



OHSU has had a nephrology fellowship training program since 1972



OHSU also has a nephrology transplant fellowship, in place since 1998



Fellowship training at OHSU takes place at the OHSU main hospital and at the Portland VA medical center. These two facilities are connected by a pedestrian skybridge





Research Pathway

-3 years

-Designed for fellows with an interest in an academic career, with development of skills in education and research (either basic or clinical).

-Approximately 12-14 clinical months and the remainder dedicated to research and scholarship.

Clinical Pathway

-2 years

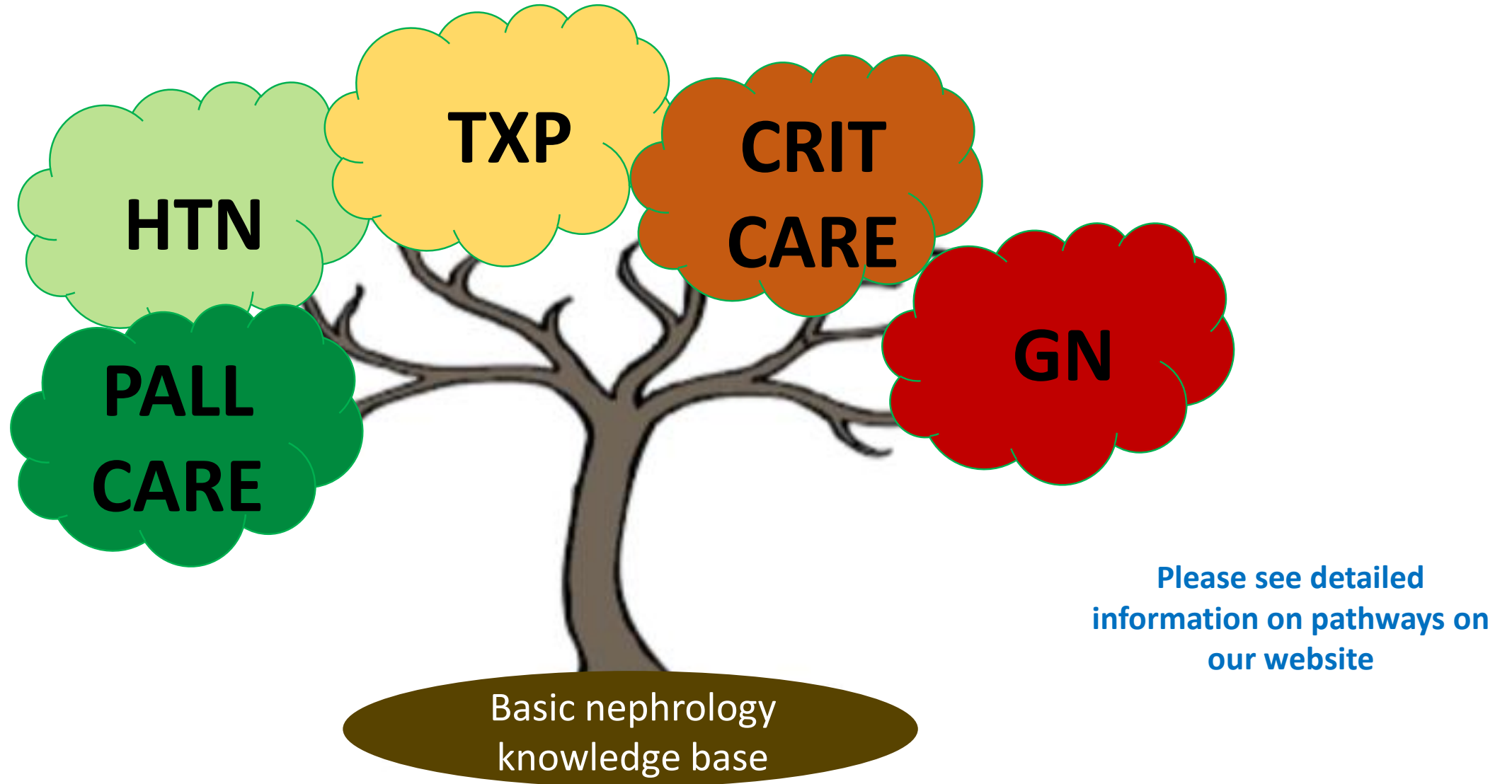
-Designed for fellows with an interest in a clinical practice career.

-Approximately 15-18 months are clinical training

-6-7 months are dedicated to research and scholarship

-1-2 months of elective time during 2nd year

OHSU nephrology fellowship also has 5 optional sub-pathways for areas of emphasis and interest.



These pathways are NOT required, and do not result in additional certification. These are intended to allow fellows to further explore sub-areas in nephrology that may be of particular interest to them. Fellows may choose to do all of one pathway or can incorporate parts of each pathway during their elective time.

Clinical Training

- Clinical skills/procedures
 - Acute and chronic dialysis modalities
 - IHD
 - CVVHDF
 - Peritoneal dialysis
 - Renal transplantation
 - Renal biopsies
 - Dialysis catheter placement
 - Interpretation of renal imaging studies
- Diagnostic skills
 - Acute renal disease
 - CKD
 - Fluid and electrolyte disorders
 - Acid-base management
 - (among many others...)
- Extensive skills in evaluation and management of these problems

Research Training

Areas of research within the division

- Progressive diabetic nephropathy
- Bartter's and Gitelman's syndromes and hereditary salt wasting
- Pathogenesis of edematous disorders
- Osmotic control of kidney cell function
- Acid base management
- Hypertension research including renal denervation and clinical support tools for HTN management
- Developmental regulation of angiotensin receptors
- Prevention and treatment of kidney transplant rejection
- New and novel therapies for glomerulonephritis
- Molecular basis of hypertension (familial Hyperkalemic Hypertension)
- Assessment of CMV status and outcomes in transplant
- Hypertension management in older adults and in older adults with kidney disease
- Risk prediction in older adults with kidney disease

The human investigations program is a clinical and translational research training program within OHSU's Oregon Clinical and Translational Research Institute (founded by our NIH Clinical Translational Science Award). Our division will sponsor research fellows to participate in the certificate course within this program during their 2nd and 3rd years of fellowship training.

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School of Medicine
Human Investigations Program

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Human Investigations Program (HIP)

Educating the next generation of clinical and translational researchers
[Learn more about curriculum](#)

Program Overview

The Human Investigations Program, a program of the [Oregon Clinical and Translational Research Institute \(OCTRI\)](#), offers an integrated clinical and translational research education curriculum.

- Enhance your career in clinical and translational research.
- Gain practical skills in conducting successful research studies.

Upcoming Events

No Events

[View all events](#)

Student Resources

Certificate class courses

Mandatory →

- Intro to clinical research
- Clinical Research Design (I, II, III)
- Proposal development
- Molecular and cellular approaches to disease
- Protection of human subjects
- Scientific writing and data presentation
- Evidence-based medicine seminar

Electives →

- Fundamentals of RCTs
- Leadership skills development
- Understanding and managing academic organizations
- Comparative effectiveness and patient-centered outcomes research
- Community based research
- Biostatistics and applied biostatistics
- Medical informatics
- Computerized data management
- Systematic reviews
- Project management

<https://www.ohsu.edu/school-of-medicine/human-investigations-program>

Inpatient rotations



Broad Overview

- Fellow rotations are in HALF MONTH blocks. This provides:
 - Greater variety through the year
 - Better spread of ambulatory months, when fellows don't have week night call and use vacation time

| | | July 21 | Aug 21 | Sept 21 | Oct 21 | Nov 21 | Dec 21 | Jan 22 | Feb 22 | Mar 22 | Apr 22 | May 22 | June 22 |
|----------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Fellow 1 | 1st - 15th | Training | OHSU Consults | Ambulatory | OHSU Consults | VA Consults | Transplant | OHSU Consults | Ambulatory | VA Consults | OHSU Consults | VA Consults | Transplant |
| | 16th - 31st | OHSU Consults | VA Consults | Transplant | Ambulatory | OHSU Consults | VA Consults | OHSU Consults | Transplant | OHSU Consults | Ambulatory | OHSU Consults | VA Consults |
| Fellow 2 | 1st - 15th | Training | OHSU Consults | Transplant | Ambulatory | OHSU Consults | OHSU Consults | Ambulatory | Transplant | Ambulatory | VA Consults | OHSU Consults | OHSU Consults |
| | 16th - 31st | VA Consults | OHSU Consults | VA Consults | Transplant | VA Consults | OHSU Consults | OHSU Consults | OHSU Consults | Ambulatory | Transplant | VA Consults | OHSU Consults |
| Fellow 3 | 1st - 15th | Training | VA Consults | OHSU Consults | Transplant | Ambulatory | VA Consults | OHSU Consults | VA Consults | OHSU Consults | Transplant | Ambulatory | VA Consults |
| | 16th - 31st | OHSU Consults | OHSU Consults | Ambulatory | VA Consults | OHSU Consults | Transplant | Ambulatory | OHSU Consults | OHSU Consults | VA Consults | OHSU Consults | Transplant |

Broad Overview

- Division inpatient team structure:
 - OHSU consult team
 - OHSU ESRD team
 - VA nephrology team
 - Transplant



Inpatient rotations

OHSU Consult team

- Structure
 - One attending
 - Two fellows
 - Sometimes 1 resident
 - Sometimes medical students or PA students
- Census
 - Typically 20-30 (generally 12-15 or per fellow)



A primary tenet for our inpatient rotations is for fellows to see enough patients for broad learning across nephrology, but also an appropriate volume to allow them to get to know their patients and learn at the point of care.

Inpatient rotations

- OHSU ESRD

- Staffed by PA or attending (typically Matt Taylor)
- May sometimes have Tuality residents and/or PA students
- Patients in ICU or PD patients will go to OHSU Consult team
- Fellows have the option to do an elective rotation on this service



Inpatient rotations

VA renal service

- Structure
 - 1 attending, 1 fellow
 - Often a resident
 - Often a student
 - Follows both consult and ESRD patients at the VA



Inpatient rotations

Transplant

- Structure
 - 1 attending, 1 fellow
 - Additional team members typically include a transplant pharmacist and a coordinating transplant surgery resident/intern
- Census – varies



Typical Schedule

Clinical Track

Year 1:

- 9-10 half-months OHSU consult service
- 5-6 half-months VA service
- 4 half-months Transplant service
- 4 half-months ambulatory (outpatient clinics/dialysis)

Year 2:

- 6-7 half-months of OHSU consult service
- 2 half-months of VA service
- 6-9 months research

Research Track

Year 1:

- 9-10 half-months OHSU consult service
- 5-6 half-months VA service
- 4 half-months Transplant service
- 4 half-months ambulatory (outpatient clinics/dialysis)

Year 2:

- 2 half-months OHSU consult service
- 1-2 half-month VA service
- 10-12 months research

Year 3:

- 12 months research

Call


- Fellows who are on inpatient service take week-night (Mon-Thurs) call.
- Call covers gen neph (always) and transplant if a gen neph fellow is rotating on transplant
- Weekend call is covered by fellows on call for the weekend (Fri-Sun) and covers gen neph and transplant




Call

Weekend Call

- 1 attending for general nephrology, 1 attending for transplant
- 2 Fellows (includes 1st and 2nd year fellows and Transplant fellow)
- Sometimes a medicine resident
- Long Call:
 - Friday and Sunday night
 - Rounding full-day Saturday and Sunday
- Short Call:
 - Saturday night
 - Rounding 7am-1pm Saturday and Sunday



NO CALL on Saturday night
from 5pm-7am Sunday
morning



NO CALL Friday night or
Sunday night; done with work
for the weekend at ~1 pm
Sunday

Fellows work about 15 weekends a year, split between long-call and short-call. This leaves ~2/3 of weekends as being non-call weekends.

Call

- Summary
 - No more than 2 calls per week
 - No consecutive call
 - About 15 weekends per year (a little less than 1 in 3)
 - Cover transplant call on weekends, and if a general nephrology fellow is rotating on transplant (6 months of the year)



We take work hours seriously....



We have a set jeopardy system and schedule to allow fellows to leave by 1 pm post-call if they had a challenging call night. Fellows can leave early post call if they are called in to the hospital overnight, or if they were kept up all night at home with clinic care calls, etc.

Outpatient Clinic

- Year 1

- HTN clinic (every other week) Total of 12 months

- VA CKD clinic (every other week) Total of 24 months

- Year 2

- VA CKD clinic (every other week)

- OHSU CKD clinic (every other week) Total of 12 months

- Peritoneal dialysis clinic (monthly clinic) Total of 8-10 months

- VA outpatient hemodialysis shift Total of 12 months

Fellows have ½ day of clinic once a week during the 1st and 2nd year of training. The clinic alternates between the two clinic types noted (Hypertension clinic and VA ckd clinic in first year, OHSU ckd clinic and VA ckd clinic in 2nd year) to maximize exposure to different clinics. All of our clinics are continuity clinics – fellows follow their own patients.

VA Hemodialysis continuity experience (2nd year)



Second year fellows are each assigned to 10 patients on a VA outpatient hemodialysis shift. The VA hemodialysis unit is located in the Portland VA medical center – meaning, on the same campus at the main hospital and inpatient work.

Second year fellows will see these patients once each month, write monthly dialysis notes, and lead care plans for these patients, in conjunction with a linked VA staff nephrologist.

This is an invaluable training experience for fellows in learning about caring for outpatient hemodialysis patients.

| | | | | |
|--|---|---|------------------|--|
| 30 | 31 | 1 AM VA IR Observation PM VA Clinic | 2 VACATION | 3 VACATION |
| 6 LABOR DAY | 7 VACATION | 8 VACATION | 9 VACATION | 10 AM OHSU Amyloid Clinic (Dr. Avasare) PM Research Time/Meeting (Dr. Raphael) |
| 13 AM VA Dialysis Tech School PM Peds Neph Clinic (Dr. Al Uzri and Dr. Jenkins) | 14 AM VA Transplant Clinic PM OHSU GN Clinic (Dr. Avasare) | 15 AM OHSU Transplant PM VA Clinic | 16 Transplant | 17 Transplant |

Ambulatory

| Mon | Tue | Wed | Thu | Fri |
|--|--|--|---|---|
| Consults | Consults | Consults | 16 AM VA Dialysis Tech School CONSULTS COVERAGE PM (2 nd years SIM lab) | 17 AM VA IR Observation Reading time |
| 20 AM VA Dialysis Tech School PM HTN Clinic | 21 Vacation | 22 Vacation | 23 Vacation | 24 Vacation |
| 27 Vacation | 28 AM VA Transplant Clinic PM CKD Clinic Virtual Dr. Wusirika | 29 AM OHSU Transplant Clinic PM VA Clinic | 30 AM VA IR Observation PM Clinic Dr. Rueda Virtual | 1 Transplant |

Division Conferences

| | Mon | Tues | Wed | Thurs | Fri |
|------|-----------------|---|-----|---|---|
| AM | | Medicine Grand Rounds (optional) | | Transplant conference | Case conference/research conference |
| Noon | Journal club | Didactic | | 1 st Thurs each month, fellow path conference | Once a month biopsy conference |
| PM | | | | | |

Journal club: this is an equal-opportunity conference. All faculty present once a year. First year fellows present once a year. Second year fellows present twice a year – we recommend they do one new article and one “classic” nephrology article.

Case conference: two fellows present per conference, ~30 min each. They present a case from their current clinical service, 15 min focused case and different and 10-15 min review of a primary research paper that relates to their case.

Fellow path conference: fellows meet with our dedicated renal pathologists to review core concepts in renal path

Biopsy conference: faculty and fellows meet with our renal pathologists to review biopsy results from the preceding month.

Didactics

These are just a sample of some of our didactics.

Early in the year, July-Sept, we have more than one didactic each week to help provide important information on key nephrology topics.

| FELLOW DIDACTIC LIST | | | |
|---|--------------|--|-----------------|
| <i>*Tuesdays at noon. Additional didactics will also be held on Thursdays and Fridays, see schedule</i> | | | |
| Last Given | 1 or 2 years | Topic | Current Faculty |
| 07/06/18 | Every year | Basics of hemodialysis | Dirkx |
| 07/09/18 | Every year | CRRT (1.5 hrs) | Rope |
| 07/10/18 | Every year | Transplant Overview – initial work-up | Lockridge |
| 07/17/18 | Every year | Acute Kidney Injury (1.5 hrs) | Rope |
| 07/10/18 | Every year | How to give a talk | Weiss |
| 07/13/18 | Every year | Basics of peritoneal dialysis | Chopra |
| 07/26/18 | Every year | Chronic Kidney Disease | Anderson |
| 07/20/18 | Every year | Procedures in Nephrology | Wusirika |
| 07/12/18 | Every year | CPRS Encounters | Dirkx |
| 08/21/18 | Every year | Basic Complications of HD | Chopra |
| 08/23/18 | Every year | Central Line Placement Simulation Lab | Pak/Wusirika |
| 10/23/18 | Every year | ICD-10 Coding | Chopra |
| 09/20/18 | Every year | Estimation of renal function | Weiss |
| 08/30/18 | Every year | Secondary Causes of Hypertension | Rueda |
| 08/31/17 | Every year | Secondary Causes of Hypertension - Part II | Rueda |
| 08/16/18 | Every year | Hepatorenal Syndrome | Cohen |
| 08/07/18 | Every year | Cardiorenal syndrome | Rope |
| 07/19/18 | Every year | Metabolic Alkalosis | Gustafson |
| 08/09/18 | Every year | Metabolic Acidosis | Gustafson |
| 07/31/18 | Every year | Renal acidification | Rueda |
| 07/27/18 | Every year | Library Resources | Zeigen |
| 08/31/18 | Every year | How to deal with the angry patient | Raqib |
| 09/11/18 | Every year | Renal Sodium Handling | Ellison |
| 09/13/18 | Every year | Renal Potassium Handling | Dirkx |
| 10/11/18 | Every year | Renal acidification - Part II | Rueda |

| | | | | |
|----------|------------|--------------------------------------|-----------|-------------|
| 11/27/18 | Every year | Vascular access: the basics | Wusirika | Summer |
| 04/17/18 | Every year | Anemia in CKD | Gustafson | Summer |
| 08/28/18 | Every year | Basic Renal Research | McCormick | Summer/Fall |
| 10/02/18 | Every year | Glomerulonephritis I (GN) | Avasare | Fall |
| 10/09/18 | Every year | Glomerulonephritis II (Nephrotic) | Avasare | Fall |
| 10/31/18 | Every year | Diuretic therapies | Ellison | Fall |
| 11/13/18 | Every year | Divalent cation transport | Ellison | Fall |
| 09/19/17 | Every year | Overview of acid-base disorder | Weiss | Fall |
| 04/24/18 | Every year | Diabetic nephropathy | Chopra | |
| 01/11/18 | Every year | Systemic calcium/Phos/Vit D handling | Dirkx | |
| 11/06/18 | Every year | Acute Intoxications | Rueda | |
| 09/25/18 | Every year | Clinical Potassium disorders | Rope | |
| 12/04/18 | Every year | Mechanisms of proteinuria | Gurley | |
| 12/05/17 | Every year | Vascular Access-Advanced | Wusirika | |
| 12/13/16 | Two years | Monoclonal Gammopathies, LC/HcDD * | Avasare | |
| 03/13/18 | Every year | Immunosuppression | Lockridge | |
| | | | | |
| 07/12/18 | Every year | Renal pathology | Andeen | |
| 06/05/18 | Two years | SLE Nephritis | Avasare | |
| 05/22/18 | Two years | Hypo and Hypermagnesemia | Rueda | |
| 02/15/18 | Every year | Nutrition in CKD | Mooney | |
| 03/06/18 | Every year | Living Kidney Donors | Wusirika | |
| 12/12/17 | Two years | The Aging Kidney | Weiss | |
| 02/28/17 | Every year | Basic Science session | McCormick | |
| 05/24/18 | Every year | Infectious Complications of PD | Weiss | |

And more...

New educational sub-curricula: communication

- **Advanced communication and wellness curriculum**: This is a series of didactics and specialized trainings to help our fellows develop invaluable communication skills and strategies for wellness and resilience that we feel will be immensely helpful as they embark on their independent nephrology careers. This curriculum will include:
 - a didactic on wellness annually, provided by expert providers from the OHSU wellness center
 - a didactic from psychiatry on how to deal with the “angry” patient (or patient family member)
 - a didactic on bystander grief and how to disclose medical errors

New educational sub-curricula: Advanced topics in dialysis

- **Advanced dialysis topics**: This curriculum was designed by and is presented by our director of dialysis, Dr. Pavan Chopra. This lecture series is designed to give fellows a better understanding of some of the more nuanced (and less often taught) arenas within dialysis care, including:
 - -Dialysis unit medical directorships
 - -End of life care and dialysis
 - -Ending the therapeutic relationship with patients
 - -Health insurance and dialysis
 - -Public policy and dialysis
- Each topic will be covered by a 1-2 hour lecture once a month during the second year of fellowship (required for senior fellows, although junior fellows are welcome to attend).

Bootcamp in July

Nephrology Fellowship Boot Camp 2019

| | July 8, 2019 | July 9, 2019 | July 10, 2019 | July 11, 2019 | July 12, 2019 |
|-------------|--------------------------|----------------------------|-----------------------------|---------------------------|---------------------------|
| Time | Monday | Tuesday | Wednesday | Thursday | Friday |
| 8:00-8:30 | | | | | |
| 8:30-9:00 | Pre-Rounds | Dragon Training | Pre-Rounds | Pre-Rounds | Pre-Rounds |
| 9:00-9:30 | with Fellows | <i>SJH 1340</i> | with Fellows | with Fellows | with Fellows |
| 9:30-10:00 | <i>UHS 4B</i> | | <i>UHS 4B</i> | <i>UHS 4B</i> | <i>UHS 4B</i> |
| 10:00-10:30 | | Break | | | |
| 10:30-11:00 | Morning Rounds | Morning Rounds | Morning Rounds | Morning Rounds | Morning Rounds |
| 11:00-11:30 | <i>VA100-335</i> | <i>VA100-335</i> | <i>VA100-335</i> | <i>VA100-335</i> | <i>VA100-335</i> |
| 11:30-12:00 | | Lunch Break | | Lunch Break | |
| 12:00-12:30 | Lunch Break | Transplant - Dr. Lockridge | Lunch Break | Path Lab Didactic | Basics of PD - Dr. Chopra |
| 12:30-1:00 | | <i>VA100-7C109</i> | | <i>RJH Path Lab</i> | <i>SJH 7315</i> |
| 1:00-1:30 | Basics of HD - Dr. Dirkx | | AKI - Dr. Rope | Presentations - Dr. Weiss | Lunch Break |
| 1:30-2:00 | <i>VA100-7C109</i> | CRRT & Case Studies | <i>KPV 14D</i> | <i>MacHall 2136</i> | |
| 2:00-2:30 | CKD - Dr. Anderson | Dr. Rope | <i>Troubleshooting EMRs</i> | Hypertension | Outpt Calls - Dr. Weiss |
| 2:30-3:00 | <i>VA100-7C109</i> | <i>MacHall 2136</i> | <i>Onboarding Wrap-Up</i> | Drs. Rope & Weiss | <i>KPV 13B</i> |
| 3:00-3:30 | Break | | Reading, etc. | <i>MacHall 2136</i> | Break |
| 3:30-4:00 | Afternoon Rounds | Afternoon Rounds | Afternoon Rounds | Afternoon Rounds | Afternoon Rounds |
| 4:00-4:30 | <i>UHS 4B</i> | <i>UHS 4B</i> | <i>UHS 4B</i> | <i>UHS 4B</i> | <i>UHS 4B</i> |
| 4:30-5:00 | | | | | |

We provide a fellowship “bootcamp” during the first two weeks of July. The first week is primarily computer training for OHSU and the VA, and an overall orientation. During week two, new fellows each shadow a senior fellow, with core didactics in the early afternoon between rounds. New fellows are not on call until the 3rd week.

National Conferences

- Each fellow gets \$750/year in CME money from OHSU
- Each senior fellow gets between \$750-1000 from the Bennett Endowment fund to use during their 2nd year of training
- The division encourages fellows to attend other conferences including Nephrology business leadership university, home dialysis university, CRRT conferences, and more.



New Union Contract

- **Some important features include:**
 - housing stipend (\$2,205 for next year)
 - relocation money, up to \$1000
 - \$750 education money
 - equivalent of 3% of salary into 457b retirement plan
 - Medical license sponsorship

More information available at: <https://www.ohsuhou.org/>



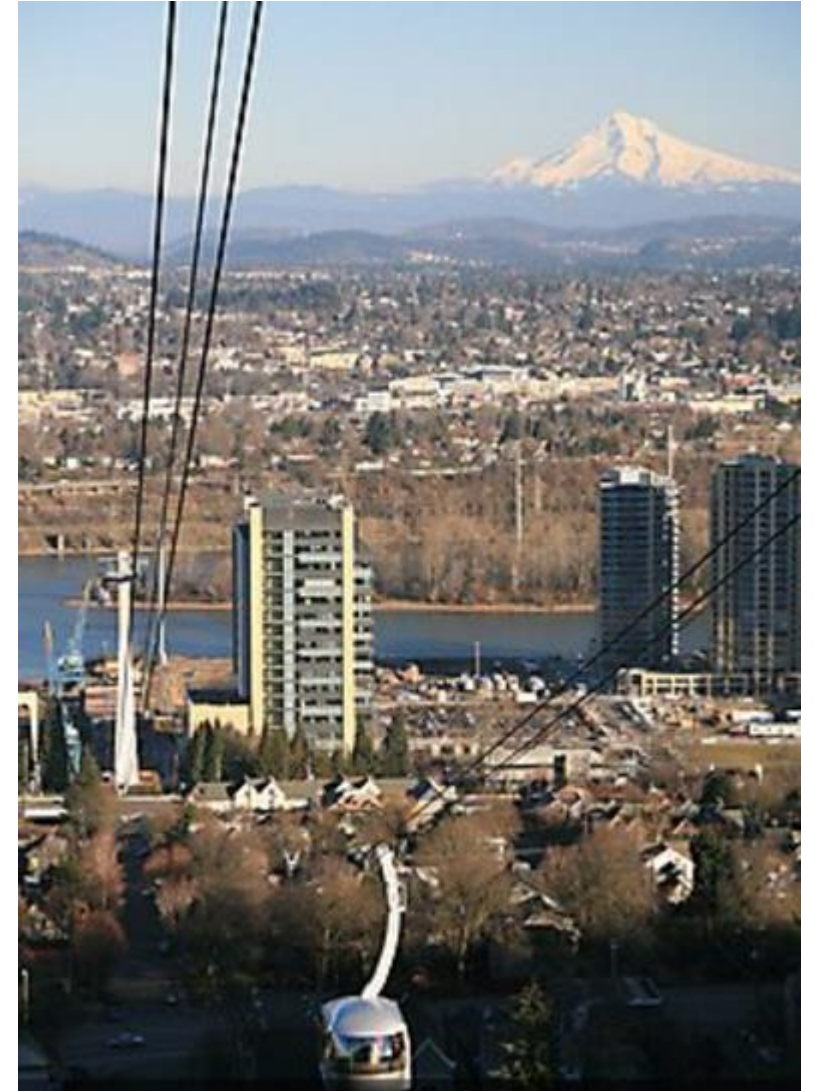
A bit more about OHSU:

OHSU is the tertiary care center for Oregon and one of only two level-1 trauma centers in the state.

The university of Oregon chartered a medical school in Portland in 1887 (129 years ago)

1917: The present 116-acre Marquam Hill campus gets its start with a 20-acre tract donated by the Oregon-Washington Railroad and Navigation Company, and an 88-acre tract donated by the family of C.S. Jackson, former publisher of the Oregon Journal.

2004: The Schnitzer Investment Corporation donates nearly 20 acres of riverfront property in South Waterfront to OHSU. (The tram travels from Marquam hill to the waterfront.)



A bit more about Portland...



**Portland has all 4
seasons – although
snow is really rare...**

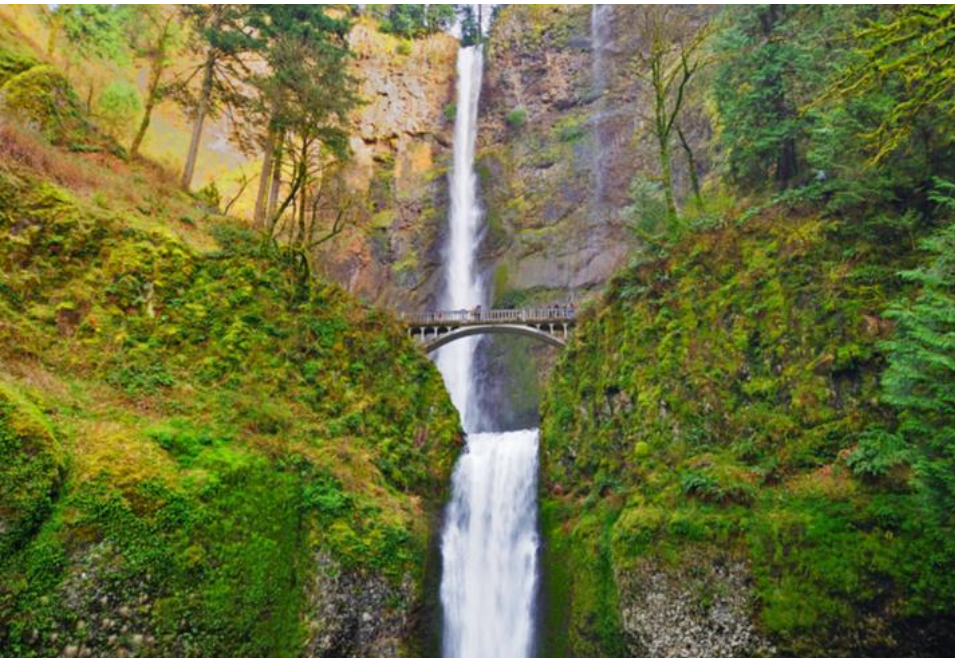


Diverse music scene – from large to small venues



2





LOTS of hiking and outdoor activities!

Portland is:

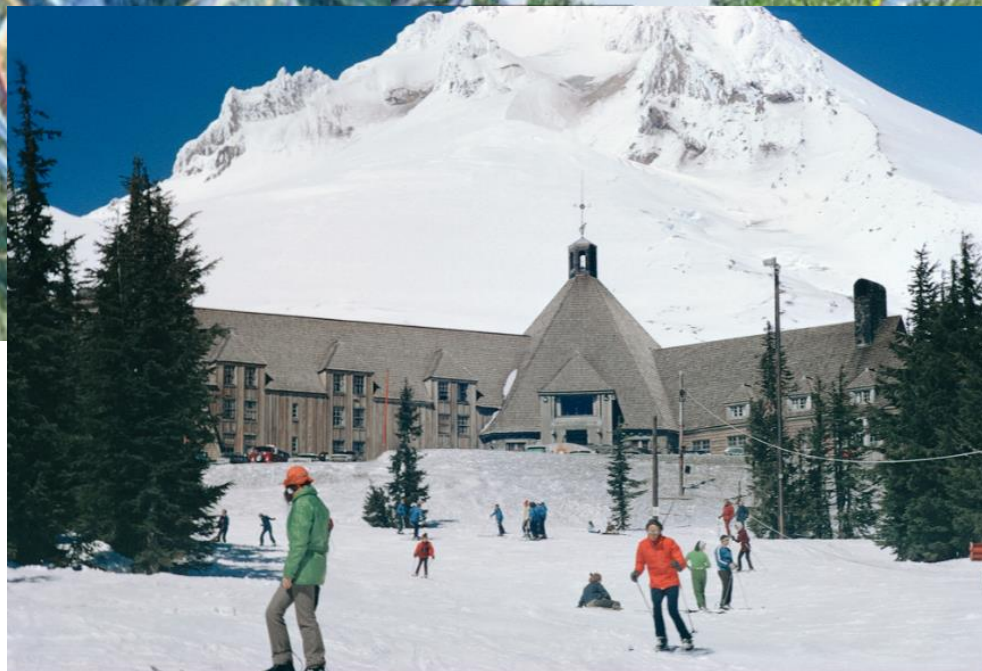
-45 minutes from the Columbia River Gorge (upper left)

-~1 hr and 15 minutes from the ocean (bottom left)

-~1 hr and 15 minutes from Mt. Hood (bottom right)

-Forest Park (upper right) is the largest inner city park and is just off down-town Portland (about 10 min from OHSU)





There are 3 ski resorts at Mt. Hood, all just a bit over an hour from Portland.

Portland is known for its many farmer's markets. Most neighborhoods have one, and we even have one on the OHSU campus in the summer (shown here)



There is no place in the country better known as a bastion of good living, leisure and happy inebriation than Oregon's largest little city, the low-lying mini-metropolis of Portland. Bisected by a river and surrounded by peaks, Portland is nothing if not a very pretty and almost preternaturally pleasant town. But much of its appeal comes from being, for better or worse, one of our national capitals of cool. The city's sensibility — its stylized aesthetic, its thoroughly hyped food culture, its taste for irony — is celebrated, imitated and satirized. Portland is at its best, though, when you step back from its overwrought reputation and appreciate its appetite for simple pleasures: beer and bike riding, day trips to the Columbia River or Sauvie Island's farm stands, movies in vintage theaters and cocktails in ornate lounges.