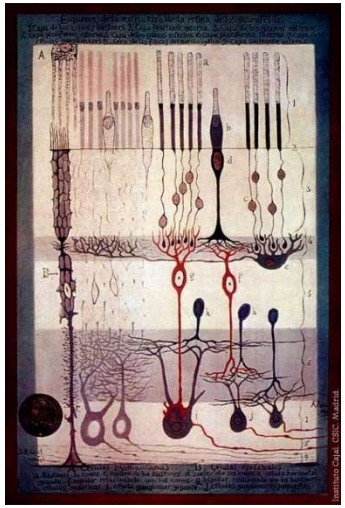
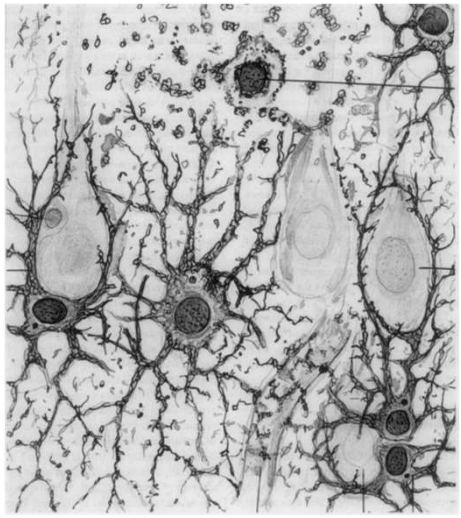
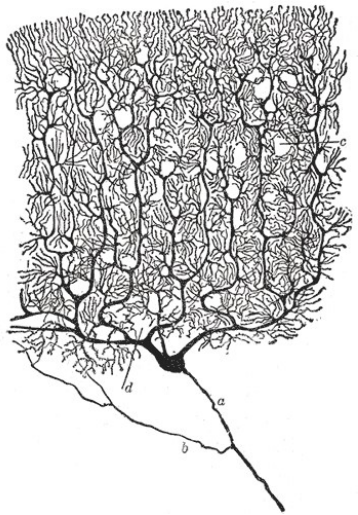






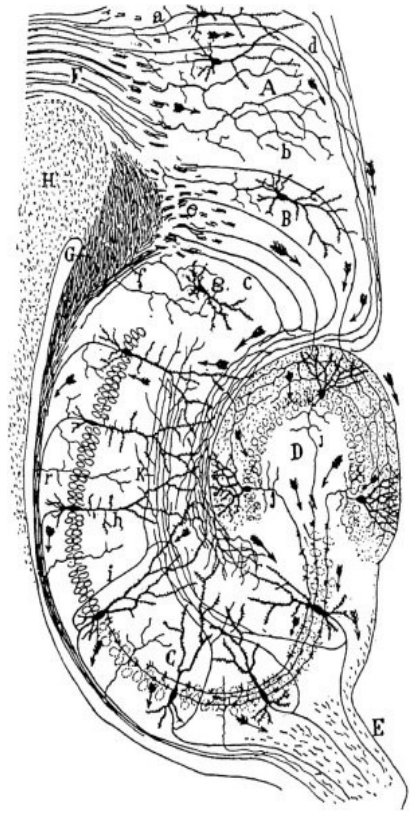
NEUROLOGY CLERKSHIP ORIENTATION

2018-2019

ROB NAISMITH M.D.

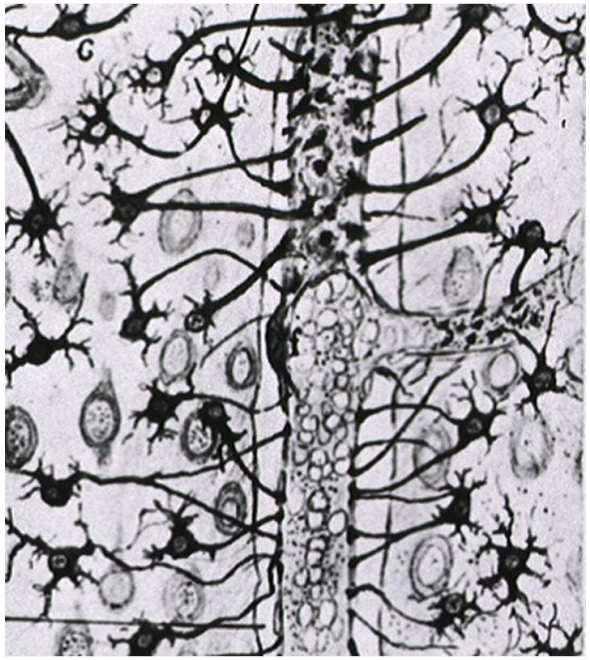
POLL:
A DECADE OF NEUROLOGICAL ADVANCES

- Diagnose Alzheimer's Presymptomatically by CSF and Imaging
- Deep Brain Stimulation for Parkinson's Disease, Essential Tremor, Dystonia
- 12 approved MS Therapies that modify the disease course
- Immunotherapies for many Neuropathies, Myopathies, and Neuromuscular Junction Disorders
- Epilepsy surgery can result in remission for those medically refractory
- Reduced mortality from intracerebral hemorrhage from Neuro ICU care and Neurosurgical collaboration
- Thrombolysis and Interventional Stroke Techniques that reduce disability



POLL:
WHY DO PEOPLE CHOOSE NEUROLOGY

- Never boring
- Curiosity and drive to understand things better
- Deductive reasoning
- Learn something new each day
- Develop relationships with patients and families
- The most important organ in the body
- It's the brain!!!
- Merges understanding the brain with patient care

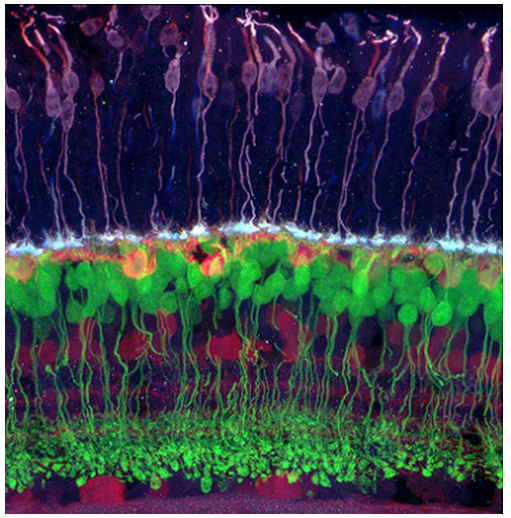


POLL:
WHY DOES EVERYONE NEED NEUROLOGY

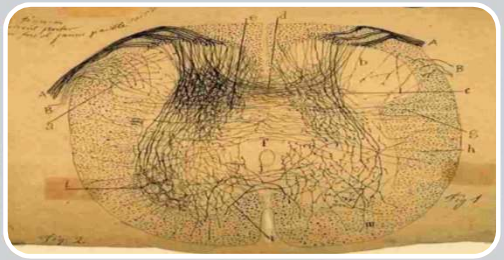
- Avoid missing treatable conditions that could impair or kill people
- Avoid medication side effects that can cause permanent disability
- Recognize neurological emergencies for immediate treatment
- Neurology and neurological complications of systemic disease
- Neurology is present within every field of medicine

POLL:
UNMET NEEDS IN NEUROLOGY

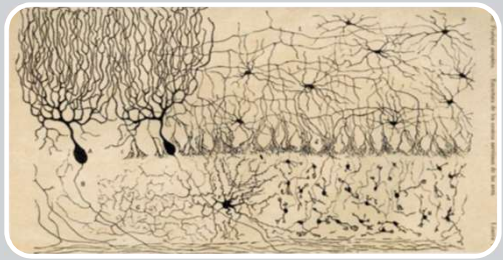
- Therapies for ALS
- Understanding of Neuromuscular Genetics
- Disease modifying therapy for Alzheimer's
- More therapeutics to enhance recovery after Stroke
- More neurodegenerative diseases with aging population
- Remyelinating strategies in MS
- Treatments for Glioblastoma and other Tumors
- Treatments for Brain and Spinal Cord Injury



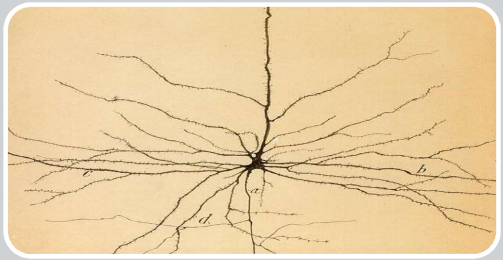
CURRICULUM



Inpatient Experience



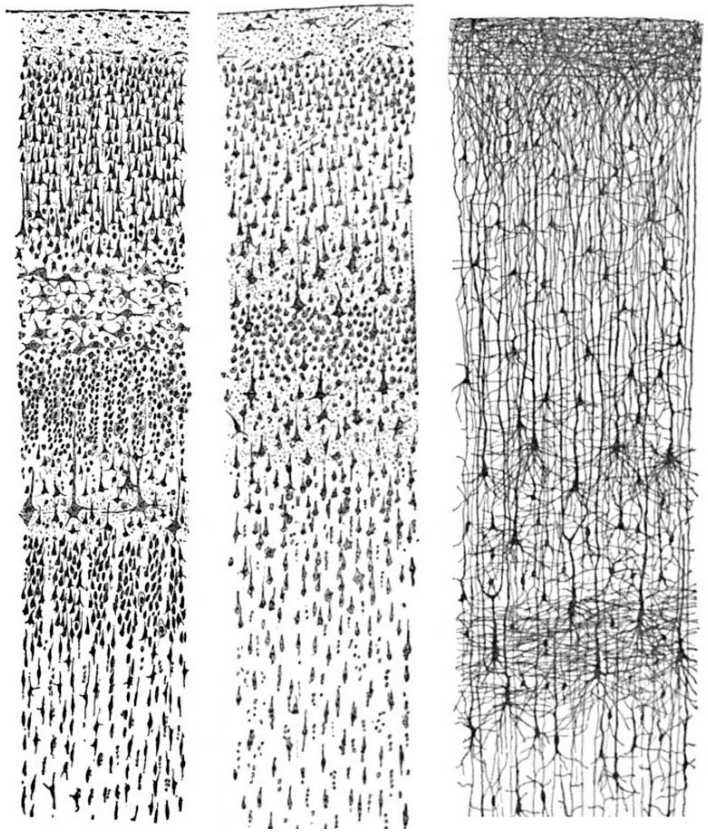
Outpatient Clinics



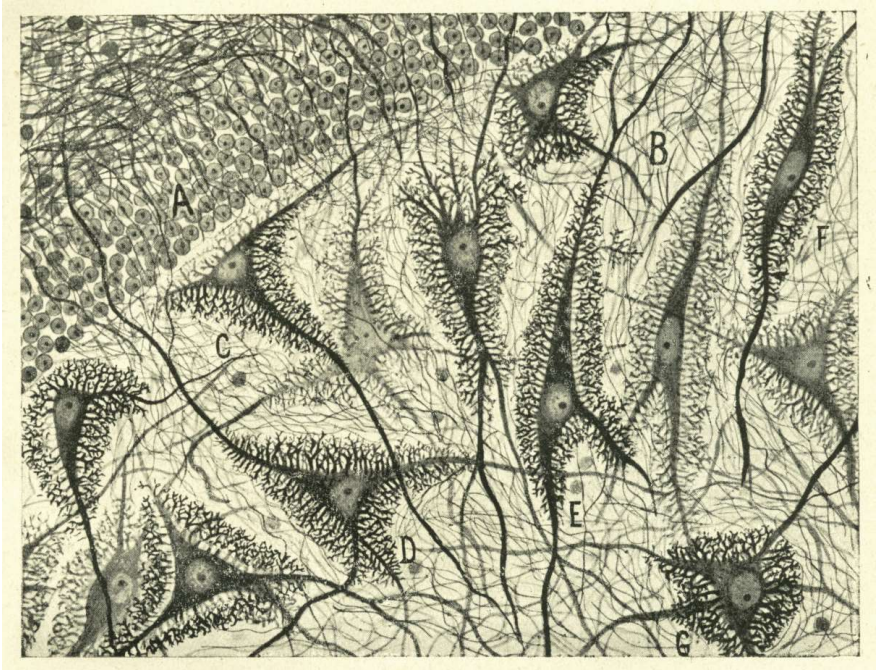
Didactics and Workshops

APPLYING KNOWLEDGE AND PRACTICING CLINICAL SKILLS

- **Apply Knowledge from DNS to Patient Care.**
  - Read about patient's differential and condition
  - Synthesize case for diagnosis
  - Use primary literature for patient management
- **Learn and Refine Clinical Skills**
  - Obtain patient experience and communicate with family
  - Collect all the data
  - Communicate with health care team
  - Work productively to help team and guide care
- **Professionalism**
  - Enthusiastic about trying to help the patient
  - Proactive about learning
  - Contribute to discussion and education



OBJECTIVES



PERFORM A COMPREHENSIVE NEUROLOGICAL ASSESSMENT

- Obtain history from patient
  - Reconstruct patient story on a timeline
  - UNLOAD: Open-ended questions, do not interrupt (unload)
  - CLARIFY: Once patient finished, go through symptoms and functional relevance
  - VERIFY: Summarize for patient
- Obtain history from others
  - Cognitive problems, loss of consciousness
  - Denial, minimization, dramatization
- Review medical records
  - OSH, Clindesk, Hmed, Allscripts, EU Charts/BJC-Hits, Pharmacies
- Perform neurologic exam
- Review test results
- Repeat as necessary

SYNTHESIZE CASE FOR PRIORITIZED & RATIONALIZED DIFFERENTIAL

- Decide what is important, what is red herring
  - Present key features in oral presentation
- How does the history, exam, and test results all support one another
  - Create links the corroborate your findings
  - Hypothesis driven, iterative, bidirectional
- Identify neuroanatomical locations to explain findings
  - Co-localizing findings, what diseases affect that region
- What is most likely, most treatable, most dangerous

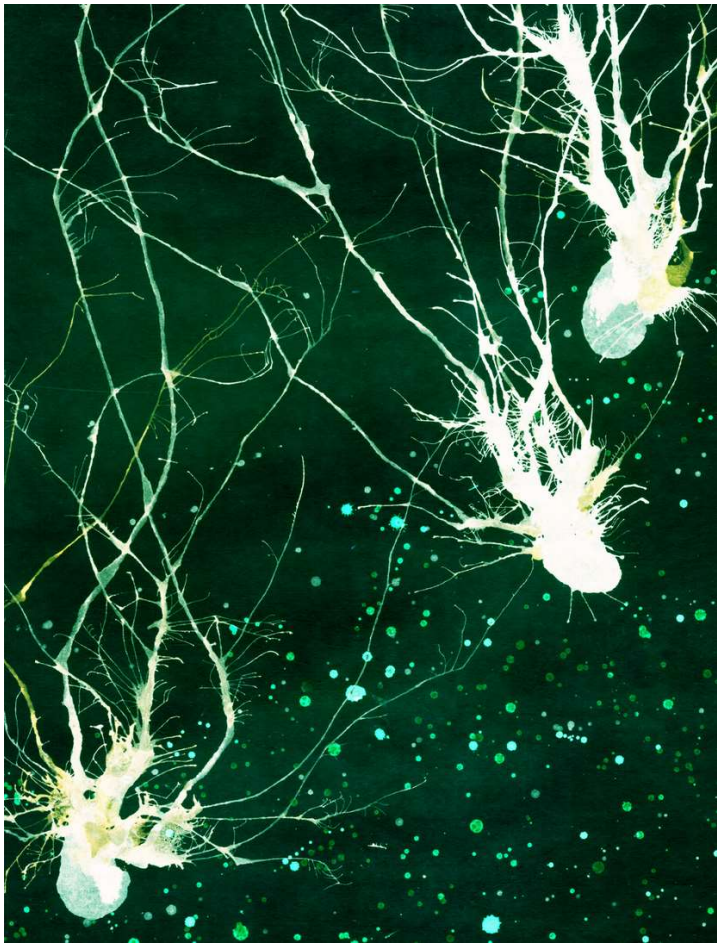
SUMMARIZE ASSESSMENT FOR CONCISE ORAL PRESENTATIONS AND COMPREHENSIVE WRITE-UPS

- Concise Oral Presentations
  - Interpreted: Lead listener through your thought process to the differential
  - Strive for clarity, logic, concise yet thorough
  - Pertinent negatives:
    - No LOC, tremors, tongue biting, or incontinence
    - Clear disc margins with venous pulsations, EOMF including lateral gaze
    - No heart murmurs, conjunctival hemorrhages, lesions on nails or distal extremities
  - Connect history with exam with studies
    - Patient notes feeling unsteady, off-balance. Falls when changing direction. People think he is drunk.
    - Unable to stand with feet together eyes open, wide-based gait, staggering, 4 steps to turn

- Comprehensive Write-ups
  - Thorough, detailed, verified
    - CHF: Diagnosed in 2002, presented with lower extremity edema and dyspnea on exertion, echo showed EF of 30% with normal valves at that time. Cardiac cath negative. Currently asymptomatic on treatment, last echo in June 2014 had EF of 35%.
    - DMII: Diagnosed in 2004, found upon checking routine labs. No complications or hospitalizations. Had eye exam last year, no microalbuminuria last month. HgA1c last month was 6.7.

APPLY KNOWLEDGE AND USE LITERATURE FOR PATIENT MANAGEMENT

- Learn and Apply Knowledge
  - Write unknowns down during rounds
  - UpToDate, Medscape
  - Symptom-based Approach
  - Risk Factors
  - How to confirm diagnosis
  - Treatment options
  - Standard of care
  - Outcomes and prognosis
- Use Literature
  - Google Scholar (most cited on top)
  - Clinical trials, meta-analyses, treatment guidelines



FOLLOW AND ADVOCATE FOR YOUR PATIENTS

- Visit with patients to provide updates on plan of care
- Help answer questions not able to be addressed on rounds
- Make sure they get their tests completed on time
- Contact family unable to be at hospital to provide updates when appropriate
- Be present during team discussions to present data and participate

WORK PRODUCTIVELY WITH TEAM TO CARE FOR PATIENTS, EDUCATE, AND INCREASE INDEPENDENCE

- Immerse yourself in patient care on day 1
- Determine what needs to be done to help with patient care
- Make task list and look-up list
- Keep residents updated on progress
- Be creative and persistent to get things accomplished
- Update team on reading for patient management
- Be proactive to help patients and maximize your education

SYMPTOM-BASED APPROACH

THE CHIEF COMPLAINT!

- Disorders of consciousness
- Mental status and/or behavioral changes
- Memory complaints
- Pain in the head, neck, and back
- Numbness, paresthesias, and neuropathic pain
- Weakness and clumsiness
- Dizziness and vertigo
- Disorders of language
- Vision loss and diplopia
- Dysarthria and dysphagia
- Abnormal movements
- Sleep-related complaints

DISEASE CATEGORIES

- Stroke & Hemorrhages
- Structural Coma
- Metabolic Encephalopathies
- Neuro-Toxicology and Vitamin Deficiencies
- Meningitis & Encephalitis
- Dementia & Memory
- Seizures & Syncope
- Vertigo
- Headaches
- Myelopathies
- Radiculopathies
- Neuropathies
- Immunologic Diseases
- Movement disorders
- Neuromuscular disorders
- Brain tumors

Details found on Clerkship Website

CONFERENCE AIMS

- **Student Bedside Teaching Rounds**
  - **Patient based learning directed towards students for clinical diagnoses, practicing clinical skills, and management discussion across different services.**
  - **Scheduled several times per week at beginning or end of day. Attendance is encouraged and highly recommended.**
  - **Patient should be picked by attending.**
  - **Contact person if running late. Session should last ~45 minutes.**
- **Oral Presentation Skills Workshop**
  - **Provide clear, concise, and well-organized patient presentations for rounds**
- **Neurologic Exam Skills Workshop**
  - **Master the technique and flow for the screening neurologic exam**

CONFERENCE AIMS CONT.

- Localization and Imaging Workshop
  - Review neuroanatomy
  - Interpret imaging studies
  - Apply localization for differential diagnosis
- High Yield Neurology Review
  - Review key diagnoses in neurology for exam preparation
- LP Simulation Workshop
  - Consent and perform a lumbar puncture with good technique
- You are welcome (not required) to attend most other lectures. Ask your resident.
  - Journal Club, Morning Report, Clinical Neuroscience Lectures, Stroke Lecture Series
  - Just for Residents*: Summer Stock, Residents as Teachers

INPATIENT STRUCTURE

- Two Teams: Stroke and General
  - One Attending, One Chief, Four Residents
  - Students belong on a team
  - Assigned a resident for call and feedback
  - Student work with all residents on team

- Both Teams take call each night
  - Call typically every 4th
  - Long admit day typically synchronized with assigned resident call
  - Day admissions (Short) through 5pm or cap
  - Call admissions (Long) typically start at 5pm
  - Post-call resident leaves in morning after new patients presented (~10:30am)

INPATIENT ROUNDS

- **Pre-Round**
  - **Sign-out, see patients, review chart notes, labs, vitals, meds administered**
  - **Chief and Attending are seeing new and old patients in NeuroICU**
  - **Residents pre-rounding**
- **Teaching Rounds**
  - **M/Tu 7:30, We/Th 8:15, Fr 9, Sa/Su 7:30 or 8**
  - **Review new patients and see interesting/active follow-ups**
- **Chief Rounds with Attending**
  - **10:30 or 11 am start**
  - **Wrap up remaining patients**
  - **Sometimes on-call resident present**
  - **Whether student present varies**

ADULT INPATIENT STUDENT ADMISSIONS

- Long-admit day latest admission is 8 pm
- Regular day latest admission is 4 pm
- Assigned call resident distributes the admissions
  - Priority to long admit student, but discuss census, needs, and anticipated admissions
- Always carry an active census of patients (3-5)
  - Pick-up patients on Day 1
  - Available to pick-up patients any day
  - Available admits: Seen overnight, scheduled admits, regular admits, transfers
  - Over three weeks, you will have a number of initial work-ups and pick-ups
    - Can vary by week – Be proactive
  - Can pick-up admissions with neurology residents or nurse practitioner

ADULT CONSULT STRUCTURE

- Consult service covers Floor and ED Calls
- tPA Pager – alternates between students on team
- AM Consults
  - Round in the morning, (typically between 9-10 am)
  - Cover the pager 1 pm – 7 pm
  - Typically busy doing ED consults, some floor consults. Typically 1-2/day.
  - AM Consult Attending Rounds at 7 am with night float resident for overnight consults
  - Come Sunday to Round and Pick-up 1 Patient – Short Day, 7 am start
  - Not all patients will be presented to Attending

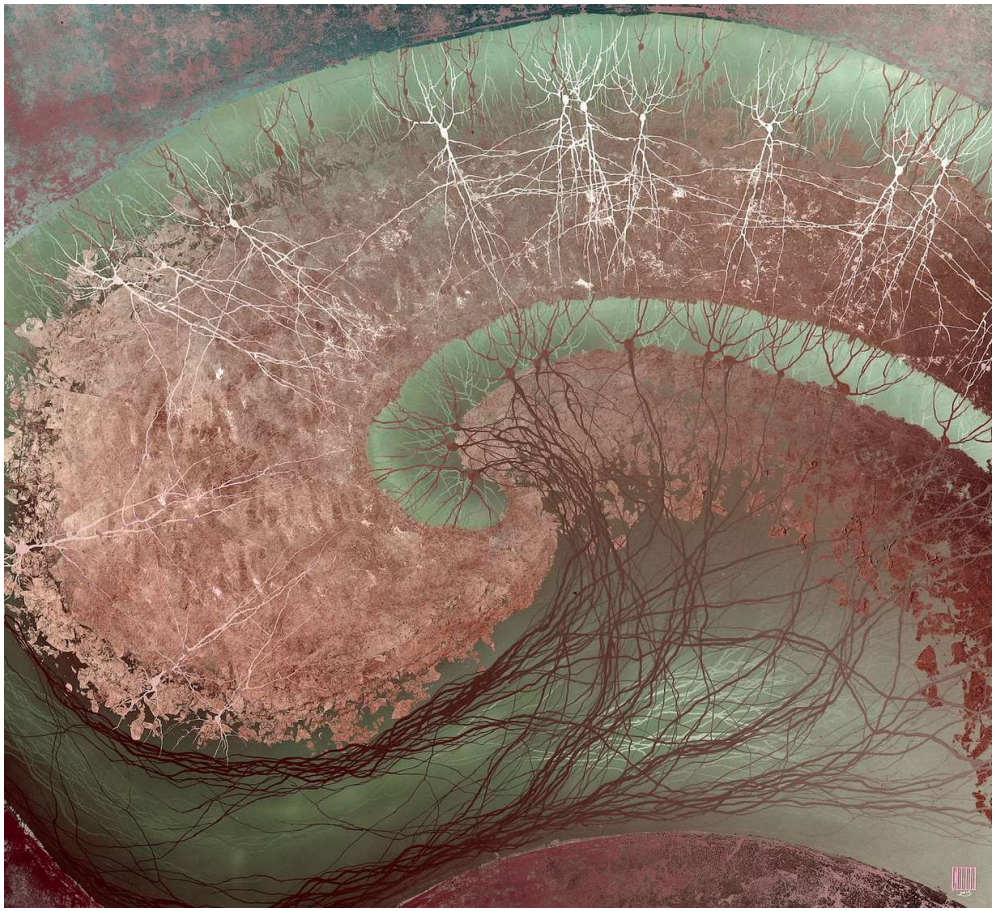
- PM Consults
  - Round in the afternoon, (typically between 1-2 pm)
  - Cover the pager 7 am –1 pm
  - Variety of ED and Floor Consults. Overnight pick-ups. Typically 1-2/day.
  - Come Saturday to Round and Cover Patients – Short Day, 7 am start
  - Need to be efficient with work-up for afternoon rounding time
  - Will sometimes see patients with AM Consult Attending for urgent staffing

CLINICS

- **BJC Center Outpatient Care:**
  - Review website for guidelines
  - Arrive 12:50, can start on IOV until resident arrives
  - Work with multiple residents to provide broad patient exposure
- **Subspecialty Clinics**
  - Arrive 5-10 minutes prior to 1st scheduled patient
  - Check IDX/Allscripts for updates
  - May wish to email attending the day before
- **Neurosurgery**
  - Weekly ½ day resident clinic
- **During Clinic block, no inpatient duties.**
  - If clinic is in 2nd or 3rd week, may email resident to get patients to follow for return day.
- **POM Lectures are required**

PATIENT LOGS

- Required log of Neurology Symptoms, Diagnoses, and Situations
- Enter 2-3 patients per day
- Enter patients daily – we need to review your progress



FEEDBACK

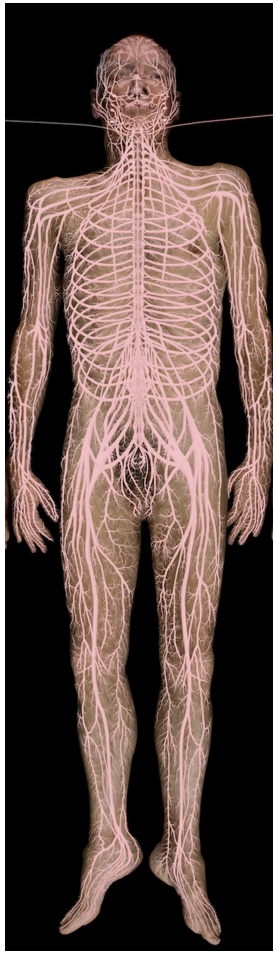
- Patient Learning Goals Program
- Should receive feedback from someone almost weekly
- Have resident see one of your neuro exams and fill-out form
- Let Clerkship Director know if you have any concerns or are not getting the experience you had hoped
  - Can put together a customized learning plan based upon needs
  - Let me know before the end of week 2 so you have enough time to achieve your learning plan

MISTREATMENT

- Public humiliation
  - Especially when persistent, derogatory, personal
- Sexual harassment or unwanted advances
- Threatened or harmed physically
- Discrimination or negative commentary based upon gender, race, sexual orientation
- Asked to perform personal services (i.e. shopping, cleaning, babysitting)

BOOKS

- Review Diseases of the Nervous System notes
- Texts: Pick no more than one
  - Lange Clinical Neurology by Greenberg
  - Blue Prints by Drislane
  - Case Files Neurology by Toy
  - Neurology: A Clinician's Approach by Tarulli
- Supplementary:
  - Neurology Pre-Test
- Review Disease List on Clerkship Website
- Text books, on-line websites, primary literature for patients



EVALUATIONS

- We want to give every chance to shine
- Expected to get better with time
- You are evaluated as individuals
  - Teamwork is viewed as synergetic
- Key attributes
  - Thought process, development, and contribution to patients/team/education
- Clinical performance 80%, Shelf exam 20%
- OSCE is Formative, requires Pass

CLINICAL EVALUATIONS

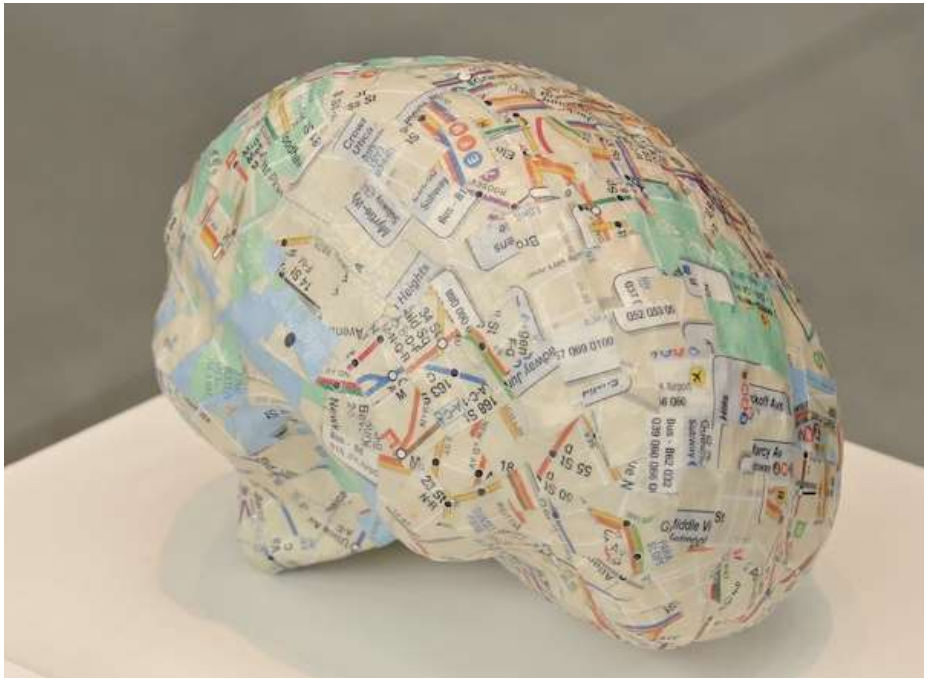
- Grading session every 2 weeks
  - We give you the benefit of the doubt when conflicting or incomplete information
  - Common questions
    - Was s/he compulsive in getting all the details of the history, tracking down key informants?
    - Did s/he visit their patients throughout the day, updating them on plan of care?
    - Did s/he put together a plan with some independence?
    - Was her/his oral presentation concise, logical, thorough, and linked?
    - Were they present and proactive about helping and gaining more experience?
    - Did patients receive better care for having a student?
    - Did family make favorable comments or treat the student as the doctor?

- Based upon 3 weeks of inpatient service
  - 70% for 1st ~1.5 weeks
  - 30% for 2nd ~1.5 weeks

- Clinics not formally evaluated
  - Attendings and residents do email for outstanding or abysmal performances in clinic
  - Clinic attendings and residents can be at grading session, and may comment upon being proactive in clinic and didactics

SHELF EVALUATION

- **NBME Shelf 20%**
- **No cut-offs to qualify for honors**
- **Failing shelf automatically drops your grade by one step (i.e. HP to P)**



INTEREST IN NEUROLOGY?

- Contact me for mentoring
  - Fourth year projects and teaching opportunities
  - Customizing and scheduling Sub-Internships
  - Selecting residency programs
  - Making a career decision
  - Work-life balance and life fulfillment in Neurology

APPOINTMENTS WELCOME