MUHC Adult Sites ED Admission Algorithms

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The following admission algorithm defines the preferred admission services for the most frequent medical conditions presenting in our emergency departments. It is not a substitute for discussion between colleagues to determine the most appropriate service to admit a patient. Discussion between attending staff is mandatory, and agreement will take precedence over the algorithm. Note that residents must not be involved in discussions concerning contentious cases.

If such agreement is not reached, the emergency coordinator physician will make the decision, based on the algorithm. In exceptional situations, a call to the on-call DPS may be made by the ED coordinator physician or by the emergency physician (outside regular hours) to arbitrate the situation.

Certain medical conditions may be admitted by several services, in which case they are listed in preferential order in the algorithm. As a general rule, the department listed first will be consulted, and will be responsible for the case. Other departments may be consulted by this department if appropriate. Except in cases where the provisional diagnosis justifying the request for admission does not correspond to the algorithm, this service must make a request for admission until another department agrees to take over. The purpose of this directive is to prevent the emergency team from requesting multiple consultations for the same admission.

Admissions to the GOLD or JADE units are made following assessment by internal medicine. We have indicated the GOLD or JADE units for certain diagnoses for which this service is to be preferred, but this is not an exhaustive selection. A variety of medical conditions can be admitted to the GOLD or JADE units, if deemed appropriate by internal medicine.

Any patient who is too ill to be admitted to the floor must be assessed by the intensive care team. Admissions to the SSU are not restricted to certain diagnoses. They may be indicated for any patient with a planned hospital stay of 72 hours or less. We have listed SSU first when it is the preferred service for admission, but this list is not an exclusive or exhaustive selection. In the evenings, the SSU physician is available to discuss potential cases if needed until 22:00 every day.

For any clarification regarding this document, please contact Dr Marc Béïque or Dr Frederic Dankoff. This document was reviewed 6 months after it became effective and will be next reviewed fall 2025, unless an urgent situation warrants it.

Emergency Department Admission Algorithms

Diagnosis/ Presenting Problem	*Specific Factors*	*Admitting Service*
Acute Dermatological Illness Requiring Admission		SSU (72 hrs.) Internal Medicine
Aortic Dissection	Involving ascending aorta and arch (" Type A")	Cardiac Surgery
	Distal to left subclavian artery ("Type B")	Vascular Surgery
Biliary Disease	Benign biliary, non-cancer related:	
	Choledocholithiasis without cholecystitis or cholangitis requiring admission.	SSU less than 72 hours ACS more than 72 hours
	Cholecystitis, Crescendo biliary colic, Cholangitis (including stents and external drainage managed by ACS)	ACS
	Biliary obstruction needing MRCP	SSU with consult to ACS
	Malignant biliary:	
	New diagnosis or suspicion AND potentially resectable; Complication of surgery; surgical complication of procedure (perforation; obstruction; bleeding; pancreatitis)- ,	Hepatobiliary Surgery (RVH)
	Known cases documented by surgery as clearly not resectable and not related to complications listed above	**Follow Oncology algorithm**
Back pain / radiculopathy	Without neurological symptoms	Internal medicine (GOLD) SSU if less than 72h expected
Bowel Obstruction, small	Abdominal or pelvic surgery by subspeciality service within 3 months, ongoing active cancer care or active surveillance by subspeciality service	Subspecialty service (e.g., Gyne-Oncology, colorectal, urology, hepatobiliary)
	Malignant bowel obstruction IF DEEMED NON-OPERATIVE BY SURGERY and no further chemo planned	Palliative care
	All others (*for IBD cases go to: Crohn's)	ACS (consult)
	Non-operative and resolving	SSU less than 72h

		ACS more than 72h

Diagnosis/ Presenting Problem	*Specific Factors*	*Admitting Service*
Bowel Obstruction, large	Mechanical	ACS
	Pseudo-obstruction (Ogilvie's)	Medicine
	Malignant bowel obstruction IF DEEMED NON-OPERATIVE BY SURGERY and no further chemo planned	Palliative care
Cellulitis **Note: for concern of severe soft tissue infection, see necrotizing fasciitis section**	Facial	OMF SSU
	Oropharyngeal/laryngeal	ENT
	IF associated with abscess that requires drainage (even if drainage done in ED)	
	Perianal	ACS
	Scrotal	Urology
	Vulvar	Gyne
	Hand	Plastics
	extremities (also see also diabetic foot ulcers) Others	Internal Medicine (GOLD) SSU less than 72h Internal med over 72h Best service according to presentation
Chest Pain of Cardiac Origin (also see under pericarditis)	Acute coronary syndrome or pericardial effusion pre-tamponade	Cardiology
	Post- cardiac Surgery: within one month of discharge	Cardiac surgery
Compartment syndrome (or /suspicion of) compartment syndrome	Most	Ortho (all lower ext. and upper extremity with fracture) Plastics (upper ext. without fracture)
	Abdominal	Trauma (if trauma mechanism) ACS (others)
	Hand	Plastic
Congestive Heart Failure	Ongoing chest pain, ACS, caused by ongoing arrhythmia.	Cardiology
	Intubated	CCU, ICU – bed availability
	Patient of Heart Failure Clinic (<65 and/or pre-transplant) or MAUDE	Cardiology
	VAD – mechanical cardiac assist device	ICU, Cardiac Surgery ED to follow policy algorithm for VAD patient disposition (policy available in ED, target

		to transfer patient to ICU or D7 within 30 mins of arrival for all patients irrespective of diagnosis
	All others	SSU less than 72h Internal Medicine more than 72h

Diagnosis/ Presenting Problem	*Specific Factors*	*Admitting Service*
COPD/Asthma	Acute, requiring assisted ventilation, intubated.	ICU, Respiratory ICU if known to MCI
	Significant active co-morbid disease (e.g., DKA, AKI)	Internal Medicine
	All others	SSU if less than 72 hrs Respiratory Medicine, Internal Medicine (MGH only),
Dialysis Patient	Surgical access problem (non-infected)	Fistula: Vascular
	Line infection without sepsis/shock	Internal Medicine
	CAPD peritonitis	Internal Medicine
Diabetic foot ulcers	(consult ID for OPAT)	SSU if OPAT delays
	Vascular patients followed at MUHC who require OR debridement	Vascular
	Other indications for admission	Medicine
Discharge failure *Returns in less than 28 days **Rehab transfers for acute issues are not limited to 28 days. Rehab FAILURES should not be sent to ED by rehab, they are re-admitted to D/C service directly from rehab.	Excluding acute critical illness requiring immediate alternative subspecialty management (e.g., MI, stroke, surgical intervention)	Discharge service
Diverticulitis	Requiring surgery or complicated	ACS
	Uncomplicated	SSU less than 72h ACS more than 72 h
Eating Disorders		Psychiatry
	Serious Metabolic imbalance requiring intravenous treatment	Internal Medicine

Diagnosis/ Presenting Problem	*Specific Factors*	*Admitting Service*
Empyema, pleural infection, pneumothorax, hemothorax	Post recent (30 day) thoracic surgery pleural space infection, esophageal perforation, empyema failing, fibrolytic therapy requiring surgical decortication, primary pneumothorax and non-trauma associated secondary pneumothorax in patients with normal lung function	Thoracic (MGH)
	Blunt or penetrating trauma associated. pneumothorax or hemothorax	Trauma
	Newly diagnosed complicated parapneumonic effusion and empyema with no prior fibrinolytic therapy. Secondary pneumothorax due to severe pulmonary disease (COPD/pulmonary fibrosis).	Respiratory
	Other cases, not needing ICU.	Respiratory
Endocarditis	Congenital Heart Disease	Cardiology
	Requiring OR	Cardiac Surgery
	All others	Internal Medicine
Ethanol Withdrawal/drug Intoxication	Stable but requiring admission: stable defined as requiring less than 120 mg diazepam / 24 hrs. (or equivalent) ICU: if dose of BZD higher or needs second line tx. Int Med: if co-morbidities that require admission irrespective of withdrawal.	SSU when stable SSU less than 72h Int med more than 72h
	Acetaminophen overdose without liver toxicity requiring NAC	SSU Transfer to psychiatry for pts in our sector after 72h BIU if out of sector and only require NAC
Falls (or inability to ambulate)	With operative injury, trauma, fracture/MSK injuries	Follow Fractures/MSK, Spine, and Trauma algorithms
	All others	SSU less than 72 hours Other: decision to be influenced by underlying issues e.g. infection, significant metabolic disturbance, dementia, acute neurological events

Diagnosis/ Presenting Problem	*Specific Factors*	*Admitting Service*
Fracture/MSK injuries *Associated injuries - see Trauma	Operative, intervention required:	
	Facial	Plastics or OMF according to call schedule
	Hand	Plastics
	Spine	See Spine
	All others	Ortho
	Fractures not requiring operative care but requiring admission (e.g. isolated pelvic ring fracture, fractures of thoracic and lumbar spine)	SSU (priority for NSA transfer) Other service as per algorithm if acute medical problem requiring admission
Functional decline in the elderly without acute medical problem		Refer to non-medical admission algorithm before requesting admit to any service Non-teaching bed (GOLD or JADE)
Gastroenteritis and Infectious Colitis		SSU less than 72h Internal Medicine more than 72h
GI Bleed **GI will adjudicate in cases of disagreement as to admitting service**	Lower and Upper GI bleed with no evidence of further blood loss, stable CBC (Hb drop less than approx. 1g/6hrs), hemodynamically stable, requiring admission for endoscopy investigation. Note: anticoagulation is not an exclusion criteria Other:	SSU less than 72h
	Upper GI bleed (prox. Lig.. of treitz)	GIM (with GI consult)
	Lower GI bleed (distal to lig. of treitz)	ACS
Inflammatory Bowel Disease	Majority of cases (exacerbation of known disease)	Internal Medicine (MGH) SSU
	Indication for surgical intervention, bowel obstruction, perforation, abscess (greater than 4 cm), significant lower GI bleed	ACS
Intracranial Bleed	Traumatic, isolated	Neurosurgery (MGH only)

	Atraumatic	Neurology Neurosurgery (MNI)

Diagnosis/ Presenting Problem	*Specific Factors*	*Admitting Service*
Ischemic Colitis	All cases requiring admission	ACS
Ischemic Limb	Ischemic leg and either infection, pain, or gangrene, and no pulses	Vascular Surgery
Kidney Biopsy	Usually do not require admission should recover in Day Hospital	SSU
Liver Abscess	Pyogenic (New diagnosis) Postoperative complication or complication of surgical disease (e.g. biliary, diverticular, appendix etc.)	ACS Appropriate surgical service according to underlying disease
Liver failure (eg hepatitis, cirrhosis, liver related ascites)	Medical (immune, viral, etc. …) without surgical indication	Internal Medicine (favor RVH for access to Hepatology)
	Drainage (stent, obstruction) related, graft dysfunction, cancer related	Follow biliary, transplant, and oncology algorithms
Mechanical Heart ***MUST page perfusionist immediately upon arrival or call to ED prior to arrival, Cardiac Surgery to be consulted immediately on arrival to the ED. Patients must not remain in ED, admission to either Cardiac Surgery or ICU**	All mechanical hearts, regardless of potential diagnosis	Cardiac surgery or ICU (RVH only) *Cardiac Surgery will define
Necrotizing Fasciitis **NECROTIZING FASCIITIS IS SUSPECTED based on clinical findings: pain, skin findings, fever and LRINEC >5**	ACS no longer coordinates all care. Patient to be managed by service on right column	Admission to follow surgical care provided and patient need for repeat debridement.
	*****STAT transfers between EDs are to be facilitated by ED personnel: ambulance booking, notifying ED at alternate site*****	Torso ACS (MGH/RVH)
		Head and Neck ENT (RVH/MGH) OMF (MGH)
		Upper Limb Plastics (MGH/RVH)
		Lower-limb Ortho (MGH/RVH)
		Perineum (male) ACS (MGH/RVH) + urology
		Perineum (female) ACS (MGH/RVH) + gyne

Diagnosis/ Presenting Problem	*Specific Factors*	*Admitting Service*
Medical Oncology Problem in Active Cancer Patients – Receiving Treatment (including complications of therapy) **Urology Oncology** **Gynecology Oncology** **Hepatobiliary Oncology**	Active cancer treatment **Chemotherapy**	
	Medical issue during chemotherapy (pneumonia, URI, UTI, acute renal injury -all causes)	Internal Medicine, with consultation to cancer team for LOI / prognosis / support
	Direct and complex chemo related complication, including immunotherapy, chemo related AKI/dehydration, febrile neutropenia requiring admission with no septic focus	Treating service: Med-Oncology, Heme-Oncology, Gyne-onc
	Radiotherapy	
	<72 hours of treatment requiring admission	SSU (RVH),
	>72 hours of treatment requiring admission	IM (JADE with radonc secondary attending) Gyne-onc, urology
	Cord Compression in Active cancer patients: Spine Service and radiation oncology consultation, cases to be discussed with both services.	
	Operative	Spine Service Consult radiation oncology
	Non-Operative, requiring radiation treatment	Admit at RVH. Follow Radiotherapy algorithm above
PATIENTS NOT KNOWN TO PCU AND FOR WHOM A PCU CONSULT IS INDICATED MUST BE MADE AWARE OF THE REASON AND RATIONALE FOR THE CONSULTATION BY THE REFERING PHYSICIAN , IN PARTICULAR IF IT'S MAINLY FOR SYMPTOM CONTROL RATHER THAN END-OF-LIFE CARE	**Uncontrolled symptoms related to complication of cancer or treatment:** (pain, nausea, dyspnea, delirium) and for which the primary treatment is symptom-focused, irrespective of level of intervention, AND at discretion of PCU attending and nurse manager. (e.g. pain crisis from known source, complication of pain management, hypercalcemia, bowel obstruction when surgery not indicated)	Admit PCU (priority) Oncology Internal Medicine Gyne oncology (for pts followed by gyne-oncology)

Diagnosis/ Presenting Problem	*Specific Factors*	*Admitting Service*
Oncology Problem in Cancer Patients NOT on active treatment **If palliative, see next category.**	Workup of new lesion consistent with potential new cancer diagnosis	Internal Medicine (Favor RVH if treatment during admission likely)
	Recurrence, new lesions in known cancer, new cancer related issue	Admit to physician/service. responsible for cancer follow up
Oncology patients with advanced cancer who are no longer eligible for or no longer desire cancer-directed therapy.	No documentation of LOI <u>on arrival</u> to the ED in OACIS	Oncology
	Uncontrolled symptoms OR evidence of prognosis measured in days	PCU SSU if PCU is expecting rapid repatriation to CISSS/CIUSSS hospital or to palliative care unit/community service <72 hours
Osteomyelitis	Post-operative, related to hardware	Service involved
	All others	Internal Medicine If operative, see fracture/MSK and spine
Pancreatitis	Biliary and or severe (Grade C, D and E; necrosis)	ACS
	Other	SSU < 72 hrs. Internal medicine > 72 hrs.
Pharynx, Soft tissue Neck	Airway compromise requiring monitoring	ICU
	Pharyngitis, abscess, non-cancer soft tissue disease	ENT , SSU
Pneumonia	Not discharged within last 28 days from a service	Internal Medicine, Respiratory if known or complex case (Cystic Fibrosis, Fibrosis on Lung transplant list, etc. …) SSU if less than 72 hrs.
	Lung disease, no other comorbid disease	Respiratory Medicine Internal Medicine

Diagnosis/ presenting Problem	*Specific Factors*	*Admitting Service*
Psychosis	Organic cause requiring ongoing medical treatment or investigations	Internal Medicine
	Organic cause related to known neurological diagnosis.	Neurology Psychiatry
	Exacerbation of chronic psychiatric condition and no complicating organic causes identified.	Psychiatry, sector hospital transfer
	No organic cause identified, no previous history	Psychiatry
Pulmonary Embolus	Stable requiring admissions	Internal Medicine
Pyelonephritis	Obstructing ureteric stone, GU procedure within last 28 days, or indwelling urological hardware (e.g. double J, nephrostomy, excluding Foley)	Urology
	All others	SSU Internal Medicine
	Pregnant	Gyne
Rhabdomyolysis	Not related to crush injury	SSU Internal medicine
	Crush injury	Trauma
Kidney Injury, Acute	New onset obstructive, requiring percutaneous or surgical intervention	Urology
	Obstruction related to malignancy	See onco section unless urological cancer (then uro)
	All others	Internal Medicine
Septic Joint	Shoulder, elbow, hip, knee, ankle Post-op or Joint Replacement	Orthopedics
	Spine	See spinal cord below
	Mid foot	Ortho
	Hand/wrist	plastics
	All others	Internal Medicine
Sickle Cell Crisis		Internal Medicine

Diagnosis/ presenting Problem	*Specific Factors*	*Admitting Service*
Spinal Cord Disorders	Traumatic (All must be consulted to Trauma service)	
	Isolated cord	Spine Service
	Associated Injuries requiring active ongoing management	Trauma Service
	Non-traumatic	
	Surgical (e.g. infection, compression, bleed)	Spine Service (MGH), Neurosurgery (MNH)
	Medical (e.g. MS, syphilis)	Internal Medicine Neurology
	Cancer	Follow Oncology Algorithm
Spine Fractures, Isolated C/T/L fractures	Unstable Operative	Spine Service
	Stable Operative, any C-spine	Spine Service
	Non-operative, collar, brace, or simple C/T/L compression requiring analgesia +/- rehab	SSU With priority access to NSA bed
	With cord injury	See Spinal cord
	With associated injuries	See Trauma
Spontaneous bleeds (coagulopathy)	For example : retroperitoneal, etc.	Medicine If requires OR or embolization: ACS
Stroke Ischemic	Hyperacute stroke, potential thrombectomy	Immediate transfer to MNH (CH3 on CVA protocol)
	Acute stroke	See stroke transfer algorithm and CVA protocol in the patient flow document list to be found on the intranet. MNH vs MGH must be clarified by the admitting neurology staff

Diagnosis/ presenting Problem	*Specific Factors*	*Admitting Service*
Transplant Patient	Cardiac transplant and graft related	Cardiac Surgery, Cardiology (RVH)
	Bone Marrow, Stem Cell: graft failure, GVHD, atypical infection	Hematology
	Liver and pancreas: Liver Graft dysfunction or biliary complication after transplant or need for admission within 1 month of discharge post-transplant. Pancreas: organ rejection, graft dysfunction or need for readmission within 1 month of discharge post-transplant Kidney: surgical complication or need for readmission within 1 month of discharge post-transplant; Ureteric obstruction requiring intervention.	Transplant Surgery
	Renal transplant: 1-6 months post-transplant unless surgical complication	Internal medicine
	Transplant patients not meeting criteria above but requiring. admission for medical reason Including liver failure awaiting transplant	Internal Medicine (RVH)
Trauma *Inactive fracture(s) – see Fracture/MSK	Single system injury Head/brain trauma	Neurosurgery (MGH only), ICU (MGH only)
	Facial	OMF (MGH), Plastics
	Eye/adnexa	Ophthalmology
	Spine/spinal cord	See spine/spinal cord.
	Thoraco-abdominal	Trauma service, ICU (MGH only)
	All other MSK	Orthopedics
	Multi (≥2) system injuries requiring active treatment	Trauma service, ICU (MGH only)

Alternate services for direct-to-SSU admissions during SSU closure periods

Direct SSU	*Modifying Factors*	*Admitting Service*
Pneumothorax post biopsy by Respirology	SSU unless closed	Respiratory Medicine

Renal Biopsy	SSU unless closed	Internal Medicine

*NOTE: As the complexity of this document increases, it is strongly suggested to use the **find** function of the computer to locate specific algorithms.*