Case 1
A 25-year-old woman complains of severe headaches for the past three months. They start at one temple or the other, with pounding pain, and are often accompanied by nausea and vomiting. The headaches usually last for several hours and occur once or twice a week. She is a schoolteacher and had to stay home from work one day last month and missed a close friend’s wedding two weeks ago because of headaches. She denies associated visual symptoms. On specific questioning, she says she occasionally missed school as a child due to sinus headaches. Other than asthma, for which she uses inhalers, she describes her health as good. General and neurological examinations are normal.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about her condition and about any proposed therapy?
Case 2
A 28 year-old woman comes to the ED after awakening with severe vertigo. She is just getting over a cold, but otherwise had been feeling well, with no ear pain, tinnitus, or hearing loss. The room feels like it is spinning and she feels safer walking along the wall, for support. She has never had symptoms like this before and takes no medications. On examination, she has normal vital signs and left-beating nystagmus in all directions of gaze.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 3
A 50 year old man is brought to the ED after being found on the street confused and staggering. The paramedics and ED staff recognize him as having been seen in the ER previously for alcohol withdrawal and injuries sustained while intoxicated. He is awake, disoriented to place and time, and speaks fluently. There is weakness of abduction of the right eye and nystagmus in all directions of gaze. He cannot walk without assistance and falls easily to the right or left. Tone in the legs is normal and reflexes are normal at the knees and absent at the ankles, with flexor plantar responses bilaterally.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you treat this patient? How would you monitor his condition and its treatment? What is the prognosis?
**Case 4**

A 38-year-old man complains of pain in his left leg. Three weeks earlier, while helping a friend move, he felt a "pop" in his back. Later that day, he noticed aching in the left hip. The next morning, he experienced sharp shooting pains from the left buttock and hip region down the posterior aspect of the leg, and "pins and needles" sensations in the sole of the left foot. The pain was worsened by sitting and standing. There was no weakness, numbness, or sphincter symptoms. There was no history of back trauma.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about his condition and about any proposed therapy?
Case 5
A 75 year-old man with hypertension, diabetes, and coronary artery disease has severe burning, shock-like pain radiating around the right upper chest. Several months ago he had a painful, vesicular rash in the area, and was treated with acyclovir and prednisone for shingles. The rash has since resolved, but he had severe ("11/10") pain in the area and has been taking 15-20 or more Vicodin daily. His other medications include benazepril, glyburide, metformin, atorvastatin, ASA, and SL nitroglycerin. He used to play golf and travel extensively, but has been housebound for the past month due to pain. On examination, light touch over the right chest just below the nipple line ("exactly where it hurts, doc!") evokes severe pain. His only other findings on neurologic examination are absent ankle reflexes and vibratory loss in the toes.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about his condition and about any proposed therapy?
Case 6
A 44 year-old truck driver is brought to the emergency department by ambulance. According to his friends, he was getting up from the table after lunch then suddenly groaned, stiffened, and collapsed, with jerking movements of the arms and legs. By the time paramedics arrived, the movements had ceased and he was mumbling incoherently. At first he was confused and moving purposefully; en route to the hospital, his consciousness gradually cleared. By the time you examine him in the ED (about 45 minutes after the event), he is awake and alert, complaining only of a mild headache, and has little recall of what has just occurred.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about his condition and about any proposed therapy?
Case 7
A 50-year-old man with "diet-controlled" diabetes is referred by his primary care provider for worsening pain in his feet over the past year. He describes the symptom as a constant "pins and needles" sensation primarily localized to the bottom of his feet, with burning pain in the same area, especially at night. He has no symptoms in his hands. He takes no medications and does not monitor his blood sugars. His diabetes was diagnosed five years ago.

Cranial nerves and motor exam are normal. There is moderate elevation of the vibratory thresholds in the toes of both feet. Light touch is mildly impaired to the ankles and touch evokes an unpleasant tingling sensation in the soles. Pain and temperature are reduced distally to both ankles. Sensory examination is normal in the arms and hands. The deep tendon reflexes are absent at both ankles, and normal elsewhere, with flexor plantar responses bilaterally. Gait is normal and Romberg is negative.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about his condition and about any proposed therapy?
**Case 8**
A 36 year-old woman suddenly developed a right-sided headache while sitting on the toilet. The pain was severe, throbbing, and associated with nausea. She returned to bed and went back to sleep. When awakened several hours later by her roommate, the patient was drowsy and complained of double vision. On examination she is sleepy, but easily arousable and oriented, with a stiff neck and incomplete ptosis of the right eye, which is deviated down and to the right. The right pupil is enlarged at 5 mm and reacts sluggishly to light.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of your proposed therapy. How would you counsel the patient about her condition and about any proposed therapy?
Case 9
You are moonlighting in the ER when a two-week old boy is brought in for fever, lethargy, and irritability. He was the seven pound, two ounce product of a full term, uncomplicated pregnancy. Labor and delivery were unremarkable, and his Apgars were 8 and 9 at one and five minutes. He had been well until this morning when he developed irritability, lethargy, and poor feeding. He appears ill and is irritable and inconsolable. He has a fever (38.5°C), a bulging fontanelle, supple neck and normal general examination. Funduscopic examination is normal, as is neurologic examination except for generalized hyperreflexia.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you treat this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 10
A 26 year-old man comes to clinic after waking up yesterday with drooping of the left side of his face. He had some mild aching behind the left ear when he awoke. While brushing his teeth shortly thereafter he noticed his left face was drooping and that he had difficulty closing the left eye. He hoped it would go away and is concerned he has had a stroke. He takes no medications and is in good health. On examination, he cannot fully close the left eye and the left nasolabial fold is decreased.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 11
A 54 year-old man complains of severe left facial pain for six months. The pain comes in "jolts" involving the left cheek. He discovered that shaving often brought on the pain, which was so severe that he grew a beard in order to avoid triggering it. The pain also occurs without obvious precipitant; lately is has been happening in a “series of shocks.” He saw an otolaryngologist, who told him his sinuses and ears were completely normal. The worry that he'll have the pain, which he rates as 10/10 in severity, has made him depressed and anxious.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you treat this patient? Include doses for 1 medication you might prescribe for this patient along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about his condition and about any proposed therapy?
Case 12
A 65 year-old man comes to the office with dizziness for several months. Closer questioning reveals that he has had very brief (seconds) episodes where “it feels like I’m on a ship.” These episodes have awakened him from sleep and he has also had them while washing his hair in the shower or looking over his shoulder while backing up his car. There is no history of head trauma and no tinnitus, hearing loss or associated visual, motor or sensory symptoms. He feels fine between episodes.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 13
A 20 month-old boy is brought to the ED by his parents after a seizure. He awoke with a runny nose, and had been pulling at his right ear in the afternoon. The mother had planned to bring her child to the pediatrician the next morning. When she put the child down to sleep, he squealed, extended both arms and legs, then shook for several minutes, during which his eyes rolled up. Immediately afterwards, unable to awaken him, his parents brought him to the ED. *En route*, he began to awaken. In the ED, he had a temperature of 38 C and a red, swollen right tympanic membrane. He cries vigorously while being examined. His settles down quickly when held by his mother, reaching for a toy presented from either side. His reflexes are normal.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 14
A 60-year-old woman with a history of osteoarthritis and chronic neck pain complains of sharp, stabbing neck pain that radiates to her right shoulder. The radiating pain is particularly triggered with coughing or sneezing. There is longstanding numbness in a patch of skin on the superior surface of the upper arm. More recently, she has noticed mild clumsiness of her right hand, dragging of her right foot, and increased urinary urgency. Forward flexion of her neck results in an electric-like volley of sensation down her back.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 15
An 18 year-old student, without any medical problems, is brought to the ED after passing out during band practice. She had been standing in 95 degree heat for nearly an hour when she began feeling dizzy and nauseated. She slid to the ground, in a semi-sitting position since her drum set landed behind her. One of her bandmates said she was pale and that her arms and legs jerked several times. He moved the drums out of the way so that she was flat on the ground on her side and she quickly regained consciousness. The paramedics found her to be alert, oriented and complaining of dizziness, with pulse 110, BP 85/50, and sinus tachycardia on the rhythm strip. They removed her heavy band jacket, placed an IV, and brought her to the ED. She indicates she is feeling much better and wants to go home.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 16
A 68-year-old man is brought to see you, his primary care physician, by family because he has taken to wandering in the street. A couple of years ago, he started becoming "forgetful," which he and his family attributed to age. He would lose his train of thought, and sometimes come home from the store empty-handed, having forgotten why he went there. He became listless and lost interest in his usual hobbies. Recently, the decline has accelerated. He has been seen talking to empty rooms and has referred several times to visits from his mother, who died many years ago. His general examination is normal. On neurological examination, his MMSE score is 19, with points lost on orientation, recall, and intersecting pentagons. Cranial nerves and reflexes are normal.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about his condition and about any proposed therapy?
Case 17
A 20 year-old college student comes to student health, which you are covering on a primary care elective, during summer session with headache fever, and stiff neck for several days. She thought she was getting a cold, but for the past 36 hours has had a severe headache, worse with bright lights, and a stiff neck. She volunteers that she has had occasional migraines, but that this is a different kind of headache. She had been feeling well previously; her only medications are acetaminophen for headache. On examination, she appears uncomfortable, but not toxic, with temperature 38 C, three finger-breadth meningismus and no rash. She is alert, conversant, and provides an excellent history.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 18
A 32 year-old previously healthy woman comes to clinic for pain and tingling in her hands for several months. It began on the right as tingling in the hand and aching in the forearm. For the past month, she has had minor tingling in the left hand. On further questioning, you find out the symptoms began at night, but are more persistent in her right hand during the day. She sometimes awakens with the symptoms and shakes her hands to make them go away. She has never had symptoms like this before. Neurologic examination shows normal tone and reflexes, with subtle decreased pinprick in the lateral three digits on palmar surface of the right hand.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 19
A 52 year-old woman comes to the office “worried that I have Parkinson’s Disease,” because of tremor in her hands for several years. She is not sure if it is worse in her right hand or if she’s more conscious of it because she is right-handed. Writing or especially holding a cup makes it worse. She has taken to filling cups halfway so that she doesn’t spill the contents. She is very self-conscious about the tremor, which is worse when she is stressed or nervous. She takes hydrochlorothiazide for hypertension and has a remote history of depression. Sitting in the exam room, she appears composed, with no abnormal movements evident.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about her condition and about any proposed therapy?
Case 20
A 65 year-old right handed man with a history of hypertension and smoking comes to the ED with right face, arm, and leg weakness and slurred speech for eight hours. The symptoms began abruptly during dinner and have not improved since onset. Examination shows a comfortable, alert man with a blood pressure of 160/95, regular pulse of 82, temperature of 37 C, and respirations of 16. Cardiac exam was normal. Mental status was normal and speech was slurred. There was weakness of the right lower face and paralysis of the right arm and leg. Reflexes were less active in the right arm and leg compared to the left, and tone was mildly diminished on the right. Plantar responses were flexor bilaterally. Sensory examination was completely normal.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about his condition and about any proposed therapy?
Case 21

A 72 year-old man comes to the office after awakening yesterday morning with decreased vision on the right. He has been feeling fine recently, with no headache or eye pain. He is taking the same medications for the past several years: ACE inhibitor for longstanding hypertension, a statin for hypercholesterolemia, and aspirin 81mg daily. He receives regular primary care and a recent fasting blood sugar was normal. Corrected acuity is 20/20 on the left and 20/30 on the right. Visual field to finger counting is full on the left; on the right, there is a defect in the lower fields, especially nasally. Funduscopic exam reveals a normal disk with mild A-V nicking on the left and a swollen, slightly pale disk on the right. There is a right afferent papillary defect. EOMs and the rest of the neurologic exam are normal.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 22
A 52 year-old man becomes confused POD#1 after elective right total knee replacement. The surgery was performed for degenerative joint disease and went smoothly, without complications. The anesthesiologist’s and surgeon’s post-operative notes describe the patient as alert and fully oriented, as did the nurse's notes the afternoon after his surgery. Late that evening the nurses found him irritable and somewhat shaky. By the next night, he was tachycardic and intermittently confused. He takes hydrochlorothiazide for hypertension, but has no other known medical problems. He is a business executive who travels extensively for work. Other than postoperative antibiotics and patient-controlled anesthesia, his only medications are hydrochlorothiazide, enoxaparin, and docusate. His preoperative labs are notable only for a slightly elevated mean corpuscular volume. On examination, his temperature is 37.7 C, pulse 110 (regular), BP 150/95, RR 16, with O2 sat 98% on room air. He is breathing comfortably, mildly diaphoretic, and oriented to name, hospital, year and month, but not the date or day of the week. He is irritable, refusing to answer some questions and allowing limited examination. General exam is unremarkable, except for an intact, dry dressing and brace on the right leg. Pupils are 8mm and reactive, EOMs are full without nystagmus, and there is no pronator drift, although he is tremulous. Reflexes in the arms and at the left knee are brisk with an absent ankle reflex and flexor plantar response on the left; the right leg is untestable because of his surgery.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 23
A 28 year-old woman comes to the office in followup from an ED visit for a “grand mal” seizure. In reviewing her ED records, you make note of a paramedic run sheet describing shaking of all extremities accompanied by foaming at the mouth and deviation of eyes to the left. In the ED she was afebrile with a “nonfocal” neuro exam and normal head CT, electrolytes, and tox screen. She received lorazepam 4mg in the field. She was reported to the DMV and not begun on any medications. Just before the seizure, she smelled “burning rubber” and experienced a rising feeling in her stomach. She had another seizure with loss of consciousness 18 months ago, but did not seek medical attention because she did not have medical insurance.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about her condition and about any proposed therapy?
**Case 24**
A 45-year-old man had sudden onset of searing low back pain (LBP) with radiation into the right buttock lateral thigh and calf yesterday while lifting a heavy chair. He has had difficulty dorsiflexing his right ankle since yesterday, but is now having trouble standing on the toes of his right foot. Currently, there is numbness in the distribution of the searing pain and also on the rightward half of his genitals. Although he is bothered by some new bladder difficulties, he is most concerned about a bowel accident this afternoon.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 25
A 16 year-old presents to her pediatrician complaining of monthly episodes of double vision, vertigo, and bilateral consciousness. The symptoms come on over the course of 5-10 minutes and resolve within an hour. About a half hour after the symptoms start she develops severe pulsating occipital head pain that lasts for 10 hours and resolves with sleep. She has photophobia and phonophobia with the headache. The attacks have been occurring for the past three years and have not changed. They are most likely to occur with her menstrual period. Her mother and sister get similar attacks. Neurological examination is normal.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about her condition and about any proposed therapy?
Case 26
A 51 year-old homeless man is sent to the ED by his PCP for three weeks of headache, double vision for a week, and increasing confusion for five days. His friends brought him to his PCP and said that before the headaches started, the patient had lost weight and had night sweats. They indicate that he drinks heavily on weekends, but doesn’t get the shakes or use IV drugs. The PCP’s referring note describes a long history of depression with psychotic features and poor medication adherence and a negative HIV test two years previously. On examination, he is a disheveled, thin man appearing older than his stated age, with a temperature of 37.5. His neck is markedly stiff. He is distractible, mumbles short sentences that variably relate to questions he is asked, and has decreased abduction of both eyes. He is unable to cooperate with funduscopic examination and is diffusely hyperreflexic with extensor plantar responses bilaterally.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 27
A 9-year-old boy has been developing calf hypertrophy and leg weakness for about a year. He has begun to walk on his toes with his back arched. Mild weakness in the shoulders is reported. A maternal uncle who died of pneumonia at age 20 had a similar condition. A cousin has difficulty walking.

On examination the muscles of the calves are enlarged and firm. There is an exaggerated lumbar lordosis. He needed to use his hands to stand up from the floor. The gait had a waddling quality. The eye movements and speech were normal. There was moderate weakness of all limb muscles, worse in proximal muscles. Sensory examination and deep tendon reflexes were normal.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient’s parents about his condition and about any proposed therapy?
Case 28
A 64 year-old woman seeks medical attention for headaches that began 2 months ago. They are bitemporal and last throughout the day. There is no associated nausea, vomiting, sensory, or visual symptoms, but she feels tired and has noticed some aching in her arms and legs. Sometimes when she chews, she develops aching in the left side of her jaw. She has an appointment to see her dentist next week. As you speak to her, you notice that she appears uncomfortable and chronically ill.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about her condition and about any proposed therapy?
Case 29
A 9-month old previously healthy baby girl is brought to the emergency room obtunded. Her mother reports that the baby was fine that morning when she left her with her boyfriend to go to work. The boyfriend reports that the baby began vomiting that afternoon, and then became too lethargic to feed. On examination the infant is afebrile with a pulse of 70, her anterior fontanelle is bulging, and she is unresponsive with her eyes deviated downwards.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 30
A 78 year-old right handed woman with hypertension abruptly developed left-sided weakness while walking her dog in the Sunset with a friend 2 hours ago. She is somnolent, with a blood pressure of 210/100, regular pulse of 70, temperature of 37 C and respirations of 16. Cardiac exam was normal. She can be aroused only briefly with sternal rub, occasionally following simple commands and speaking short answers to questions. She has equally reactive pupils, left homonymous hemianopsia, plegia of the left lower portion face, and her left arm and leg are plegic. Reflexes and tone are decreased on the left compared with the right. Within 20 minutes of arrival in the ED, her mental status deteriorates further, necessitating endotracheal intubation.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you treat this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 31
A 39 year-old man comes to the office complaining of head pain for a month that is so severe “that if you can’t do something to make it go away, I will.” He describes excruciating deep pain behind the right eye, with tearing, redness, and nasal stuffiness, but no nausea or vomiting. The pain escalates over minutes and lasts for about an hour. He has had several episodes daily since onset, mostly at night. Over-the-counter pain medications have provided no relief. His wife says he grabs his head and paces when he is in pain; she has noticed his right eyelid is slightly droopy during an episode. He has no history of head or neck trauma or prior problems with headache and there have been no visual symptoms. He takes no medications and has no chronic medical conditions.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you treat this patient? Include doses for 1 medication you might prescribe for this patient along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about his condition and about any proposed therapy?
**Case 32**
A 16 year-old girl comes to the office for evaluation of her epilepsy. She had her first generalized seizure three years ago, the day after a slumber party. Several months later she had another seizure, and was placed on carbamazepine. MRI and routine EEG were normal, but she had 5 more seizures over the next 6 months. She was switched to phenytoin and had another 3 seizures over the next year. Gabapentin was added, but she still has a seizure every few months. You determine that one of her three siblings also has epilepsy, as does a first cousin. Her examination reveals gingival hyperplasia and mild end-gaze nystagmus bilaterally.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about her condition and about any proposed therapy?
Case 33
An 35 year-old homeless woman began to experience sharp upper-back pain yesterday, and today feels feverish and sweaty. She reports that she uses IV heroin and methamphetamine regularly--she does not share needles, but does reuse them. She has not noticed any weakness or numbness, but finds that she has to urinate more frequently than normal today. On exam, her temperature is 39.4 and pulse is 120. She has focal spinal tenderness to percussion at T1. Right-sided foot-taps are slightly slowed and right patellar and Achilles reflexes are 3+ compared to 2+ on the left, but her neurologic exam is otherwise normal.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 34
A 62 year-old man is brought to the ED after being found unconscious at the bottom of the stairs in front of his apartment building. His landlord found him and called 911. In the field, BP 180/105, pulse 90, GCS 9 (E2M5V2), with pupils 2mm and sluggishly reactive; an AV fistula was noted in his left antecubital fossa. One amp of D50, naloxone and IV thiamine did not change his exam. He comes in on a backboard, in a hard collar. In his wallet is a printout of his medications: metoprolol, amlodipine, clonidine, calcium supplements, renal vitamins, vitamin D, and ferrous sulfate. On exam, there is a small abrasion on his forehead, no signs of fluid overload and a thrill in his AV fistula. His GCS is now 5 (E1M3V1), with a dilated, sluggishly reactive right pupil and flexor posturing of the left arm.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 35
A 27-year-old woman has pain on eye movement and blurry vision for four days. She looks well, without proptosis or conjunctival erythema. Corrected acuity is 20/100 on the left and 20/20 on the right. There is a central scotoma in the left eye; visual fields are normal in the right eye. There is a left afferent papillary defect. Funduscopic exam and the remainder of the neurologic exam are normal. She takes no medications and has no medical problems.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 36
A 71 year-old woman is brought to the ER for 36 hours of fever and personality change. She has been easily distracted and has bumped her left side several times walking through doorways. Her temperature is 38.1°C. While being examined, she develops rhythmic left face and arm twitching, followed by a generalized tonic-clonic seizure that stops with lorazepam 2mg IV. After the seizure, she has conjugate roving eye movements and opens her eyes briefly to sternal rub. Her neck is supple and her pupils are 3mm and briskly reactive. Reflexes are brisk in the left arm and leg, compared with the right, with an extensor left plantar response. Other than an ACE-inhibitor for hypertension, she takes no medications and is in good health.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 37
A 56 year-old man complained of weakness in the right arm. For 3 months prior to evaluation he had been dropping objects from his right hand. He was unsure of the exact time of onset of symptoms, but said that they were "getting worse." There were no sensory abnormalities, difficulty with gait, or pain in the neck, back, or head. On occasion he suffered cramps in the left thigh and calf. He had no bowel or bladder dysfunction.

On examination, speech was slow and slurred. There was decreased muscle bulk in the right forearm, with wasting of the interosseous muscles of the right hand. Tone was increased in the left arm and both legs. Strength was moderately impaired in the right interossei, finger extensors, wrist dorsiflexors, triceps, and deltoids. There was minimal weakness of the left arm. He could not walk on his heels or toes and he had a subtle right foot drop. Fasciculations were noted in the right deltoid, right pectoralis major, right calf and left quadriceps femoris. Reflexes were globally brisk, except for the right triceps jerk. Babinski's sign was present bilaterally. Sensation was normal.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about his condition and about any proposed therapy?
Case 38
A 73 year-old man is referred for pain, numbness, and weakness in his legs for several years. It began as aching and numbness during his daily walks, worse on the right, and most prominent in the calves and posterior thighs. Some days he could walk a mile or more with little difficulty, but some days he would have to sit and rest after a few blocks. For the past year, when he has symptoms, he notices his legs feel "rubbery," as if they might give out from under him. He is a retired nurse, and says that he's had back pain for as long as he can remember. Other than an ACE inhibitor for hypertension and an ibuprofen for his back and leg pain, he takes no medications. Other than these symptoms, he has been feeling entirely well.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you treat this patient? How would you counsel the patient about his condition and about any proposed therapy?
**Case 39**
A 34 year-old woman was evaluated 6 hours after the sudden onset of dysphagia, vertigo, nausea, vomiting, and ataxia. On examination, her mental status is normal. On cranial nerve examination, the left pupil is smaller than the right but reactive, with ptosis on the left. Eye movements are full with right-beating nystagmus. There is decreased sensation to temperature and pain in the left face. The left palate does not elevate. Motor and reflex examinations are normal. There is decreased pinprick and temperature in the right arm and leg although vibratory testing is normal. The left arm and leg are clumsy.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you treat this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 40
A 2 year-old girl is brought to the emergency department for new onset inability to walk. She is generally healthy, but had a viral illness about 10 days prior. She was fine before bed last night, but this morning was noted to be unsteady—tipping over when sitting and staggering when she walks like “she is drunk.” She does not seem to be confused, but her speech is a little hard to understand. On examination she is afebrile with normal vital signs. She is awake and interactive, with mild dysarthria. She has sustained nystagmus on horizontal gaze bilaterally. She is unstable when sitting with some head titubation, reaches for objects clumsily, and has a broad-based lurching gait.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 41
A 67 year-old woman comes to the ER with a headache for three weeks. Her neighbor, who brought her to the ER, says the patient said the headaches had been getting worse and that she appeared to have lost weight over the past several months. She has also been “confused” for the past week, but has been able to walk on her own. Her hospital chart reveals a history of COPD, for which she takes inhalers, and two admissions in the past six months for a right middle lobe pneumonia. Her last admission note indicated she stopped smoking four months ago. On exam, she is a thin, elderly woman who is awake and attentive, with normal temperature and vital signs and decreased breath sounds in the right middle lung field. Her speech is fluent and well-articulated, but she identifies a watch as a wok, has difficulty with three-step commands, and cannot repeat short phrases. There is a question of a right superior quadrantanopia; her finger taps are slowed on the right.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 42
A 76-year-old architect developed a gradually progressing tremor of the right hand about 18 months ago, that was especially noticeable when he walked or sat watching television at night. Over the following months, the tremor became more conspicuous and, at times, would interfere with his writing. One year later, he began to drag his right leg while walking. Examination at this time showed a soft-spoken, pleasant, rather impassive man with a staring expression. There was an obvious tremor of the right hand. There was some rigidity in all limbs, more marked on the right than the left, with cogwheeling at the right wrist and mild rigidity in the arms. There was no focal weakness, but he seemed slow with the right hand, and could not perform rapid alternating movements well. There was no significant reflex asymmetry, and no sensory deficit. Plantar responses were flexor bilaterally.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost of a month of your proposed therapy. How would you counsel the patient about his condition and about any proposed therapy?
Case 43
You are the senior resident in the emergency room when the paramedics bring in a patient having generalized seizures. Paramedics found him 25 minutes ago in his apartment having convulsions. The seizures ceased after he was given 2 mg of lorazepam in the field, but recurred about 15 minutes later. There are few details about his past medical history. The landlord said the patient had been acting strangely over the previous 2-3 days, but doubted the patient had ever had seizures before. You walk into the treatment room and see a young man who is unresponsive and having rhythmic, synchronous jerking movements of all 4 limbs.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the diagnosis? Name 3 conditions associated with this diagnosis, and explain which seem more or less likely based on the available information.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 44
52-year-old woman with a history of breast cancer s/p lumpectomy (with three positive nodes), radiation, and adjuvant chemotherapy two years ago presents with gradual onset of mid-back pain over two months. She has recently been tripping occasionally and has new left-sided numbness from the level of her belly button. She denies fever, night sweats, or weight loss.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor her condition and its treatment? What is the prognosis?
Case 45
A 69-year-old man was admitted four days ago because of shortness of breath. He complained of leg and arm weakness for the past month. Since admission, his respiratory symptoms remain unexplained; he has been treated for a gram negative UTI with gentamicin, due to multiple antibiotic allergies. On further questioning, he mentions experiencing intermittent double vision, horizontal or diagonal diplopia and a nasal quality to his voice (as if he “has a cold”). He also has had some swallowing difficulty, but denies any sensory problems. He says he has been getting worse since admission to the hospital.

On physical examination, he is taking shallow breaths at a rate of 32 per minute. He has bilateral ptosis, moderate on the left and mild on the right. He has difficulty fully abducting the right eye (accompanied by diplopia) although the deficit seems inconsistent. He rises from a chair with much effort and is unable to stand from a squat even with your help. You also note diffuse moderate symmetrical proximal weakness and milder distal weakness of all limbs. Sensory examination is normal. Deep tendon reflexes are intact.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 46
A 62 year-old man was brought to the emergency department 45 minutes after the sudden onset of inability to speak and right-sided weakness that began while eating breakfast with his wife. On examination, the temperature is 37 C, blood pressure is 160/80, pulse is regular at 80, and respirations are 18. General physical examination, including detailed cardiac examination, is normal. On neurologic exam, the patient is alert and can follow simple commands, but only utters occasional unintelligible sounds. He has equally reactive pupils, a left forced gaze deviation, right homonymous hemianopia, moderate weakness of the right lower face, right pronator drift, and moderate pyramidal weakness of the right arm. The right leg appeared to have full power. Tone and reflexes were diminished in the right arm. Sensory exam revealed decreased light touch and pin prick sensation in the right arm and face.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 47
A 34 year-old man with AIDS (CD4 105, VL 200,000 last month) is transferred from an outside hospital for further management of right-sided weakness for a week and an abnormal CT scan. He tested HIV+ five years ago after an episode of right mid-thoracic shingles. He has had no major opportunistic infections and has been offered HAART on several occasions, but has been resistant to starting treatment because some of his friends have had side effects. He takes no medications and denies illicit drug use. Last week he developed a headache, fevers, followed by weakness of the right arm and leg, and slurred speech. His PCP sent him to the ER where he was described as awake and aphasic, with a right hemiparesis. Chem 7 was normal and CBC showed mild anemia and wbc 5.4 with a lymphocytosis. The report of a head CT with and without contrast noted generalized cerebral atrophy with a 2cm ring-enhancing lesion with surrounding edema and mass effect in the left basal ganglia, with several smaller lesions in the right thalamus and at the gray-white junction in the frontal lobes bilaterally. The transferring hospital is in a rural community without a neurologist or neurosurgeon and his PCP and the ED physician agreed it was best that the patient be transferred to a facility with easier specialty access.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 48
A 43 year old man with epilepsy for 15 years comes to see you, his new PCP, because he has just relocated to the area. For the first several years, he was well controlled with phenytoin monotherapy. He began having seizures despite doses high enough to make him “a little wobbly.” Since then, he has been on carbamazepine, valproate, myoline, and gabapentin in various combinations, but continued to have generalized seizures monthly. On his current regimen, oxcarbazepine and lamotrigine, he has generalized seizures less frequently—every 3-4 months—but has episodes weekly where, according to observers, he stops talking and hold the right hand up for 1-2 minutes. Several EEGs were normal, but one showed left temporal lobe spikes. Cranial MRI 12 years ago was said to be normal. He relocated to move in with his sister, because he hasn’t been able to work due to his seizures. In addition to oxcarbazepine, he takes paroxetine for depression. He appears somewhat melancholy, but has normal language function. The rest of his neuro examination is normal in detail.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies) would you like to obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 49
A 14 year-old girl with a previous history of known migraines occurring twice a year presents with daily headaches for 6 weeks. The headache is different from her migraine in that it is less intense and not associated with photophobia or vomiting, but also lying down does not make it better, and may actually make the pain worse. She has noted that when she coughs her vision dims bilaterally for a few seconds only. She has been healthy recently with no fever or illness but has gained about 30 pounds over the last few months. On general exam, she is an overweight young girl with otherwise normal vital signs. On neurologic exam, she is alert and fluent. Her cranial nerve exam is notable for poor lateral gaze bilaterally and papilledema on funduscopic exam. Visual acuity is 20/80 bilaterally. She has decreased recognition of finger movement in the temporal visual fields bilaterally. Motor, reflex, sensory, and coordination exams are normal.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses and discuss briefly why these are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory finding would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you treat this patient? How would you monitor his condition and its treatment? What is the prognosis?
Case 50
A 20 year-old young man is brought to the ED by paramedics after being knocked unconscious during a football game about 40 minutes ago. He plays quarterback for the local college and he was tackled from behind by an opposing player. He was driven to the turf and his head struck the ground sharply. He was unresponsive for roughly 30 seconds, and upon awakening he knew where he was and remembered being hit from behind but said he felt dizzy and groggy and was slow to answer questions. The on-site medical personnel transported him directly to the ED. He is otherwise healthy with normal birth and development and no history of medical problems or prior surgeries. On examination, he is awake and alert, lying comfortably but nervously on a gurney with his neck immobilized in a hard cervical collar. He is oriented to place and date, follows three-step commands briskly, has fluent speech, and has full power in all extremities.

1) Summarize the case briefly, including neuroanatomic localization and pathogenesis.

2) What is the most likely diagnosis? Name 1-2 alternative diagnoses, and discuss briefly why those are less likely.

3) What additional information (history, exam, laboratory or other studies, consultations) would you obtain? What laboratory findings would you expect if your most likely diagnosis is correct?

4) Assuming your most likely diagnosis is correct, how would you manage this patient? Include doses for one medication you might prescribe, along with an estimate of the cost per month of your proposed therapy. How would you counsel the patient about her condition and about any proposed therapy?