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OBSERVATION MEDICINE
Definition

• “Observation care is a well-defined set of specific, clinically appropriate services, which include ongoing short term treatment, assessment, and reassessment before a decision can be made regarding whether patients will require further treatment as hospital inpatients or if they are able to be discharged from the hospital.”

• “Observation services are commonly ordered for patients who present to the emergency department and who then require a significant period of treatment or monitoring in order to make a decision concerning their admission or discharge.”

- Medicare Policy Manual
OBSERVATION MEDICINE
General Guidelines

• Active management of patients following their initial ED care to determine the need for inpatient admission

• Maximum length of stay <24 hours (optimally <18 hours)

• ED attending ensures suitability for observation status
OBSERVATION MEDICINE
Focused Goals

• Diagnostic evaluation of critical symptom – i.e. chest pain, syncope, abdominal pain, etc.
• Short term treatment of an emergency condition – i.e. asthma, dehydration, cellulitis, headache, COPD, etc.
• Management of psychosocial needs and ensuring follow up care – i.e. need for home support services, placement or social services assistance
OBSERVATION MEDICINE
Patient Characteristics

• Limited intensity of service and severity of illness
  
  • At least 70% probability of discharge in <18 hours if managed effectively
  
  • Relatively low severity of illness/complexity
  
  • Necessary resources and level of care available in the ED/CDU
OBSERVATION MEDICINE
Documentation

• “Observation time begins at the clock time documented in the patient’s medical record, which coincides with the time that observation care is initiated in accordance with a physician’s order.”

• “The [patient] must be in the care of a physician during the period of observation, as documented in the medical record by outpatient registration, discharge, and other appropriate progress notes that are timed, written, and signed by the physician.”

• “The medical record must include documentation that the physician explicitly assessed patient risk to determine that the beneficiary would benefit from observation care.”

- Medicare Policy Manual
# Abdominal Pain Observation Protocol

## Observation Criteria

- Stable vital signs
- Presence of ancillary signs/symptoms (i.e. anorexia, N&V, fever, elevated WBC)
- Negative pregnancy test
- Non-surgical abdomen
- High likelihood (~70%) of discharge within 15 hours

## Exclusion Criteria

- Unstable vital signs (HR > 110, SBP < 100, RR > 22)
- Surgical abdomen - free air, rigidity, rebound tenderness
- Bowel obstruction (even partial) or ileus
- Immunocompromised patient (T-cells < 200, chemo, transplant)
- Pregnant patient
- History of frequent ED visits for abdominal pain—suspected habitual patient / narcotic abuse

## Potential Interventions

- Analgesics
- NPO, IV hydration
- Repeat CBC, lactate
- Imaging studies as indicated (i.e. CT, ultrasound)
- Serial vital signs
- Serial exams Q2-4 hours as indicated
- Surgical consultation as needed

## Disposition

**Home**

- Pain resolved or significantly improved
- Vital signs acceptable
- No diagnosis requiring hospitalization

**Admit**

- Persistent vomiting
- Pain not resolving or worsening
- Unstable vital signs
- Clinical condition or positive testing that merits hospitalization
- Consultant preference
- Surgical abdomen

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ALLERGIC REACTION OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Response to therapy in the ED
- No airway involvement
- Stability or improvement in ED after treatment

EXCLUSION CRITERIA

- Hypotension (SBP <100), tachycardia > 110
- O2 saturation consistently < 94% on room air
- Suspicion of acute coronary syndrome
- Stridor, respiratory distress, hoarseness
- IV pressors required

POTENTIAL INTERVENTIONS

- IV fluids as needed
- Frequent rechecks and documentation of clear airway
- Cardiac monitoring (if indicated)
- Pulse oximetry
- Antihistamines, corticosteroids
- Inhaler or nebulizer treatments (if indicated)
- Repeat doses of SQ epinephrine

DISPOSITION

Home
- Resolution or improvement in clinical condition
- Stable VS

Admit
- Delayed worsening
- Persistent wheezing or stridor
- Inadequate response to therapy during observation
- Inability to take oral medications
- Abnormal vital signs: SBP <100mm or RR > 24/min or hypoxia

Return to Directory
ASTHMA OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Alert and oriented, acceptable vital signs
- Intermediate response to therapy - improving but still wheezing
- PEFR (peak flow) 40-70% predicted (or personal best) after β2 agonists
- β2 agonist nebs (2 treatments or 10 mg albuterol) + steroids given in ED
- Minimum ED treatment time > 2 hours
- Chest X-ray with no acute findings (pneumonia, pneumothorax, CHF)

EXCLUSION CRITERIA

- Unstable VS or clinical condition - severe dyspnea, confusion, drowsiness
- Poor response to initial ED treatment: Persistent use of accessory muscles, RR>40, or excessive effort
- Elevated pCO2 (>50) plus decreased pH, if ABG done
- O2Sat < 92% on room air, unless documented chronic hypoxia
- PEFR < 40% predicted or personal best
- Suspicion of ACS, new onset CHF, pneumonia

POTENTIAL INTERVENTIONS

- Serial treatments with nebulized β2 agonist and ipratropium
- IV Magnesium Sulfate, as needed.
- Frequent reassessment.
- BNP if needed.
- Systemic steroids (PO or IV)
- Pulse oximetry, ABG, and oxygen with cardiac monitoring, as needed

DISPOSITION

Home

- Discharge on steroids, nebs, with follow-up and smoking cessation
- Acceptable VS – HR <100, RR <20 after ambulation
- Pulse Ox >95% on RA (or return to baseline)
- Resolution of bronchospasm or return to baseline status
- PEFR > 70% predicted (or 70% personal best) – if reliable reading

Admit

- Progressive deterioration in clinical status or VS
- Failure to resolve bronchospasm within 15 hours
- Persistent PEFR < 70% of predicted (if reliable)
- Hypoxic despite therapy, if not chronic state

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ATRIAL FIBRILLATION OBSERVATION PROTOCOL – 1/2

OBSERVATION CRITERIA

- Stable BP, HR under 110 consistently for one hour (with treatment)
- No chest pain
- Normal chest X-ray
- No evidence of acute comorbidities - MI, CHF, PE, CVA, etc.
- Onset clearly less than 48 hours
- Rhythm conversion drugs given prior to CDU, if indicated
- Cardiologist consulted and agrees with plan to observe

EXCLUSION CRITERIA

- HR not controlled under 110 with ED meds
- IV vasoactive drips required (i.e. diltiazem)
- Hemodynamically unstable
- Ongoing ischemic chest pain after rate control
- Acute comorbidities - Evidence of Acute MI, CHF, PE, Sepsis, CVA / embolic event, etc.
- Recent comorbidities - Stroke/TIA within 3 months, Acute MI within 4 weeks.
- Chronic Atrial Fibrillation
- Onset over 48 hours or unknown
- Cardiologist or ECP chooses inpatient admission

POTENTIAL INTERVENTIONS

- Cardiac monitoring, pulse oximetry
- Vitals Q 2 hours for 6 hours, then Q4 hours
- Anticoagulate, if indicated and not contraindicated
- Rate control Options - Oral Cardizem, Verapamil, or beta blockers
- Testing - Serial markers and ECGs at 4 and 8 hour from 1st ED blood, TSH
- Echocardiogram obtained in ED or scheduled as outpatient within 2 weeks if not obtained within last 6 months.
- Educate patient on cardioversion (medical or electrical) if initial rate control treatment fails within 12 hours.
- Electrical cardioversion to occur outside of the CDU with patient to return following procedure
- NPO at 12 hours from arrival in Observation Unit if not spontaneously converted
- Educate patient regarding anticoagulation
- Social worker to check prescription coverage for patients prescribed novel anticoagulants
- PA to obtain required follow-up office appointments and testing, update referring physicians, educate patients regarding treatment plan.
ATRIAL FIBRILLATION OBSERVATION PROTOCOL – 2/2

DISPOSITION

Home

- Patient converts and remains in NSR for over one hour
- If still in AF, resting heart rate <110 bpm and symptoms controlled on oral medication regimen (at least 2 oral doses given after IV boluses or stopping Cardizem drip).
- Negative diagnostic testing
- Stable condition
- Home medication therapy discussed with cardiologist
- Appropriate follow up with EP/cardiology within 2 weeks and anticoagulation monitoring arranged

Admit

- Failure to maintain control of rate under 100
- Positive diagnostic testing (as indicated for MI, PE, CHF, etc.)
- Unstable condition
- Cardiology requests admission

Appropriate discharge anticoagulation plan

- Patients who underwent chemical CV/DCCV for AF >48 hours must be have continuous therapeutic anticoagulation for 1 month afterwards. This can be either Coumadin with Lovanox bridging, Pradaxa, Xarelto, or Apixaban.
- Patients with CHADS2 score > 1 who do not undergo CV can have Coumadin started without Lovanox bridging, Pradaxa, Xarelto, or Apixaban.
- Must ensure that patient can afford to fill prescription if new anticoagulants prescribed
- Must ensure that MD identified to follow INRs and regulate Coumadin if newly initiated

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BACK PAIN OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Inability to adequately control pain in ED with analgesics
- Normal neurological function
- Apfebrile
- No risk of metastatic disease or vertebral or epidural abscess
- Back pain without severe trauma
- Normal imaging (if obtained)
- Inability to ambulate because of pain

EXCLUSION CRITERIA

- Frequent ED visits for back pain – suspected habitual patient
- Age over 65 years old
- Acute motor deficit (i.e. foot drop, loss of extension of foot or 1st toe, loss of control of bowel or bladder)
- Abnormal imaging if obtained (burst fracture, spine canal involvement)
- High suspicion of cord compression, metastatic disease, epidural bleed or abscess, discitis.
- Fever

POTENTIAL INTERVENTIONS

- Narcotic analgesics (+ NSAIDs if appropriate)
- Serial exams
- Physical therapy assessment
- Consultation as needed – Spine, social service
- Imaging (CT or MRI) if acute surgical disease or cancer is suspected

DISPOSITION

Home

- Ability to ambulate and care for self at home with oral analgesics
- Pain at a tolerable level for discharge home
- No worsening in neurologic exam

Admit

- Inability to tolerate pain on oral medications
- Inability to ambulate or care for self at home
- Worsening neurological exam
- Abnormal imaging warranting inpatient admission
CELLULITIS OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Serial exams needed to exclude rapidly progressive cellulitis
- Cellulitis which requires >1 dose IV antibiotics (systemic toxicity or rapidly spreading process)
- Temp < 40.0°C, WBC < 16,000 and > 4,000
- Cellulitis with a drained abscess which requires a brief period of observation and wound care

EXCLUSION CRITERIA

- Septic or toxic patients – clinical appearance, evidence of severe sepsis (Temp >40, SBP<100, RR>22, HR>100, acute organ dysfunction, lactate >4mmol/L)
- Immunocompromised patients – neutropenia, HIV, transplant patients, ESRD/hemodialysis, patients on immunosuppressant or chemotherapy, post-splenectomy patients
- High risk infections – diabetic foot infections; infections proximate to a prosthesis, percutaneous catheter or indwelling device, infections of the orbit or upper lip/nose or neck, infections of >9% TBSA, extensive tissue sloughing, suspicion of osteomyelitis or deep wound infection.
- Poorly controlled diabetes
- Patient unable to care for self at home
- Patient who can be discharged after 1 dose of IV antibiotics

POTENTIAL INTERVENTIONS

- Mark edges of cellulitis with indelible marker to monitor progression
- IV antibiotics - MRSA coverage as indicated (see below)
- Pertinent labs (Repeat CBC, glucose, blood or wound cultures)

DISPOSITION

Home

- Improvement or no progression of cellulitis
- Improved and good clinical condition (i.e. no fever, acceptable vital signs) for 8 hrs.
- Able to perform cellulitis care at home and take oral medications

Admit

- Increase in skin involvement
- Clinical condition worse or not better (i.e. rising temp, poor vitals, increasing WBC-if checked)
- Unable to take oral medications
- Unable to care for wound at home, home care unavailable

Return to Directory
CHEST PAIN OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Patients without a prior history of CAD/Angina and:
  - ACS risk is low based on Reilly / Goldman criteria
  - Chest discomfort is potentially due to cardiac ischemia
  - No acute ECG changes of ACS, negative initial troponin
  - Acceptable vital signs
- Repeat EKG based on symptoms - show to covering ED physician STAT
- Cardiac imaging - if initial (and 4 hour markers for provocative testing) are negative
  - Consider exercise stress test in lieu of CTCA for low risk patients
- If no provocative test or imaging is available – admit if indicated, otherwise discharge on appropriate medications with short term follow up and instructions

EXCLUSION CRITERIA

- Moderate to high risk criteria by Reilly / Goldman criteria
- New ECG changes consistent with ischemia or arrhythmia
- Positive troponin, not known to be chronic
- Stress test or cardiac imaging needed - but NOT available
- Chest pain is clearly not cardiac ischemia
- Recent normal cardiac catheterization or CTCA (no coronary stenosis)

POTENTIAL INTERVENTIONS

- Continue saline lock, O2, cardiac monitor
- Nitrates prn, daily aspirin, NPO six hours before test.
- Serial Troponin I and ECGs at 4 and 8 hour from first ED blood draw

DISPOSITION

Home
- Acceptable VS and stable symptoms
- No serious cause of symptoms identified
- Normal serial cardiac markers and EKGs
- Negative provocative test or cardiac imaging for ACS

Admit
- Unstable VS
- Positive cardiac markers or EKGs
- Positive provocative or imaging test – ischemic or reversible defect
- ED physician or cardiologist discretion
Serious alternative diagnosis, e.g. PE, aortic dissection

Return to Directory
COPD EXACERBATION OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Good response to initial therapy (β-agonists, ipratropium, steroids)
- No acute process on chest X-ray (required)
- Acceptable VS (PO2>90, IHR<100, RR<24, SBP>100)
- Alert and oriented
- No indication of impending respiratory fatigue

EXCLUSION CRITERIA

- Acute co-morbidities - Pneumonia, CHF, cardiac ischemia
- Unstable VS or clinical condition
- Acute confusion/lethargy, elevated pCO2 (if drawn) or evidence of CO2 narcosis
- Poor response to initial therapy
- O2 sat < 85 on 2 L O2 after 5 mg aerosolized Albuterol
- Persistent use of accessory muscles, RR>28 after initial treatment
- Estimated likelihood of discharge from observation is less than 70%

POTENTIAL INTERVENTIONS

- Serial treatments: β-agonists Q2-4hr, ipratropium Q6hr, and steroids
- Hydration, antibiotics if indicated
- Pulse oximetry, ABG if indicated
- Supplemental oxygen, as indicated
- Reassessment Q4 hours
- Cardiac monitoring, cardiac markers, ECGs, and BNP, as needed
- Chest imaging, as indicated

DISPOSITION

Home

- Acceptable vital signs
- Resolution of exacerbation or return to baseline status
- Pulse-ox > 90% on room air or home FIO2, back to patient’s baseline

Admit

- Progressive deterioration in status, Unstable vital signs
- Failure to resolve exacerbation within 18 hours
- Co-existent pneumonia or CHF
- Uncompensated pCO2 Retention
- O2 sat < 90% on room air or home FIO2
DEHYDRATION/VOMIT/DIARRHEA OBS PROTOCOL

OBSERVATION CRITERIA

• Acceptable VS
• Mild to moderate dehydration
• Self-limiting or treatable cause not requiring hospitalization
• Mild to moderate electrolyte abnormalities
• Evidence of dehydration – vomiting/diarrhea, high BUN/Cr ratio, orthostatic changes, poor skin turgor, high urine specific gravity, hemoconcentration, etc.
• (Hyperemesis Gravidarum)

EXCLUSION CRITERIA

• Dehydration is not clearly present
• Unstable VS (hypotension, tachycardia, severe dehydration)
• Cardiovascular compromise
• Severe (>15%) dehydration
• Severe electrolyte abnormalities
• Associated cause not amenable to short term treatment: bowel obstruction, appendicitis, bowel ischemia, DTs, DKA, sepsis, etc.

POTENTIAL INTERVENTIONS

• IV hydration
• Antiemetics
• Serial exams, monitor intake and output, vital signs

DISPOSITION

Home
• Acceptable VS
• Resolution of symptoms, able to tolerate oral fluids
• Normal electrolytes

Admit
• Unstable VS
• Associated cause found requiring hospitalization
• Inability to tolerate oral fluids
DRUG/ALCOHOL INGESTION OBS PROTOCOL

OBSERVATION CRITERIA
- Acceptable vital signs
- Normal EKG
- Expected resolution/discharge within < 16 hours

EXCLUSION CRITERIA
- Unstable vital signs (hypotension, hypoxia)
- Abnormal EKG (arrhythmia, prolonged QTc, wide QRS)
- Poison Control recommending prolonged admission
- Acetaminophen overdose requiring n-acetyl cysteine
- Obvious medical condition or traumatic injury requiring admission

POTENTIAL INTERVENTIONS
- Cardiac and oximetry monitoring
- Serial vital signs
- Mental status monitoring
- IV hydration and Benzodiazepines, as indicated
- Monitoring for signs of withdrawal
- Toxicology screen, alcohol level
- Serial acetaminophen levels
- Poison Control consultation
- Psychiatry and/or social work evaluation, as indicated

DISPOSITION

Home
- Normal vital signs
- No signs of withdrawal
- Return to baseline mental status
- Ambulating and tolerating PO fluids
- Cleared or accepted by psychiatry, if indicated

Admit
- Unimproved or deteriorating clinical or mental status
- Signs of persistent alcohol withdrawal or delirium tremens
- Medical condition or traumatic injury requiring admission
- Poison Control recommending admission
DVT OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Hemodynamically stable – acceptable vitals, pulse ox.
- No evidence/suspicion of PE
- No exclusion criteria, candidate for home Lovenox
- Labs - Normal PT, PTT, CBC, platelet count, and BUN/Cr
- Confirmed DVT (or suspected DVT with US/doppler not yet available)

EXCLUSION CRITERIA

- High likelihood of Pulmonary Embolism
- Known hypercoagulable or bleeding disorder
- High risk of bleeding complications – e.g. active GI bleeding, major surgery or trauma within 2wks, recent intracranial bleed, recent head injury / tumor /AVM
- Social: unable to care for self or follow up, unable to obtain outpatient LMWH, unable to follow up for outpatient coumadin management.
- Clinical conditions – pregnancy, prosthetic heart valve, CRF on HD, morbid obesity (>150kg)

POTENTIAL INTERVENTIONS

- Venous duplex
- Start Lovenox
- Have patient give self first injection, or alternatively saline practice injection

- After heparin started, may give first dose of Coumadin 10 mg PO
- Monitor at least 12hrs for bleeding or thromboembolic complications
- Consult pharmacist/social worker to review dosing and help arrange home LMWH and Coumadin
- Education: DVT, anticoagulation, signs/ symptoms for complications of DVT and anticoagulation

DISPOSITION

Home

- Acceptable VS
- No clinical evidence of PE
- Uncomplicated DVT (no thromboembolic or bleeding events)
- Adequate home care / support available
- Outpatient follow up within 1-2 days for INR testing and evaluation. Instruction for coumadin, LMWH, DVT, PE and precautions for return.

Admit

- High risk DVT or PE identified
- Unacceptable vital signs
- Bleeding problems after anticoagulant
- Home treatment not feasible
- Physician discretion
HEAD INJURY OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Normal CT scan of brain
- Acceptable Vital Signs
- Headache, dizziness, transient vomiting, transient amnesia are acceptable
- EtOH level <100 for intoxicated patients
- Patients with normal mental status

EXCLUSION CRITERIA

- Unstable VS
- Abnormal CT Scan of brain
- Depressed skull fracture
- Penetrating skull injury
- Focal neurologic abnormality or significant confusion
- Uncooperative patient, restraints, or sitter required
- Acute psychiatric disorder, suicidal patient

POTENTIAL INTERVENTIONS

- Serial neurologic exams including vital signs every 2-4 hours, as ordered
- Analgesics
- Antiemetics
- Neurosurgical/Neurological/Trauma consultation if indicated
- Repeat CT scan or MRI as indicated

DISPOSITION

Home

- Acceptable VS
- Normal serial neurologic exams
- Cleared by consulting services, if involved

Admit

- Deterioration in clinical condition
- Development of any exclusion criteria
- Discretion of consulting services

Return to Directory
HEADACHE OBSERVATION PROTOCOL

OBSERVATION CRITERIA
- Persistent pain in tension or migraine headache
- History of migraine with same aura, onset, location and pattern
- Drug related headache
- No focal neurological signs
- Normal CT scan (if done)
- If LP is needed, then it must be done and normal

EXCLUSION CRITERIA
- Focal neurologic signs
- Meningismus
- Elevated intraocular pressure as cause (i.e. glaucoma)
- Abnormal CT scan
- Abnormal LP (if performed)
- Hypertensive emergency (diastolic BP > 120 with symptoms)
- Suspected temporal arteritis
- Blocked VP shunt
- Frequent ED visits – suspected habitual patient, narcotic seeking behavior

POTENTIAL INTERVENTIONS
- Serial exams including vital signs,
- Neurologic checks: level of alertness, speech, motor function
- Analgesics
- Possible Neurology evaluation

DISPOSITION
Home
- Resolution of pain
- Other individual to take patient home
- No deterioration in clinical course

Admit
- No resolution in pain
- Deterioration in clinical course
- Rule in of exclusionary causes
HYPERGLYCEMIA OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Blood sugar > 300 & < 600 after ED treatment
- Normal to near normal pH and total CO2 level
- Readily treatable cause (e.g. non-compliance, UTI, abscess)

EXCLUSION CRITERIA

- DKA (pH < 7.20, total CO2 < 18, elevated serum acetone, anion gap > 18)
- Hyperosmolar non-ketotic coma
- Blood glucose > 600
- Precipitating cause unknown or not readily treatable
- Social issues – precluding adequate outpatient management

POTENTIAL INTERVENTIONS

- IV hydration, 0.9NS at 150-250 cc/hr
- Bedside glucose q 2 hours until level < 300, then q 4 hours
- Sliding scale insulin (see sliding scale guidelines)
- Treat precipitating cause (antibiotics, I&D abscess, etc.)
- Diabetic counseling
- Repeat electrolytes q4hours until labs stable

DISPOSITION

Home

- Blood glucose < 250
- Resolution of symptoms
- Stable vital signs
- Successful treatment of precipitating cause
- Tolerating PO fluids
- PCP follow up within 48 hours if new onset
- Patient education

Admit

- Worsening symptoms
- Unstable vital signs
- Blood glucose remains > 250
- Development of DKA
- Unable to tolerate PO fluids
- Poor candidate for home management

Return to Directory
HYPERTENSIVE URGENCY OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- No evidence of acute end-organ injury
- Acceptable VS
- BP<250/130 after initial treatment
- Normal mentation,
  normal head CT (only if done)
- No acute ECG abnormalities, normal chest X-ray, no acute nephropathy (Cr, UA).

EXCLUSION CRITERIA

- Evidence of end-organ injury: acute renal failure, hypertensive encephalopathy, intracranial hemorrhage, papilledema, focal neurologic abnormalities, CVA, CHF, acute coronary syndromes, aortic dissection.
- Unstable VS
- BP remains >250/130 after initial ED treatment
- EKG changes not known to be old
- Pregnancy
- Continuous infusion required for control of BP

POTENTIAL INTERVENTIONS

- Anti-hypertensive medications
- Give clonidine, if clonidine withdrawal suspected
- Treat secondary causes as indicated (pain, anxiety, dehydration, etc)
- Serial VS and neuro checks
- Cardiac monitoring
- Pulse oximetry as needed
- Urine drug screen for cocaine, if indicated

DISPOSITION

Home

- Acceptable VS
- BP < 200/110
- No new symptoms
- Outpatient treatment and follow-up arranged

Admit

- Development of any exclusion criteria
- Symptoms worsen or persist
- BP > 200/110

Return to Directory
HYPOGLYCEMIA OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Blood sugar below 40 mg% pre Rx (if obtained) and 80 post treatment
- Symptoms resolved with administration of glucose
- Type I or Type II Diabetes
- Etiology determined (e.g. missed a meal)

EXCLUSION CRITERIA

- Intentional overdose of hypoglycemic medications
- Use of long acting oral hypoglycemic agent such as glyburide
- Insufficient change in symptoms with administration of glucose
- Fever, hypothermia (T < 35C or T > 38C)
- D5-D10 drip required to maintain euglycemia

POTENTIAL INTERVENTIONS

- Dietary food tray
- Serial exams and vital signs
- IV hydration, K administration or electrolytes as indicated
- Serial lab - repeat glucose Q2-4hr and as indicated
- IV D-50 (or oral juice if alert) for hypoglycemia and confusion – notify physician
- Diabetic counseling as needed

DISPOSITION

Home

- Resolution of symptoms
- Capable adult supervision
- Bedside glucose over 80 mg%
- Resolution of precipitating factor
- Follow up with primary care

Admit

- Deterioration of clinical signs
- Persistent deficits in neurological status
- Bedside glucose consistently < 80

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PNEUMONIA OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- History, exam, and CXR consistent with acute pneumonia
- PORT score (Pneumonia Severity Index) class <3
- O2 saturation >92% on room air at the time of observation order
- Outpatient support and home capable of managing pneumonia if discharged
- Initial dose of antibiotics given in the ED

EXCLUSION CRITERIA

- Persistently abnormal vitals – after ED treatment (O2 saturation <92% on RA, HR >120, SBP <100, RR >30, T <35 or >40 C)
- Significantly abnormal ABG – if done (pCO2 >45, pH <7.35)
- Potential respiratory failure
- Multi-lobar pneumonia
- Unlikely to be discharged in 24 hours, poor candidate for outpatient therapy
- Immunocompromised patients: HIV, PCP pneumonia, chemotherapy, chronic corticosteroid use, active cancer, sickle cell disease, asplenic patients.
- High risk patients: Nursing home patient, cancer, cirrhosis, ESRD, altered mental status, nosocomial etiology, aspiration risk (i.e. bulbar stroke)
- High suspicion of – DVT/PE, SARS, H1N1, or TB (HIV/AIDS, institutionalized, recent prison, native of endemic region, history of pulmonary TB, apical disease on CXR)

POTENTIAL INTERVENTIONS

- Antibiotics based on contemporary guidelines for pneumonia
- Supplemental oxygen and bronchodilator therapy as needed. Steroids as indicated.
- Analgesics as needed for pain, myalgias, or cough/sputum
- Serial vital signs, cardiac and oxygen saturation monitoring (continuous or intermittent)
- Assistance with activities of daily living as needed

DISPOSITION

Home

- Subjective and clinical improvement during CDU stay
- Acceptable vital signs during observation period
- Patient able to tolerate oral medications and diet

Admit

- Patient not subjectively improved enough to go home
- Lack of clinical progress or clinical deterioration.
- Unable to safely discharge for outpatient management
- Physician discretion

Return to Directory
PYELONEPHRITIS OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Clinical evidence of pyelonephritis (flank pain, urgency, frequency, dysuria)
- UA evidence of pyelonephritis (significant pyuria, nitrates, and/or leukocyte esterase)
- Not suitable for discharge from the ED
- Urine cultures obtained
- Acceptable vital signs and normal mentation

EXCLUSION CRITERIA

- Male patients
- Pregnant females
- Abnormal VS after ED treatment (SBP <90, HR >120, T<35 or >40 C)
- Mental status changes
- Significant comorbidities – diabetes, renal failure, sickle cell disease
- Immunosuppressed patients - HIV, transplant patients, chronic high dose steroids, asplenic
- Urinary tract anatomic abnormality (solitary kidney, reflux, or indwelling device)
- Urethral or ureteral obstruction (i.e. kidney stones, urinary retention)
- Poor candidate for outpatient treatment of pyelonephritis (i.e. poor home support)

POTENTIAL INTERVENTIONS

- IV hydration, antiemetics, antipyretic
- IV antibiotics based on contemporary guidelines for pyelonephritis
- Advance to oral antibiotics, antiemetics, and analgesics as tolerated
- Imaging as needed (CT or ultrasound)

DISPOSITION CRITERIA

Home
- Resolution or improvement of systemic symptoms
- Ability to take PO medications
- Stable vital signs
- Require follow-up, when and where.

Admit
- Clinical deterioration or lack of adequate improvement
- Inability to tolerate oral meds or hydration
- Unstable vital signs or evidence of septic shock
- Abnormal imaging (ureteral obstruction or emphysematous pyelonephritis, solitary kidney)
RENAL COLIC OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Diagnosis of renal colic established by CT or ultrasound
- Uncomplicated stone
- Persistent pain or vomiting despite medication
- Acceptable VS

EXCLUSION CRITERIA

- Unstable VS
- Clinical evidence of a UTI (fever, significant pyuria)
- Solitary kidney
- Relative large proximal stone (>6 mm) with high grade obstruction
- Acute renal failure

POTENTIAL INTERVENTIONS

- IV Hydration
- Analgesics, antiemetics, Flomax
- Diagnostic imaging tests as needed – CT, US
- Serial exams and vital signs
- Strain urine for stone capture and analysis, U/A if not yet done
- Urology consultation, as needed.

DISPOSITION

Home

- Acceptable VS
- Pain and nausea resolved or controlled
- Passage of stone

Admit

- Persistent vomiting or uncontrolled pain after 14 hours
- Diagnosis of coexistent infection or significant abnormality
- Change in diagnosis requiring further therapy or workup
SEIZURE OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Past history of seizures with breakthrough seizure or subtherapeutic anticonvulsant level
- No seizure in last 2 hours
- New onset seizures with a normal neuro exam, normal head CT, and neurology agreement
- Blood work: electrolytes, blood glucose, anticonvulsant levels and tox screen (as indicated)

EXCLUSION CRITERIA

- Ongoing seizures or postictal state
- Persistent focal neurological findings (e.g. Todd’s paralysis)
- Clinical suspicion of meningitis or new CVA
- Delirium of any etiology, including alcohol withdrawal syndrome / DTs
- Seizures due to toxic exposure (e.g. theophylline or carbon monoxide toxicity) or hypoxemia
- Pregnancy beyond first trimester / eclampsia
- New findings on head CT
- New EKG changes or significant arrhythmias
- Serial neuro checks and vital signs (q 2 hours)
- Toxicological testing, as indicated
- EEG, as indicated
- NPO or liquid diet as indicated
- Neurology consult if new onset seizures

DISPOSITION

Home

- No deterioration in clinical status
- Therapeutic levels of anticonvulsants PRN
- Correction of abnormal labs
- Resolution of post-ictal or benzodiazepine-related sedation
- Appropriate home environment

Admit

- Deterioration of clinical status, mentation, or neuro exam
- Rule in for exclusionary causes
- Inappropriate home environment
- Recurrent seizures or status epilepticus
- Not sufficiently alert for discharge after 18 hours observation

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# SOCIAL OBSERVATION PROTOCOL

## OBSERVATION CRITERIA
- Pt. requires assisted living arrangements, i.e. home care, nursing home
- Family requires assistance with home care needs
- High probability of care arrangements within 18 hour time frame
- Social service consult available within 4 hours
- Patients' condition does NOT require extensive nursing care

## EXCLUSION CRITERIA
- Inpatient admission criteria are met
- Social worker unable to provide timely consult
- Inability to place pt. within 14 hour time frame
- Clinical or physical condition requires stabilization in an inpatient bed
- Patients' condition requires a higher intensity than ED/CDU nursing can provide
- Patient should not require restraints, safety-sitter or sedation

## POTENTIAL INTERVENTIONS
- Consult Social Services
- Work with family, patient, primary care physician and nursing services to coordinate best outpatient care
- Monitor vital signs, labs

## DISPOSITION
### Home
- Home assistance arranged
- Family refuses placement
- Nursing home not available and family willing/able to take patient home

### Admit
- Unable to obtain nursing home placement or home assistance and the patient is not safe for discharge home within 18 hours
- Clinical deterioration
- Need for inpatient admission identified

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**SVT OBSERVATION PROTOCOL**

**OBSERVATION CRITERIA**

- Conversion to sinus rhythm in the ED, but requires a period of observation
- Stable BP, HR under 110 consistently for one hour
- No chest pain with rate controlled
- No clinical suspicion of MI, CHF, PE, CVA
- Primary MD or cardiology consulted and in agreement, if applicable

**EXCLUSION CRITERIA**

- Ongoing SVT
- Abnormal vitals - BP or HR not controlled in ED, Fever (T>38)
- Ongoing ischemic chest pain
- Acute comorbidities – ACS, CHF, PE, Sepsis, CVA, etc.
- Primary or on-call MD chooses inpatient admission

**POTENTIAL INTERVENTIONS**

- Continuous cardiac and ST segment monitoring
- Monitor vital signs
- Rate control: PO Verapamil, PO beta blockers
- Potential tests: Serial cardiac biomarkers, TSH, cardiac echo, stress test
- EP consultation, as indicated

**DISPOSITION**

**Home**

- Patient converts and remains in NSR for over two hours
- Negative biomarkers
- Suitable clinical condition for discharge
- Discuss home meds with MD who will manage F/U care

**Admit**

- Failure to keep HR under 100
- Positive workup for other conditions (e.g. ACS, PE)
- Unstable clinical condition

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SYNCOPE OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Minimum ED interventions: ECG, monitor, stool guaiac, orthostatic, IV, labs
- No acute dyspnea or history of CHF
- No acute EKG changes, bundle branch block, or significant arrhythmias
- Vital signs normal
- No new neurologic deficits

EXCLUSION CRITERIA

- Abnormal or unstable vital signs (HR <50 or >100, SBP<100 or >200, pO2<94%, RR>24)
- ECG: BB blocks {LBBB; RBBB+LAFB; RBBB+LPFB - especially with 1st degree heart block}; Prolonged QTc (>500mS), new ECG ST/T wave changes
- Significant cardiac arrhythmias (v-tach, a-fib, bradycardia, etc)
- Serious cause suspected – ACS, PE, GI Bleed, sepsis, AAA, IC bleed, etc.
- History of CHF, major valvular disease, family history of sudden death (<50)
- Significant injury (i.e. fracture, subdural). Lacerations acceptable.
- New CT or lab abnormalities (if done)
- Unsafe home environment

POTENTIAL INTERVENTIONS

- Serial vital signs, cardiac and ST segment monitoring take postural BP
- Serial CBC, cardiac biomarkers
- Appropriate IV hydration, diet
- Additional selective workup (based on patient): Cardiac workup – possible 2-D echo, stress imaging, tilt testing, holter event monitor, pacemaker evaluation, EP consult
- PE work up – possible D-dimer, CT chest, venous doppler
- Neurologic workup – possible serial neuro checks, HCT, neurology consult, EEG

DISPOSITION

Home

- Benign observation course, stable vital signs
- No arrhythmia documented on review of cardiac monitor history screens
- Acceptable home environment
- Follow up with possible holter monitor

Admit

- Deterioration of clinical course
- Significant testing abnormalities
- Unsafe home environment

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TRANSFUSION OBSERVATION PROTOCOL

OBSERVATION CRITERIA

• Symptomatic anemia or thrombocytopenia
• Deficiency correctable by transfusion
• Stable vital signs with labs verifying need for transfusion

EXCLUSION CRITERIA

• Unstable vital signs
• Active bleeding present unless transfusing platelets for thrombocytopenia and patient stable
• End stage renal failure, dialysis patients
• Hemoglobin <5

POTENTIAL INTERVENTIONS

• IV started, Pre-medicate and IV hydration as needed
• Type and Cross sent, if not previously done
• Transfuse RBCs or platelets
• Repeat CBC at least 2 hours following transfusion at physician discretion

DISPOSITION

Home

• Stable vital signs
• Symptoms improved
• No fever for 1 hour after 1 unit PRBC's or 1 dose of platelets and for 2 hours after 2 units PRBC's
• No evidence of fluid overload or CHF
• No evidence of transfusion reaction
• Satisfactory increase in hemoglobin following transfusion

Admit

• Transfusion reaction
• Unstable vital signs
• Fluid overload, CHF
VAGINAL BLEEDING OBSERVATION PROTOCOL

OBSERVATION CRITERIA

- Heavy dysfunctional uterine bleeding
- Bleeding in early pregnancy (quant HCG < 6000) with ultrasound showing no evidence of intrauterine or ectopic pregnancy
- Threatened abortion with ongoing bleeding
- First trimester missed or inevitable spontaneous abortion
- CBC results available, type and screen sent

EXCLUSION CRITERIA

- Unresolved hemodynamic compromise in ED (HR>110, SBP<90, HR rise >30 on standing)
- Hematocrit < 20
- EGA > 12 weeks
- Coagulopathy (prolonged PT, PTT, thrombocytopenia)

POTENTIAL INTERVENTIONS

- Serial vital signs and bleeding intensity checks (pad count)
- IV saline infusion
- RhoGam for pregnant Rh-negative patients
- Repeat hematocrit
- Blood transfusion PRN
- OB/GYN consultation, as indicated

DISPOSITION

Home

- Bleeding decreased
- Stable vital signs
- Repeat hematocrit acceptable
- Clear follow up plan

Admit

- In-patient procedure required
- Vital signs unstable
- Bleeding intensity does not slow or increases
VERTIGO OBSERVATION PROTOCOL

OBSERVATION CRITERIA
• Likely peripheral vertigo
• Acceptable vital signs
• Normal cerebellar exam (heel - shin, or finger nose testing)
• Normal cranial nerve exam

EXCLUSION CRITERIA
• Acute hearing loss, double vision, neuro deficits
• Severe headache or head trauma associated with vertigo
• Significant vital sign abnormalities
• Fever (Temp of 38 C oral or greater)
• High clinical suspicion of central vertigo or stroke

POTENTIAL INTERVENTIONS
• Medication – Benzodiazepines, Compazine
• Anticholinergics (e.g. antivert, benadryl)
• Antiemetics (e.g. Phenergan, Compazine)
• Appropriate IV hydration
• Further testing when indicated, e.g. blood work, head CT
• Advance diet and ambulate as tolerated

DISPOSITION

Home
• Acceptable vital signs
• Able to ambulate and care for self safely in home environment
• Able to take PO medications

Admit
• Unacceptable vital signs or clinical condition (e.g. stroke)
• Significant lab or X-ray abnormalities
• Unable to take PO meds or care for self in home environment
• Unable to ambulate as well as before vertigo

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Credits

Protocols and Guidelines adapted from the Emory University School of Medicine, Department of Emergency Medicine, Clinical Decision Unit Manual – 2012, Michael Ross, et al