Stony Brook University Hospital
Department of Emergency Medicine

Clinical Decision Unit (CDU)

Clinical Protocols

(Revised 6/16)
ABDOMINAL PAIN PROTOCOL

CDU INCLUSION 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

CDU 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 CDU 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
ALLERGIC REACTION PROTOCOL

CDU INCLUSION CRITERIA

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

CDU 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 CDU 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
ASTHMA PROTOCOL

CDU INCLUSION 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)

CDU 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 CDU 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
BACK PAIN PROTOCOL

CDU INCLUSION CRITERIA

• Inability to adequately control pain in ED with analgesics
• Normal neurological function
• Afebrile
• 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
• Must clearly not be chronic pain or seeking behavior

CDU 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 CDU 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 PROTOCOL

CDU INCLUSION CRITERIA

- Serial exams needed to exclude rapidly progressive cellulitis
- Cellulitis which requires >1 dose IV antibiotics (systemic toxicity or rapidly spreading process)
- Temp < 40°C, WBC < 16,000 and >4,000.
- Cellulitis with a drained abscess which requires a brief period of observation and wound care

CDU 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 CDU INTERVENTIONS

- Mark edges of cellulitis with indelible marker to monitor progression
- IV antibiotics - MRSA coverage as indicated
- 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
CHEST PAIN PROTOCOL

CDU INCLUSION CRITERIA

- Patients without a prior history of CAD/Angina and:
  - ACS risk is low based on HEART Score
  - Chest discomfort is potentially due to cardiac ischemia
  - No acute ECG changes of ACS, negative initial troponin
  - Acceptable vital signs

CDU EXCLUSION CRITERIA

- Moderate to high risk criteria by HEART Score
- 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 CDU INTERVENTIONS

- Continue saline lock, O2, cardiac monitor
- Nitrates prn, daily aspirin, NPO before test
- Serial Troponin I and ECGs at 3 and 6 hours from first ED blood draw
- No 6-hour level needed if negative provocative test or imaging performed after 4hr draw
- 6-hour lab needed if positive “delta” (normal, but >50% rise) between 1st two labs
- Repeat EKG based on symptoms– show to covering ED physician STAT
- Cardiac imaging- if initial (and 3 hour markers for provocative testing) are negative
- If no provocative test or imaging is available – admit if indicated, otherwise discharge on appropriate medications with short term follow up and instructions

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

Hospital
- 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
**COPD EXACERBATION PROTOCOL**

**CDU INCLUSION CRITERIA**

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

**CDU EXCLUSION CRITERIA**

- Acute co-morbidities - Pneumonia, CHF, cardiac ischemia
- Unstable VS or clinical condition (i.e. BIPAP required)
- 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 CDU INTERVENTIONS**

- Serial treatments: β-agonists Q2-4hr, iaprotropium 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/VOMITING/DIARRHEA PROTOCOL

CDU INCLUSION CRITERIA

• Acceptable vital signs
• 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

CDU 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.
• Habitual ED user or history of chronic/cyclic vomiting

POTENTIAL CDU 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

Hospital
• Unstable VS
• Associated cause found requiring hospitalization
• Inability to tolerate oral fluids
DRUG/ALCOHOL INTOXICATION PROTOCOL

CDU INCLUSION CRITERIA

• Acceptable vital signs
• Normal EKG
• Expected resolution/discharge within < 16 hours

CDU 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 CDU 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
HEAD INJURY PROTOCOL

CDU INCLUSION 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

CDU 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 CDU 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
HEADACHE PROTOCOL

CDU INCLUSION 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

CDU 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 CDU 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 PROTOCOL

CDU INCLUSION 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)

CDU 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 CDU 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
HYPOGLYCEMIA PROTOCOL

CDU INCLUSION 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)

CDU 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 CDU 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
PNEUMONIA PROTOCOL

CDU INCLUSION CRITERIA

• History, exam, and CXR consistent with acute pneumonia
• Stable vital signs
• 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
• Low complexity/severity

CDU 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 CDU 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
**PYELONEPHRITIS PROTOCOL**

**CDU INCLUSION 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

**CDU 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 CDU 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

**Hospital**
- 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 PROTOCOL

CDU INCLUSION CRITERIA

• Diagnosis of renal colic established or classic clinical picture
• Uncomplicated stone
• Persistent pain or vomiting despite medication
• Acceptable VS

CDU 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 CDU 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

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

CDU INCLUSION 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)

CDU 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

POTENTIAL CDU INTERVENTIONS

• Appropriate anticonvulsant therapy
• Seizure precautions
• Cardiac and oximetry monitoring
• 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
SOCIAL PROTOCOL

CDU INCLUSION CRITERIA

- Pt. requires assisted living arrangements, i.e. home care, nursing home
- Family requires assistance with home care needs
- Social service consult available within 4 hours
- Patient condition does NOT require extensive CDU nursing care
- High probability of care arrangements within 16-hour time frame
- Should be considered on case by case basis

EXCLUSION CRITERIA

- Inpatient admission criteria are met
- Social worker unable to provide timely consult
- Inability to place pt. within 16 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 CDU 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
SYNCOPE PROTOCOL

CDU INCLUSION 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
- Age <65 years and no high risk characteristics

CDU 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 CDU 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
TIA PROTOCOL

CDU Inclusion Criteria

• Transient ischemic attack – resolved deficit, not crescendo
• Negative head CT
• Workup can be completed within ~18hrs

CDU Exclusion Criteria

• Head CT imaging positive for bleed, mass, or acute infarction.
• Known extra-cranial embolic source – history of atrial fibrillation, cardiomyopathy, artificial heart valve, endocarditis, known mural thrombus, patent foramen ovale, or recent MI.
• Known carotid stenosis (>50%)
• Any persistent acute neurological deficit or crescendo TIAs
• Non-focal symptoms – ie confusion, weakness, seizure, transient global amnesia
• Hypertensive encephalopathy
• Severe headache or evidence of cranial arteritis
• Acute medical or social (poor home support) issues requiring inpatient admission
• Prior large stroke - making serial neurological examinations problematic
• Pregnancy
• High probability of admission

Potential CDU Interventions

• Neuro checks Q-2hr for 12 hrs, then Q4hr – to detect stroke, crescendo TIA, etc.
• Neurology consult – to detect occult stroke.
• Carotid imaging with MRI/MRA - to detect surgical carotid stenosis (>50%) and microinfarct
• If contraindications to MRI/MRA and good renal function, then CTA/P of head and neck vessels
• If contraindications to MRI/MRA and poor renal function, then carotid doppler
• 2-D Echocardiography - to detect a cardioembolic source.
• Cardiac monitoring – for at least 12 hours for paroxysmal atrial fibrillation
• Appropriate antiplatelet therapy (Aspirin ⇒ If on ASA then Plavix OR Aggrenox)
• TIA stroke preventive educational materials (lipids, smoking, DM, HT, obesity, alcohol, stroke)

Discharge Criteria

Home

○ No recurrent deficits, negative workup
○ Clinically stable for discharge home (on Asa – 81mg/day)

Admit

○ Recurrent symptoms / deficit
○ Evidence of treatable vascular disease - ie >50% stenosis of neck vessels
○ Evidence of embolic source requiring treatment (ie heparin / coumadin) - ie mural thrombus, Paroxysmal atrial fibrillation
○ Unable to complete workup or safely discharge patient within timeframe
○ Physician judgment
TRANSFUSION PROTOCOL

CDU INCLUSION CRITERIA

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

CDU EXCLUSION CRITERIA

• Unstable vital signs
• Active bleeding present (unless transfusing platelets for thrombocytopenia and patient stable)
• End stage renal failure, dialysis patients
• Hemoglobin <5
• Pancytopenia or transfusion of multiple blood products required

POTENTIAL CDU 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
VERTIGO CDU PROTOCOL

CDU INCLUSION CRITERIA

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

CDU 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 CDU 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, MRI
- 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 imaging abnormalities
- Unable to tolerate PO meds or care for self in home environment
- Unable to ambulate as well as before vertigo