routine prevention counseling about kidney health and disease including: <ul style="list-style-type: none"> Normal voiding, toilet-training, and attainment of bladder control Female hygiene Urinary tract infections and signs/symptoms in infants and young 	<ul style="list-style-type: none"> Independent reading Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> Attending discussion with resident 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>

children <ul style="list-style-type: none"> • Importance of routinely measuring blood pressure in children, especially overweight children and those with a family history of renal disease or hypertension (PGY 1, 2, 3)			
3. List manifestations of chronic kidney disease and their initial evaluation, e.g., <ul style="list-style-type: none"> • Hematuria • Hypertension • Short stature • Anemia • Proteinuria (PGY 1, 2, 3)	<ul style="list-style-type: none"> • Teaching module (<i>pending</i>) • Independent reading 	<ul style="list-style-type: none"> • Attending discussion with resident 	<i>PC - Provide effective health care services</i> <i>MK - Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
4. Provide anticipatory guidance to parents of children with renal disease addressing the following areas: <ul style="list-style-type: none"> • Need for medication dose adjustment in patients with impaired renal function, including many OTC medications • Need for prophylactic medications for certain renal conditions • Altered immunization schedule for children with certain renal conditions (e.g., those immunocompromised following transplant, chronic renal failure, nephrotic syndrome) • Importance of consistent home and office monitoring of children with specific diseases (e.g. urine protein checks in children with nephrotic syndrome) • Risk of contact sports for children with a single kidney (PGY 1, 2, 3)	<ul style="list-style-type: none"> • Teaching module (<i>pending</i>) • Independent reading 	<ul style="list-style-type: none"> • Attending discussion with resident 	<i>PC - Provide effective health care services</i> <i>MK - Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>

3. List the routine screening for renal disease that should occur in all continuity pediatric practices <ul style="list-style-type: none"> • BP screening q visit in patients > 2 yrs • F/u BP routine in those with elevated BP on initial screen • Urine dipstick for blood or protein at certain junctures (e.g., pre-school, pre-sports physical) (PGY 1, 2, 3)	<ul style="list-style-type: none"> • Lecture • Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> • Attending discussion with resident 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
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Goal 3. Understand the role of procedures and imaging in assessing renal health

Resident Objectives	Instructional Strategies	Assessment of Competence	ACGME Competency Goals
1. List the indications for renal ultrasound and its limitations	<ul style="list-style-type: none"> • Lecture • Teaching module (<i>pending</i>) • Independent reading 	<ul style="list-style-type: none"> • Attending discussion with resident 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
2. List the indications for VCUG and its limitations	<ul style="list-style-type: none"> • Lecture • Teaching module (<i>pending</i>) • Independent reading 	<ul style="list-style-type: none"> • Attending discussion with resident 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
3. List the indications for DMSA scanning and its limitations	<ul style="list-style-type: none"> • Lecture • Teaching module (<i>pending</i>) • Independent reading 	<ul style="list-style-type: none"> • Attending discussion with resident 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
4. List the indications for renal biopsy and its limitations	<ul style="list-style-type: none"> • Lecture • Teaching module (<i>pending</i>) • Independent reading 	<ul style="list-style-type: none"> • Attending discussion with resident 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>

Goal 4. Contribute to the care of patients seen in nephrology clinic, assuming the role of the subspecialist

Resident Objectives	Instructional Strategies	Assessment of Competence	ACGME Competency Goals
1. Anticipate patients you will see in clinic <ul style="list-style-type: none"> • Review clinic schedule prior to clinic • Locate and review literature that will inform your care of the patient 	<ul style="list-style-type: none"> • Participation in clinic with attending modeling 	<ul style="list-style-type: none"> • Dictation review by attending 	ICS - <i>(a)Communicate effectively with physicians, other health professionals, and health related agencies; (b)Work effectively as a member or leader of a health care team</i> P - <i>Demonstrate commitment to carrying</i>

- Dictate clinic notes in such a way as to guide the PCP in ongoing care of the patient and collaboration with you as the specialist
(PGY 1, 2, 3)

out professional responsibilities and adherence to ethical principles
PBLI – *Evaluate your care of patients, appraise scientific evidence, and improve care through self-evaluation and life-long learning*

Goal 5. Understand the role of the general pediatrician in the management of nephrotic syndrome (?inpatient goal)

Resident Objectives	Instructional Strategies	Assessment of Competence	ACGME Competency Goals
1. Discuss findings on clinical history and physical examination that would lead one to suspect nephrotic syndrome (PGY 1, 2, 3)	<ul style="list-style-type: none"> • Independent reading • Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> • Attending discussion with resident 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
2. Discuss different types of nephrotic syndrome and the relative prognosis of each. Specifically, distinguish between steroid-responsive and steroid-resistant idiopathic nephrotic syndrome of childhood (PGY 1, 2, 3)	<ul style="list-style-type: none"> • Teaching in the context of patient care • Independent reading • Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> • Pre- and post self-assessment quiz (under development) 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
3. Describe age-related differences in the etiology of nephrotic syndrome (PGY 1, 2, 3)	<ul style="list-style-type: none"> • Teaching in the context of patient care • Independent reading • Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> • Pre- and post self-assessment quiz (under development) 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
4. Describe the features of nephrotic syndrome that would indicate urgent or emergent nephrology referral (hospitalization) (PGY 1, 2, 3)	<ul style="list-style-type: none"> • Teaching in the context of patient care • Independent reading • Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> • Pre- and post self-assessment quiz (under development) 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
5. Provide counseling to patients and families of patients with nephrotic syndrome addressing such issues as <ul style="list-style-type: none"> • Risk of infection • Risk of venous thrombosis • Risk of pulmonary edema As well as treatment, medication side-effects, and importance of home	<ul style="list-style-type: none"> • Teaching in the context of patient care • Independent reading • Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> • Pre- and post self-assessment quiz (under development) 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>

monitoring (PGY 1, 2, 3)			
6. Explain the urgency of immediate evaluation of the febrile child with nephrotic syndrome in relapse (PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching in the context of patient care Independent reading Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> Pre- and post self-assessment quiz (under development) 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
Goal 6. Understand the initial evaluation of patient presenting with asymptomatic proteinuria			
Resident Objectives	Instructional Strategies	Assessment of Competence	ACGME Competency Goals
1. List elements in the differential of asymptomatic proteinuria, e.g., <ul style="list-style-type: none"> Orthostatic proteinuria Proteinuria associated with acute illness (PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching in the context of patient care Independent reading Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> Pre- and post self-assessment quiz (under development) 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
2. Describe the use of the protein/creatinine ratio and the use of first morning voids in evaluation of proteinuria (PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching in the context of patient care Independent reading Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> Pre- and post self-assessment quiz (under development) 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
3. List indications for referral of patients with asymptomatic proteinuria (PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching in the context of patient care Independent reading Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> Pre- and post self-assessment quiz (under development) 	PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
Goal 7. Understand the initial evaluation of patient presenting with asymptomatic hematuria			
Resident Objectives	Instructional Strategies	Assessment of Competence	ACGME Competency Goals
1. List items in the differential of asymptomatic isolated microscopic hematuria, e.g., <ul style="list-style-type: none"> Hypercalciuria Alport syndrome IgA nephropathy Post-infectious GN (PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching in the context of patient care Independent reading Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> Pre- and post self-assessment quiz (under development) 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>
2. State the different implications of microscopic and gross hematuria, listing the differential for each	<ul style="list-style-type: none"> Teaching in the context of patient care Independent reading 	<ul style="list-style-type: none"> Pre- and post self-assessment quiz (under development) 	MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i>

(PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching module (<i>pending</i>) 		
3. Describe the evaluation of a child with microscopic hematuria (including recognition of glomerular vs non-glomerular bleeding) and indications for referral to nephrology (PGY 1, 2, 3)	<ul style="list-style-type: none"> Teaching in the context of patient care Independent reading Teaching module (<i>pending</i>) 	<ul style="list-style-type: none"> Pre- and post self-assessment quiz (under development) 	<p>PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i></p>

Goal 8. Understand the management and evaluation common urologic abnormalities (urology clinic)

Resident Objectives	Instructional Strategies	Assessment of Competence	ACGME Competency Goals
1. List indications for referral in the following conditions, including appropriate timing of referral: <ul style="list-style-type: none"> Penile torsion Hypospadias Undescended testicle, unilateral or bilateral Inguinal hernia Hydrocele Testicular torsion Phimosis Paraphimosis Recurrent UTI Neonatal pelviectasis (PGY 1, 2, 3)	<ul style="list-style-type: none"> Discussion in clinic Independent reading 	<ul style="list-style-type: none"> Discussion with attending in clinic 	<p>PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i></p>

Goal 9. Understand the relevance of vesiculo-ureteral reflux to kidney health as well as management options (urology clinic)

Resident Objectives	Instructional Strategies	Assessment of Competence	ACGME Competency Goals
1. List the staging of VUR including statistics on the natural history of the condition, by stage	<ul style="list-style-type: none"> Discussion in clinic Independent reading 	<ul style="list-style-type: none"> Discussion with attending in clinic 	<p>PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i></p>
2. Discuss the monitoring of VUR and indications for surgical management	<ul style="list-style-type: none"> Discussion in clinic Independent reading 	<ul style="list-style-type: none"> Discussion with attending in clinic 	<p>PC - <i>Provide effective health care services</i> MK - <i>Demonstrate knowledge evolving sciences and apply this knowledge to patient care</i></p>

PBLI = practice based learning and improvement

ICS = interpersonal and communication skills

P = professionalism

MK = medical knowledge

PC = patient care

SBP = systems based practice

* **References:** <http://www.mattel.medsch.ucla.edu/res/pdf/nephro.pdf>