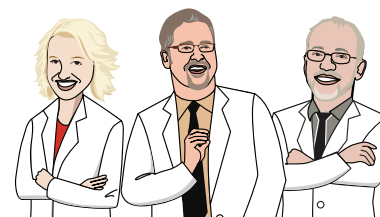




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C3 – PSYCHIATRIC EMERGENCIES – AGITATED AND PSYCHOTIC

Jessica Mason MD, Stuart Swadron MD, Mel Herbert MD

** Drug doses are a guide only, always check a second source and follow local practice guidelines*

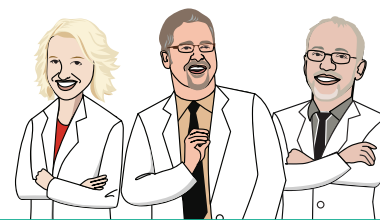
Take Home Points:

- Mental illness has profound effects of on patients, their families, and the community as a whole.
- Relatively little emphasis is placed on training non-psychiatrists in the care of patients with mental illness and resources for their care are limited.
- “Medical clearance” requires an adequate history, physical examination and good judgment; lab tests are unnecessary in many cases.
- Excited or agitated delirium, a severe form of agitation, is accompanied by a severe sympathomimetic response, carries a high mortality and must be treated aggressively.
- Acute psychosis can be a manifestation of serious medical disease; a psychiatric diagnosis should be made only after a consideration of life-threatening causes.
- Patients should be admitted to a medical, not psychiatric inpatient setting when the diagnosis of an acute psychiatric condition is uncertain, requiring further medical evaluation, or when a patient has unresolved or ongoing medical issues that exceed the capacity of the receiving facility.

Background

Mental illness has profound effects of on patients, their families members and the community as a whole. In this episode of C3, we begin a discussion about psychiatric emergencies. Although psychiatric emergencies and presentations are extremely common, they receive much less attention relative to other “medical” emergencies. Moreover, patients with psychiatric illness are often dismissed when they present with medical complaints; it is critical to remember that patients with psychiatric illness are vulnerable in this respect.

In this first episode on psychiatric emergencies, we discuss some of the most dramatic presentations: acute agitation and psychosis. We then round out the episode with a brief discussion on delirium and dementia. The underlying theme is clear: these patients can be extremely difficult to access and manage. But the stakes (and the mortality!) are high. An open mind, a fresh look and an adequate assessment will prevent us from missing serious conditions.



Mental Health Care In The ED

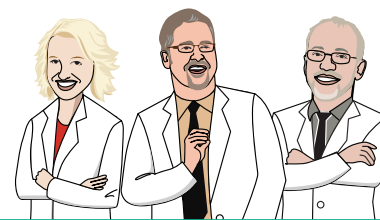
- Training in psychiatric emergencies and psychiatry in general is extremely variable among emergency providers
- Local practices vary greatly in the management and disposition of patients with psychiatric illness
- Resources also vary greatly among different practice environments; some have access to psychiatric consultation and social services and others don't
- Patient boarding, or the indefinite holding of patients in the ED due to a lack of inpatient bed capacity, is a global crisis which adversely affects patient care
 - ED visits for psychiatric complaints rose from 5% to 12% from 2000 to 2007
 - The number of inpatient psychiatric beds per capita dropped 62% from 1970 to 2003
 - Psychiatric patients board over three times longer than non-psychiatric patients
 - 80% of ED providers report that psychiatric patients board with an extended stay in the ED where they work
- Patients with psychiatric illness are vulnerable
 - The incidence of medical illness and mortality on the whole is higher in patients with psychiatric illness (on average 8 years less!)
 - They can be difficult to evaluate and elicit negative feelings among the staff; we may feel threatened and uncomfortable
 - Patients with acute psychosis may not be able to effectively communicate medical symptomatology; we must be careful not to dismiss unaddressed medical issues

Medical Clearance

- In most systems, psychiatric care is fragmented and separate from other aspects of medical care
- Many psychiatric care environments are not equipped to provide care for acute medical conditions; thus we are often asked to "medically clear" patients before they enter the psychiatric care system
- What does the term "medical clearance" mean?
 - Medical clearance is not a medical term but rather an administrative term used to aid in the disposition of patients to a setting without ongoing medical and/or nursing care
 - There is no universally accepted definition, but generally speaking it means that the patient is considered safe to be transferred to whichever setting they are going to.
 - It does not mean that the patient has no medical illnesses requiring treatment
 - For example, it may be wholly appropriate to transfer or discharge a patient to psychiatric care with a prescription or instructions for ongoing treatment and return precautions
 - Different accepting facilities can accommodate various levels of medical/nursing supervision; this must be considered when planning a safe disposition for the patient



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- When the diagnosis of an acute psychiatric condition is uncertain, requiring further medical evaluation, or when a patient has unresolved or ongoing medical issues that exceed the capacity of the receiving facility, patients should be admitted to a medical, not psychiatric inpatient setting.
- Some facilities have combined medical/behavioral units that are specially staffed to provide both ongoing medical and psychiatric care.
- What does “medical clearance” entail?
 - The medical clearance process is all about judgment; we must satisfy ourselves that the patient is not suffering from any condition that is likely to deteriorate or put the patient at risk in the days ahead.
 - There is no specific amount of testing that establishes medical stability; the decision of what tests are necessary is individualized in every case.
 - In many cases, an adequate history and physical is sufficient; in others only simple bedside tests (e.g., finger stick glucose) may be appropriate

EM:RAP 2010 February - Medical Clearance Part 1

EM:RAP 2010 February - Medical Clearance Part 2

EM:RAP 2017 October - Paper Chase 5 - ACEP Guideline on Adult Psychiatric Patient Issues

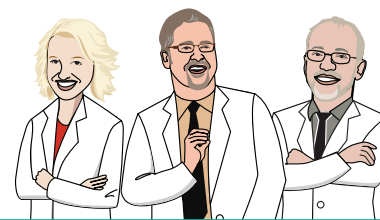
EMA 2016 April Abstract 14 - Down The Rabbit Hole: Emergency Department Medical Clearance Of Patients With Psychiatric or Behavioral Emergencies

EMA 2016 November Abstract 9 - State Laws On Emergency Holds For Mental Health Stabilization

- In many systems and facilities there are protocols in place that dictate certain lab tests, such as alcohol levels or urine drug screens.
- The evidence does not support this type of “across-the board” approach.
- Sometimes in the interest of patient, we have to compromise when it comes to performing screening tests; especially if a simple test won’t hurt the patient and it will facilitate their transfer to a more therapeutic environment.

Psychiatric Holds

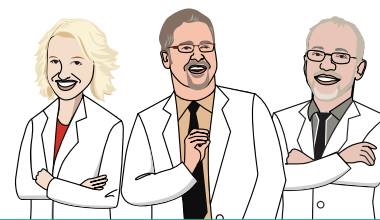
- A psychiatric “hold,” a type of involuntary confinement, gives temporary legal custody of the patient to health care providers.
- Although specific details vary regionally (e.g., from state to state or province to province), these legal documents are remarkably similar
- In general, they provide for a short (e.g., 1-3 day) assessment period for patients who are thought to be suffering from a psychiatric disorder that renders them either:
 - an imminent danger to themselves (e.g. suicide risk)
 - an imminent danger to others, or
 - gravely disabled (unable to care for their basic needs due to a mental or behavioral disorder)
- These holds may be placed by physicians and other medical providers with special training; law enforcement officers often initiate the process



- Lifting a hold that was previously placed is also a legal issue; again, regional differences apply
- A psychiatric hold does not confer the right to treat patients against their will, only to hold them in custody
 - An exception is providing emergent treatment for imminently life or limb threatening behavior (e.g., placing pressure on bleeding from a suicide attempt or treating a potentially fatal overdose with an antidote)
 - Additional legal steps must be taken to compel patients to receive any therapy against their will (e.g., to take their regular psychiatric and other medications)

The Mental Status Examination

- The mental status examination is the basis for evaluating psychiatric presentations
- It is divided into multiple components, including:
 - Overall appearance
 - Is the patient well-groomed or disheveled?
 - Orientation
 - Disorientation is more suggestive of an underlying organic cause
 - Affect and mood
 - A flattened affect, devoid of emotion, is an example of abnormal affect
 - Thought content and process
 - Delusions (fixed false beliefs) are an example of abnormal thought content
 - Disorganized or disjointed thinking are an example of abnormal thought process
 - Perception
 - Hallucinations (auditory, visual, tactile) are examples of abnormal perception
 - Speech
 - Hyperverbal, pressured, paucity of speech and selective mutism are all examples of different abnormal speech patterns
 - Insight/Judgment
 - Does the patient have insight into their circumstances? Do their actions indicate appropriate judgment?
 - Cognition
 - Attention, language, memory, constructional ability and praxis, abstract reasoning
 - This is often assessed using standardized instruments (e.g., the mini mental status test)

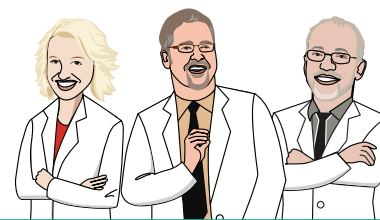


Acute Agitation

- Acute agitation is a medical emergency
- Agitation must quickly be brought under control in order to:
 - Ensure the safety of the patient
 - Ensure safety of the staff
 - Start a medical workup
- Table 1 lists medical conditions that can present as acute agitation
- Steps to control and agitated/combatative patient:
 - Verbal de-escalation
 - Pharmacologic sedation
 - Physical restraints
 - [EM:RAP 2018 October - Annals Of Emergency Medicine - Restraining the Agitated Patient](#)
 - [EM:RAP 2016 January - De-Escalating Agitation](#)
 - [EM:RAP 2017 June Strayerisms - Agitation Mitigation](#)
 - [EMA 2016 February - Essay: Acute Undifferentiated Agitation \(Aua\) In The Emergency Department](#)
 - [EMA 2016 February Interview: Acute And Differentiated Agitation In The ED](#)
- Verbal de-escalation
 - In the most dramatic presentations, this is often not possible
 - Tips for verbal de-escalation:
 - Provide personal space for you and the patient; stay at 2 arm's length away, keep your hands visible, and stand at an angle so you don't give off a confrontational posture
 - Introduce yourself and ask how they would like to be addressed
 - Speak with concise sentences and simple vocabulary
 - Agree with the patient whenever possible
 - Ask if you can help them or get them something they need (e.g., water, food)
 - Tell the patient that their behavior is frightening to staff
 - Tell the patient that you want to help them
 - Offer choices whenever possible
 - Set boundaries
 - Offer medication, orally or parenterally
 - Do not threaten the patient (with restraints or otherwise)



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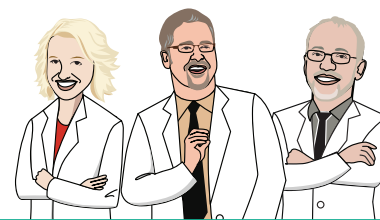


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- Pharmacologic sedation
 - Some patients will cooperate with oral medications
 - The intramuscular route is most commonly used in this scenario, as IV access is often impossible to obtain safely
 - Options for medications include antipsychotics and sedatives
 - Although many facilities have preferred “cocktails” for acutely agitated patients (e.g. haloperidol and lorazepam in combination), it makes sense to tailor the medications to the underlying condition
 - If the predominant problem is thought to be psychiatric, an antipsychotic is appropriate
 - If the predominant problem is thought to be a sympathomimetic overdose, a benzodiazepine is appropriate
 - Most experts advise caution with benzodiazepines in patients with alcohol intoxication due to the risk of over-sedation/airway compromise
 - Sample regimens
 - Midazolam 5 mg IM (for adults)
 - Faster onset of action than lorazepam 2 mg and can be mixed in same syringe as haloperidol or droperidol
 - Haloperidol 5 mg IM
 - Combined regimens (an antipsychotic and a benzodiazepine) may provide faster sedation
 - [EM:RAP 2017 September Paper Chase 1 – Combination Calming](#)
 - Ziprasidone 10 mg IM
 - Olanzapine 10 mg IM/dissolving PO wafer
 - Droperidol 10 mg IM
 - [EM:RAP 2016 February Paper Chase 1 - Is Droperidol Safe?](#)
- Physical restraints
 - Physical restraints are placed simultaneously with chemical sedation
 - Leather or “hard” restraints should be applied to all four limbs by a team of 4-6 staff
 - Three and two-restraint techniques are less secure and dangerous to the patient
- Agitated or “Excited” Delirium
 - Agitated or “excited” delirium is a term sometimes applied to the most severe end of the spectrum
 - In addition to being combative and uncooperative, these patients typically have abnormal vital signs, hyperthermia and diaphoresis
 - [EM:RAP 2003 October - Agitated Delirium](#)
 - [EMA 1998 October Abstract 13 - Unexpected Death Related To Restraint For Excited Delirium: A Retrospective Study of Death's in Police Custody](#)
 - Patients with agitated delirium are at high risk of death
 - Special care must be taken when restraining these patients; even a temporary loss of airway during a struggle with staff or police may precipitate a cardiac arrest



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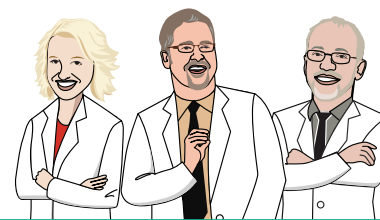


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- Ketamine has emerged as an important agent in the management of agitated delirium
 - When given IM It has a faster onset of action than IM antipsychotics or IM benzodiazepines
 - Ketamine 4-6 mg/kg IM (or 1-2 mg/kg IV) is safe and effective
 - Patients must be fully monitored as during procedural sedation
 - [EM:RAP 2016 November - Paper Chase 2 – Ketamine to the Rescue](#)
 - [EMA 2016 October Abstract 10 - Ketamine As Rescue Treatment For Difficult-to-sedate Severe Acute Behavioral Disturbance in the ED](#)
 - [EMA 2017 February - A Prospective Study Of Ketamine Versus Haloperidol For Severe Prehospital Agitation](#)
- Rhabdomyolysis is a frequent complication of severe agitation and combativeness; creatine kinase (CK), electrolytes and BUN/creatinine are all indicated
- See the referenced links for additional discussion of medical treatment for the acute agitated patient

New Onset Psychosis

- Acute psychosis is a profound disturbance of a patient's mood or ability to think such that they are no longer in touch with reality
 - Schizophrenia and mood disorders (depression and bipolar disease) are the two most common chronic disorders that may present with psychosis
- An acute medical illness (e.g., non-psychiatric) must be considered in any patient who presents with acute psychosis, especially for the first time
 - Table 2 lists important organic causes of psychosis
 - Table 3 lists clues that the patient may have an organic cause of psychosis
- The typical age of patients presenting with psychosis as a result of schizophrenia or bipolar disorder ranges from the late teens to the mid-30s
 - Patients outside of this age range (children and older adults) are much more likely to have an underlying medical cause
- A full mental status and neurological examination is essential; hard neurological findings should prompt further medical workup
- Laboratory testing, as directed by the bedside assessment, may include blood tests and/or neuroimaging
 - CBC, chemistry, TSH, liver tests, B12, ethanol, urinalysis, and anticonvulsant levels are all commonly checked in this setting
 - Urine toxicology screens are frequently performed but may produce confusing or unhelpful results as the presence of urine metabolites does not necessary reflect current drug levels
 - Neuroimaging (e.g., CT Brain) should be considered in older patients and in patients with headache or other neurological symptoms or findings
- A staff member should be assigned to the patient (e.g., a "sitter") to ensure safety
- A psychiatric hold should be placed if the patient meets criteria (see above)



- Engagement of supplementary human resources (e.g., social work and mental health professionals) is critical
- Treatment

- Initiation of treatment with an antipsychotic is appropriate

- Acute adverse effects to be aware of if starting an antipsychotic include:

- Neuroleptic malignant syndrome

- A life threatening complication characterized by fever, rigidity, altered mental status and autonomic instability
- Can occur at any time in the course of treatment with antipsychotic agents (e.g. after a single dose)
- Treated in an intensive care setting with supportive care, temperature control
- Dantrolene - skeletal muscle relaxant for malignant hyperthermia
- Bromocriptine - restores dopaminergic tone

EMA 2009 July Abstract 9 - Neuroleptic Malignant Syndrome Complicating Antipsychotic Treatment Of Delirium or Agitation in Medical and Surgical Patients

EMA 2009 January Abstract 35 - Neuroleptic Malignant Syndrome Associated With Atypical Antipsychotics In Pediatric Patients

CrunchTime Tox - Serotonin Syndrome, Neuroleptic Malignant Syndrome, & Malignant Hyperthermia

- Extrapyramidal effects

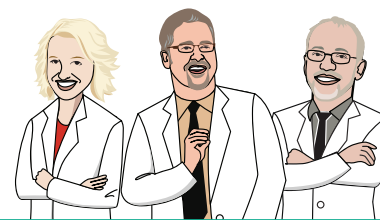
- Akathisia— a sense of restlessness
 - Treated with propranolol or benztropine
- Parkinsonian effects- shuffling gait, cogwheel rigidity, psychomotor retardation
 - These generally occur over a longer time frame with antipsychotic treatment
 - Treated with benztropine
- Dystonias- involuntary contractions of major muscle groups
- These are distressing but usually not life threatening – the exception is acute laryngospasm
- Other examples include spasmodic torticollis (spasm of the neck muscles) and oculogyric crises (eyes rolling back in head)
- Treated with benztropine or diphenhydramine

EM:RAP HD - Dystonic Reaction

CrunchTime - Brain - Dystonic Reaction & Tardive Dyskinesia

- QT prolongation

- Although all antipsychotics can prolong the QT interval, the risk of dysrhythmia (e.g., Torsades de pointes) is low
- Risk increases with the combination of QT prolonging medications; use caution in patients on other QT prolonging agents



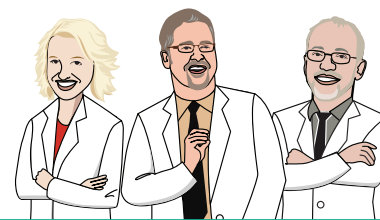
- Seizures
 - Although some antipsychotics can lower the seizure threshold, the risk of seizure is low (e.g., Torsades de pointes) is low, especially when benzodiazepines are co-administered
- Orthostatic hypotension - some antipsychotics have alpha blocking effects
 - This may be treated with fluids
- Disposition
 - Patients can be dispositioned to a psychiatric setting if the assessment does not reveal an acute medical condition; if uncertainty exists, admission to a medical setting for further evaluation is appropriate

Decompensated Psychiatric Illness

- Patients presenting with an acute decompensation of a chronic psychiatric illness should be considered in the same way as any patient with a chronic illness
 - Is this the same as previous episodes? Is there a chance that it may be something different, perhaps something organic (e.g., a new medical illness)?
 - See Tables 1 and 2
 - What was the trigger of the current episode?
 - Patient is off their psychiatric medications or has had a change in their regimen
 - New medications or drugs of abuse
 - Social stressor
 - Similar to the patient with a new presentation of psychosis, a clinical assessment (e.g., a good history and physical examination) should guide the need for any further testing
- Treatment
 - Antipsychotics - try to restart their home meds if off of them
 - Benzodiazepines for agitation and anxiety
 - Remember to treat their other baseline medical problems, including any regular medication (e.g. for diabetes, hypertension, etc.)
 - Consider ordering medications on a scheduled basis if prolonged boarding times are anticipated
- Disposition
 - Similar to the patient presenting with a first episode, work with social workers, case managers, and/or psychiatrist to coordinate a safe disposition



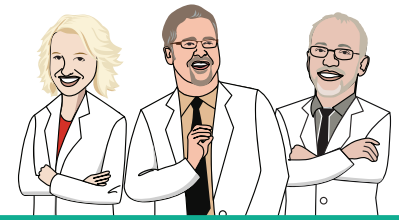
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Delirium & Dementia

- Like acute psychosis, delirium and dementia are entities that may impair a patient's ability to think and overlap in their presentation with acute psychosis
 - Delirium
 - Delirium is an acute (hours to days) fluctuating change in attention, awareness, and cognition
 - It represents a medical (not psychiatric) emergency and is typically precipitated by an acute illness such as infection, myocardial infarction, hyperosmolar state, etc.
 - There are 3 subtypes: hyperactive, hypoactive and mixed
 - Hyperactive delirium may present as an acutely agitated and/or combative patient
 - Hypoactive is the most common and it often presents with a caregiver describing that the patient "isn't acting themselves."
 - Risk factors for the development of delirium include old age, male, comorbid medical conditions, frequent falls or functional impairment, polypharmacy, and alcohol or drug abuse
 - *Crunch Time - Psych - Delirium*
 - Delirium in cancer patients [EMA 2017 March Abstract 13 - Delirium Frequency Among Advanced Cancer Patients Presenting To An Emergency Department](#)
 - Delirium in patients sent home: [EMA 2003 August Abstract 7 - Delirium In Older Emergency Department Patients Discharged Home](#)
 - Delirium is frequently missed
 - Why we miss it: [EMA 2018 March Abstract 10 - Delirium: Patient Characteristics That Predict A Missed Diagnosis At](#)
 - Predictive scale: [EMA 2015 December Abstract 12 - The Diagnostic Performance Of The Richmond Agitation Sedation Scale For Detecting Delirium](#)
 - Common meds cause it (including fluoroquinolones)!
[EMA 2018 November Abstract 12 - Fluoroquinolone-Related Neuropsych Events In Hospitalized Veterans](#)
 - Dementia
 - Dementia refers to a condition of chronic progressive impairment in memory, thinking and social interaction
 - Patients with dementia may have acute exacerbations, medical emergencies, as well as superimposed delirium
 - Depending on the presentation, patients may need the same intensive ED and inpatient evaluation as those with acute delirium or psychosis

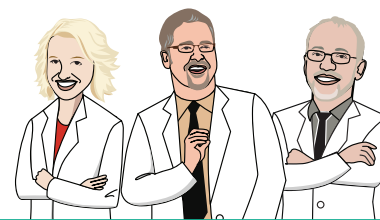


References

- Fischer B, Buchanan R. Schizophrenia in adults: Epidemiology and pathogenesis. Updated January 26, 2018. https://www.uptodate.com/contents/schizophrenia-in-adults-epidemiology-and-pathogenesis?topicRef=6962&source=see_link Accessed November 15, 2018.
- Janiak BD, Atteberry S. Medical clearance of the psychiatric patient in the emergency department. The Journal of emergency medicine. 2012 Nov 1;43(5):866-70. [PMID: 20117904](#)
- Karas S, Allen MH, Riggio S. Behavioral emergencies: differentiating medical from psychiatric disease. Emergency Medicine Practice+ EM Practice Guidelines Update. 2002 Mar 1;4(3):1-8.
- Mason J, Colwell CB, Grock A. Agitation Crisis Control. Ann Emerg Med. 2018 Oct 72(4):371-373. [PMID: 30236325](#)
- Marder S, Stroup S. Pharmacotherapy for schizophrenia: Side effect management. *UptoDate*. Updated July 23, 2018. https://www.uptodate.com/contents/pharmacotherapy-for-schizophrenia-side-effect-management?search=dystonic%20reaction§ionRank=1&usage_type=default&anchor=H28219024&source=machineLearning&selectedTitle=1~150&display_rank=1#H28219045 Accessed November 16, 2018.
- Nazarian DJ, Broder JS, Thiessen ME, Wilson MP, Zun LS, Brown MD. Clinical policy: critical issues in the diagnosis and management of the adult psychiatric patient in the emergency department. Ann Emerg Med. 2017 Apr 1;69(4):480-98. [PMID: 28335913](#)
- Nobay F, Simon BC, Levitt MA, et al. A prospective, double-blind, randomized trial of midazolam versus haloperidol versus lorazepam in the chemical restraint of violent and severely agitated patients. Academic Emergency Medicine. 2004 Jul;11(7):744-9. [PMID: 15231461](#)
- Richmond JS, Berlin JS, Fishkind AB, et al. Verbal de-escalation of the agitated patient: consensus statement of the American Association for Emergency Psychiatry Project BETA De-escalation Workgroup. Western Journal of Emergency Medicine. 2012 Feb;13(1):17. [PMID: 22461917](#)
- Riddell J, Tran A, Bengiamin R, et al. Ketamine as a first-line treatment for severely agitated emergency department patients. The American journal of emergency medicine. 2017 Jul 1;35(7):1000-4. [PMID: 28237385](#)
- Takeuchi A, Ahern TL, Henderson SO. Excited delirium. Western journal of emergency medicine. 2011 Feb;12(1):77. [PMCID: PMC3088378](#)
- Tintinalli JE, Peacock IV FW, Wright MA. Emergency medical evaluation of psychiatric patients. Annals of emergency medicine. 1994 Apr 1;23(4):859-62. [PMID: 8161059](#)
- Tucci V, Siever K, Matorin A, et al. Down the rabbit hole: emergency department medical clearance of patients with psychiatric or behavioral emergencies. Emergency Medicine Clinics. 2015 Nov 1;33(4):721-37. [PMID: 26493519](#)
- Wilber ST, Ondrejka JE. Altered mental status and delirium. Emergency Medicine Clinics. 2016 Aug 1;34(3):649-65. [PMID: 27475019](#)
- Williams ER, Shepherd SM. Medical clearance of psychiatric patients. Emergency medicine clinics of North America. 2000 May 1;18(2):185-98. [PMID: 10699517](#)



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Tables

Table 1

Common Medical Conditions That Can Present As Acute Agitation

Hypoglycemia
Hypoxia
Head injury
Encephalitis
Delirium
Intoxication / withdrawal
CNS infections
Hyperthyroidism

Table 2

Organic Etiologies for Psychiatric Illness

Autoimmune disease (SLE, MS)
B12 deficiency
Brain mass
CNS infections (neurosyphilis, HIV, cerebral malaria, neurocysticercosis, encephalitis, botulism)
Endocrine disorders (hyper/hypothyroidism, adrenal insufficiency, pheochromocytoma, hypopituitarism, hypercalcemia)
Hepatic encephalopathy
Inherited metabolic disorders (Wilson disease, urea cycle disorders, porphyria, Tach-Sachs)
Intracranial bleed
Medication adverse effects (steroids, Parkinson's medications, antiretrovirals, anticonvulsants, mood stabilizers, etc.)
Substance abuse / intoxication / withdrawal
Thrombotic thrombocytopenic purpura
Toxidromes (heavy metals, carbon monoxide)
Vasculitis
Uremia
Wernicke-Korsakoff syndrome

Adapted from Tucci, Tintinalli

Table 3

Clues of an Organic Etiology of Psychiatric Presentation

Abnormal vital signs
Age <12 or >40 without previous psychiatric disorder
Focal neurologic findings
Visual hallucinations
Psychomotor retardation
Recent memory loss
Sudden onset
No prior psychiatric illness
No family history of psychiatric illness
History of substance abuse

Adapted from Tucci, Tintinalli