CLINICAL REPORT Guidance for the Clinician in Rendering Pediatric Care

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

Evaluation and Management of Children and Adolescents With Acute Mental Health or Behavioral Problems. Part I: Common Clinical Challenges of Patients With Mental Health and/or Behavioral Emergencies

Thomas H. Chun, MD, MPH, FAAP, Sharon E. Mace, MD, FAAP, FACEP, Emily R. Katz, MD, FAAP, AMERICAN ACADEMY OF PEDIATRICS, COMMITTEE ON PEDIATRIC EMERGENCY MEDICINE, AND AMERICAN COLLEGE OF EMERGENCY PHYSICIANS, PEDIATRIC EMERGENCY MEDICINE COMMITTEE

FREE

INTRODUCTION

Mental health problems are among the leading contributors to the global burden of disease.[1] Unfortunately, pediatric populations are not spared of mental health problems. In the United States, 21% to 23% of children and adolescents have a diagnosable mental health or substance use disorder.[2,3] Among patients of emergency departments (EDs), 70% screen positive for at least 1 mental health disorder,[4] 23% meet criteria for 2 or more mental health concerns,[5] 45% have a mental health problem resulting in impaired psychosocial functioning,[5] and 10% of adolescents endorse significant levels of psychiatric distress at the time of their ED visit.[6] In pediatric primary care settings, the reported prevalence of mental health and behavioral disorders is between 12% to 22% of children and adolescents.[7]

Although the American Academy of Pediatrics (AAP) has published a policy statement on mental health competencies and a Mental Health Toolkit for pediatric primary care providers, no such guidelines or resources exist for clinicians who care for pediatric mental health emergencies.[8,9] This clinical report supports the 2006 joint policy statement of the AAP and American College of Emergency Physicians (ACEP) on pediatric mental health emergencies, with the goal of addressing the knowledge gaps in this area.[10,11] The report is written primarily from the perspective of ED clinicians, but it is intended for all clinicians who care for children and adolescents with acute mental health and behavioral problems.

Recent epidemiologic studies of mental health visits have revealed a rapid burgeoning of both ED and primary care visits.[12–20] An especially problematic trend is the increase in "boarding" of psychiatric patients in

This document is copyrighted and is property of the American Academy of Pediatrics and its Board of Directors. All authors have filed conflict of interest statements with the American Academy of Pediatrics. Any conflicts have been resolved through a process approved by the Board of Directors. The American Academy of Pediatrics has neither solicited nor accepted any commercial involvement in the development of the content of this publication.

Clinical reports from the American Academy of Pediatrics benefit from expertise and resources of liaisons and internal (AAP) and external reviewers. However, clinical reports from the American Academy of Pediatrics may not reflect the views of the liaisons or the organizations or government agencies that they represent.

The guidance in this report does not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

All clinical reports from the American Academy of Pediatrics automatically expire 5 years after publication unless reaffirmed, revised, or retired at or before that time.

DOI: 10.1542/peds.2016-1570

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2016 by the American Academy of Pediatrics

FINANCIAL DISCLOSURE: The authors have indicated they do not have a financial relationship relevant to this article to disclose.

FUNDING: No external funding.

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

To cite: Chun TH, Mace SE, AAP FACEP, Katz ER. Evaluation and Management of Children and Adolescents With Acute Mental Health or Behavioral Problems. Part I: Common Clinical Challenges of Patients With Mental Health and/or Behavioral Emergencies. *Pediatrics*. 2016;138(3):e20161570

Downloaded from www.aappublications.org/news by guest on August 6, 2019

the ED and inpatient pediatric beds (ie, extended stays lasting days or even weeks). Although investigation of boarding practices is still in its infancy, the ACEP[21] and the American Medical Association[22] have both expressed concern about it, because it significantly taxes the functioning and efficiency of both the ED and hospital, and mental health services may not be available in the ED.[23–26]

In addition, compared with other pediatric care settings, ED patients are known to be at higher risk of mental health disorders, including depression,[27,28] anxiety,[29] posttraumatic stress disorder,[30] and substance abuse.[31] These mental health conditions may be unrecognized not only by treating clinicians but also by the child/adolescent and his or her parents.[32–36] A similar phenomenon has been described with suicidal patients. Individuals who have committed suicide frequently visited a health care provider in the months preceding their death.[37,38] Although a minority of suicidal patients present with some form of self-harm, many have vague somatic complaints (eg, headache, gastrointestinal tract distress, back pain, concern for a sexually transmitted infection) masking their underlying mental health condition.[34–36]

Despite studies demonstrating moderate agreement between emergency physicians and psychiatrists in the assessment and management of patients with mental health problems,[39,40] ED clinicians frequently cite lack of training and confidence in their abilities as barriers to caring for patients with mental health emergencies.[41–44] Another study of emergency medicine and pediatric emergency medicine training programs found that formal training in psychiatric problems is not required nor offered by most programs.[45] Pediatric primary care providers report similar barriers to caring for their patients with mental health problems.[46,47]

Part I of this clinical report focuses on the issues relevant to patients presenting to the ED with a mental health chief complaint and covers the following topics:

- Medical clearance of pediatric psychiatric patients
- Suicidal ideation and suicide attempts
- Involuntary hospitalization
- Restraint of the agitated patient
  - o Verbal restraint
  - o Chemical restraint
  - o Physical restraint
- Coordination with the medical home

Part II discusses challenging patients with primarily medical or indeterminate presentations, in which the contribution of an underlying mental health condition may be unclear or a complicating factor, including:

- Somatic symptom and related disorders
- Adverse effects to psychiatric medications
  - o Antipsychotic adverse effects
  - o Neuroleptic malignant syndrome
  - o Serotonin syndrome
- Children with special needs in the ED (autism spectrum and developmental disorders)
- Mental health screening in the ED

An executive summary of this clinical report can be found at www.pediatrics.org/cgi/doi/10.1542/peds.2016-1571.

MEDICAL CLEARANCE OF PEDIATRIC PSYCHIATRIC PATIENTS

Background

Medical clearance can be defined as the process of excluding acute medical illnesses or injuries in patients presenting with psychiatric complaints. Concern that medical illness may be the underlying cause of a psychiatric problem has led some to suggest "that emergency patients with psychiatric complaints receive a full medical evaluation."[48] Medical clearance originates from the perspective that an ED evaluation of a psychiatric patient may be the only opportunity to diagnose underlying illnesses or injuries that could result in morbidity or mortality because resources for diagnosing and treating medical conditions may not be readily available in some psychiatric facilities. In addition, many psychiatric complaints and disorders can be exacerbated or precipitated by medical illness,[49] and some psychiatric patients may have unmet medical needs.[50–52]

Medical Diseases in ED Psychiatric Patients

Previous studies of medical conditions in ED psychiatric patients have been almost exclusively conducted with adults and have had highly variable findings. Past reports have found underlying medical problems in 19% to 63% of ED psychiatric patients.[53–55] Studies of adults admitted to psychiatric units after an ED medical evaluation have had similarly disparate results. Some have reported missed medical conditions in up to half of patients,[53,56] including diabetes, uremic and hepatic encephalopathy, pneumonia, urinary tract infections, and sepsis,[57] but another found that only 4% (12 of 298) needed treatment of a medical condition within 24 hours of admission to the psychiatric unit.[58] To address these concerns, some have suggested a standardized evaluation and documentation of the ED medical evaluation.[59] Major limitations of these studies are that they are from older literature, and they did not include children. More recent adult and pediatric studies, discussed later, suggest that

Downloaded from www.aappublications.org/news by guest on August 6, 2019

significant rates of medical morbidity in psychiatric patients may be less likely.

Some authors argue that it is not possible to rule out all potential medical etiologies for psychiatric symptoms and believe that the role of the ED evaluation is to determine whether the patient is "medically stable" rather than "medically cleared."[60] Although the concept of "medical stability," which can be defined as the lack of medical conditions requiring acute evaluation and/or treatment, is gaining traction, for the purposes of this discussion, the term "medical clearance" will be used. A growing body of adult and pediatric studies suggest that an ED patient's history, physical examination, and vital signs provide important data for determining the appropriate medical evaluation for a psychiatric patient. These findings support the 2006 ACEP policy statement, which recommends "focused medical assessment" for ED psychiatric patients, in which laboratory testing is obtained on the basis of history and physical examination rather than a predetermined battery of tests for all patients with psychiatric complaints.[61] When ED resource utilization and the cost of medical screening evaluations for pediatric psychiatric patients are considered, additional questions are raised about such evaluations and whether the ED is the optimal site for them.[62,63]

The Goals of Medical Clearance

Medical clearance of psychiatric patients focuses on determining whether the patient's behavioral or psychiatric signs and symptoms are caused or exacerbated by an underlying medical condition and whether there are medical conditions that would benefit from acute treatment in the ED. Given the vast number of medical illnesses that can masquerade as a behavioral problem or psychiatric disorder, a comprehensive list of such conditions is beyond the scope of this article. Table 1 focuses on medical conditions that can be evaluated within the context and time frame of an ED visit. Examples of medical conditions requiring ED treatment includes suturing, wound or injury care, and treatment of an overdose. In addition, some psychiatric patients may have comorbidities that are not contributing to their behavioral or psychiatric complaints but would benefit from ED care, such as asthma or diabetes.[58]

Key elements for detecting underlying medical condition(s) include careful assessment of abnormal vital signs, a complete history and physical examination, with particular attention to the neurologic, cardiac, and respiratory systems.[64] Various screening tools have been developed to assist in the medical clearance of psychiatric patients in the ED,[60,65] although these authors also stress the importance of an adequate history and physical examination and do not mandate laboratory or other investigations.[65] After medical clearance has been performed, the AAP and ACEP support the development of transport protocols to definitive psychiatric treatment facilities for EDs that transfer patients with mental health care needs.[10,11]

Diagnostic Laboratory Testing and Medical Clearance

In 1 study of emergency physicians, "routine testing" was performed in 35% of respondents, with 16% of the testing performed because it was ED protocol and 84% of the testing performed at request of the mental health service. Of those with protocol testing, the most frequently ordered tests were urine toxicology screen (86%), serum alcohol (85%), complete blood cell count (56%), electrolytes (56%), blood urea nitrogen (45%), creatinine (40%), serum toxicology screen (31%), and electrocardiogram (18%).[66] Other commonly obtained laboratory evaluations for medical clearance include testing for pregnancy and sexually transmitted infections.

Recently, the utility of routine medical screening tests has been questioned. In contrast to the older literature, more contemporary studies are finding much lower rates of unsuspected, clinically emergent, or urgent laboratory abnormalities. Two studies of adult ED patients with psychiatric complaints found low rates of clinically significant abnormalities on routine laboratory testing,[55,67] the majority (94%) of which were clinically suspected on the basis of the patient's history and physical examination.[55] Similar results have been reported in admitted adult psychiatric patients after an ED evaluation. One study of 250 psychiatric inpatients found a mean of 27.7 tests were ordered per patient, with only 4% (11 of 250) having "important" medical problems discovered and less than 1 test in 50 resulting in any clinically useful information.[10] Another study identified only 1 patient of 519 (0.2%) with an abnormal laboratory test result that would have changed ED management or patient disposition.[68]

Similar results have emerged for ED pediatric psychiatric patients. Several studies have found little to no utility for routine urine drug testing. Shihabuddin et al evaluated such testing in 547 patients presenting with a psychiatric complaint. A positive result was found in 20.8% of patients, half of which were suspected on the basis of the patients' reported substance use history. Urine drug testing resulted in no changes in patient management, and all were medically cleared.[69] Fortu et al examined 652 (385 routine and 267 medically indicated) urine toxicology screens.[70] For the routine toxicology screens, only 5% were positive, and there were no changes

Downloaded from www.aappublications.org/news by guest on August 6, 2019

TABLE 1 Medical Disorders That Can Present as a Psychiatric Disorder or Behavioral Problem[a]

Neurologic (CNS) Diseases
Stroke/transient ischemic attacks
Hemorrhage: intracerebral, subdural, subarachnoid, epidural
CNS vascular: aneurysms, venous thrombosis, ischemia, vertebrobasilar insufficiency
CNS malignancy/tumors
CNS trauma: primary injury, secondary injury or sequelae of head trauma
CNS infections: meningitis, encephalitis, abscess (brain, epidural, spinal), HIV, syphilis
Congenital malformations
Hydrocephalus
Seizures
Headaches including migraines
Neurodegenerative disorders: multiple sclerosis, Huntington chorea
Tuberous sclerosis
Delirium ("ICU psychosis")
Metabolic, Endocrine, and Electrolyte Disturbances
Hyponatremia
Hypocalcemia
Hypoglycemia
Hyperglycemia
Ketoacidosis
Uremia
Hyperammonemia
Inborn errors of metabolism: lipid storage diseases, Gaucher disease, Niemann-Pick disease
Thyroid disease: hyperthyroidism, thyroid storm, hypothyroidism
Adrenal disease: Addison disease, Cushing disease
Pituitary: hypopituitarism
Parathyroid disease: hypoparathyroidism, hyperparathyroidism
Pheochromocytoma
Respiratory
Hypoxia
Hypercarbia/hypercapnia
Respiratory failure
Medications
Drug withdrawal: alcohol, amphetamines, barbiturates, benzodiazepines, cocaine, psychiatric medications
Drug overdose:
Drugs of abuse: phencyclidine, heroin, cocaine, marijuana, MDMA (3,4-methylenedioxy-methamphetamine), LSD (lysergic acid diethylamide), alcohol, amphetamines, "bath salts"
Prescription drugs: steroids, birth control, antihypertensives, statins, anticonvulsants, barbiturates, benzodiazepines, opioids, anticholinergics, antibiotics, antifungal agents, antiviral agents, asthmatic medications, muscle relaxants, gastrointestinal tract drugs, anesthetics, anticholinergics, cardiac medications (such as digoxin), decongestants, antiarrhythmics, immunosuppressives
Drugs for psychiatric patients: antidepressants, antipsychotics, lithium
Hematologic/Oncologic
Malignancies
Tumors
Paraneoplastic syndromes
Inflammatory/Rheumatologic
Sarcoidosis
Systemic lupus erythematosus
Toxins
Carbon monoxide
Lead poisoning
Organophosphates
Volatile substances
Other
Fever
Child maltreatment

[a] This is not an exhaustive inclusive list but one that provides examples of the many diseases/conditions and drugs/medications that can masquerade as a psychiatric/behavioral disorder.

in management and no significant differences in disposition between those with positive and negative toxicology screens. Tenenbein reviewed 3 retrospective case studies of urine drug testing in children and concluded, "The emergency drug screen is unlikely to impact significantly upon the management of the patient in the emergency department."[71]

Santiago et al prospectively studied 208 children and adolescents presenting to the ED with psychiatric conditions.[62] Half of the patients underwent medical testing, 26% (55 patients) were medically indicated (ie, because of clinical suspicions based on the elicited history and physical examination), and 24% (54 patients) were obtained at the request of the mental health consultant. Only 3 patients had laboratory abnormalities that required further medical intervention, all of which were suspected on the basis of patient's presenting history and physical examination. Among patients for whom "routine testing" was performed, 9% (5 patients) had unsuspected abnormalities, none of which altered ED patient management.

Two recent studies of ED pediatric psychiatric patients have raised similar questions about the utility of routine medical testing and of "medical clearance" evaluations. Donofrio et al investigated the utility of extensive laboratory testing of these patients.[72] Of 1082 eligible patients, more than 68% had multiple laboratory testing, including urine toxicology, urinalysis, and blood tests for complete blood cell count, electrolytes, hepatic transferases, thyroid stimulating hormone, and syphilis. Of these tested patients, only 7 had a laboratory abnormality that resulted in a disposition change. Not only was the number of disposition changing laboratory abnormalities low, only 1 of these abnormalities

Downloaded from www.aappublications.org/news by guest on August 6, 2019

was not suspected from the patient's history and physical examination. Santillanes et al studied all patients referred to their ED for medical screening clearance by a mobile psychiatric crisis team.[63] All patients had been placed on an involuntary psychiatric hold. Among 789 patients, 9.1% met criteria for a medical screening examination (ie, altered mental status, ingestion, hanging, traumatic injury, sexual assault, or medical complaints), and only 1.2% (9 patients) were admitted for medical reasons. Of these 9 patients, only 2 did not meet criteria for a medical screening evaluation, although both patients' conditions (possible disorientation and urinary tract infection in an HIV-positive patient) were suspected on the basis of a basic history and physical examination.

Diagnostic Radiology Testing and Medical Clearance

All studies of radiographic evaluation of psychiatric patients have been conducted with adults. Although central nervous system (CNS) abnormalities such as oligodendroglioma, glioblastoma, meningioma, intracerebral cysts, and hydrocephalus can present with primarily psychiatric symptoms,[73] other studies have found low rates of clinically significant findings on computed tomography (CT) scan. In 1 study of 127 young military recruits with new-onset psychosis, none had clinically significant findings on brain CT scans.[74] In another analysis of new-onset acute psychosis in patients admitted to a psychiatric unit, only 1.2% had clinically significant findings.[75] A larger study of 397 patients with a psychiatric presentation and no focal neurologic findings detected specific abnormalities in 5%, all of which had no relevance to the patient's condition. The pretest probability of a space occupying lesion or any relevant abnormality was no greater than finding one in the general population.[76] These findings have led some authors to question the utility of routine brain CT scans.[64] Given the concerns about the long-term effects of radiation exposure on pediatric patients,[77–79] the utility of routine brain CT in children and adolescents is, at best, unclear.

Summary

The current body of literature supports focused medical assessments for ED psychiatric patients, in which laboratory and radiographic testing is obtained on the basis of a patient's history and physical examination. Routine diagnostic testing generally is low yield, costly, and unlikely to be of value or affect the disposition or management of ED psychiatric patients. When patients are clinically stable (ie, alert, cooperative, normal vital signs, with noncontributory history and physical examination and psychiatric symptoms), the ACEP states that routine laboratory testing need not be performed as part of the ED assessment.[61] If a discrepancy occurs between the ED and psychiatry clinicians regarding the appropriate ED medical evaluation of a psychiatric patient, direct communication between the ED and psychiatry attending physicians may be helpful. For patients with concerning findings on history and/or physical examination (eg, altered mental status or unexplained vital signs abnormalities) or with new-onset or acute changes in psychiatric symptoms, a careful evaluation for possible underlying medical conditions may be important.

SUICIDAL IDEATION AND SUICIDE ATTEMPTS

For an extended discussion on the assessment and management of suicidal adolescents, please refer to the AAP clinical report on suicide.[80]

Epidemiology and Risk Factors

Suicide is the third leading cause of death among people 10 to 24 years of age, accounting for more than 4000 deaths per year.[81] Although only a small percentage of suicide attempts lead to medical attention,[82] they nonetheless account for a significant number of ED visits.[83] Suicidal ideation in the absence of a suicide attempt is also a common chief complaint in pediatric EDs.

Approximately 16% of teenagers report having seriously considered suicide in the past year, 12.8% report having planned a suicide attempt, and 7.8% report having attempted suicide in the past year. Females are more likely to consider and attempt suicide, but males are more than 5 times more likely to die by suicide. The higher fatality rate among males is primarily accounted for by their use of more lethal means: males are more likely to attempt suicide via firearms and hanging, whereas females are more likely to attempt via overdose.[82]

American Indian/Alaska Native males have the highest suicide rates among ethnic groups. Non-Hispanic white males are also at increased risk.[81] Adolescents who have previous suicide attempts,[84] impulsivity, a mood or disruptive behavior disorder,[85] recent psychiatric hospitalization,[86,87] substance abuse,[88] a family history of suicide,[89] or a history of sexual or physical abuse[90]; are homeless/runaway[91]; or who identify as lesbian, gay, bisexual, or transgender[92] are also at higher risk for attempting and/or completing suicide. Suicide and suicide attempts are often precipitated by significant psychosocial stressors. These can include family conflict, the breakup of a romantic relationship, bullying, academic difficulties, or disciplinary actions/legal troubles. Younger patients tend to be triggered more often by family conflict, whereas older adolescents are more likely to cite peer or romantic conflicts as a precipitant.[93]

Downloaded from www.aappublications.org/news by guest on August 6, 2019

Evaluation

For patients reporting current or recent suicidal ideation and those who present after clear or suspected intentional self-injury, best practices include an evaluation by a clinician experienced in evaluating pediatric mental health conditions. Whenever concern for suicidal ideation or attempt is present, having the patient undergo a personal and belongings search, change into hospital attire, and be placed in as safe a setting as possible (eg, a room without easy access to medical equipment) with close staff supervision may be important.

Interviewing patients and caregivers both together and separately may be beneficial. Obtaining collateral information from caregivers or other individuals who may have knowledge about the patient's state of mind or the details of the event in question often has significant clinical utility, as patients frequently minimize the severity of their symptoms or the intention behind their acts. When interviewing adolescents alone, a discussion about the limits of patient confidentiality may facilitate an open and honest conversation. If there are significant concerns that the patient may be at high risk of harm to himself or herself or others (see "Determination of Level of Care"), the physician may decide to break doctor-patient confidentiality.

A thorough medical examination with careful evaluation for signs of self-injury or toxidromes and a mental status examination may be helpful. The mental status examination typically includes assessment of the patient's appearance, behavior, thought process, thought content (including presence or absence of hallucinations or delusions), mood and affect, and insight and judgment. An evaluation for delirium may also be indicated. When suspicion of delirium is high, a number of screening tools (eg, the Folstein Mini-Mental Status Examination)[94] may be useful.

Determination of Level of Care

No validated criteria exist for assessing level of risk for subsequent suicide or determining level of care. However, most experts agree that patients who continue to endorse a desire to die, remain agitated or severely hopeless, cannot engage in a discussion around safety planning, do not have an adequate support system, cannot be adequately monitored or receive follow-up care, or had a high-lethality suicide attempt or an attempt with clear expectation of death may be at high risk of suicide, and consideration should be given to admission to an inpatient psychiatric facility once medically cleared.[80] Additional risk factors, such as gender, comorbid substance abuse, and high levels of anger or impulsivity, may also be considered.

Patients who do not meet criteria for inpatient psychiatric hospitalization may be candidates for outpatient mental health treatment and intervention. Where available, partial hospital programs, intensive outpatient services, or in-home treatment/crisis stabilization interventions may be considered, especially when ED clinicians believe that a patient may benefit from more intensive or urgent treatment. Experts suggest that even patients who are deemed to be at relatively low risk of future suicidal or self-injurious acts benefit from outpatient follow-up. Whenever possible, a follow-up appointment with the medical home provider and an outpatient mental health clinician may be helpful. When outpatient mental health services are not readily accessible or wait times for intake appointments are considerable, the medical home providers can play an important bridging role. These providers may also continue to work with patients and families to promote engagement in and adherence to mental health treatment. Consensus expert opinion suggests direct contact with these outpatient providers, either by the mental health consultant or the ED clinician, documentation of this contact, and documentation of the discharge treatment plan.[95,96]

Discharge Planning

Some patients evaluated in the ED for suicidal ideation or a suicide attempt struggle to obtain follow-up care.[97,98] The ED visit may, therefore, be a valuable link in obtaining care for these patients. ED physicians may stress the importance of follow-up to both the patient and the family and attempt to identify and address barriers to subsequent treatment. Counseling and educating families about suicide risk and treatment may be beneficial. The greatest risk of reattempting suicide is in the months after an initial attempt. In addition, given that counseling takes time to work, emphasizing the importance of consistent follow-up may help patients and families.[99–101]

Although having a patient sign a no-suicide contract has not been shown to prevent subsequent suicides,[95] a safety-planning discussion is still an important element of ED care. A safety plan typically includes steps such as identification of (1) warning signs and potential triggers for recurrence of suicidal ideation; (2) coping strategies the patient may use if suicidal ideation returns; (3) healthy activities that could provide distraction or suppression of suicidal thoughts; (4) responsible social supports to which the patient could turn if suicidal urges recur; (5) contact information for professional supports, including instructions on how and when to reaccess emergency services; and (6) means restriction.[102]

Downloaded from www.aappublications.org/news by guest on August 6, 2019

Studies suggest that means restriction counseling may be a key component of discharge planning discussions. A large percentage of suicide attempts are impulsive. One study of patients 13 to 34 years of age who had near-lethal suicide attempts found that 24% of patients went from deciding to attempt suicide to implementing their plan within 0 to 5 minutes, 24% took 5 to 19 minutes, and 23% took 20 minutes to 1 hour.[103] Several studies have demonstrated that patients usually misjudge the lethality of their suicide attempts.[104–106] There is also a wide variation in the case-fatality rates of common methods of suicide attempt, ranging from 85% for gunshot wounds to 2% for ingestions and 1% for cutting.[107] It follows that interventions that decrease access to more lethal means and/or increase the amount of time and effort it takes for someone to carry out their suicidal plan and, as a result, increase the amount of time they have to reconsider or for someone to intervene may have a positive effect.

It may be helpful to ask and counsel patients and families about restricting access to potentially lethal means, including access to such means in the homes of friends or family. Means restriction counseling includes suggestions for securing knives, locking up medicines, and removing firearms. It is important to note that parents often underestimate their children's abilities to locate and access firearms and that simply having a gun in the home has been shown to double the risk of youth suicide.[108,109] Families who are reluctant to permanently remove firearms from the home may be open to temporarily relocating them (eg, for safe keeping with a relative, friend, or local law enforcement) until the child is in a better emotional state. If families insist on keeping firearms in the home, counseling them on how to store them as safely as possible (eg, by locking all firearms unloaded in a specialized or tamper-proof safe, separately locking or temporarily removing ammunition, and restricting access to keys or lock combinations) may be helpful. Given the high rates of drug and alcohol intoxication among individuals who attempt and complete suicide, physicians may also want to suggest alcohol access restriction and, where indicated, referral for substance abuse counseling and treatment.

INVOLUNTARY HOSPITALIZATION

Under certain circumstances, physicians may insist on admission to a psychiatric inpatient unit over the objections of patients and/or their guardians. This type of admission is often referred to as a "psychiatric hold." Every state has laws governing involuntary admission for inpatient psychiatric hospitalization. Specific details of such laws vary from state to state, as do laws regarding confidentiality and an adolescent's right to seek mental health or substance abuse treatment without parental consent. As such, ED clinicians may benefit from familiarizing themselves with the relevant laws, statutes, and involuntary commitment procedures in the states in which they practice. In general, physicians are able to admit a patient against his or her will for a brief period of time, typically up to 72 hours, but ranging from 1 to 30 days. After that initial period, the psychiatric facility works to obtain a court order for civil commitment for ongoing treatment, if the patient and/or his or her guardian still object to the hospitalization. Criteria for involuntary hospitalization typically include the patient having a mental disorder and being at immediate risk of harm to self or others. Some states also allow for involuntary hospitalization if the patient is "gravely disabled." The criteria for being gravely disabled may include the inability to meet basic physical needs including nourishment, shelter, safety, and/or basic medical care.[110] State laws differ over whether and, if so, at what age, assent for psychiatric admission must be obtained from minors. For more information on related state laws, contact the AAP Division of State Government Affairs at stgov@aap.org.

RESTRAINT OF THE AGITATED PATIENT

Restraint typically refers to methods of restricting an individual's freedom of movement, physical activity, or normal access to his or her body because of concerns about the person harming himself or herself or others. Some experts believe that interventions to help control a person's activity and behavior span a wide gamut, including verbal and behavioral strategies and favor the term "de-escalation interventions." Restraints may be used for either "medical" or "psychiatric" patients[111] and have been subdivided into verbal, chemical, and physical restraints. Chemical restraint, sometimes called "rapid tranquilization," is the use of pharmacologic means for the acute management of an agitated patient.[112]

Four guiding principles for working with agitated patients are as follows: (1) maximizing the safety of the patient and treating staff; (2) assisting the patient in managing his or her emotions and maintaining or regaining control of his or her behavior; (3) using the least restrictive, age-appropriate methods of restraint possible; and (4) minimizing coercive interventions that may exacerbate agitation.[113]

Verbal Restraint

The general principles of verbal restraint can be found across a wide variety of disciplines,

Downloaded from www.aappublications.org/news by guest on August 6, 2019

including various psychotherapeutic approaches (eg, anger management, stress reduction), linguistic science, law enforcement, martial arts, and nursing.[113–116] Although consensus is that verbal restraint is preferable to chemical or physical restraint,[117] reviews of the literature find primarily case studies, with a paucity of rigorous studies of verbal restraint, and little on specific strategies or efficacy.[113,118] For example, although a study by Jonikas et al found a decrease in restraint use, it was not clear whether the decrease was attributable to staff training in de-escalation techniques or to crisis intervention training, which occurred at the same time.[119] Other protocols emphasize the importance of prevention in behavior management protocols.[115,120]

Detailed in Table 2 are Fishkind's "Ten Commandments of De-escalation," which incorporate practical, commonly used verbal restraint strategies.[112–114,121–123] Other strategies that may improve the chances of successful de-escalation include a calming physical environment with decreased sensory stimulation, rooms that have been "safety-proofed" (ie, removal or securing of objects that could be used as weapons) or close monitoring if this is not possible,[113] modifying or eliminating triggers of agitation (eg, an argumentative acquaintance, friend, or family or staff member, a long ED wait time),[117,124,125] and staff training in behavioral emergencies.[126,127] A child life specialist may also be an excellent resource to help calm an agitated child. To minimize risk to themselves, health care providers may take precautions, such as removing neck ties, stethoscopes, or securing long hair.

Chemical Restraint

All controlled trials of medications for acute agitation in the ED or inpatient psychiatric setting have been conducted with adults. In the literature, different terms have been used to describe the use of medications to treat agitation, violent or aggressive behavior, or excessive psychomotor activity (eg, psychosis or mania), including pharmacologic or chemical restraint[128] and rapid tranquilization.[112] The 3 most commonly used classes of drugs for this purpose are the typical antipsychotics, atypical antipsychotics, and benzodiazepines.[124,125,129]

Antipsychotics

Antipsychotics exert their effect primarily as CNS dopamine receptor antagonists.[130,131] "Low-potency" agents (eg, chlorpromazine and thioridazine) are more sedating, with fewer extrapyramidal symptoms than "high-potency" agents (eg, haloperidol and droperidol), which are less sedating but more likely to cause extrapyramidal symptoms.[132] The second-generation "atypical" antipsychotics are both serotonin-dopamine receptor antagonists.[130] Some consider aripiprazole the first "third-generation" antipsychotic, because it has partial dopamine receptor agonist activity, distinguishing it from other antipsychotics.[130,132,133] Antipsychotics also have varying ability to block other CNS neurotransmitters, which, combined with their disparate affinity for the postsynaptic D_2 receptors, account for the side effect profiles of each medication, which are discussed in greater detail below and in part II of this clinical report.[130,132]

Benzodiazepines

Benzodiazepines exert their CNS depressant effect by binding to presynaptic γ-aminobutyric acid (GABA) receptors. GABA, the primary CNS inhibitory neurotransmitter, decreases neuronal excitability. Benzodiazepines that have been commonly used to treat agitation are lorazepam, midazolam, and diazepam. Some experts prefer lorazepam for the management of acute agitation because it has fast onset of action, rapid and complete absorption, and no active metabolites. Midazolam may have a more rapid onset of action, but it also has a shorter duration of action. Diazepam has a longer half-life and erratic absorption when given intramuscularly (IM).[134,135]

Less Commonly Used Drugs

Other drugs also used for management of the agitated patient include the antihistamines diphenhydramine, and hydroxyzine and the α-adrenergic agent clonidine.[117,134,136,137] Diphenhydramine and hydroxyzine have sedative effects and are commonly used as nighttime sleep aids for insomnia. Clonidine is a presynaptic α_2-agonist, often used off-label for attention-deficit/hyperactivity disorder and opiate withdrawal. Doses are typically given at night because a significant effect of the medication is somnolence. Although there have been some controlled trials of diphenhydramine as a sedative,[138,139] clonidine has been less well studied.[140]

Drug Selection for Chemical Restraint

Drug selection for chemical restraint will depend largely on the specific details of the clinical scenario (Table 3) and collaboration among ED, psychiatric, and pharmacy colleagues. The combination of a benzodiazepine and an antipsychotic is a regimen frequently suggested by experts for acutely agitated patients, including children and adolescents[124,134,141–147] (Table 4). The route of administration, orally or IM, will depend on the patient's condition. The choice of medication(s) also depend(s) on the patient's current medications. If a patient is already on an antipsychotic, an additional or increased dose of that medication may be preferred.[61,145,147]

Downloaded from www.aappublications.org/news by guest on August 6, 2019

TABLE 2 Verbal Restraint Strategies

	Guiding Principle	Strategies, Suggestions, and Examples
1. Respect personal space	• Physical environment can make a patient feel threatened and/or vulnerable	• Two arms' length distance from patient • Unobstructed path out of room for both patient and ED staff
2. Minimize provocative behavior	• Posture and behavior can make a patient feel threatened and/or vulnerable	• Calm demeanor and facial expressions
	• Concealed hands might imply a hidden weapon	• Visible, unclenched hands • Minimize defensive and/or confrontational body language, eg, hands on hips, arms crossed, aggressive posture, directly facing patient (instead, stand at an angle to the patient)
3. Establish verbal contact	• Multiple messages and "messengers" may confuse and agitate the patient	• Ideally, designate 1 or limited staff members to interact with the patient • Introduce self and staff to patient • Orient patient to ED and what to expect • Reassure patient that you will help him or her
4. Be concise	• Agitated patients may be impaired in verbally processing information	• Simple language, concise sentences
	• Repeating the message may be helpful	• May be helpful to frequently repeat/reinforce message • Allow the patient adequate time to process information and respond
5. Identify patient's goals and expectations	• Use body language and verbal acknowledgment to convey	• "I'd like to know what you hoped or expected would happen here." • "What helps you at times like this?" • "Even if I can't provide it, I'd like to know so we can work on it."
6. Use active listening	• Convey to the patient that what he or she said is heard, understood, and valued	• "Tell me if I have this right …" • "What I heard is that …"
7. Agree OR agree to disagree	• Builds empathy for patient's situation	• (Agree) "What you're (specific example) going through/experiencing is difficult."
	• Minimize arguing	• (Agree) "I think everyone would want (the same as you)." • (Agree) "That (what patient is complaining about) would upset other people too." • (Agree to disagree) "People have a lot of different views on (the focus of disagreement)."
8. Clear limits and expectations	• Reasonable and respectful limit setting	• "We're here to help, but it's also important that we're safe with each other and respect each other."
	• Set expectations of mutual respect and dignity, as well as consequences of unacceptable behaviors	• "Safety comes first. If you're having a hard time staying safe or controlling your behavior, we will … (clear, nonpunitive consequence)."
	• Minimize "bargaining"	• "It'll help me if you (sit, calm yourself, etc). I can better understand you if you calmly tell me your concerns."
	• Coach patient on how to maintain control	
9. Offer choices and optimism	• Realistic choice helps empower the patient, regain control of himself/herself, and feel like a partner in the process	• "Instead of (violence/agitation), what else could you do? Would (offer choice) help?"
	• Link patient's goals to his or her action	• Acts of kindness (eg, food, blanket, magazine, access to a phone or family member) may help
	• Minimize deception and/or bargaining	• "You'd like (desired outcome). How can we work together to accomplish (their goal)?"
10. Debrief patient and staff	• If an involuntary intervention is indicated, debriefing may help restore working relationship with the patient and help staff plan for possible future interventions	• Explain why the intervention was necessary • Ask patient to explain his or her perspective • Review options/alternative strategies if the situation arises again

TABLE 3 Acute Agitation Medication Considerations

Suspected Etiology of Agitation	Symptom Severity	
	Mild/Moderate	Severe
Medical/intoxication	Benzodiazepine	Benzodiazepine first, consider adding antipsychotic
Psychiatric	Benzodiazepine or antipsychotic	Antipsychotic
Unknown	Dose of benzodiazepine or antipsychotic; consider a dose of the other medication if the first dose is not effective	

In situations in which the cause of agitation is unclear, many clinicians prefer a stepwise rather than combination approach, administering either a benzodiazepine or first-generation antipsychotic. When treating an agitated patient with a known psychiatric disorder, either a first- or second-generation antipsychotic is generally preferred.

Downloaded from www.aappublications.org/news by guest on August 6, 2019

TABLE 4 Medications for the Acutely Agitated Pediatric Patient[a]

Drug: How Supplied	Dose: Route of Administration	Time: Course/Onset Peak/ Duration	Side Effects	Advantages	Comments
Benzodiazepines	See individual drugs	See individual drugs	• Sedation	• No EPS	• Contraindicated for intoxication due to other GABAergic drugs (eg, barbiturates, benzodiazepine abuse)
			• Respiratory depression	• Preferred agent for many intoxications (eg, cocaine can cause seizures), withdrawal (eg, alcohol)	• Use with caution in patients with respiratory compromise
			• Hypotension • Paradoxical disinhibition (especially younger children and those with developmental disabilities)		• Pregnancy class D
Lorazepam PO, IM, IV	0.05–0.1 mg/kg PO/IM/IV Usual dose: Adult: 2 mg PO/IM May repeat every 30–60 min	Onset: 5–10 min IV 15 min IM 20–30 min PO Peak: 30 min IV 1 h IM 2 h PO Duration: 2 h IV 6–8 h PO/IM			• Most commonly used drug for acute pediatric agitation
Midazolam PO, IM, IV	0.1 mg/kg PO/IM/IV Usual dose: Adult: 2 mg/PO/IM May repeat every 30–60 min	Onset: 5–10 min IV 10–15 min IM 20 min PO Peak: 5–15 min IV 15–30 min IM 1 h PO Duration: 3–4 h			
Antipsychotics					
First-generation, "typical antipsychotics"[b]			• Prolonged $QT_{c,,}$ • Torsades de pointes • Dysrhythmias • Hypotension • Dystonia/EPS[c] • NMS		• Pregnancy class C
Haloperidol PO, IM	0.025–0.075 mg/kg IM/PO	Onset:		• Most commonly used drug in adults for acute agitation	• Lowers seizure threshold in animals

Downloaded from www.aappublications.org/news by guest on August 6, 2019

TABLE 4 Continued

Drug: How Supplied	Dose: Route of Administration	Time: Course/Onset Peak/ Duration	Side Effects	Advantages	Comments
	Usual dose: Child: 0.5–2 mg Adolescent: 2–5 mg Adult: 5–10 mg May repeat IM every 20–30 min, PO every 60 min Usual total dose for tranquilization: 10–20 mg (adults)	20–30 min IM 45–60 min PO Peak: 60 min IM 3 h PO Duration: 4–8 h		• Second most commonly used drug in pediatric patients • Low addiction potential • High therapeutic index • Lack of tolerance	
Second-generation, "atypical antipsychotics"			• Same as first-generation drugs • Hyperglycemia • Hyperprolactinemia	• May be better tolerated and may cause fewer EPS than first-generation drugs • May have higher risk of dystonia, especially with higher doses and in male and/ or young patients	• Pregnancy class C
Risperidone PO (liquid, tablet, ODT), IM	0.025–0.050 mg/kg PO/IM Usual dose: Child: 0.25–0.50 mg Adolescent: 0.5–1 mg May repeat PO every 60 min	Onset: 30–60 min PO Peak: 1–2 h PO			
Olanzepine PO (tablet, ODT) IM	0.1 mg/kg PO/IM Usual dose: Child: 2.5 mg Adolescent: 5–10 mg Adult: 10 mg Maximum: 30 mg daily May repeat IM every 20–30 min, PO every 30–45 min	Onset: 10–20 min IM 20–30 min PO Peak: 15–45 min IM 6 h PO Duration: 24 h	• Postinjection delirium/sedation		• FDA investigating 2 unexplained deaths 3–4 d after appropriate IM dose • Consider monitoring for at least 3 h after IM injection
Ziprasidone PO, IM	Usual dose: Younger adolescent (12–16 y): 10 mg Older adolescent (>16 y): 10–20 mg Maximum: 40 mg daily May repeat every 2 h	Onset: 60 min IM 4–5 h PO Peak: IM ≤60 min PO 6–8 h PO			
Combinations[d]					
Antipsychotic (typical) + benzodiazepine	Haloperidol + lorazepam or midazolam				

Downloaded from www.aappublications.org/news by guest on August 6, 2019

TABLE 4 Continued

Drug: How Supplied	Dose: Route of Administration	Time: Course/Onset Peak/ Duration	Side Effects	Advantages	Comments
Antipsychotic (typical) + antihistamine	Haloperidol + diphenhydramine				
Antipsychotic (atypical) + benzodiazepine	Risperidone + lorazepam or midazolam				
Antipsychotic (atypical) + antihistamine	Risperidone + diphenhydramine				

Side effects for all drugs in the class are given in the row for the drug class. Side effects for a specific drug in the class are given in the row for the drug class. Pregnancy class is based on limited data, but according to Lexicomp (http://www.wolterskluwercdi.com/lexicomp-online/community-pharmacy/), the benzodiazepines are class D and the first- and second-generation antipsychotics listed in the table are class C (last accessed December 2, 2013). EPS, extrapyramidal symptom; FDA, US Food and Drug Administration; IV, intravenous; NMS, neuroleptic malignant syndrome; ODT, oral disintegrating tablet; PO, oral administration.

[a] This table provides suggestions for some of the most commonly used drugs for management of the agitated pediatric patient. Child (prepubertal) ages 6–12 y; adolescent 13 y or older. Adult doses have been used in adolescents with high BMI.[125,129,135,143,148,149]

[b] Chlorpromazine, a phenothiazine that can be used to treat nausea/vomiting and intractable hiccups, has also been used with agitated patients[118,126,150] but has many of the same adverse effects as the other drugs (extrapyramidal/dystonic symptoms, neuroleptic malignant syndrome) as well as anticholinergic side effects and a decrease in the seizure threshold, without having any major advantages over the other drugs.

[c] EPSs include dystonia and akathisia, which may be treated with diphenhydramine (1.0 mg/kg/dose IV or PO, maximum 50 mg, usual dose in adults is 25 mg or 50 mg) and/or benztropine (1–2 mg in adults).

[d] Studies of the coadministration of these drugs have been reported. There may be research with other combinations studied in the future. Combinations of a butyrophenone (eg, haloperidol) and a benzodiazepine (eg, lorazepam) may be given together for an additive effect and may be administered in the same syringe. Data in some adult studies suggest that coadministration of a butyrophenone with a benzodiazepine may be more effective than either medication alone.

In other clinical situations, benzodiazepines alone may be the drug of choice. A common scenario is when the agitation is attributable to drug withdrawal or drug intoxication, especially drugs that decrease seizure threshold (eg, cocaine).[117,123,143,145,151] Because of their anticholinergic properties, antipsychotics may worsen the condition of patients who present with intoxication from drugs with anticholinergic properties (eg, hallucinogens) or with an anticholinergic delirium.[123,124,143]

Adverse Effects of and Clinical Monitoring During Chemical Restraint

Monitoring of patients who have received chemical restraint is similar to patients under physical restraint, which are discussed in detail in the subsequent section on physical restraint.[152–154] Medications used for chemical restraint may result in myriad adverse effects that benefit from close medical monitoring, including respiratory depression; hypotension; paradoxical behavioral disinhibition from benzodiazepines, especially in younger children and those with developmental disabilities[134,148,155]; dystonic reactions; orthostatic hypotension; sinus tachycardia; and other dysrhythmias attributable to antipsychotics.[61,130,132–134,149] Given these concerns, monitoring patients who receive antipsychotics may include close clinical observation, cardiorespiratory monitoring, pulse oximetry,[156] and/or an electrocardiogram, when and if the patient will tolerate them.

The most feared cardiac adverse effect of antipsychotics is a quinidine-like QT_c prolongation, resulting in dysrhythmias such as torsades de pointes. QT_c prolongation has been noted to occur with therapeutic dosing of antipsychotics and is possible with any antipsychotic medication. Potential risk factors for QT_c prolongation and dysrhythmia include coadministration with

Downloaded from www.aappublications.org/news by guest on August 6, 2019

TABLE 5 QT-Interval-Prolonging Medications in Pediatrics

Antiemetics	Cardiac	Antidepressants
• Ondansetron	• Adenosine	• Fluoxetine
• Dolasetron	• Dopamine	• Sertraline
Macrolides	• Epinephrine	• Paroxetine
• Azithromycin	• Dobutamine	• Venlafaxine
• Clarithromycin	• Quinidine	• Amitriptyline
• Erythromycin	• Procainamide	• Desipramine
Fluoroquinolones	• Flecainide	• Imipramine
• Ciprofloxacin	• Amiodarone	Mood-stabilizing agents
• Levofloxacin	• Bretylium	• Lithium
• Moxifloxacin	• Nicardipine	Antipsychotics
Other Antibiotics	• Sotalol	• Please see Table 4 at www.pediatrics.org/cgi/doi/10.1542/peds.2016-1573
• Amantadine	Antihistamines	Other medications
• Trimethoprim-sulfamethoxazole	• Diphenhydramine	• Cisapride
Antimalarials	• Hydroxyzine	• Octreotide
• Quinine	• Loratadine	• Pentamidine
• Chloroquine	• Astemizole	• Tacrolimus
Neurologic	• Terfenadine	• Vasopressin
• fos-Phenytoin	Respiratory tract	
• Sumatriptan	• Albuterol	
• Zolmitriptan	• Terbutaline	
• Chloral hydrate	• Phenylephrine	
	• Pseudoephedrine	

This is an incomplete list of QT-interval-prolonging medications, limited to those that are commonly used in pediatrics. For a more comprehensive list, please refer to the cited references Haddad et al, Olsen et al, and Yap et al.[159–161]

other drugs that prolong the QT_c; administration of high doses of haloperidol[157,158]; and underlying medical illness (eg, electrolyte abnormalities, hepatic or renal impairment, heart failure, elderly, congenital long QT syndromes). Among the typical and atypical antipsychotics, thioridazine and ziprasidone, respectively, are associated with the greatest degrees of QTc prolongation.[130,134,145,159] Many other commonly used pediatric medications may prolong the QT_c, including antiemetics (eg, ondansetron), antibiotics such as macrolides, fluoroquinolones, and antifungal agents (eg, ketoconazole), antiarrhythmics, and other psychiatric medications (Table 5).[160–162] US Food and Drug Administration "black box" warnings have been issued for both droperidol and thioridazine because of this risk, although the actual clinical risk of and dangers from antipsychotic-induced cardiac dysrhythmias is unclear and is being vigorously debated.[61,134,149,163–168] However, since the black box warning, the use of droperidol has declined exponentially.[114,117,125,157]

Acute dystonia usually presents as involuntary motor tics or spasms usually involving the face, neck, back, and limb muscles and may occur after antipsychotic administration. Oculogyric crisis is a specific form of acute dystonia, characterized by continuous rotatory eye movements. A rare, life-threatening form of dystonia is laryngeal dystonia, which presents as a choking sensation, difficulty breathing, or stridor. Acute dystonia is commonly treated with diphenhydramine or benztropine administered intravenously or IM. Additional doses of these medications may be indicated, given that their half-life is shorter than antipsychotics.

Among the less commonly used chemical restraint medications, antihistamines, such as diphenhydramine and hydroxyzine, can cause anticholinergic adverse effects including dry mouth, dry skin, urinary retention, constipation, flushing, dizziness, mydriasis, delirium, and conduction abnormalities. Clonidine can result in hypotension and sedation.[136,137]

Physical Restraint

Physical restraint involves the use of mechanical restrictive devices to limit physical activity. Some differentiate physical restraint from "therapeutic holding," a method in which health care providers or caregivers hold the individual to contain the agitated behavior. Therapeutic holding is most often used in patients of younger ages as a method to help patients regain control of their behavior.[169] In 1 study, restraint was achieved with a mean of 3.5 people per patient, with patients held for an average of 21 minutes.[170] Another technique is seclusion, which refers to the placement of an individual in isolation in an enclosed space.[171]

The prevalence of the use of physical restraints among ED adult psychiatric patients varies widely, ranging from 8% to 59%.[172–177] There are much fewer data on the use of restraint among pediatric patients.[62,144]

Complications of Physical Restraints

Over the past 2 decades, there has been increasing concern regarding adverse events, including deaths, associated with the use of physical restraints in psychiatric facilities.[111] The New York State Commission on Quality of Care in 1994 reported 111 deaths over a 10-year period in New York facilities that were linked to the use of physical restraints.[178] Four years later, the *Hartford Courant* detailed 142 mortalities nationwide attributed to physical restraint use, with children disproportionately represented among the deaths.[179] Among child and adolescent psychiatric facilities, between 1993 and 2003, 45 deaths were ascribed to the use of restraints.[180]

There is also significant morbidity associated with the use of physical

Downloaded from www.aappublications.org/news by guest on August 6, 2019

restraints. The most common complication is skin breakdown at the site of the restraint, with the possibility of neurovascular damage also occurring.[123] Rhabdomyolysis may occur, especially in patients who continue to struggle, which can lead to kidney failure. Other reported complications include accidental strangulation from vest restraints, brachial plexus injuries, electrolyte abnormalities, hyperthermia, deep vein thrombosis, pulmonary injury/diseases, and asphyxia.[171]

Physical Restraint Policies and Regulations

Because of increasing awareness of the potential complications and dangers of physical restraint, federal agencies and hospital accreditation organizations have developed formal regulations regarding physical restraint. In 2006, the Centers for Medicare and Medicaid Services published its most recent guidelines on patients' rights regarding the use of restraints and seclusion.[152] The US General Accounting Office and The Joint Commission (formerly, The Joint Commission for the Accreditation of Health Care Organizations) have published similar policies and regulations.[153,181] Medical professional organizations, including the AAP,[182] the ACEP,[183] the American Academy of Child and Adolescent Psychiatry,[115] and the American Medical Association,[184] all have policies supporting these regulations, the principles of the humane and least restrictive possible use of restraint, and the need for further research in this area.

The use of restraints remains controversial. Although restraints can be a component of patient treatment in certain situations,[61,182,185] the use of restraints and seclusion has been questioned by some. According to the National Association of State Mental Health Program Directors, "Seclusion and restraint should be considered a security measure, not a form of 'medical treatment' that should only be used as 'last resort measure.'"[186] Adding to the complexity of this issue, it is important to keep in mind the potential liability for failure to restrain a patient who loses control and injures someone and/or destroys property, which may be greater than the liability for appropriately restraining an aggressive/violent patient.[114]

Indications for the Use of Physical Restraints

There are specific indications for the use of restraints: when the patient is an acute danger to harm himself/herself or others,[111,123,124,176,187] to prevent significant disruption of the treatment plan including considerable disruption of property, and when other less restrictive measures have failed or are not possible options.[61,129,182,185] It is unethical to use restraints for convenience or punishment and when prohibited by law or regulation or by untrained personnel.[185]

Techniques for Application of Physical Restraints

If other less restrictive measures have failed, nursing staff may initiate restraint use in extenuating circumstances, with a physician or other licensed independent practitioner performing a face-to-face evaluation and reviewing and approving the order within 1 hour.[123] Sometimes, the mere show of force by a cohort of trained professionals may induce the agitated/violent individual to deescalate, rendering restraint unnecessary. When possible, 5 or more individuals may be included in the application of physical restraints. One person supports the head, and 4 other individuals secure each limb. Experts suggest applying restraints securely to each extremity, then to the bed frame rather than the side rails. Maximizing patient safety includes allowing the patient's head to rotate freely, elevating the head of the bed, if possible, to decrease the risk of aspiration. If a female patient is being restrained, having at least 1 female on the restraint team may be helpful. In some cases, a "sandwiching" technique between 2 mattresses has been used, with careful monitoring for risk for asphyxia.[122]

Although definitive studies evaluating the best and safest restraint practices are lacking, experts suggest the use of age-appropriate or leather restraints. Restraints made of softer, makeshift, or other materials may be less effective and more likely to result in patient injury. After their review of deaths of patients who were being physically restrained, The Joint Commission made the following suggestions[188]:

- Proper staff training on alternatives to and proper application of physical restraints
- Continuous monitoring of restrained patients
- Supine positioning, with
  - o the head of the bed elevated, and
  - o free cervical range of motion, to decrease aspiration risk
- Prone positioning may be used if other measures have failed or are not possible. Deaths have been associated with its use. If used, helpful strategies include the following:
  - o monitoring for airway obstruction,
  - o minimizing or eliminating pressure on the neck and back, and
  - o discontinuing as soon as possible
- Minimize covering of the patient's face or head
- Minimize the use of high vests, waist restraints, and beds with unprotected, split side rails
- Remove smoking materials from the patient
- Minimize restraint of medically compromised or unstable patients
- In cases of agitation because of suspected illicit stimulant

Downloaded from www.aappublications.org/news by guest on August 6, 2019

use, chemical restraint may be preferable, as a rapid increase in serum potassium secondary to rhabdomyolysis may result in cardiac arrest.

The Joint Commission guidelines also include a schedule for the evaluation of the need for and ordering of restraints, as well as patient monitoring and assistance, by a licensed independent practitioner (licensed independent practitioner; eg, physician, nurse practitioner, physician assistant) and the staff members who apply or monitor the restrained patient (Table 6).[153]

TABLE 6 The Joint Commission Requirements for Evaluating and Ordering Restraint

	Age		
	<9 y	9–17 y	>18 y
LIP in-person evaluation to order restraint	Within 1 h of placement of restraints	Within 1 h of placement of restraints	Within 1 h of placement of restraints
Renew restraint order by qualified staff	Every 1 h	Every 2 h	Every 4 h
LIP in-person evaluation to renew restraint order	Every 4 h	Every 4 h	Every 8 h
Assessments every 15 min (all ages)	• Vital signs • Signs of injury due to restraint or seclusion • Nutrition/hydration • Extremities circulation and range of motion • Hygiene and elimination (bowel/bladder) • Physical and psychological status/comfort • Readiness to discontinue restraint		

LIP, licensed independent practitioner.

Techniques for Removal of Restraints

Before removal of restraints, it may be helpful to inform the patient of what behavior is expected to minimize the chance that restraints will be reapplied. The same number of staff members that was used to apply the restraints may be present when the restraints are removed. A common strategy is removing 1 restraint at a time, usually starting with 1 lower extremity, next the other leg, then 1 of the upper extremities, and then the other arm, to monitor the patient's response. If the patient becomes violent or disruptive, then the limb restraint(s) may be reapplied; if the patient is cooperative, the restraint removal process may continue.

COORDINATION WITH THE MEDICAL HOME

Experts strongly endorse the benefits of a "medical home"—patient-centered care that is coordinated and integrated by the patient's personal physician, especially for high-risk and/or high-utilization patients.[189,190] The AAP also supports the integration of mental health treatment within the medical home so that youth can "benefit from the strength and skills of the primary care clinician in establishing rapport with the child and family, using the primary care clinicians' unique opportunities to engage children and families in mental health care without stigma."[191] Unfortunately, nearly half of adolescents lack a medical home, with those with mental health problems being even less likely to have the benefit of a medical home.[192] Whenever possible, best practices include consulting primary care pediatricians regarding level-of-care determination, follow-up planning, and referrals. When referral to an outpatient mental health specialist is indicated, providers who are either colocated within or have established collaborations with the medical home may be strongly considered. The medical home provider can follow up with the family to help facilitate and encourage adequate aftercare. In circumstances when a referral to a mental health specialist or higher level of psychiatric care is either not indicated or unavailable, encouraging patients to seek follow-up treatment through their medical home may be beneficial.

There are likely additional health benefits to involving a child's medical home in the aftercare plan. Although data in children are limited, there is a body of data demonstrating that access to primary care may be problematic and morbidity and mortality are increased in adults with psychiatric illness. In fact, studies suggest that the life expectancy of adults with severe psychiatric illness is between 13 and 35 years lower than their peers without psychiatric illness.[193] Pediatric studies have demonstrated increased rates of obesity and worse self-reported health in adolescents with mental illness.[194] Youth with attention-deficit/hyperactivity disorder and developmental disabilities, such as autism spectrum disorders, have been found to have elevated rates of medical conditions including asthma, frequent ear infections, severe headaches or migraines, and seizures. They also have increased utilization of specialists and higher unmet health needs, including delays in care and inability to afford prescriptions.[150] Therefore, emergency physicians may have a significant effect on children presenting with mental health concerns by referring and encouraging them to participate in coordinated care through a suitable medical home.

LEAD AUTHORS

Thomas H. Chun, MD, MPH, FAAP
Sharon E. Mace, MD, FAAP, FACEP
Emily R. Katz, MD, FAAP

Downloaded from www.aappublications.org/news by guest on August 6, 2019

AMERICAN ACADEMY OF PEDIATRICS, COMMITTEE ON PEDIATRIC EMERGENCY MEDICINE, 2015-2016

Joan E. Shook, MD, MBA, FAAP, Chairperson
James M. Callahan, MD, FAAP
Thomas H. Chun, MD, MPH, FAAP
Gregory P. Conners, MD, MPH, MBA, FAAP
Edward E. Conway Jr, MD, MS, FAAP
Nanette C. Dudley, MD, FAAP
Toni K. Gross, MD, MPH, FAAP
Natalie E. Lane, MD, FAAP
Charles G. Macias, MD, MPH, FAAP
Nathan L. Timm, MD, FAAP

LIAISONS

Kim Bullock, MD – *American Academy of Family Physicians*
Elizabeth Edgerton, MD, MPH, FAAP – *Maternal and Child Health Bureau*
Tamar Magarik Haro – *AAP Department of Federal Affairs*
Madeline Joseph, MD, FACEP, FAAP – *American College of Emergency Physicians*
Angela Mickalide, PhD, MCHES – *EMSC National Resource Center*
Brian R. Moore, MD, FAAP – *Natonal Association of EMS Physicians*
Katherine E. Remick, MD, FAAP – *National Association of Emergency Medical Technicians*
Sally K. Snow, RN, BSN, CPEN, FAEN – *Emergency Nurses Association*
David W. Tuggle, MD, FAAP – *American College of Surgeons*
Cynthia Wright-Johnson, MSN, RNC – *National Association of State EMS Officials*

FORMER MEMBERS AND LIAISONS, 2013–2015

Alice D. Ackerman, MD, MBA, FAAP
Lee Benjamin, MD, FACEP, FAAP - *American College of Physicians*
Susan M. Fuchs, MD, FAAP
Marc H. Gorelick, MD, MSCE, FAAP
Paul Sirbaugh, DO, MBA, FAAP - *National Association of Emergency Medical Technicians*
Joseph L. Wright, MD, MPH, FAAP

STAFF

Sue Tellez

AMERICAN COLLEGE OF EMERGENCY PHYSICIANS, PEDIATRIC EMERGENCY MEDICINE COMMITTEE, 2013–2014

Lee S. Benjamin, MD, FACEP, Chairperson
Isabel A. Barata, MD, FACEP, FAAP
Kiyetta Alade, MD
Joseph Arms, MD
Jahn T. Avarello, MD, FACEP
Steven Baldwin, MD
Kathleen Brown, MD, FACEP
Richard M. Cantor, MD, FACEP
Ariel Cohen, MD
Ann Marie Dietrich, MD, FACEP
Paul J. Eakin, MD
Marianne Gausche-Hill, MD, FACEP, FAAP
Michael Gerardi, MD, FACEP, FAAP
Charles J. Graham, MD, FACEP
Doug K. Holtzman, MD, FACEP
Jeffrey Hom, MD, FACEP
Paul Ishimine, MD, FACEP
Hasmig Jinivizian, MD
Madeline Joseph, MD, FACEP
Sanjay Mehta, MD, Med, FACEP
Aderonke Ojo, MD, MBBS
Audrey Z. Paul, MD, PhD
Denis R. Pauze, MD, FACEP
Nadia M. Pearson, DO
Brett Rosen, MD
W. Scott Russell, MD, FACEP
Mohsen Saidinejad, MD
Harold A. Sloas, DO
Gerald R. Schwartz, MD, FACEP
Orel Swenson, MD
Jonathan H. Valente, MD, FACEP
Muhammad Waseem, MD, MS
Paula J. Whiteman, MD, FACEP
Dale Woolridge, MD, PhD, FACEP

FORMER COMMITTEE MEMBERS

Carrie DeMoor, MD
James M. Dy, MD
Sean Fox, MD
Robert J. Hoffman, MD, FACEP
Mark Hostetler, MD, FACEP
David Markenson, MD, MBA, FACEP
Annalise Sorrentino, MD, FACEP
Michael Witt, MD, MPH, FACEP

STAFF

Dan Sullivan
Stephanie Wauson

ABBREVIATIONS

AAP: American Academy of Pediatrics
ACEP: American College of Emergency Physicians
CNS: central nervous system
CT: computed tomography
ED: emergency department
GABA: γ-aminobutyric acid
IM: intramuscularly

REFERENCES

1. World Health Organization. *The Global Burden of Disease: 2004 Update*. Geneva, Switzerland: World Health Organization Press; 2008
2. Merikangas KR, He JP, Burstein M, et al. Lifetime prevalence of mental disorders in U.S. adolescents: results from the National Comorbidity Survey Replication—Adolescent Supplement (NCS-A). *J Am Acad Child Adolesc Psychiatry*. 2010;49(10):980–989
3. National Institute of Mental Health, Substance Abuse and Mental Health Services Administration, Department of Health and Human Services. *Mental Health: A Report of the Surgeon General. Executive Summary*. Rockville, MD: US Department of Health and Human Services; 1999
4. Grupp-Phelan J, Delgado SV, Kelleher KJ. Failure of psychiatric referrals from the pediatric emergency department. *BMC Emerg Med*. 2007;7:12
5. Grupp-Phelan J, Wade TJ, Pickup T, et al. Mental health problems in children and caregivers in the emergency department setting. *J Dev Behav Pediatr*. 2007;28(1):16–21
6. Fein JA, Pailler ME, Barg FK, et al. Feasibility and effects of a Web-based adolescent psychiatric assessment administered by clinical staff in the pediatric emergency department. *Arch Pediatr Adolesc Med*. 2010;164(12):1112–1117
7. Sheldrick RC, Merchant S, Perrin EC. Identification of developmental-behavioral problems in primary care: a systematic review. *Pediatrics*. 2011;128(2):356–363
8. Committee on Psychosocial Aspects of Child and Family Health and Task Force on Mental Health. Policy statement—The future of pediatrics: mental health competencies for pediatric primary care. *Pediatrics*. 2009;124(1):410–421
9. Foy JM, Kelleher KJ, Laraque D; American Academy of Pediatrics Task Force on Mental Health. Enhancing pediatric mental health care: strategies for preparing a primary care practice. *Pediatrics*. 2010;125(suppl 3):S87–S108
10. Dolan MA, Mace SE; American Academy of Pediatrics, Committee on Pediatric Emergency Medicine; American College of Emergency Physicians and Pediatric Emergency Medicine Committee. Pediatric mental health emergencies in the emergency medical services system. *Pediatrics*. 2006;118(4):1764–1767

Downloaded from www.aappublications.org/news by guest on August 6, 2019

11. American College of Emergency Physicians, Pediatric Emergency Medicine Committee. American Academy of Pediatrics, Committee on Pediatric Emergency Medicine. Pediatric mental health emergencies in the emergency medical services system. *Ann Emerg Med*. 2006;48(4):484–486

12. Sills MR, Bland SD. Summary statistics for pediatric psychiatric visits to US emergency departments, 1993–1999. *Pediatrics*. 2002;110(4). Available at: www.pediatrics.org/cgi/content/full/110/4/e40

13. Goldstein AB, Silverman MA, Phillips S, Lichenstein R. Mental health visits in a pediatric emergency department and their relationship to the school calendar. *Pediatr Emerg Care*. 2005;21(10):653–657

14. Larkin GL, Claassen CA, Emond JA, Pelletier AJ, Camargo CA. Trends in U.S. emergency department visits for mental health conditions, 1992 to 2001. *Psychiatr Serv*. 2005;56(6):671–677

15. Grupp-Phelan J, Harman JS, Kelleher KJ. Trends in mental health and chronic condition visits by children presenting for care at U.S. emergency departments. *Public Health Rep*. 2007;122(1):55–61

16. Mahajan P, Alpern ER, Grupp-Phelan J, et al; Pediatric Emergency Care Applied Research Network (PECARN). Epidemiology of psychiatric-related visits to emergency departments in a multicenter collaborative research pediatric network. *Pediatr Emerg Care*. 2009;25(11):715–720

17. Newton AS, Ali S, Johnson DW, et al. A 4-year review of pediatric mental health emergencies in Alberta. *CJEM*. 2009;11(5):447–454

18. Pittsenbarger ZE, Mannix R. Trends in pediatric visits to the emergency department for psychiatric illnesses. *Acad Emerg Med*. 2014;21(1):25–30

19. Anderson LE, Chen ML, Perrin JM, Van Cleave J. Outpatient visits and medication prescribing for us children with mental health conditions. *Pediatrics*. 2015;136(5). Available at: www.pediatrics.org/cgi/content/full/136/5/e1178

20. Olfson M, Blanco C, Wang S, Laje G, Correll CU. National trends in the mental health care of children, adolescents, and adults by office-based physicians. *JAMA Psychiatry*. 2014;71(1):81–90

21. American College of Emergency Physicians. *ACEP Psychiatric and Substance Abuse Survey 2008*. Irving, TX: American College of Emergency Physicians; 2008

22. American Medical Association. *Report of the Council on Medical Service: Access to Psychiatric Beds and Impact on Emergency Medicine*. Chicago, IL: American Medical Association; 2007

23. Claudius I, Donofrio JJ, Lam CN, Santillanes G. Impact of boarding pediatric psychiatric patients on a medical ward. *Hosp Pediatr*. 2014;4(3):125–132

24. Kutscher B. Bedding, not boarding. Psychiatric patients boarded in hospital EDs create crisis for patient care and hospital finances. *Mod Healthc*. 2013;43(46):15–17

25. Nicks BA, Manthey DM. The impact of psychiatric patient boarding in emergency departments. *Emerg Med Int*. 2012;2012:360308

26. Wharff EA, Ginnis KB, Ross AM, Blood EA. Predictors of psychiatric boarding in the pediatric emergency department: implications for emergency care. *Pediatr Emerg Care*. 2011;27(6):483–489

27. Biros MH, Hick K, Cen YY, et al. Occult depressive symptoms in adolescent emergency department patients. *Arch Pediatr Adolesc Med*. 2008;162(8):769–773

28. Scott EG, Luxmore B, Alexander H, Fenn RL, Christopher NC. Screening for adolescent depression in a pediatric emergency department. *Acad Emerg Med*. 2006;13(5):537–542

29. Ramsawh HJ, Chavira DA, Kanegaye JT, Ancoli-Israel S, Madati PJ, Stein MB. Screening for adolescent anxiety disorders in a pediatric emergency department. *Pediatr Emerg Care*. 2012;28(10):1041–1047

30. Winston FK, Kassam-Adams N, Garcia-España F, Ittenbach R, Cnaan A. Screening for risk of persistent posttraumatic stress in injured children and their parents. *JAMA*. 2003;290(5):643–649

31. Rhodes KV, Gordon JA, Lowe RA; Society for Academic Emergency Medicine Public Health and Education Task Force Preventive Services Work Group. Preventive care in the emergency department, Part I: Clinical preventive services—are they relevant to emergency medicine? Society for Academic Emergency Medicine Public Health and Education Task Force Preventive Services Work Group. *Acad Emerg Med*. 2000;7(9):1036–1041

32. Downey LV, Zun LS, Burke T. Undiagnosed mental illness in the emergency department. *J Emerg Med*. 2012;43(5):876–882

33. Pan YJ, Lee MB, Chiang HC, Liao SC. The recognition of diagnosable psychiatric disorders in suicide cases' last medical contacts. *Gen Hosp Psychiatry*. 2009;31(2):181–184

34. Porter SC, Fein JA, Ginsburg KR. Depression screening in adolescents with somatic complaints presenting to the emergency department. *Ann Emerg Med*. 1997;29(1):141–145

35. Slap GB, Vorters DF, Chaudhuri S, Centor RM. Risk factors for attempted suicide during adolescence. *Pediatrics*. 1989;84(5):762–772

36. Slap GB, Vorters DF, Khalid N, Margulies SR, Forke CM. Adolescent suicide attempters: do physicians recognize them? *J Adolesc Health*. 1992;13(4):286–292

37. Luoma JB, Martin CE, Pearson JL. Contact with mental health and primary care providers before suicide: a review of the evidence. *Am J Psychiatry*. 2002;159(6):909–916

38. Gairin I, House A, Owens D. Attendance at the accident and emergency department in the year before suicide: retrospective study. *Br J Psychiatry*. 2003;183:28–33

39. Garbrick L, Levitt MA, Barrett M, Graham L. Agreement between emergency physicians and psychiatrists regarding admission decisions. *Acad Emerg Med*. 1996;3(11):1027–1030

40. Tse SK, Wong TW, Lau CC, Yeung WS, Tang WN. How good are accident and emergency doctors in the evaluation of psychiatric patients? *Eur J Emerg Med*. 1999;6(4):297–300

Downloaded from www.aappublications.org/news by guest on August 6, 2019

41. Cronholm PF, Barg FK, Pailler ME, Wintersteen MB, Diamond GS, Fein JA. Adolescent depression: views of health care providers in a pediatric emergency department. *Pediatr Emerg Care*. 2010;26(2):111–117

42. Habis A, Tall L, Smith J, Guenther E. Pediatric emergency medicine physicians' current practices and beliefs regarding mental health screening. *Pediatr Emerg Care*. 2007;23(6):387–393

43. Hoyle JD Jr, White LJ; Emergency Medical Services for Children. Health Resources Services Administration. Maternal and Child Health Bureau. National Association of EMS Physicians. Treatment of pediatric and adolescent mental health emergencies in the United States: current practices, models, barriers, and potential solutions. *Prehosp Emerg Care*. 2003;7(1):66–73

44. Hoyle JD Jr, White LJ. Pediatric mental health emergencies: summary of a multidisciplinary panel. *Prehosp Emerg Care*. 2003;7(1):60–65

45. Santucci KA, Sather J, Baker MD. Emergency medicine training programs' educational requirements in the management of psychiatric emergencies: current perspective. *Pediatr Emerg Care*. 2003;19(3):154–156

46. Horwitz SM, Storfer-Isser A, Kerker BD, et al. Barriers to the identification and management of psychosocial problems: changes from 2004 to 2013. *Acad Pediatr*. 2015;15(6):613–620

47. Al-Osaimi FD, Al-Haidar FA. Assessment of pediatricians' need for training in child psychiatry. *J Family Community Med*. 2008;15(2):71–75

48. Riba M, Hale M. Medical clearance: fact or fiction in the hospital emergency room. *Psychosomatics*. 1990;31(4):400–404

49. Glauser JG. Functional versus organic illness: identifying medical illness in patients with psychiatric symptoms. *Crit Decis Emerg Med*. 2005;19(6):12–21

50. Newcomer JW. Metabolic considerations in the use of antipsychotic medications: a review of recent evidence. *J Clin Psychiatry*. 2007;68(suppl 1):20–27

51. Allen MH, Currier GW. Medical assessment in the psychiatric emergency service. *New Dir Ment Health Serv*. 1999;82(82):21–28

52. Krummel S, Kathol RG. What you should know about physical evaluations in psychiatric patients. Results of a survey. *Gen Hosp Psychiatry*. 1987;9(4):275–279

53. Hall RC, Gardner ER, Stickney SK, LeCann AF, Popkin MK. Physical illness manifesting as psychiatric disease. II. Analysis of a state hospital inpatient population. *Arch Gen Psychiatry*. 1980;37(9):989–995

54. Henneman PL, Mendoza R, Lewis RJ. Prospective evaluation of emergency department medical clearance. *Ann Emerg Med*. 1994;24(4):672–677

55. Olshaker JS, Browne B, Jerrard DA, Prendergast H, Stair TO. Medical clearance and screening of psychiatric patients in the emergency department. *Acad Emerg Med*. 1997;4(2):124–128

56. Herridge CF. Physical disorders in psychiatric illness. A study of 209 consecutive admissions. *Lancet*. 1960;2(7157):949–951

57. Worster A, Elliott L, Bose TJ, Chemeris E. Reliability of vital signs measured at triage. *Eur J Emerg Med*. 2003;10(2):108–110

58. Tintinalli JE, Peacock FW IV, Wright MA. Emergency medical evaluation of psychiatric patients. *Ann Emerg Med*. 1994;23(4):859–862

59. Pinto T, Poynter B, Durbin J. Medical clearance in the psychiatric emergency setting: a call for more standardization. *Healthc Q*. 2010;13(2):77–82

60. Zun LS. Evidence-based evaluation of psychiatric patients. *J Emerg Med*. 2005;28(1):35–39

61. Lukens TW, Wolf SJ, Edlow JA, et al; American College of Emergency Physicians Clinical Policies Subcommittee (Writing Committee) on Critical Issues in the Diagnosis and Management of the Adult Psychiatric Patient in the Emergency Department. Clinical policy: critical issues in the diagnosis and management of the adult psychiatric patient in the emergency department. *Ann Emerg Med*. 2006;47(1):79–99

62. Santiago LI, Tunik MG, Foltin GL, Mojica MA. Children requiring psychiatric consultation in the pediatric emergency department: epidemiology, resource utilization, and complications. *Pediatr Emerg Care*. 2006;22(2):85–89

63. Santillanes G, Donofrio JJ, Lam CN, Claudius I. Is medical clearance necessary for pediatric psychiatric patients? *J Emerg Med*. 2014;46(6):800–807

64. Glauser J, Marshall M. Medical clearance of psychiatric patients. *Emerg Med Rep*. 2011;32(23):273–283

65. Shah SJ, Fiorito M, McNamara RM. A screening tool to medically clear psychiatric patients in the emergency department. *J Emerg Med*. 2012;43(5):871–875

66. Broderick KB, Lerner EB, McCourt JD, Fraser E, Salerno K. Emergency physician practices and requirements regarding the medical screening examination of psychiatric patients. *Acad Emerg Med*. 2002;9(1):88–92

67. Korn CS, Currier GW, Henderson SO. "Medical clearance" of psychiatric patients without medical complaints in the emergency department. *J Emerg Med*. 2000;18(2):173–176

68. Janiak BD, Atteberry S. Medical clearance of the psychiatric patient in the emergency department. *J Emerg Med*. 2012;43(5):866–870

69. Shihabuddin BS, Hack CM, Sivitz AB. Role of urine drug screening in the medical clearance of pediatric psychiatric patients: is there one? *Pediatr Emerg Care*. 2013;29(8):903–906

70. Fortu JM, Kim IK, Cooper A, Condra C, Lorenz DJ, Pierce MC. Psychiatric patients in the pediatric emergency department undergoing routine urine toxicology screens for medical clearance: results and use. *Pediatr Emerg Care*. 2009;25(6):387–392

71. Tenenbein M. Do you really need that emergency drug screen? *Clin Toxicol (Phila)*. 2009;47(4):286–291

72. Donofrio JJ, Santillanes G, McCammack BD, et al. Clinical utility of screening laboratory tests in pediatric psychiatric patients presenting to the

Downloaded from www.aappublications.org/news by guest on August 6, 2019

emergency department for medical clearance. *Ann Emerg Med*. 2013

73. Bunevicius A, Deltuva VP, Deltuviene D, Tamasauskas A, Bunevicius R. Brain lesions manifesting as psychiatric disorders: eight cases. *CNS Spectr*. 2008;13(11):950–958

74. Bain BK. CT scans of first-break psychotic patients in good general health. *Psychiatr Serv*. 1998;49(2):234–235

75. Gewirtz G, Squires-Wheeler E, Sharif Z, Honer WG. Results of computerised tomography during first admission for psychosis. *Br J Psychiatry*. 1994;164(6):789–795

76. Agzarian MJ, Chryssidis S, Davies RP, Pozza CH. Use of routine computed tomography brain scanning of psychiatry patients. *Australas Radiol*. 2006;50(1):27–28

77. Brody AS, Frush DP, Huda W, Brent RL; American Academy of Pediatrics Section on Radiology. Radiation risk to children from computed tomography. *Pediatrics*. 2007;120(3):677–682

78. Newman B, Callahan MJ. ALARA (as low as reasonably achievable) CT 2011--executive summary. *Pediatr Radiol*. 2011;41(Suppl 2):453–455

79. Mathews JD, Forsythe AV, Brady Z, et al. Cancer risk in 680,000 people exposed to computed tomography scans in childhood or adolescence: data linkage study of 11 million Australians. *BMJ*. 2013;346:f2360

80. Shain BN; American Academy of Pediatrics Committee on Adolescence. Suicide and suicide attempts in adolescents. *Pediatrics*. 2016;138(1):e20161420

81. Centers for Disease Conrol and Prevention. Leading Causes of Death 1999–2010. Web-Based Injury Statistics Query and Reporting System (WISQARS) [database]. Available at: https://www.cdc.gov/injury/wisqars/. Accessed April 14, 2012

82. Eaton DK, Kann L, Kinchen S, et al; Centers for Disease Control and Prevention (CDC). Youth risk behavior surveillance—United States, 2011. *MMWR Surveill Summ*. 2012;61(4):1–162

83. Ting SA, Sullivan AF, Boudreaux ED, Miller I, Camargo CA Jr. Trends in US emergency department visits for attempted suicide and self-inflicted injury, 1993–2008. *Gen Hosp Psychiatry*. 2012;34(5):557–565

84. Shaffer D, Craft L. Methods of adolescent suicide prevention. *J Clin Psychiatry*. 1999;60(suppl 2):70–74, discussion 75–76, 113–116

85. Foley DL, Goldston DB, Costello EJ, Angold A. Proximal psychiatric risk factors for suicidality in youth: the Great Smoky Mountains Study. *Arch Gen Psychiatry*. 2006;63(9):1017–1024

86. Lewinsohn PM, Rohde P, Seeley JR. Psychosocial risk factors for future adolescent suicide attempts. *J Consult Clin Psychol*. 1994;62(2):297–305

87. Shaffer D, Gould MS, Fisher P, et al. Psychiatric diagnosis in child and adolescent suicide. *Arch Gen Psychiatry*. 1996;53(4):339–348

88. Esposito-Smythers C, Spirito A. Adolescent substance use and suicidal behavior: a review with implications for treatment research. *Alcohol Clin Exp Res*. 2004;28(suppl 5):77S–88S

89. McKeown RE, Garrison CZ, Cuffe SP, Waller JL, Jackson KL, Addy CL. Incidence and predictors of suicidal behaviors in a longitudinal sample of young adolescents. *J Am Acad Child Adolesc Psychiatry*. 1998;37(6):612–619

90. Brown J, Cohen P, Johnson JG, Smailes EM. Childhood abuse and neglect: specificity of effects on adolescent and young adult depression and suicidality. *J Am Acad Child Adolesc Psychiatry*. 1999;38(12):1490–1496

91. Smart RG, Walsh GW. Predictors of depression in street youth. *Adolescence*. 1993;28(109):41–53

92. McDaniel JS, Purcell D, D'Augelli AR. The relationship between sexual orientation and risk for suicide: research findings and future directions for research and prevention. *Suicide Life Threat Behav*. 2001;31(Suppl):84–105

93. Olverholser J. Predisposing factors in suicide attempts: life stressors. In: Spirito A, Overholser JC, eds. *Evaluating and Treating Adolescent Suicide Attempters: From Research to Practice*. New York, NY: Academic Press; 2002:42–54

94. Folstein MF, Folstein SE, McHugh PR. "Mini-Mental State." A practical method for grading the cognitive state of patients for the clinician. *J Psychiatr Res*. 1975;12(3):189–198

95. American Academy of Child and Adolescent Psychiatry. Practice parameter for the assessment and treatment of children and adolescents with suicidal behavior. *J Am Acad Child Adolesc Psychiatry*. 2001;40(suppl 7):24S–51S

96. Fontanella CA, Bridge JA, Campo JV. Psychotropic medication changes, polypharmacy, and the risk of early readmission in suicidal adolescent inpatients. *Ann Pharmacother*. 2009;43(12):1939–1947

97. Spirito A, Lewander WJ, Levy S, Kurkjian J, Fritz G. Emergency department assessment of adolescent suicide attempters: factors related to short-term follow-up outcome. *Pediatr Emerg Care*. 1994;10(1):6–12

98. Trautman PD, Stewart N, Morishima A. Are adolescent suicide attempters noncompliant with outpatient care? *J Am Acad Child Adolesc Psychiatry*. 1993;32(1):89–94

99. Prinstein MJ, Nock MK, Simon V, Aikins JW, Cheah CS, Spirito A. Longitudinal trajectories and predictors of adolescent suicidal ideation and attempts following inpatient hospitalization. *J Consult Clin Psychol*. 2008;76(1):92–103

100. Spirito A, Plummer B, Gispert M, et al. Adolescent suicide attempts: outcomes at follow-up. *Am J Orthopsychiatry*. 1992;62(3):464–468

101. Yen S, Weinstock LM, Andover MS, Sheets ES, Selby EA, Spirito A. Prospective predictors of adolescent suicidality: 6-month post-hospitalization follow-up. *Psychol Med*. 2013;43(5):983–993

102. Sher L, LaBode V. Teaching health care professionals about suicide safety planning. *Psychiatr Danub*. 2011;23(4):396–397

103. Simon OR, Swann AC, Powell KE, Potter LB, Kresnow MJ, O'Carroll PW. Characteristics of impulsive suicide attempts and attempters. *Suicide Life Threat Behav*. 2001;32(suppl 1):49–59

Downloaded from www.aappublications.org/news by guest on August 6, 2019

104. Brown GK, Henriques GR, Sosdjan D, Beck AT. Suicide intent and accurate expectations of lethality: predictors of medical lethality of suicide attempts. *J Consult Clin Psychol*. 2004;72(6):1170–1174

105. Swahn MH, Potter LB. Factors associated with the medical severity of suicide attempts in youths and young adults. *Suicide Life Threat Behav*. 2001;32(suppl 1):21–29

106. Plutchik R, van Praag HM, Picard S, Conte HR, Korn M. Is there a relation between the seriousness of suicidal intent and the lethality of the suicide attempt? *Psychiatry Res*. 1989;27(1):71–79

107. Vyrostek SB, Annest JL, Ryan GW. Surveillance for fatal and nonfatal injuries—United States, 2001. *MMWR Surveill Summ*. 2004;53(7):1–57

108. Baxley F, Miller M. Parental misperceptions about children and firearms. *Arch Pediatr Adolesc Med*. 2006;160(5):542–547

109. Brent DA, Perper JA, Allman CJ, Moritz GM, Wartella ME, Zelenak JP. The presence and accessibility of firearms in the homes of adolescent suicides. A case-control study. *JAMA*. 1991;266(21):2989–2995

110. Treatment Advocacy Center. State Standards Charts for Assisted Treatment. Civil Commitment Criteria and Initiation Procedures by State. Available at: www.treatmentadvocacycenter.org/storage/documents/State_Standards_Charts_for_Assisted_Treatment_-_Civil_Commitment_Criteria_and_Initiation_Procedures.pdf. Accessed July 9, 2015

111. Glezer A, Brendel RW. Beyond emergencies: the use of physical restraints in medical and psychiatric settings. *Harv Rev Psychiatry*. 2010;18(6):353–358

112. Hockberger RS. Richards J. Thought disorders. In: Marx JA, Hockberger R, Walls RM, eds. *Rosen's Emergency Medicine: Concepts and Clinical Practice*. Philadelphia, PA: Saunders; 2014:1460–1465

113. 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. *West J Emerg Med*. 2012;13(1):17–25

114. Heiner JD, Moore GP. The combatative patient. In: Marx JA, Hockberger R, Walls RM, eds. *Rosen's Emergency Medicine: Concepts and Clinical Practice*. Philadelphia, PA: Saunders; 2014:2414–2421

115. Masters KJ, Bellonci C, Bernet W, et al; American Academy of Child and Adolescent Psychiatry. Practice parameter for the prevention and management of aggressive behavior in child and adolescent psychiatric institutions, with special reference to seclusion and restraint. *J Am Acad Child Adolesc Psychiatry*. 2002;41(suppl 2):4S–25S

116. Stevenson S. Heading off violence with verbal de-escalation. *J Psychosoc Nurs Ment Health Serv*. 1991;29(9):6–10

117. Adimando AJ, Poncin YB, Baum CR. Pharmacological management of the agitated pediatric patient. *Pediatr Emerg Care*. 2010;26(11):856–860, quiz 861–863

118. Delaney KR. Evidence base for practice: reduction of restraint and seclusion use during child and adolescent psychiatric inpatient treatment. *Worldviews Evid Based Nurs*. 2006;3(1):19–30

119. Jonikas JA, Cook JA, Rosen C, Laris A, Kim JB. A program to reduce use of physical restraint in psychiatric inpatient facilities. *Psychiatr Serv*. 2004;55(7):818–820

120. dosReis S, Barnett S, Love RC, Riddle MA; Maryland Youth Practice Improvement Committee. A guide for managing acute aggressive behavior of youths in residential and inpatient treatment facilities. *Psychiatr Serv*. 2003;54(10):1357–1363

121. Fishkind A. Calming agitation with words, not drugs: 10 commandments for safety. *Curr Psychiatr*. 2002;1(4):32–39

122. Larkin GL, Beautrais AL. Behavioral disorders: emergency assessment. In: Tintinalli JE, Stapczynski S, Ma OJ, Cline DM, Cydulka RK, Mecklereds GD, eds. *Tintinalli's Emergency Medicine: A Comprehensive Study Guide*. New York, NY: McGraw-Hill Education; 2011:1939–1946

123. Rossi J, Swan MC, Isaacs ED. The violent or agitated patient. *Emerg Med Clin North Am*. 2010;28(1):235–256, x

124. Marder SR. A review of agitation in mental illness: treatment guidelines and current therapies. *J Clin Psychiatry*. 2006;67(suppl 10):13–21

125. Mace SE. Behavioral and psychiatric disorders in children and infants. In: Tintinalli JE, Stapczynski S, Ma OJ, Cline DM, Cydulka RK, Mecklereds GD, eds. *Tintinalli's Emergency Medicine: A Comprehensive Study Guide*. New York, NY: McGraw-Hill Education; 2011:967–971

126. Allen MH, Forster P, Zealberg J, Currier G; American Psychiatric Association, Task Force on Psychiatric Emergency Services. *Report and Recommendations Regarding Psychiatric Emergency and Crisis Services: A Review and Model Program Descriptions*. Bloomfield, CT: American Association for Emergency Psychiatry; 2002

127. Cowin L, Davies R, Estall G, Berlin T, Fitzgerald M, Hoot S. De-escalating aggression and violence in the mental health setting. *Int J Ment Health Nurs*. 2003;12(1):64–73

128. Tan D. Medications for psychiatric emergencies. In: Khouzam HR, Tan DT, Gill TS, eds. *Handbook of Emergency Psychiatry*. Philadelphia, PA: Mosby-Elsevier; 2007:22–31

129. Downes MA, Healy P, Page CB, Bryant JL, Isbister GK. Structured team approach to the agitated patient in the emergency department. *Emerg Med Australas*. 2009;21(3):196–202

130. Miyamoto S, Lieberman JA, Fleischacker WW, Marder SR. Antipsychotic drugs. In: Tasman A, Kay J, Lieberman A, First MB, Maj M, eds. *Psychiatry*. 3rd ed. West Sussex, England: John Wiley & Sons; 2008:2161–2201

131. Smith T, Horwath E, Cournos F. Schizophrenia and other psychotic disorders. In: Cutler JL, Marcus E, eds. *Psychiatry*. New York, NY: Oxford University Press; 2010:101–131

132. Levine M, LoVecchio F. Antipsychotics. In: Tintinalli JE, Stapczynski S, Ma OJ, Cline DM, Cydulka RK, Mecklereds GD,

Downloaded from www.aappublications.org/news by guest on August 6, 2019

eds. *Tintinalli's Emergency Medicine: A Comprehensive Study Guide*. New York, NY: McGraw-Hill Education; 2011:1207–1211

133. Minns AB, Clark RF. Toxicology and overdose of atypical antipsychotics. *J Emerg Med*. 2012;43(5):906–913

134. Sonnier L, Barzman D. Pharmacologic management of acutely agitated pediatric patients. *Paediatr Drugs*. 2011;13(1):1–10

135. Nobay F, Simon BC, Levitt MA, Dresden GM. A prospective, double-blind, randomized trial of midazolam versus haloperidol versus lorazepam in the chemical restraint of violent and severely agitated patients. *Acad Emerg Med*. 2004;11(7):744–749

136. May DE, Kratochvil CJ. Attention-deficit hyperactivity disorder: recent advances in paediatric pharmacotherapy. *Drugs*. 2010;70(1):15–40

137. Yoon EY, Cohn L, Rocchini A, Kershaw D, Clark SJ. Clonidine utilization trends for Medicaid children. *Clin Pediatr (Phila)*. 2012;51(10):950–955

138. Cengiz M, Baysal Z, Ganidagli S. Oral sedation with midazolam and diphenhydramine compared with midazolam alone in children undergoing magnetic resonance imaging. *Paediatr Anaesth*. 2006;16(6):621–626

139. Roach CL, Husain N, Zabinsky J, Welch E, Garg R. Moderate sedation for echocardiography of preschoolers. *Pediatr Cardiol*. 2010;31(4):469–473

140. Lustig SL, Botelho C, Lynch L, Nelson SV, Eichelberger WJ, Vaughan BL. Implementing a randomized clinical trial on a pediatric psychiatric inpatient unit at a children's hospital: the case of clonidine for post-traumatic stress. *Gen Hosp Psychiatry*. 2002;24(6):422–429

141. Battaglia J, Moss S, Rush J, et al. Haloperidol, lorazepam, or both for psychotic agitation? A multicenter, prospective, double-blind, emergency department study. *Am J Emerg Med*. 1997;15(4):335–340

142. Chan EW, Taylor DM, Knott JC, Phillips GA, Castle DJ, Kong DC. Intravenous droperidol or olanzapine as an adjunct to midazolam for the acutely agitated patient: a multicenter, randomized, double-blind, placebo-controlled clinical trial. *Ann Emerg Med*. 2013;61(1):72–81

143. Allen MH. Managing the agitated psychotic patient: a reappraisal of the evidence. *J Clin Psychiatry*. 2000;61(suppl 14):11–20

144. Dorfman DH, Mehta SD. Restraint use for psychiatric patients in the pediatric emergency department. *Pediatr Emerg Care*. 2006;22(1):7–12

145. Isaacs E. The violent patient. In: Marx JA, Hockberger R, Walls RM, eds. *Rosen's Emergency Medicine: Concepts and Clinical Practice*. Philadelphia, PA: Saunders; 2014:1460–1465

146. Bieniek SA, Ownby RL, Penalver A, Dominguez RA. A double-blind study of lorazepam versus the combination of haloperidol and lorazepam in managing agitation. *Pharmacotherapy*. 1998;18(1):57–62

147. Currier GW, Medori R. Orally versus intramuscularly administered antipsychotic drugs in psychiatric emergencies. *J Psychiatr Pract*. 2006;12(1):30–40

148. Garris S, Hughes C. Management of acute agitation. In: Tintinalli JE, Stapczynski S, Ma OJ, Cline DM, Cydulka RK, Mecklereds GD, eds. *Tintinalli's Emergency Medicine: A Comprehensive Study Guide*. New York, NY: McGraw-Hill Education; 2011

149. Whittler MA, Lavonas EJ. Antipsychotics. In: Marx JA, Hockberger RS, Walls RM, et al, eds. *Rosen's Emergency Medicine: Concepts and Clinical Practice*. Philadelphia, PA: Saunders; 2014:2042–2046

150. Schieve LA, Gonzalez V, Boulet SL, et al. Concurrent medical conditions and health care use and needs among children with learning and behavioral developmental disabilities, National Health Interview Survey, 2006–2010. *Res Dev Disabil*. 2012;33(2):467–476

151. Sorrentino A. Chemical restraints for the agitated, violent, or psychotic pediatric patient in the emergency department: controversies and recommendations. *Curr Opin Pediatr*. 2004;16(2):201–205

152. Centers for Medicare & Medicaid Services (CMS), DHHS. Medicare and Medicaid programs; hospital conditions of participation: patients' rights. Final rule. *Fed Regist*. 2006;71(236):71377–71428

153. The Joint Commission. *Standards on Restraint and Seclusion*. Oakbrook Terrace, IL: The Joint Commission; 2009

154. Health Care Finance Administration. Medicare and Medicaid Programs; Hospital Conditions of Participation: Patients' Rights; Interim Final Rule. *Fed Regist*. 1999;64(127):36088–36089

155. Baren JM, Mace SE, Hendry PL, Dietrich AM, Goldman RD, Warden CR. Children's mental health emergencies—part 2: emergency department evaluation and treatment of children with mental health disorders. *Pediatr Emerg Care*. 2008;24(7):485–498

156. Masters KJ. Pulse oximetry use during physical and mechanical restraints. *J Emerg Med*. 2007;33(3):289–291

157. Walters H, Killius K. *Guidelines for the Acute Psychotropic Medication Management of Agitation in Children and Adolescents*. Boston, MA: Boston Medical Center Emergency Department Policy and Procedure Guidelines; 2012

158. Meyer-Massetti C, Cheng CM, Sharpe BA, Meier CR, Guglielmo BJ. The FDA extended warning for intravenous haloperidol and torsades de pointes: how should institutions respond? *J Hosp Med*. 2010;5(4):E8–E16

159. Haddad PM, Anderson IM. Antipsychotic-related QTc prolongation, torsade de pointes and sudden death. *Drugs*. 2002;62(11):1649–1671

160. Olsen KM. Pharmacologic agents associated with QT interval prolongation. *J Fam Pract*. 2005;(suppl):S8–S14

161. Yap YG, Camm AJ. Drug induced QT prolongation and torsades de pointes. *Heart*. 2003;89(11):1363–1372

162. Labellarte MJ, Crosson JE, Riddle MA. The relevance of prolonged QTc measurement to pediatric psychopharmacology. *J Am Acad Child Adolesc Psychiatry*. 2003;42(6):642–650

163. Bailey P, Norton R, Karan S. The FDA droperidol warning: is it justified? *Anesthesiology*. 2002;97(1):288–289

Downloaded from www.aappublications.org/news by guest on August 6, 2019

164. Chase PB, Biros MH. A retrospective review of the use and safety of droperidol in a large, high-risk, inner-city emergency department patient population. *Acad Emerg Med*. 2002;9(12):1402–1410

165. Dershwitz M. Droperidol: should the black box be light gray? *J Clin Anesth*. 2002;14(8):598–603

166. Gan TJ, White PF, Scuderi PE, Watcha MF, Kovac A. FDA "black box" warning regarding use of droperidol for postoperative nausea and vomiting: is it justified? *Anesthesiology*. 2002;97(1):287

167. Hilt RJ, Woodward TA. Agitation treatment for pediatric emergency patients. *J Am Acad Child Adolesc Psychiatry*. 2008;47(2):132–138

168. Horowitz BZ, Bizovi K, Moreno R. Droperidol—behind the black box warning. *Acad Emerg Med*. 2002;9(6):615–618

169. Baren JM, Mace SE, Hendry PL, Dietrich AM, Grupp-Phelan J, Mullin J. Children's mental health emergencies—part 1: challenges in care: definition of the problem, barriers to care, screening, advocacy, and resources. *Pediatr Emerg Care*. 2008;24(6):399–408

170. Miller D, Walker MC, Friedman D. Use of a holding technique to control the violent behavior of seriously disturbed adolescents. *Hosp Community Psychiatry*. 1989;40(5):520–524

171. Di Lorenzo R, Baraldi S, Ferrara M, Mimmi S, Rigatelli M. Physical restraints in an Italian psychiatric ward: clinical reasons and staff organization problems. *Perspect Psychiatr Care*. 2012;48(2):95–107

172. Allen MH, Currier GW. Use of restraints and pharmacotherapy in academic psychiatric emergency services. *Gen Hosp Psychiatry*. 2004;26(1):42–49

173. Beck JC, White KA, Gage B. Emergency psychiatric assessment of violence. *Am J Psychiatry*. 1991;148(11):1562–1565

174. Bell CC, Palmer JM. Security procedures in a psychiatric emergency service. *J Natl Med Assoc*. 1981;73(9):835–842

175. Currier GW, Allen MH. Emergency psychiatry: physical and chemical restraint in the psychiatric emergency service. *Psychiatr Serv*. 2000;51(6):717–719

176. Currier GW, Walsh P, Lawrence D. Physical restraints in the emergency department and attendance at subsequent outpatient psychiatric treatment. *J Psychiatr Pract*. 2011;17(6):387–393

177. Lavoie FW. Consent, involuntary treatment, and the use of force in an urban emergency department. *Ann Emerg Med*. 1992;21(1):25–32

178. Sundram CJ, Stack EW, Benjamin WP. *Restraint and Seclusion Practices in New York State Psychiatric Facilities*. Albany, NY: New York State Commission on Quality of Care for the Mentally Disabled; 1994

179. Weiss EM, Altamira D, Blinded DF, et al. Deadly restraint: a Hartford Courant investigative report. *Hartford Courant*. October 11-15, 1998:A10

180. Nunno MA, Holden MJ, Tollar A. Learning from tragedy: a survey of child and adolescent restraint fatalities. *Child Abuse Negl*. 2006;30(12):1333–1342

181. US General Accounting Office. *Report to Congressional Requestors: Mental Health: Improper Restraint or Seclusion Places People at Risk. US Department of Health and Human Services*. Washington, DC: US General Accounting Office; 1999

182. American Academy of Pediatrics Committee on Pediatric Emergency Medicine. The use of physical restraint interventions for children and adolescents in the acute care setting. *Pediatrics*. 1997;99(3):497–498

183. American College of Emergency Physicians. Emergency physicians' patient care responsibilities outside the emergency department. *Ann Emerg Med*. 2006;47(3):304

184. Brown RL, Genel M, Riggs JA; American Medical Association, Council on Scientific Affairs. Use of seclusion and restraint in children and adolescents. Council on Scientific Affairs, American Medical Association. *Arch Pediatr Adolesc Med*. 2000;154(7):653–656

185. American Psychiatric Association, Task Force on the Psychiatric Uses of Seclusion and Restraint. *Seclusion and Restraint: The Psychiatric Uses (Task Force Report 22)*. Washington, DC: American Psychiatric Association; 1985

186. Medical Directors Council of the National Association of State Mental Health Program Directors. *Reducing the Use of Seclusion and Restraints: Findings, Strategies and Recommendations*. Alexandria, VA: National Association of State Mental Health Program Directors; 1999

187. Fisher WA. Restraint and seclusion: a review of the literature. *Am J Psychiatry*. 1994;151(11):1584–1591

188. The Joint Commission. Preventing Restraint Deaths. In: *Sentinel Event Alert*. Oakbrook Terrace, IL: The Joint Commission; 1998:2

189. Higgins S, Chawla R, Colombo C, Snyder R, Nigam S. Medical homes and cost and utilization among high-risk patients. *Am J Manag Care*. 2014;20(3):e61–e71

190. Schwenk TL. The patient-centered medical home: one size does not fit all. *JAMA*. 2014;311(8):802–803

191. American Academy of Child and Adolescent Psychiatry Committee on Health Care Access and Economics Task Force on Mental Health. Improving mental health services in primary care: reducing administrative and financial barriers to access and collaboration. *Pediatrics*. 2009;123(4):1248–1251

192. Adams SH, Newacheck PW, Park MJ, Brindis CD, Irwin CE Jr. Medical home for adolescents: low attainment rates for those with mental health problems and other vulnerable groups. *Acad Pediatr*. 2013;13(2):113–121

193. DE Hert M, Correll CU, Bobes J, et al. Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry*. 2011;10(1):52–77

194. Burnett-Zeigler I, Walton MA, Ilgen M, et al. Prevalence and correlates of mental health problems and treatment among adolescents seen in primary care. *J Adolesc Health*. 2012;50(6):559–564

Downloaded from www.aappublications.org/news by guest on August 6, 2019

Evaluation and Management of Children and Adolescents With Acute Mental Health or Behavioral Problems. Part I: Common Clinical Challenges of Patients With Mental Health and/or Behavioral Emergencies

Thomas H. Chun, Sharon E. Mace, Emily R. Katz, AMERICAN ACADEMY OF PEDIATRICS, COMMITTEE ON PEDIATRIC EMERGENCY MEDICINE, AND AMERICAN COLLEGE OF EMERGENCY PHYSICIANS and PEDIATRIC EMERGENCY MEDICINE COMMITTEE

Pediatrics 2016;138;
DOI: 10.1542/peds.2016-1570 originally published online August 22, 2016;

Updated Information & Services	including high resolution figures, can be found at: http://pediatrics.aappublications.org/content/138/3/e20161570
References	This article cites 167 articles, 16 of which you can access for free at: http://pediatrics.aappublications.org/content/138/3/e20161570#BIBL
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): **Current Policy** http://www.aappublications.org/cgi/collection/current_policy **Committee on Pediatric Emergency Medicine** http://www.aappublications.org/cgi/collection/committee_on_pediatric_emergency_medicine **Emergency Medicine** http://www.aappublications.org/cgi/collection/emergency_medicine_sub
Permissions & Licensing	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: http://www.aappublications.org/site/misc/Permissions.xhtml
Reprints	Information about ordering reprints can be found online: http://www.aappublications.org/site/misc/reprints.xhtml

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Downloaded from www.aappublications.org/news by guest on August 6, 2019

PEDIATRICS®
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Evaluation and Management of Children and Adolescents With Acute Mental Health or Behavioral Problems. Part I: Common Clinical Challenges of Patients With Mental Health and/or Behavioral Emergencies

Thomas H. Chun, Sharon E. Mace, Emily R. Katz, AMERICAN ACADEMY OF PEDIATRICS, COMMITTEE ON PEDIATRIC EMERGENCY MEDICINE, AND AMERICAN COLLEGE OF EMERGENCY PHYSICIANS and PEDIATRIC EMERGENCY MEDICINE COMMITTEE

Pediatrics 2016;138;
DOI: 10.1542/peds.2016-1570 originally published online August 22, 2016;

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://pediatrics.aappublications.org/content/138/3/e20161570

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2016 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 1073-0397.

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Downloaded from www.aappublications.org/news by guest on August 6, 2019