

## The Gonda Diagnostic Observation and Treatment Unit

Observation is by definition the use of appropriate monitoring, diagnostic testing, therapy, and assessment of patient symptoms, signs, laboratory tests, and response to therapy for the purpose of determining **whether a patient will require further treatment as an inpatient or can be discharged from the hospital setting**. As such, observation is an outpatient diagnostic/treatment category.

With certain exceptions, the duration of observation status is expected to be from 8-36 hours.

Patients clearly presenting clinically with symptoms and findings predicting a need for inpatient care are not suitable for observation and should be admitted as inpatients.

The UCLA Observation Unit is established and designed to provide appropriate physician and nurse staffing and diagnostic/treatment capabilities to allow **observation for the presenting clinical complaint/finding** to be provided efficiently, safely, comfortably, and effectively. These services, however, cannot be provided for the convenience of the physician, patient, or patient's family. Strict **clinical** criteria will be required to justify a patient's stay in the unit.

At the current time, the Observation Unit (OU) will focus on patients with twelve main diagnoses. Patients presenting with the following index diagnoses **may** be considered appropriate to be placed in the OU:

1. Chest pain r/o acute coronary syndrome
2. Syncope
3. Asthma
4. Transient electrolyte imbalance
5. Dehydration/ Gastroenteritis
6. PO intolerance with a readily remediable cause
7. Cellulitis
8. Uncomplicated alcohol withdrawal
9. Symptomatic anemia/ thrombocytopenia with a known cause- admit for transfusion
10. Sickle cell disease with an uncomplicated acute pain episode
11. Low-risk upper gastrointestinal hemorrhage
12. Community-acquired pneumonia with a Risk Class below IV (see algorithm)

Note: The Observation Resident has the ability to (but is not required to) admit patients with diagnoses not listed above to medical observation if they feel the patient has a high likelihood of being treated and discharged within 24-48 hours.

Admission criteria and standardized observation orders are provided for the twelve diagnoses listed above. Monitoring, diagnostic testing, and treatment are to be focused on the index (presenting) clinical problem. **Considerations of acuity, severity,**

**concomitant illness, and general health status will of course be used to determine appropriateness of observation versus inpatient admission.**

**A special note on patients with sickle cell disease:**

The medical literature suggests that patients with sickle cell disease may have better overall health outcomes with a process that standardizes their care in a familiar and attentive environment. From the time of the opening of the Gonda DOT, the observation team has cared for the majority of patients with SCD presenting with uncomplicated pain episodes. A standardized order set is posted on the forms portal.

**Attending Coverage of OBS**

Attending Coverage Divided by Diagnosis:

Hospitalists (Med Obs Attending for the week- Patients of Dr. Froch or Saleh excluded):

1. Asthma
2. Dehydration/ Gastroenteritis
3. Transient electrolyte imbalance
4. PO intolerance with a readily remediable cause
5. Cellulitis
6. Uncomplicated alcohol withdrawal
7. Symptomatic anemia/thrombocytopenia with a known cause- admit for transfusion (These patients can be staffed with the referring hematologist/oncologist if the patient is referred during evening hours. If some portion of the patient's observation stay will include normal daytime hours, they should be staffed and seen with the hospitalist attending).
8. Sickle cell disease with acute pain crisis
9. Low-risk upper GI hemorrhage
10. Community-acquired pneumonia with a risk class of less than IV
11. All other patients admitted to medical observation by the Observation Resident but not fitting one of the above diagnoses

Cardiology Consult Attending (**Except for patients of Dr. Froch or Saleh or patients who have established care with a private cardiologist**):

1. Chest pain r/o acute coronary syndrome
2. Syncope

**Dr. Froch and Dr. Saleh will be the attendings of record for all of their previously established patients regardless of diagnosis. It is left to their clinical judgment as to whether consultation with a cardiologist is necessary for any given patient. Private cardiologists should always be contacted and given the opportunity to attend on previously established patients being observed for a cardiac diagnosis.**

### **House Staff Coverage of OBS**

An Observation/Overflow resident (pager 96450) is on duty and available at all times. Observation/Overflow residents work twelve-hour shifts (7-7). There should be a verbal sign-out (with bedside rounds where required) between the observation resident finishing his/her shift and the oncoming observation resident.

An Observation/Overflow intern will often be present to assist the Observation/Overflow resident during peak admission hours.

### **Triage Responsibilities- ED Referrals**

Emergency Department physicians will frequently contact the Observation/Overflow resident (pager#96450) when evaluating a patient they feel may need less than a 48-hour stay in the hospital. The Observation/Overflow resident must accept all patients that meet the specific inclusion/exclusion criteria for the diagnoses listed on page one. They may also accept any other patient they feel may be appropriate for an observation stay, as long as they do not meet any of the general exclusion criteria for observation which are listed below. A robust Observation Service (with as many of the 13 beds in the Observation Unit used for internal medicine patients as possible) will be vital for the success of the medicine service at Ronald Reagan UCLA Medical Center.

The Medical Observation (hospitalist) attending will be available on pager to provide assistance with major triage difficulties that persist after ED consultation with the Observation/Overflow resident. The name and the pager of the hospitalist attending on service can be obtained by calling the Gonda Observation Unit (79523).

### **Triage Responsibilities- Clinic or Office Admits**

Patient Placement Services will refer any of the listed diagnoses to the Observation/Overflow Resident who will review if the patient meets criteria for observation status. If so, the Observation Resident will contact the admitting physician for sign-out and assume care of the patient when they arrive on the Observation Unit.

### **Order Sets and Documentation**

The admitting physicians should use relevant order sets. These can be found on the UCLA Forms Portal under the Order Sets tab. If the Observation Resident is admitting a patient who does not meet criteria for a standardized order set, a specific order stating “admit patient to Gonda observation unit for observation of \_\_\_\_\_” should be written at the beginning of the admission orders. Discharge paperwork should be completed at the time of admission and left in the front of the chart. This will facilitate timely discharge as soon as the patient shows objective evidence of clinical stability.

The admitting physician will be required to write a brief observation history and physical which includes an outline of the goals of the observation and criteria for either discharge from the Observation Unit or subsequent admission to the appropriate inpatient service.

The physician will also complete a brief “observation discharge summary” prior to discharge.

### **Disposition from the Observation Unit**

The decision to either discharge or admit the patient should *usually* be made by 24hours. If a decision cannot be made to discharge the patient by that time, the patient *may* be admitted as an inpatient *with new admission orders and an inpatient admission H&P (both to be done by the admitting team).*

Decision to discharge or admit should be made prior to 10AM where appropriate and possible.

### **Discharge Follow-Up Strategy**

Many of the conditions treated in the OU will require follow-up within a short period of time (ie asthma pts should f/u with their PMD within 48hrs for reassessment). If an early appointment with PMD not available, consider an interval appointment in IMS resident clinic (urgent care 310-206-6232) or Sims-Mann clinic (310-392-8636).

OU staff will be trained in ordering outpatient testing and will be able to help you schedule echocardiograms, adenosine myoviews, etc.

### **A Note on Patient, Family, and PMD Expectations**

The patient, patient’s family, and primary physician should be apprised at the time of admission to the OU that this is a focused observation period to determine whether the *presenting condition* requires further inpatient care or can be managed as an outpatient. They should know that this observation is an outpatient category with implications for provider coverage. In some instances patients (or their insurance providers with the patient responsible for a copayment) are billed by the hour for observation stays.

Extensive diagnostic imaging is not appropriate for this unit. Diagnostic imaging should be completed when possible prior to placement in the OU.

### **Gonda OBS General Exclusion Criteria**

(See disease-specific protocols for other exclusion criteria)

- Social admission: pts in need of nursing facility placement
- Unknown differential
- Violent behavioral disorders
- Previously mobile patient expected to be unable to mobilize within 24hrs (unsuitable for observation due to extensive PT requirement and possible need for SNF or rehab placement)
- Patient refusal of appropriate care

**Diagnosis-Specific Inclusion/Exclusion Criteria: See Following Pages**

**Please print the official order forms off the Forms Portal under the Order Sets tab when you are admitting OBS patients.**

## **Asthma**

### **Inclusion Criteria for Gonda Observation Unit**

PEF 33-75% of best or predicted after initial ED treatments

PEF > 75% best or predicted but:

- Respiratory Rate >25, or
- Pulse >110, or
- Cannot complete a sentence in one breath, or
- Pt does not have acceptable air movement or has severe wheezing on clinical exam, or
- Pt's symptom resolution and PEF improvement lasts for only a short period of time after each treatment, or
- SaO<sub>2</sub> <95% or pt's known baseline

## **Asthma**

### **Exclusion Criteria for Gonda Observation Unit**

- PEF <33% of best or predicted after initial ED management/treatments
- Pt with asthma and signs/symptoms of concomitant active medical illness (infiltrate on CXR suggestive of PNA, suspicion of CHF based on history, clinical exam, or BNP >100, etc.)
- Any features of life-threatening asthma including:
  1. SpO<sub>2</sub><90% on room air
  2. Silent chest
  3. Cyanosis
  4. Signs of fatigue/ poor respiratory effort
  5. Bradycardia
  6. Arrhythmia
  7. Relative hypotension
  8. Exhaustion, confusion, or coma
  9. PaCO<sub>2</sub> >42mm Hg (note: ABG not required before admission in clinically stable pts)

**\*\*\*See Forms Portal for Standardized Asthma Order Form for Obs Unit\*\*\***

## Syncope Guidelines

Syncope (the abrupt loss of consciousness and postural control with spontaneous recovery without intervention) or repetitive or prolonged presyncope (severe “lightheadedness” without vertigo) is a common event (30-50% of general population) which rarely is associated with immediate mortality but is associated with an increased long-term mortality (approximately 15% 4 year mortality in patients with multiple potential causes). Only 20-25% of syncope is due to cardiac disease and in variously 39-48%, etiology was never determined. However, in a study reported by the Mayo Clinic using an observation unit and electrophysiologic consultation, the etiology remained undetermined in only 20%. Neurocardiac syncope was determined to be the etiology in 47%, bradyarrhythmias in 13.6%, atrial tachyarrhythmias in 10%, and ventricular tachyarrhythmias in 12%. Other etiologies (hyperventilation, hypovolemia, medications) were found to be the cause in only 1%. In our experience at UCLA in 100 consecutive patients admitted to the CCU Service with syncope, the etiology was determined in the ER (77 patients) or was never determined (21 patients) in 98 patients. Only two required inpatient monitoring to establish the diagnosis and only seven required inpatient therapy (pacemaker in 5, volume replacement in two).

History is the major source of both diagnostic and risk assessment data. The exact circumstances surrounding the syncopal event and 24 hours prior to it are particularly critical in diagnosis. Timing and dose of all medications, changes in medication, food/alcohol intake, position at the time of syncope and immediately prior to it, associated symptoms of nausea, diaphoresis, abdominal or chest pain, duration of antecedent symptoms, Hx of trauma, prior Hx of syncope, and cardiac history are particularly important. When possible, the patient’s primary physician should be consulted.

Physical exam essentials are 1) postural blood pressure in all patients (hypotensive but asymptomatic patient with BP >80mmHg should have at least sitting/dangling orthostatic BP’s recorded), 2) jugular venous pressure estimated in cm H<sub>2</sub>O (not “flat” or “nondistended”), 3) assessment for pulse asymmetry, 4) assessing for presence of carotid/subclavian bruits, 5) assessing for presence of cardiac murmurs noting location/radiation, 6) assessing for presence of widely split S<sub>2</sub> and/or accentuation of P<sub>2</sub>.

Diagnostic Tests- The EKG is the only test of utility in risk assessment. Sensitivity/specificity of serum Na, magnesium, creatinine, Hct are too low to be of predictive accuracy.

EKG should be examined for evidence of any conduction abnormality: in descending risk, 3<sup>rd</sup> degree heart block, 2<sup>nd</sup> degree type II AV block or trifascicular block (1<sup>st</sup> degree AV block, RBBB, and LASH), 2<sup>nd</sup> degree type I AV block (Wenckebach), LBBB, 1<sup>st</sup> degree AV block, RBBB.

Bradycardic rhythms may be obvious or implied- sinus pauses, junctional escape beats, or slow ventricular response in atrial fibrillation or flutter.

Tachycardic rhythms are also obvious or implied- frequent PVC's, short runs of non-sustained ventricular tachycardia (NSVT) and more uncommonly frequent PAC's in patients who may have transient Afib, flutter, or paroxysmal supraventricular tachycardia.

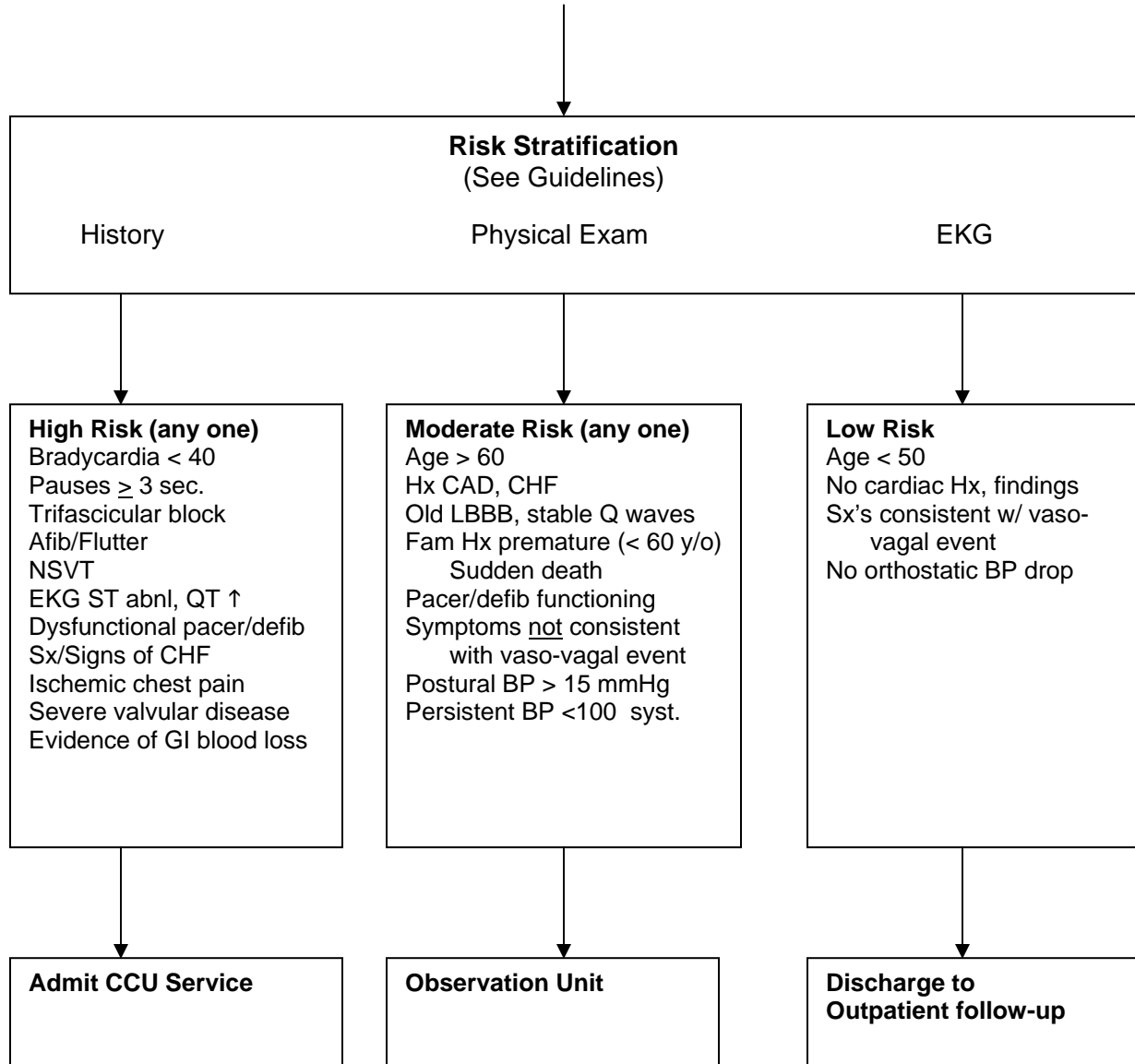
The presence of ST segment depression is rarely predictive of syncope but may suggest an ischemic etiology and evidence of acute infarction is of course high risk although less than two percent of MI's are associated with syncope. Conversely, syncope as the index is associated with myocardial infarction in less than 1% of syncopal episodes). Thus a r/o MI protocol is rarely necessary in patients with syncope and never necessary without clear evidence of ischemia. Q waves diagnostic of non-acute myocardial infarction connote higher risk of arrhythmic syncope.

Therapy- as there is no specific acute therapy for most syncope, observation is diagnostic in intent. Repletion of volume in hypovolemic syncope, withholding medication causing bradycardia, tachycardia, or excessive vasodilation, and temporary or permanent pacemaker placement for persistent bradycardia are used as indicated. Antiarrhythmics in the absence of prolonged NSVT or VT/VF is not without danger in that frequent PVC's may merely reflect an adrenergic response rather than implicating VT as the cause of syncope.

Patients without evidence of recurrent syncope or high risk status requiring further diagnosis or therapy may safely be discharged after 24 hours to be followed as an outpatient. Cardiologic consultation should be obtained when cardiac etiology remains a possibility and further workup planned with that collaboration. Routine echocardiograms, stress tests, tilt table, Holter or event monitor recording should not be performed without consultation.

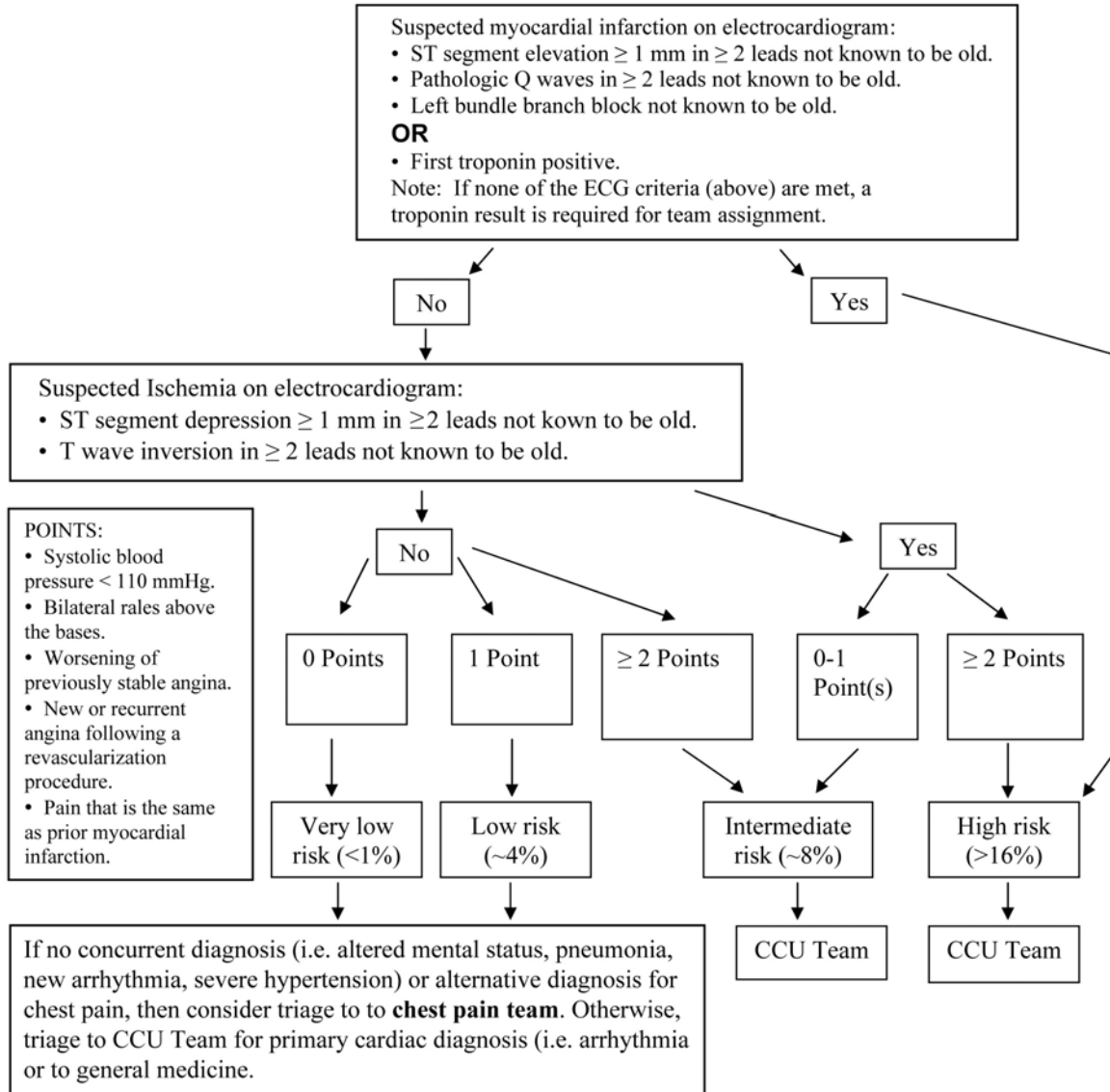
## Syncope Algorithm (See Forms Portal for Observation of Syncope Order Set)

Syncope – abrupt and transient loss of consciousness with spontaneous recovery without intervention. Severe or repeated pre-syncope is an alternative diagnosis.



# Chest Pain

*UCLA Clinical Practice Guideline 2005*



\*\*\*See Forms Portal for Chest Pain Order Set\*\*\*

## **Acute Gastroenteritis/PO Intolerance/Dehydration Observation Unit Inclusion Criteria**

- Dehydration with orthostatic hypotension or tachycardia
- Cause thought to be reversible within 24hrs ie viral or bacterial gastroenteritis
- Inability to tolerate crucial PO meds

### **Exclusion Criteria**

- Bloody emesis
- Hematochezia with falling hematocrit
- Sodium <125
- Severe acute renal failure not likely to resolve with hydration (FeNa suggestive of intrinsic renal damage etc)
- Bicarbonate <12 on chem. Panel
- Anion gap >15
- Impending shock

**\*\*\*See Forms Portal for Standardized Acute Gastroenteritis Order Set\*\*\***

## **Observation Unit Inclusion Criteria for Cellulitis**

1. Clear or probable diagnosis of cellulitis after complete history and physical examination
2. High probability of response to treatment and discharge from hospital within 48 hours

## **Observation Unit Exclusion Criteria for Cellulitis**

1. Tissue necrosis or crepitus on examination
2. Severe pain (may indicate a deep infection)
3. Signs of systemic toxicity/ possible early sepsis
4. Neutropenia
5. Diabetic foot with surgical intervention likely prior to discharge

### **Risk Factors for Slow Response to Treatment**

**(Clinical Judgment Required re Admit to Obs v. Admit to General Medicine Team)**

1. Cellulitis located on hand, periorbital region, scrotum, neck, or over joints
2. Diabetic patient without imminent surgical intervention
3. Peripheral vascular disease
4. Patient with chronic lymphedema or severe chronic venous stasis
5. Collagen-vascular disease on immunosuppressant medications
6. Other conditions associated with immunosuppression (active malignancy, HIV, CKD, cirrhosis, s/p splenectomy)
7. Organ transplant recipients
8. Cellulitis with suspected subjacent osteomyelitis
9. Bite wounds
10. History of IV drug use/ skin popping
11. History of colonization or infection with resistant organisms

### References:

1. Dong SL, Kelley KD, et al. ED management of cellulitis: A review of five urban centers. American Journal of Emergency Medicine 2001 Nov;19(7):535-540
2. Roberts R. Management of patients with infectious diseases in an emergency department observation unit. Emergency Medicine Clinics of North America 2001 Feb; 19:187-207.
3. Swartz MN. Cellulitis. N Engl J Med 2004;350:904-912.

**\*\*\*See Forms Portal for Standardized Cellulitis Order Form\*\*\***

## **Observation Unit Stay for Alcohol Intoxication/ Withdrawal**

### **Inclusion Criteria**

1. Clear diagnosis of alcohol withdrawal or acute alcohol intoxication after a complete history and physical examination
2. Has an objective *medical* reason for observation (abnormal vital signs, altered level of consciousness needing repeat neuro checks, hypoglycemia, marked electrolyte abnormalities, etc.)
3. High probability of response to treatment and discharge from hospital within 48hours

### **Exclusion Criteria**

1. Delirium (during current presentation)
2. Seizure (during current presentation)
3. Alcoholic hepatitis
4. Pancreatitis
5. Active GI bleeding
6. Wernicke's encephalopathy
7. Severe alcoholic ketoacidosis
8. Aspiration pneumonitis/ pneumonia
9. Other uncontrolled comorbidities (chf, diabetes, etc.) expected to prolong hospitalization
10. Profound intoxication with inability to protect airway
11. Anticipated need for nursing facility placement at conclusion of current hospitalization

### References:

1. Mayo-Smith MF, Breecher LH, et al. Management of Alcohol Withdrawal Delirium. Arch Intern Med 2004;164:1405-1412

**\*\*\*See Forms Portal for Standardized Alcohol Withdrawal Order Form\*\*\***

## **Observation Unit Stay for Transfusion Services**

### **Inclusion Criteria**

1. Known cause for anemia and/ or thrombocytopenia (e.g., MDS with transfusion dependence)
2. Anemia should be symptomatic or patient should be at risk of complications (e.g., pts with known coronary artery disease) without urgent transfusion. If these conditions not met, outpatient transfusion services should be arranged.
3. Thrombocytopenia with minor bleeding (epistaxis, gingival bleeding)
4. Thrombocytopenia and clinical assessment reveals increased risk of bleeding without urgent transfusion
5. Patient's hematologist or oncologist (or primary medical doctor if patient does not see a hematologist or oncologist) should be contacted and verify that a medical short stay is acceptable and that further extensive workup is not currently indicated for a given patient.

### **Exclusion Criteria**

1. Hemodynamic instability
2. Major bleeding
3. Unknown cause of anemia or thrombocytopenia
4. Further extensive inpatient workup expected (e.g., bone marrow biopsy with discharge decision expected to depend on results)
5. Febrile neutropenia
6. Other active comorbid conditions (pneumonia, CHF, etc.) that would justify inpatient admission
7. Hematologist/ oncologist requests full inpatient admission

**\*\*\*See Forms Portal for Symptomatic Anemia/ Thrombocytopenia Order Form\*\*\***

## **Sickle Cell Anemia with Uncomplicated Acute Pain Episode: Criteria for Gonda Observation**

### **Inclusion Criteria:**

1. Known diagnosis of sickle cell disease or sickle cell variant
2. Presenting complaint is pain
3. Pain relief not adequate with a reasonable trial of narcotic analgesics in the outpatient setting or the Emergency Department

### **Exclusion Criteria:**

1. New infiltrate on chest x-ray
2. New hypoxemia or increased oxygen requirement if on chronic O<sub>2</sub>
3. New focal neurologic findings
4. Anticipated need for *exchange* transfusion
5. Suspected splenic or hepatic sequestration crisis
6. Suspected aplastic crisis
7. Altered mental status
8. Acute renal failure
9. Chronic kidney disease with need to initiate dialysis
10. Sickle cell anemia with severe asthma exacerbation
11. Ongoing myocardial ischemia
12. Sickle cell anemia with sings/symptoms suggestive of acute left or right heart failure
13. Acute liver failure
14. Decompensated chronic liver failure
15. Acute cholecystitis or ascending cholangitis
16. New diagnosis of osteomyelitis
17. New diagnosis of avascular necrosis

**\*\*\*See Forms Portal for Sickle Cell Disease Acute Pain Episode Order Form\*\*\***

## **Nonvariceal UGIB: Inclusion/Exclusion Criteria for Gonda Observation**

### **Inclusion Criteria**

1. Likely diagnosis of nonvariceal upper GI bleed
2. Hemodynamically stable
3. Rockall Risk Score  $\leq 2$  in those who have had endoscopy performed prior to triage (If Rockall Risk Score calculated at  $>2$  after endoscopy performed in Obs Unit, consider transfer to inpatient service).

### **Exclusion Criteria**

1. Known Esophageal/Gastric Varices
2. History of known portal hypertensive gastropathy
3. History of Liver Disease/Failure
4. Evidence of stigmata of chronic liver disease on physical exam (spider angiomas, caput medusa) and laboratory data (elevated INR, low albumin, high bilirubin)
5. History of Recent Abdominal Surgery (risk of aortoenteric fistula) including recent hepatobiliary tree instrumentation (risk of hemobilia)
6. History of Disseminated Malignancy (pancreatic ca)
7. History of chronic pancreatitis
8. Orthostatic Hypotension
9. Renal Failure
10. Overtly Bloody Nasogastric Tube Aspirate
11. Other Active Medical Conditions (CHF, New Angina, etc.) that warrant an inpatient admission

**\*\*\*See Forms Portal for Low-Risk Upper Gastrointestinal Bleed Order Form\*\*\***

## Assessing Clinical Risk in Patients with Upper GI Hemorrhage

### **Background:**

Acute upper gastrointestinal bleeding is a problem that is often associated with significant morbidity, mortality and utilization of health care resources. Upper gastrointestinal bleeds (UGIB) are characterized as being from either variceal or nonvariceal sources. There are numerous studies in the literature that show that patients with a nonvariceal UGIB that are determined to be low risk can be candidates for an observation admission.

### **Causes:**

The differential for UGIB is broad; however, studies suggest that peptic ulcer disease (PUD) is the most common cause of acute UGIB. PUD encompasses both gastric and duodenal ulcers. Other causes include esophageal inflammation, vascular ectasias and Mallory-Weiss tears. Vascular ectasias, commonly known as arteriovenous malformations (AVM's), are the source in 5-10% of nonvariceal UGIB. They are often associated with chronic renal insufficiency/failure, congestive heart failure and valvular heart disease. Mallory-Weiss tears are defined as lacerations in the mucosal surface and tend to be associated with long standing retching or vomiting. Finally, rare causes ( $\leq 5\%$  of all cases) of UGIB include Dieulafoy's lesions and neoplasms. Dieulafoy's lesions are characterized by a single arteriole in the submucosa that can bleed into the GI tract. These lesions are often difficult to see endoscopically because they can retract back into the mucosal surface.

### **Presentation:**

UGIB typically present with hematemesis and/or melena

### **History:**

Key elements in determining the cause of an UGIB include any history of taking NSAIDS, aspirin, antiplatelet agents, anticoagulation therapies and excessive alcohol use. It is also important to determine if the patient has a history of GERD, liver disease, abdominal aortic aneurysm, PUD with previous UGIB, known H. pylori infection and whether or not they are taking a proton pump inhibitor. Other associated symptoms to inquire about include dysphagia and associated abdominal pain with bleeding.

### **Physical Exam:**

Assess for scleral icterus, telangiectasias in the oral cavity, JVP (to help determine volume status), abdominal tenderness, distention, bowel sounds, organomegaly, guarding, rebound, shifting dullness, jaundice, and spider angiomas.

A rectal exam is important in determining/confirming melena along with assessing for potential masses (more important in sources of hematochezia and BRBPR)

### **Diagnostic Tests:**

An NG tube lavage is an important diagnostic tool. Patients that have a grossly bloody NGT aspirate are likely to have high risk lesions and are not suitable for an

observation admission. NGT lavage is also useful to help minimize the aspiration risk that is associated with an UGIB. A lavage also improves visualization during endoscopy.

Orthostatics play an important role in determining the severity of the bleed as it directly correlates with volume status. A patient that is orthostatic is hemodynamically unstable and is not suitable for observation. Other important laboratory data to obtain include a CBC, chem 7 (to assess to renal failure), coags and LFTs.

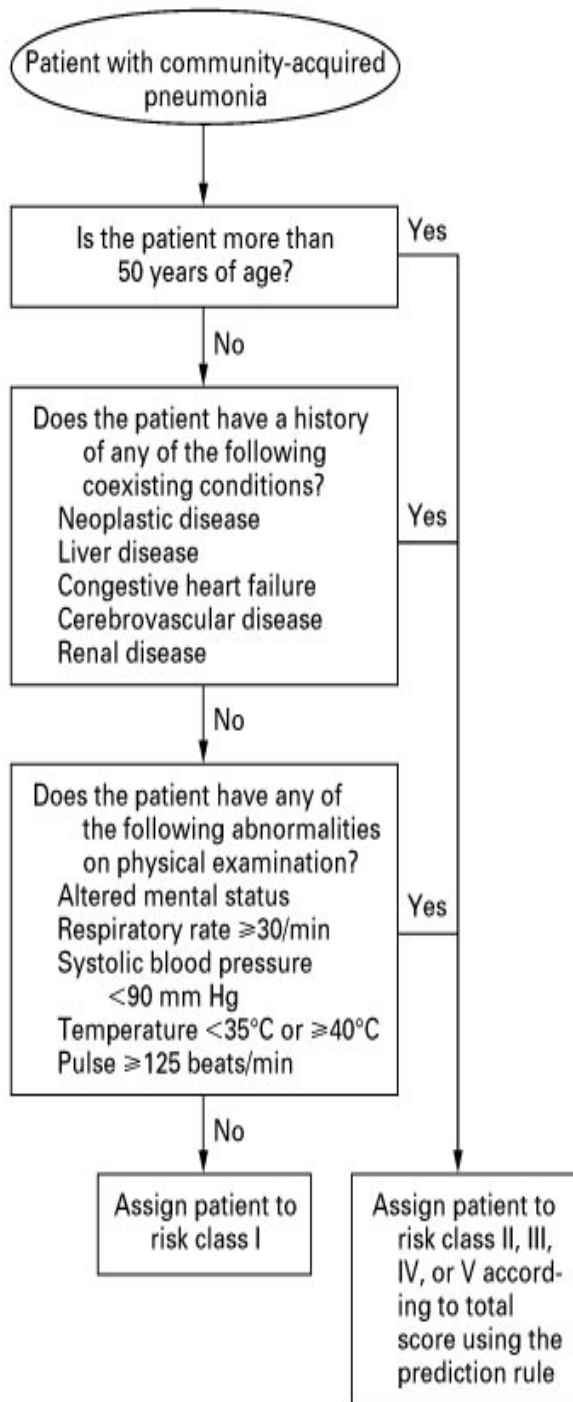
**Risk Scoring:**

There are multiple scoring systems that have been developed to risk stratify patients with UGIB. One such scoring system is the Rockall Risk Score. This scoring system has been validated in multiple studies. In order to be a candidate for an observation stay rather than a full admission, the patient would have to be stratified as low risk which would correspond to a Rockall Score of  $\leq 2$ .

<b>Complete Rockall Risk Score</b>				
<b>Variable</b>	<b>Points</b>			
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Age</b>	<60	60-79	$\geq 80$	
<b>Shock</b>		Pulse rate >100	SBP < 100	
<b>Comorbidity</b>			Any other major comorbidity	Renal failure, Liver failure, disseminated malignancy
<b>Diagnosis</b>	Mallory Weiss lesions, no lesion observed and no stigmata of recent hemorrhage	Peptic ulcer, varices, erosive disease, esophagitis,	Malignancy of upper GI tract	
<b>Stigmata of recent hemorrhage</b>	No stigmata or dark spot in ulcer base		Blood in upper GI tract, adherent clot, visible or spurting vessel	

**References:**

1. Esrailian E, Gralnek IM. Nonvariceal Upper Gastrointestinal Bleeding: Epidemiology and Diagnosis. Gastroenterol Clin N Am 31(2005) 589-605
2. Cipolletta L, Bianco MA, et al. Outpatient management for low-risk nonvariceal upper GI bleeding. A randomized controlled trial. Gastrointestinal Endoscopy 2002 Jan; 55 (1)
3. Gralnek IM. Outpatient management of “low risk” nonvariceal upper GI hemorrhage. Are we ready to put the evidence into practice? Gastrointestinal Endoscopy 2002 Jan; 55 (1)



CHARACTERISTIC	NO. OF POINTS ASSIGNED
<b>Demographic factors</b>	
Age	
Men	Age (in yr)
Women	Age (in yr) - 10
Nursing home resident	+ 10
<b>Coexisting illnesses</b>	
Neoplastic disease	+30
Liver disease	+20
Congestive heart failure	+10
Cerebrovascular disease	+10
Renal disease	+10

<b>Findings on physical examination</b>	
Altered mental status	+20
Respiratory rate $\geq 30$ /min	+20
Systolic blood pressure $< 90$ mm Hg	+20
Temperature $< 35^\circ\text{C}$ or $\geq 40^\circ\text{C}$	+15
Pulse $\geq 125$ beats/min	+10

<b>Laboratory and radiographic findings</b>	
Arterial pH $< 7.35$	+30
Blood urea nitrogen $\geq 30$ mg/dl (11 mmol/liter)	+20
Sodium $< 130$ mmol/liter	+20
Glucose $\geq 250$ mg/dl (14 mmol/liter)	+10
Hematocrit $< 30\%$	+10
Partial pressure of arterial oxygen $< 60$ mm Hg or oxygen saturation $< 90\%$	+10
Pleural effusion	+10

<b>Stratification of Risk Score</b>			
RISK	RISK CLASS	SCORE	MORTALITY
Low	I	Based on algorithm	0.1%
Low	II	$\leq 70$	0.6%
Low	III	71-90	0.9%
Moderate	IV	91-130	9.3%
High	V	$> 130$	27.0%

## Community Acquired Pneumonia Triage Algorithm

Halm E and Teirstein A. N Engl J Med 2002;347:2039-2045

*Most patients with a Risk Score of less than IV are suitable for discharge from clinic or the ED. If it is determined a patient with a Risk Score of Less than IV needs in-hospital monitoring (and they do not meet general GOU exclusion criteria), they should be admitted to the observation team.*

\*\*\*Please use the CAP Order Form on Forms Portal for admission orders\*\*\*