



**Fellowship in Endocrinology, Diabetes, & Metabolism  
Overview of Curriculum**

1. Clinical Experience

a) Fellow's Continuity Clinic:

- Fellow's continuity clinic with faculty supervision throughout first and second year. Fellows are the primary manager of these patients under faculty supervision.
- None while on consult blocks
- First year fellows will have 1 or 2 half days per week during outpatient blocks
- Second year fellows will have 1 half day per week
- Templates changes throughout the two years, with space for 7-8 patients per half day of clinic
- A ½ hour informal pre-clinic conference is held before clinic to discuss interesting cases

b) Attending Outpatient Clinics:

- September-June Year 1 (PGY 4) three half day/week clinics when not doing inpatient endocrine consult service on a rotating schedule to include clinics in specialized areas: Diabetes, Thyroid, Bone & Mineral, Adrenal/Pituitary, Lipids/Obesity, and a dedicated experience in Fine Needle Aspiration Biopsy. None during on-service months.
- July-June Year 2 (PGY 5), one ½ day per week of mentor clinic (research mentor).
- One month of Pediatric Endocrinology at Nationwide Children's Hospital (2-3 half days/week) in Year 2 is required.
- Two-week block of Reproductive Endocrinology clinic at Ohio Reproductive Medicine (3 half days/week) in Year 2 is required.
- Elective clinical rotations available in Year 2 including Advanced Thyroid Cancer & Neuroendocrine Tumors, Gestational Diabetes, Advanced Diabetes Technology, PCOS, and Transgender Medicine.

c) Inpatient Endocrinology Consult Service: 8 or 9 two-week blocks beginning in late August of Year 1 completing August of Year 2

- September-June in Year 1 (PGY 4) and July-August in Year 2 (PGY 5): one fellow will cover each two-week block of consult service. Fellows are responsible for coordinating initial assessment of inpatient consultations and following progress through the hospital course regarding diagnosis and management. Fellow also responsible for complementing instruction for house staff and medical students on the rotation. Staffed by faculty daily.

d) Inpatient Diabetes Consult Service: ½ month in July of Year 1 (PGY4)

- Fellows have a foundational experience in managing inpatient diabetes in the Ross Heart and University Hospitals. Fellows work closely with nurse practitioners and round with faculty daily.

e) Procedures (Required)

- DXA reading: Fellows spend time learning how to interpret DXA scans at Continuity Clinic, during a monthly fellow's conference devoted to metabolic bone and mineral disorders, as well as outpatient Bone Clinic.
- Thyroid ultrasound and Fine Needle Aspiration Biopsy: We introduce these techniques during a tutorial in the summer, followed by dedicated time spent in Thyroid FNA Clinic and Fellow's Clinic in a supervised manner.
- Continuous glucose monitoring & insulin pump training: Recognizing the importance of insulin pump in the management of Type I DM and the lack of familiarity of new fellows with this technology prior to the initiation of their fellowship, all fellows will spend two months in insulin pump clinic to gain familiarity with problem-solving this technology
- <sup>131</sup>I administration. Fellows are present with Endocrine Division faculty who are Authorized Users of radioactive iodine for administration of <sup>131</sup>I in the treatment of hyperthyroidism and thyroid cancer.

Procedures (Optional)

- April Year 2 (PGY 5): Second year fellows will be nominated to participate in a Clinical Procedure Certification Course offered by the Mayo Clinic ("Endocrine University") in conjunction to achieve certification in thyroid ultrasound and biopsy, DXA interpretation, and CGM interpretation.
- July-June Year 2 (PGY 5): Opportunity to participate in other certification courses at fellow's personal expense. This can include the AACE Nuclear Medicine course to fulfill the NRC requirements for training in radiation biology, physics and safety in the use of radioactive iodine.

f) Weekly Conferences

- Weekly conferences are held on Wednesday 7:30am with the entire Endocrinology Division using the following formats.
- Clinical Case Conference. Fellows present interesting cases typically from their inpatient consult service rotation. Fellows research the medical literature with focus on the specific areas related to diagnosis, management and appropriate educational updates that made the cases interesting.
- Journal Club. Fellows work with an assigned attending to present a recent journal article and critically review.
- Power point presentations are kept on the Division shared drive and available for the Fellows for future review and study.

g) Monthly Conference

- Endocrine Grand Rounds
- Each of these subspecialty conferences and are held once a month with a faculty having specific interest in these areas.
  - Adrenal

- Bone/DXA
  - Thyroid, Radioiodine Therapy, Cytology
  - Pituitary Multidisciplinary conference: endocrinology, neurosurgery, radiology, and pathology,
- Quality Improvement projects.
- Board Review.
- Optional Clinical Educational Opportunities
  - Opportunities for additional specialty training are available through the Endocrine Fellows Foundation, NIH, AACE, and other organizations. Our fellows have attended conferences in Santa Fe, NM (bone), New York (Columbia University Metabolic Bone), Endocrine University (Mayo Clinic, MN), and Diabetes Conference at University of Colorado (Denver).
  - Participation in Divisional, Regional and National CME meetings is desirable and will be encouraged.
  - Participation in all CME programs provided by the including Endocrinology Update, Mazzaferri Lecture, Kroch Lecture, and Metabolic Bone Disease Update.

## 2. Research

### a) Endocrinology research project

- A primary goal of the OSU Endocrinology Fellowship Program is to train academic leaders of tomorrow, and research is a major cornerstone of the program. Each fellow is provided guidance in selecting a faculty mentor and to begin to explore research opportunities. Training will incorporate protocol development/experimental design; research techniques; data analysis; presentation skills and scientific writing. Requirements and timeline for completion will include:
  - Prior to fellowship start: consider areas of interest, complete CITI training
  - July-September Year 1: choosing a mentor: Time is provided during the first two months for new fellows to meet with potential research mentors and complete CITI training. Mentors can be outside the Division with approval by the program director.
  - October-December Year 1: project development
  - December-January Year 1: present proposed protocol at research conference is required within the first 6 months of fellowship. The goal of this exercise is to develop presentation skills and to utilize faculty expertise to feedback on proposed project.
  - January-June: IRB submission (if appropriate), learn techniques
  - Year 1: prepare and submit grant for funding (if applicable)
  - Year 2: Submit and present data at OSU Fellow Research Symposium (required in Year 2)
  - Submit abstract(s) to regional/national meetings
  - Present abstract at meeting if accepted
  - Prepare manuscript

### b) Endocrinology research conference (required)

- Annual presentation of study progress. First year fellow discusses research proposal at midyear. Second year fellow presents a summary presentation at end of fellowship.
- All fellows are also required to attend at least 75% of endocrinology research conferences where other faculty and guest speakers will present basic and clinical endocrine research.

c) National Meetings

- Each fellow will be expected to submit an abstract for at least one national meeting by Year 2 and if accepted, to prepare and present the data at that venue.
- Fellows will also be encouraged to attend regional/national scientific meetings to enhance networking and scientific exchange.

3. Education/Teaching Experience

- a) House Staff and Medical students rotating on the Inpatient Endocrine Consult Service
- b) Small group tutorials for 1<sup>st</sup> and 2<sup>nd</sup> year medical students (required Year 1 and 2)
- c) Present at CME programs given by Division (optional in Year 2)

4. ORGANIZATIONAL STRUCTURE OF FELLOWSHIP

- Fellowship Director: Benjamin O'Donnell, MD
- Associate Fellowship Director: Steven Ing, MD, MSCE
- Division Director: Matthew Ringel, MD
- Program Coordinator: Adam Linard

5. SUMMARY OF REQUIRED ELEMENTS OF FELLOWSHIP

- Completion of minimum of 24 months training in Endocrinology, Diabetes and Metabolism ACGME-certified training program
- Average of 2 rotating half day endocrine clinics per month for 24 months in which 1 half-day continuity clinic per month for at least 20 months
- 1 month of pediatric endocrinology
- 2 weeks of reproductive endocrinology
- Presentations at Board Review Conference, Journal Club and Endocrine Case Conference about 6-8 times per year
- A minimum of one didactic course on biostatistics or study design (or other "approved" course germane to research initiative)
- Completion of a research study as evidenced by:
  - protocol development/IRB submission
  - research conferences covering study design
  - grant preparation and submission
  - abstract submission
  - presentation of results at Research Conference and OSU Fellows Research Symposium
  - preparation of final manuscript for submission

- Participation in teaching activities as evidenced by: small group tutorials for medical students during their endocrinology block