NEUROCRITICAL CARE

Coagulopathy
- prothrombin-complex concentrate: contain factors II, VII, IX, and X
 - no need for type and cross matching
 - dose: 50U/kg
- vitamin K: 5-10mg PO or IV
- FFP: 15ml/kg

- ASA 81mg: 85% of platelet function is knocked out
- ASA 325mg: 95% of platelet function is knocked out

Coma, Initial approach
- C, A, B, Vitals
- correct hypothermia, hypotension
- if trauma, CT head and C spine
- CBC, CMP, PT/PTT, ABG, CO, UDS
- consider IV naloxone or flumazenil (narcotic and benzodiazepine overdose, respectively)
- If CT and MRI are normal, consider EEG

HYPERCOAG WORKUP
- Proteins C & S
- Factor V Leiden
- Antithrombin
- Prothrombin gene mutation 20210A
- PT/INR, aPTT
- Lupus anticoagulant
- Anticardiolipin antibodies (IgG, IgM, IgA)
- Fibrinogen

STATUS EPILEPTICUS
- seizure lasting > 5 minutes or persistent seizure activity despite administration of first and second-line AEDs

Hyponatremia

Seizures

Status epilepticus
- C, A, B
- Ativan 0.1mg/kg, repeat Q2-3 minutes up to 5mg total
- Dilantin 15-20mg/kg
- Keppra 25-5-mg/kg
- Phenobarbital 10mg/kg
- Glucose, Mg, Ca, blood gas, AED level if on them

Meningitis

Pulmonary embolism

Hypotension

Endocrinopathies
Acromegaly – elevated IGF-1

Endocrine work-up:
- prolactin
- cortisol [8AM, random, 24 hour urinary, salivary]
- ACTH
- TSH/T4
- GH
- IGF-1
- testosterone
- FSH/LH
- estrogen

Oral glucose tolerance test - Acromegaly

Cushing’s workup

Pseudo-Cushing
- pregnancy
- medications
- PCOD
- depression

Management of diabetes insipidus
- ddAVP

Management of SIADH

Acromegaly
- heart study (cardiomyopathy)
- colon polyps (colon cancer)
- endocrine workup

Neuroleptic malignant syndrome (NMS)
- idiosyncratic (non-allergic) reaction to neuroleptics
- results from acute blockade of brain dopamine receptors
- can occur rarely if Sinemet is abruptly discontinued
- presentation: coma, rigidity, fever, seizures, elevate creatinine kinase, autonomic instability
- diagnosis is confirmed with very high creatinine kinase level
- brain imaging and LP to rule out other conditions
- treatment: drug discontinuation, cooling, and supportive therapy
 - dantrolene and diazepam can reduce muscular rigidity
 - some patients respond to bromocriptine, which stimulates postsynaptic dopamine receptors

Serotonin Syndrome

Oculovestibular “cold caloric” reflex
- Lateral jerk nystagmus of the eyes toward the nonirrigated ear occurs in conscious patients, but not in comatose patients where cortical function is depressed
- may be absent in patients with mastoiditis, previous labyrinthine trauma, benzodiazepine or barbiturate toxicity

Pupillary exam
BILATERAL MIDPOSITION PUPILS: midbrain lesions, terminal anoxic brain injury
PINPOINT PUPILS: pontine lesion interrupting the descending sympathetic fibers, cholinergic eyedrops for glaucoma, narcotic overdose
- afferent limb of pupillary reflex: pupillomotor information from the retina
- efferent limb of pupillary reflex:

MAP = [2DP + SP]/3