### Symptoms and Labs

#### High Risk
- Shunt failure/breakage WITH headache, nausea, vomiting or mental status change
- Shunt infection
- New diagnosis hydrocephalus with headache, nausea, vomiting or mental status change

#### Moderate Risk
- Primary/secondary intracranial hypertension (formerly known as pseudotumor) WITHOUT shunt
- Symptomatic primary/secondary intracranial hypertension (formerly known as pseudotumor) WITH shunt
- Shunt failure/breakage WITHOUT headache, nausea, vomiting or mental status change

#### Low Risk
- Normal Pressure Hydrocephalus
- Incidental ventriculomegaly/hydrocephalus

### Suggested Previsit Workup
For any of the above symptoms - NPO and acute referral to ER for any symptoms listed in the above high risk category

### Suggested Workup
For primary/secondary intracranial hypertension WITHOUT shunt - neurology workup before neurosurgery referral for diagnostic lumbar puncture, medical management, ophthalmology exam and venogram (CTV or MRV)

For symptomatic primary/secondary intracranial hypertension WITH shunt - neurosurgery referral

For shunt failure/breakage WITHOUT headache, nausea, vomiting or mental status change - shunt x-ray series and noncontrast CT before referral

### Suggested Management
For normal pressure hydrocephalus, please consider Neurology evaluation including MRI and demonstrable improvement with high volume lumbar puncture

Establish care for existing shunt - please assure updated and all prior brain imaging (DICOM images) available and provide prior surgical/c clinical notes from neurosurgery

For incidental ventriculomegaly/hydrocephalus - MRI brain without contrast and ophthalmology referral

### Clinical Pearls
- Like many clinical entities hydrocephalus can span a continuum that is anchored at one end by an acute life-threatening event to something that can be a longstanding and nearly asymptomatic entity at the other end of that spectrum. A patient who has hydrocephalus and presents with acute neurological decline should be treated attentively, and often the emergency room is the most appropriate option to provide that. These specific symptoms can vary from patient to patient but can variously encompass nausea, vomiting, lethargy, and headache amongst others.