Chief Complaint: Headache	
Migraine	
Red Flags	Any symptoms suggestive of increased ICP (i.e. papilledema, nerve palsy, positional headache, emesis, encephalopathy, wake from sleep w/ headache), focal neurological deficits, change in character from typical headache, progressive worsening of headaches
Workup	Clinical diagnosis; consider MRI for red-flag symptoms
Management	See migraine headache treatment algorithm in EBG
Complications	Paralysis (hemiplegic migraine) visual disturbance/loss (if aura); emesis, disability (missed school, work), vertigo and clumsiness (basilar migraine)
Concussion	
See Sports Med	
Idiopathic Intracranial Hypertension (Pseudotumor Cerebri)	
PowerPlans	N/A
Pathophysiology	Syndrome of increased ICP due to impaired absorption at the arachnoid granulations. Risk factors: obesity, drugs (tetracyclines, retinoids, OCPs)
Presentation	• Patients have frontal, positional HA worse upon awakening • Visual disturbances, visual loss, +/- dizziness
Differential	Venous sinus thrombosis, intracranial mass lesion, migraine headache, tension headache
Workup	MRI/MRV required in children w/ HA and papilledema to rule out mass/hydrocephalus, venous sinus thrombosis. LP w/ elevated opening pressure is diagnostic.
Management	Acetazolamide 15-25 mg/kg/day (decreases rate of CSF production)
Complications	Vision loss, optic neuropathy
Febrile Seizure	
PowerPlans	Febrile Seizure EBG
Pathophysiology	Decreased threshold for seizure due to fever and immaturity of the CNS, often familial
Presentation	Simple: < 15 minutes, generalized, occurred once in 24 h; Complex: lasts > 15 minutes, focal, or occurred 2 or more times in a 24 hr period. Most commonly seen between 6 mo and 6 yrs of age
Differential	Meningitis, encephalitis
Red Flags	AMS, neck stiffness, lethargy, focal deficits lead to consideration of meningitis/encephalitis
Workup	If examination is normal, no further workup is required
Management	Reassurance and anticipatory guidance. For complex febrile seizures > 15 minutes, prescribe rectal Diastat. Antipyretics not shown to decrease risk.
Complications	30-50% recurrence rate. Minimally increased risk of epilepsy compared w/ the average population, slightly greater for those w/ complex febrile seizures

Chief Complaint: Headache	
First-time Unprovoked Seizure	
PowerPlans	N/A
Pathophysiology	Typically idiopathic (likely genetic), but sometimes symptomatic from underlying brain lesions
Presentation	• **Focal**: unilateral symptoms +/- AMS (dyscognitive vs. cognitive) • **Generalized**: bilateral tonic clonic movements (GTC), tonic, myoclonus, absence
Differential	Meningitis, encephalitis, intracranial hematoma, focal lesion (i.e. abscess, AVM, focal cortical dysplasia).
Red Flags	AMS, neck stiffness, lethargy, focal deficits lead to consideration of meningitis/encephalitis
Workup	If examination is normal, no further workup is required emergently. EEG is next step, as is neurology referral. If the seizure had focal onset or if the EEG shows focality (spikes arising from one portion of the brain), most neurologist opt to do an MRI of the brain w/o contrast.
Management	Indication for AED therapy is 2 or more unprovoked seizures, or one unprovoked seizure w/ an abnormal EEG. Keppra is often our first line because of both focal and generalized coverage w/ favorable side-effect profile, but we avoid it in cases of children w/ behavioral issues. Neurology admission for patients not returning to baseline following seizure or for multiple seizures upon presentation requiring immediate treatment.
Complications	Epilepsy for those who go on to have further unprovoked seizures. Rare complication of generalized epilepsy is SUDEP (sudden unexplained death in epilepsy patients)
Breakthrough Seizure (in a patient w/ epilepsy)	
PowerPlans	N/A
Pathophysiology	Decreased threshold for seizure due to fever, lack of sleep, missed medication dose, alcohol use vs. natural fluctuation of epilepsy (as is the natural history) that seizures may become more frequent w/o provocation
Differential	Evaluated potential underlying causes of increased seizure frequency
Red Flags	AMS, prolonged seizures
Workup	Neurology consultation for medication adjustment; kindly prepare the following: baseline seizure frequency and semiology (what the seizure looks like) vs. current frequency and semiology; doses of all AEDs, and most recent levels if available.
Management	Typically small adjustments to AEDs including addition of AEDs when needed
Complications	Continued seizures, status epilepticus, aspiration pneumonia, cerebral edema

Chief Complaint: Hypotonia/Developmental Delay	
Approach to Hypotonia	
PowerPlans	N/A
Pathophysiology	Central (UMN) vs. peripheral (LMN) injury or dysfunction leading to decreased tone, which is resistance to passive stretch of the muscle, often but not always associated w/ weakness.
Presentation	Failure to meet developmental milestones. Typically associated w/ head lag, can include dysphagia, FTT

Hypotonia/Developmental Delay continued on next page →