Consultation-Liaison with Children and Adolescents

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The field of consultation-liaison child and adolescent psychiatry is an important and vital sub-subspecialty of both child and adolescent psychiatry and psychosomatic medicine. The leading causes of morbidity and mortality among young people [e.g., accidents, homicide, malignancies, and suicide among youth aged 1–19 years (Hoyert et al. 2006)] suggest that there is much that psychiatrists can potentially contribute to general medical physicians striving to provide the best possible preventive and treatment-oriented care to children and adolescents.

This chapter is intended primarily for the benefit of consultation-liaison psychiatrists who encounter children and adolescents on a general medical service, and secondarily for the benefit of child and adolescent psychiatrists who wish to learn more about the practical aspects of working in and administering a pediatric consultation-liaison service.

32.1 General Principles Relevant to Children and Adolescents on a Consultation-Liaison Service

32.1.1 Preparing for the Pediatric Consultation-Liaison Encounter

Before seeing a pediatric patient, as with any other patient on a consultation-liaison service, it is important to discuss the case with the referring provider so as to have a clear idea of the issues to address in the consultation. Where applicable, one should get an idea of the prognosis of the general medical condition. Because children are usually not legally autonomous, it is advisable (except in unusual circumstances) to ensure that the parents have been informed about, and have agreed to, the consultation. The effectiveness of the consultation-liaison psychiatrist is limited if the initial encounter with the parents is awkward or confrontational merely because they had not been informed that a psychiatric consultation was requested. For the purposes of documenting medical necessity (and, in many cases, for billing purposes), the consultant should ensure that the referring medical team has either written an order for the consultation or documented that a consultation is necessary and therefore being requested.

In the interests of maintaining the most optimal relationships with the system of care surrounding a pediatric patient, the consultant should always remember this advice: there is no such thing as an inappropriate consultation request. Even if the identified patient were to seem fine, every consultation request suggests that someone in the system—whether a family member, health care professional, or other stakeholder—is concerned and therefore potentially able to benefit from a systems-sensitive intervention. In our institution's consultation-liaison service, we instruct our residents that even though most of us in the consultation-liaison business operate on fixed salaries, we should nevertheless all take the perspective of bright and eager new physicians who are grateful for the privilege to work in the medical center, and who are always pleased to find work that can support their practice. We find that adopting such an attitude improves the overall quality of the consultation-liaison service and, ultimately, the care the patients and families receive.

32.1.2 The Developmental Perspective

The saying "children are not miniature adults" applies just as well to psychiatry as it does to the rest of medicine. Most prominently, children and adolescents are developing physically and cognitively, so it is very important to consider the developmental level of the patient. Although a comprehensive review of child and adolescent development is beyond the scope of this chapter, we review key aspects of development, particularly as they apply to understanding of and adaptation to general medical illnesses.

One key principle is that development is a continuous process that builds on success in earlier stages. The consultation-liaison psychiatrist working in pediatric settings should therefore recognize the potential disruption that medical illnesses may have on normal child development.

Table 32.1 summarizes the key stages of development (predominantly social and cognitive) that may be of particular clinical importance in the context of general medical illnesses. Children's developmental levels are important to consider when

Table 32.1 A summary of the key stages of development

Age	Social development	Cognitive development	Clinical implications
4–6 months	Increasing awareness and recognition of people, development of attachment		Potential reactive attachment disorders, failure to thrive if inadequate attention to these issues in the context of general medical illness and separation from family
12–15 months		Object permanence	Stranger anxiety; important to consider impact of hospitalization and separation from caregivers
3–6 years	Improved separation (the age when children usually start school)	Preoperational thinking; possible "magical" or otherwise erroneous beliefs	If there is ongoing severe separation anxiety, need to consider differential possibilities, for this child's reactions and emotions are still very much connected to the family's
7–11 years	Generally good coping with separation	Concrete thinking	Relatively favorable age for elective surgery Increasing ability to be involved in explanations of illness and treatment, though need to adjust to concrete thinking
11–20 years	Challenging authority	Formal operations: morals, ethics, self-control, humanitarian/global concerns	Need to anticipate/address potential impacts on compliance May be able to give more detailed explanations of illness and implications

discussing coping with illness (and associated treatments) and death and dying. For example, 6-year-olds may have erroneous (though developmentally age-appropriate) beliefs about human physiology, believing that they can lose all of their blood from a blood draw on injection, in spite of well-meaning reassurances that the pain will not be severe. As another example, 6-year-olds might believe that justice can emanate from inanimate objects, and thus (unknown to their parents or caregivers) blame themselves for a personal illness or otherwise be afraid of reporting symptoms. Older children, in spite of more accurate perceptions about the causation of illness, may still not be able to appreciate all of the mechanisms that lead to illness. Hence, relatively straightforward explanations about the need for certain treatments (including medications) may be most appropriate.

Beyond just the cognitive understanding of illness, the emotional adjustment to illness is heavily influenced by developmental level. For example, it is likely that a preadolescent who must cope with a physical deformity may be more vulnerable to emotional difficulties, compared to a younger child, who may have a less developed body image, or an older adolescent, who may be more cognitively mature.

In order for children to optimally adjust to issues related to death and dying, they need to understand that death is irreversible, final, inevitable, and causally explained. Children facing death (whether their own or in a family member) at a developmental age earlier than that when these principles are understood are vulnerable to experiencing adjustment difficulties. For example, a child who does not realize that death is inevitable or causally explained may consider death to be a punishment for wrongdoing. Therefore, parents and caregivers often benefit from briefings about how to discuss challenging topics, such as death and illness, in a developmentally appropriate manner, and are often best able to gauge their child's cognitive development.

32.1.3 The Family and Systems Perspective

Children, both legally and developmentally, are not autonomous beings, and therefore are part of a complex system (whether explicit or not) that includes the family and other professionals involved in the child's care. While state laws may differ somewhat on the degree to which adolescents can consent to

certain aspects of medical care (e.g., related to family planning, sexually transmitted diseases treatment, and substance abuse treatment), most states require parental consent for most types of behavioral health care. Additionally, most child and adolescent psychiatrists would agree that conscientious, systems-sensitive involvement of the family in the care of a child or adolescent (or even adult), whether legally mandated or not, usually constitutes the most optimal clinical care.

Consultation-liaison psychiatrists who are not primarily child and adolescent psychiatrists often wonder what is the best way to approach child or adolescent patients and their family: should the patient be interviewed first, or should the family be interviewed first, or should the patient and family be interviewed together? In our clinical experience, we have found that there is no correct answer to this question. We recommend that (1) the patient and available family at bedside can be introduced to the context of the consultation and then asked about how they would like to proceed; (2) time may be set aside to interview the patient and parents separately (particularly if there are concerns about abuse or other sensitive issues); and (3) a solid biopsychosocial formulation with attention to family and systems perspectives should guide the titration of the amount of time spent with the patient alone, with the parents alone, and with the patient and parents together (for instance, if improving communication between the patient and parents is an important focus of the intervention).

Children and adolescents rarely request psychiatric consultations on their own. The requests for psychiatric assistance and the reporting of psychiatric symptoms are therefore often seen through the lens of the family or requesting health care providers. It is therefore of utmost importance to (1) build and maintain solid working relationships with the health care team (through rounds and other collaborative meetings with pediatric medical, nursing, social work, chaplain, and other staff); and (2) determine why the consultation is being requested, which facilitates deciding which aspects of the system warrant attention and intervention. For example, was it someone other than the child or family who requested the consultation, in which case part of an effective consultation must include directly addressing that person's concerns. Consultation-liaison psychiatry is the perfect venue to practice the biopsychosocial formulation, which can guide the intervention on multiple levels.

Many requests for consultation arise from concerns about emotional or behavioral symptoms in a parent or other family member involved in the child's care. These are entirely appropriate reasons to consult psychiatry, since the family is part of the whole system affecting the child's health. Therefore, while it is certainly appropriate to clarify the intent of the consultation with the referring provider, we recommend against "hassling" the medical team about the fundamental request for help. In such situations, it is important to document the consultations from the perspective that the child is the identified patient, even though observations about the parent or other caregiver may also be included. If a parent or other family member needs follow-up as an identified patient, then this can be part of the recommendation.

Common family-related situations and the potential role for the consultation-liaison psychiatrist are summarized in Table 32.2.

32.1.4 Psychopharmacologic Principles

The consultation-liaison psychiatrist in pediatric settings should have basic knowledge of child and adolescent psychopharmacology. Once again, children are not "miniature adults" when it comes to responses to medications. It is important to note that most psychotropic medications are not approved by the Food and Drug Administration (FDA) for children and adolescents. Also, children and adolescents generally metabolize medications differently (usually faster) than adults. Finally, the responses of children and adolescents to medication are such that the risk–benefit profile (for instance, in the case of certain antidepressant medications) may not necessarily be the same as what it is for adults.

Given these differences, it is of utmost importance for psychiatrists treating children and adolescents to engage in solid psychopharmacologic practice, which includes the following:

1. Clearly defining and monitoring target symptoms (and utilizing collateral information where appropriate)

Table 32.2 Common family-related situations and the potential role for the consultation-liaison psychiatrist

Consultation-liaison scenario	Potential tasks for the consultation-liaison psychiatrist	Possible pitfalls to be aware of
Family adjustment (e.g., depression, anxiety, "denial") to a child or adolescent's illness	Provide family-oriented support and psychoeducation. Evaluate for the need for further mental health services for family members, and provide referrals as appropriate. Educate the medical team on possible emotional reactions to a child's illness, including what may be initial "denial."	Providing long-term or in-depth care for a specific family member, without making it explicit to the family (or explicit in the medical record) that you have assumed this role, separate from your consultation/liaison role to the identified patient. Not adequately recognizing where what may initially be adaptive "denial" may interfere with optimal medical care and possibly constitute medical neglect.
History or possibility of mental illness (including substance abuse) in the parent and/or other caregiver adult	Evaluate for any acute dangerousness in the parent, or possible abuse/neglect of the child. Evaluate for the need for further mental health services for family members, and provide referrals as appropriate.	Providing long-term or in-depth care for a specific family member, without making it explicit to the family (or explicit in the medical record) that you have assumed this role, separate from your consultation/liaison role to the identified patient. Giving the appearance of having performed a forensic assessment of the adult's parenting capacity, whereas such a function might better be performed by another mental health provider (using standardized assessment tools and usually affiliated with child protective services).
Possible parental abuse/neglect, including Munchausen-by-proxy	Evaluate for the need for further mental health services for family members, and provide referrals as appropriate. Assist the team in making referrals to child protective and hospital risk management services, where indicated. Assist the team in formulating a crisis plan (e.g., with hospital security) where indicated.	Providing long-term or in-depth care the parent (see above). Giving the appearance of having performed a forensic assessment of the adult's parenting capacity, whereas such a function might better be performed by another mental health provider (using standardized assessment tools and usually affiliated with child protective services).
Angry, abusive, potentially litigious family	Listen closely to parents' concerns (including what they are most concerned about with their child's condition). Consider all possible reasons for the family's anger (including factors that may be within the medical team's control). Evaluate for the need for further mental health services for family members, and provide referrals as appropriate. Evaluate for the need for other referrals (e.g., domestic violence help). Assist the team in making referrals to child protective and hospital risk management services, where indicated. Assist the team in formulating a crisis plan (e.g., with hospital security) where indicated.	Not adequately helping the medical team to avoid unnecessary medicolegal risk via: • "Splitting" • Inappropriate documentation • Indiscreet conversation
Failure to thrive	Provide a thorough assessment that considers child variables (e.g., temperamental and other behavioral conditions), caregiver variables, and interactional variables; encourage multidisciplinary approaches. Evaluate for the need for further mental health services for the child or family members, and provide referrals as appropriate.	Failing to recognize the multifactorial nature of failure to thrive or inadequately managing general medical conditions coexisting with psychosocial conditions (see Guerrero, 2004)

2. Carefully considering the existing standards of care and treatments that are best supported by evidence, whether FDA approved or not
3. Determining and considering the patient's and family members' previous responses to medications
4. "Starting low and going slow" in the titration of the medication
5. Continuing to raise the dose until one has satisfactorily treated all symptoms, reached the recommended upper dose limit of the medication, encountered side effects that make further titration intolerable, or reached a plateau in improvement or worsening of symptoms with an increase in dose
6. Following recommended guidelines in monitoring vital signs, other physical parameters, and laboratory values
7. Recognizing medically ill patients' potential sensitivity to medication side effects

Table 32.3 summarizes the usual first-line medications and recommended doses for common diagnoses and scenarios encountered in pediatric consultation-liaison psychiatry.

Because of the likelihood that patients in pediatric consultation-liaison settings will have general medical comorbidities and may be on other medications, the reader is referred to specific chapters in this book on psychopharmacology in the context of specific general medical illnesses and to tables on drug–drug interactions.

Finally, specific to the pediatric population, we recommend the following "rules":

1. Very carefully consider the evidence for medication safety and efficacy in children and adolescents.
2. One medication is (generally) better than two medications, which is (generally) better than three medications, which is (generally) better than four medications, etc.
3. Although FDA approval is not necessarily everything, pay attention to the various categories of medications:
   (a) FDA-approved for treating children/adolescents with the condition you are prescribing the medication for (e.g., stimulants for attention-deficit hyperactivity disorder, fluoxetine for major depressive disorder)
   (b) FDA-approved for treating adults with the condition but also approved for treating children/adolescents with a different condition (e.g., valproic acid for pediatric bipolar disorder)
   (c) FDA-approved for treating adults with the condition, and with some evidence for safety/efficacy for children/adolescents with the condition (e.g., certain atypical anti psychotics for pediatric psychotic disorders)
   (d) Not FDA-approved either for the condition being treated or for children/adolescents for any indication
4. When multiple conditions amenable to psychopharmacologic treatment are possibly present, consider a rough (and potentially modifiable, depending on new evidence) hierarchy of evidence for safety and efficacy: stimulants > serotonin-selective reuptake inhibitors > mood stabilizers > antipsychotics.
5. Finally, "it's more than just medication." Particularly in pediatric settings, where a complex network of people surrounds the patient, it is important to realize that good psychopharmacology depends on various other components, arranged in the form of a pyramid (Fig. 32.1).

32.2 Specific Consultation-Liaison Scenarios That Are Common or High-Risk

32.2.1 Suicide Attempts

Suicide attempts or concerns about suicidality are likely to be among the more common concerns presented to a consultation-liaison psychiatrist on a pediatric service (Shaw et al. 2006).

First, it is important to follow whatever policies exist in the medical center regarding the management of patients who are suicidal or potentially suicidal. For many medical centers, doing so includes assigning a risk level (e.g., low, moderate, high) and implementing orders appropriate to the assigned risk level. The orders may address the following areas:

- Psychiatry consultation—optional or mandatory
- Whether or not the patient may leave the unit, and if so, under whose supervision

Table 32.3 First-line medications and recommended doses for common diagnoses and scenarios

Condition	Reasonable first-line medications	FDA approval?	Initial dose	Important precautions (should always advise patients on "rare, serious, potentially life-threatening reactions")	Labs and other physical parameters to monitor	References
Acute agitation	Antihistamines	No	Diphenhydramine: For infants over 20 pounds and older children: 5 mg/kg/day divided q6 h, up to 50 mg per dose (po, IM, IV) Hydroxyzine: 2 mg/kg/day divided q6 h, up to 25 mg per dose (po, IM)	Avoid diphenhydramine if there is delirium or if there is risk of anticholinergic toxicity		Allen et al. (2001) Green (1995) Johnson (1993)
Aggressive behavior refractory to treatment of the primary disorder, aggressive behavior in autism, and psychotic disorders	Atypical antipsychotics	Risperidone: >5k >13 for psychosis Aripiprazole >6, >13 for psychosis Olanzapine >13 for psychosis Paliperidone >12 for psychosis Quetiapine >13 for psychosis	Olanzapine: 2.5 mg daily (po, IM) Quetiapine: 12.5 mg daily (child) 12.5 mg bid (teen) (po) Risperidone: 0.25 mg daily (<20 kg) 0.5 mg daily (≥20 kg) (po)	Weight gain, metabolic syndrome, extrapyramidal symptoms	Fasting blood sugar and lipids at baseline and every 6 months, Abnormal Involuntary Movement Scale every year Consider baseline electrocardiogram for ziprasidone	Blair et al. (2005) Janssen (2006) Pappadopulos et al. (2003)
Attention-deficit hyperactivity disorder (ADHD)	Stimulants	Yes	Methylphenidate: 2.5–5 mg daily (po) Dextroamphetamine or amphetamine/dextroamphetamine: 2.5 mg daily (po)	Family history of tics	Tics on physical examination Pulse, blood pressure, height, weight every 3 months or with medication change	AACAP (2002)

(continued)

Table 32.3 (continued)

Condition	Reasonable first-line medications	FDA approval?	Initial dose	Important precautions (should always advise patients on "rare, serious, potentially life-threatening reactions")	Labs and other physical parameters to monitor	References
Bipolar disorder	Lithium or valproic acid	Lithium >12 Risperidone >10 Aripiprazole >10 Olanzapine >13 Quetiapine >10	Lithium: 30 mg/kg/day or according to Weller protocol (po) Valproic acid: 15 mg/kg/day divided bid (po)	Weight gain, metabolic syndrome, hepatic and hematologic effects	Lithium: Baseline CBC, basic metabolic profile with renal function tests, urinalysis, thyroid function, electrocardiogram Valproic acid: Baseline CBC, comprehensive metabolic profile with hepatic function tests Both medications: Medication levels (appropriate to rate of titration) and periodic follow-up labs	Weller et al. (1986) Green (1995)
Delirium with agitation or psychotic features	Haloperidol Risperidone Olanzapine	No	Oral: 0.01–0.1 mg/kg q12 h IV: 0.005–0.07 mg/kg every 30 min; once stable, use ½ of needed dose divided q12 h. Should not exceed 0.15 mg/kg/day. Risperidone 0.25 mg BID Olanzapine 2.5 mg BID	Vigilance to extrapyramidal symptoms, which children may be more at risk for	Rigidity, tremor, other abnormal involuntary movements Consider baseline and follow-up electrocardiogram to evaluate QT_c interval	Lavid and Budner (2000)
Major depressive disorder	Fluoxetine Escitalopram	Yes, >8 Escitalopram 12–17	10 mg per day (po)	Unmasking of mania, akathisia, increase in suicidal thoughts		March et al. (2004)
Obsessive-compulsive disorder	Sertraline fluvoxamine Fluoxetine	Yes, Sertraline >6 Fluvoxamine >8 Fluoxetine >7	Sertraline: 25 mg per day (po) Fluvoxamine: 25 mg qhs (po) Fluoxetine 10 mg per day (po)	Unmasking of mania, akathisia, increase in suicidal thoughts		Fleming (2003)

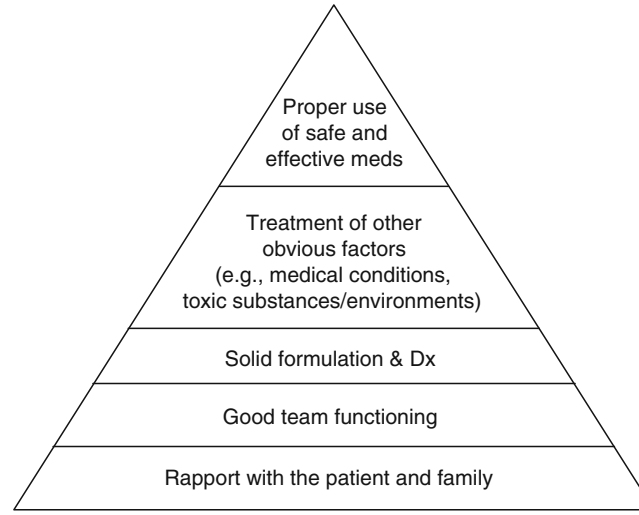

Fig. 32.1 Specific consultation-liaison scenarios that are common and/or high-risk

- Allowed clothing (e.g., hospital clothing)
- Patient/room search for dangerous articles
- Allowed visitors
- Need for 1:1 staff supervision
- Frequency of nursing checks

Next, while keeping close contact with the referring medical team and nursing staff, the consulting psychiatrist should seek opportunities for crisis intervention where appropriate. As suggested previously, the psychiatrist, particularly when working with children and adolescents, should ask, "Why did this crisis happen now, on this day, at this time of day?" and "What are all of the biologic, psychological, and social stressors that led to this crisis?" The answers to these questions often help determine what should be done to resolve the crisis. Examples of common precipitating factors are shown in Table 32.4.

Once the patient is cleared for discharge from the medical unit, a decision needs to be made on whether or not the patient should be discharged home or admitted to an inpatient psychiatric unit. This decision can often be approached by considering the preferences of the patient and the family, since the benefit from inpatient hospitalization is often dependent on the patient's and family's openness to treatment. If neither the patient nor the family wants psychiatric admission, and if the patient is not acutely dangerous (wherein state-specific involuntary commitment criteria are met), the patient should be discharged following medical stabilization, but with an appropriate follow-up plan.

Overall, in planning for disposition options, the consulting psychiatrist should match clinical need with location of service (Table 32.5). Also, in keeping with the American Academy of Child and Adolescent Psychiatry's (2001) practice guidelines, the clinician should make sure to do the following prior to discharging any patient for whom suicidal risk had been a concern:

- Ask the family about any unsupervised access to firearms or other dangerous materials in the home.
- Give the patient and family resources for after-hours emergencies.
- Ensure timely follow-up.

32.2.2 Eating Disorders

At our institution, because of the inherently higher risks involved, we instruct trainees to ensure that consultations for suicidal patients or patients with potential eating disorders are set up as soon as possible regardless of whether or not the requesting physician has described the consultation as being urgent.

Consultation-liaison psychiatrists typically encounter patients with eating disorders in the context of relatively brief medical hospitalization

Table 32.4 Common precipitating factors of suicide attempts

Biologic		Psychological		Social	
Factors	Potential interventions	Factors	Potential interventions	Factors	Potential interventions
Neuropsychiatric effects of general medical illness (including even minor viral illnesses)	Evaluation and treatment of general medical illness	Acute psychological stressor (e.g., breakup with significant other)	Crisis-oriented supportive psychotherapy	Acute interpersonal stressor (e.g., with family)	Crisis-oriented family or conjoint intervention
Neuropsychiatric effects of medications (e.g., steroids for immunologic disorders)	Adjustment of medication regimen	Limited coping ability	Discussion of coping strategies and crisis resources	Volatile relationship with family or caregiver, or family or caregiver in need of respite	Respite placement (e.g., with a relative)
Neuropsychiatric effects of substance of abuse (e.g., alcohol intoxication)	Supportive environment while intoxication clears	Loss of hope	Psychoeducation, instill hope where appropriate	Family or anyone else in the system (e.g., other professional) distressed over patient's behavior	Psychoeducation, instill hope where appropriate
Neuropsychiatric effects of starvation	Medical refeeding, improvement of nutrition			Family feeling unable to meet caregiving demands because of potential missed work	Physician's note to "prescribe" temporary caregiving role
Neuropsychiatric effects of sleep deprivation	Recovery of lost sleep				
Noncompliance with psychiatric medications	Restart medications				

Table 32.5 Location of psychiatric services

	Inpatient	Outpatient	Other community services and creative solutions
Individual psychotherapy	Yes	Yes	
Family psychotherapy	Yes	Yes	
Medication management	Yes	Yes	
Group psychotherapy	Yes	Not usually	Yes
Respite from stressful environment	Yes	No	Yes
Locked observation and management of acute dangerousness or potentially serious medical complication	Yes	No	Not usually

for general medical sequelae (e.g., cachexia, autonomic instability, or electrolyte abnormalities).

According to the *Diagnostic and Statistical Manual of Mental Disorders,* fifth edition (American Psychiatric Association 2013), diagnostic criteria for each of the eating disorders, the key features of anorexia nervosa include a restriction of energy intake relative to requirements, leading to significantly low body weight in the context of age, sex, developmental trajectory, and physical health, intense fear of gaining weight or persistent behavior that interferes with weight gain, and body image distortion or persistent lack of recognition of the seriousness of the low body weight. There are two subtypes of anorexia nervosa, the restricting and the binging–purging type. The key features of bulimia nervosa include binging (defined as eating in a discrete period of time an amount of food that is definitely larger than what most individuals would eat in similar circumstances) with a sense of lack of control coupled with inappropriate compensatory behaviors, including purging, starvation, laxative abuse, or excessive exercise (at least once a week for 3 months) and body image concerns. The disturbances that might otherwise suggest bulimia nervosa should not occur exclusively in the context of anorexia nervosa. Because of the generally more serious complications associated with anorexia nervosa than with the other eating disorders, we believe it is particularly important to identify the diagnosis of anorexia nervosa, binge-eating–purging type, when, on the surface, the clinical presentation may suggest a diagnosis of bulimia nervosa. Binge Eating Disorder is a newly recognized distinct eating disorder that is characterized by recurrent episodes of binge eating accompanied with a lack of sense of control. The episodes may be associated with eating more rapidly than normal, eating until uncomfortably full, eating large amounts of food when not hungry, eating alone due to embarrassment, and having feelings of prominent guilt following the episode. The binge eating episodes occur at least once a week for a period of 3 months. It is differentiated from bulimia nervosa in that there is an absence of inappropriate compensatory behaviors.

To thoroughly assess both the type and severity of an eating disorder, we recommend that the consulting psychiatrist obtain a careful history and physical examination as detailed below.

32.2.2.1 History

The history should address the following issues:

- Restricting behaviors (duration, context, etc.)
- Exercise history (duration, context, etc.)
- Binging behaviors (duration, context, etc.)
- Purging behaviors (duration, context, etc.)
- Menstrual history
- Physical symptoms (light-headedness, palpitations, fatigue, syncope, bloating, constipation, swelling)
- Mood symptoms
- History of abuse/harm/threats

32.2.2.2 Physical Examination

Generally, the physical examination will have been done by the time the psychiatric consultation is requested, and it should be consulted for the following information:

- Height (in centimeters)
- Weight (in kilograms)
- Body mass index (BMI)
- Vital signs, including temperature and sitting/standing pulse and blood pressure
- Physical stigmata of eating disorders
- Swelling

In deciding whether or not the patient should be admitted and what the eventual disposition should be, it is important to carefully review existing standards of care, particularly the American Psychiatric Association Practice Guidelines (American Psychiatric Association, Work Group on Eating Disorders 2006). It is especially important to be familiar with recommended criteria for inpatient hospitalization; if the patient meets these criteria, listed below, then discharge to a lower level of care may not be feasible:

- Heart rate in the 40s
- Orthostatic blood pressure changes (>20 bpm increase in heart rate or >10–20 mmHg drop)
- Blood pressure below 80/50 mmHg
- Hypokalemia
- Hypophosphatemia
- Suicidal intent and plan
- Weight <75 % of ideal body weight (for children and adolescents: acute weight decline with food refusal even if not <75 % below healthy body weight)
- Very poor to poor treatment compliance/motivation: preoccupied with ego-syntonic thoughts, cooperative only in highly structured environment
- Presence of any existing psychiatric disorder that would require hospitalization
- Needing supervision during and after all meals or needing nasogastric/special feeding
- Complete role impairment: inability to eat by oneself and gain weight; structure required to prevent patient from compulsive exercising
- Needing supervision during and after all meals and in bathrooms
- Severe family conflict, problems, or absence, thus precluding the provision of structured treatment at home, or patient lives alone without adequate support system
- Lives too distantly from treatment setting to make intensive treatment feasible

Because "ideal weight" is determined not only by height but also by stage of physical development, we recommend the following steps in determining the ideal weight for the patient:

1. Determine what the ideal (approximately 50th percentile) BMI should be for the patient's age, by referring to appropriate growth charts from the Centers for Disease Control and Prevention (http://www.cdc.gov/nchs/data/nhanes/growthcharts/set2clinical/cj41l074.pdf)
2. Determine, for the patient's height, what weight should correspond to the ideal BMI, by referring to a BMI normogram or table (http://www.cdc.gov/nccdphp/dnpa/bmi/00binaries/bmi-checkbook.pdf)

Slow, steady weight gain (for example, 2 lb per week in inpatients and 1 lb per week in outpatients) is the goal for medical treatment of an eating disorder—typically anorexia nervosa—with cachexia and other physiologic complications. Weight gain, achieved through medical refeeding, is important to address not only the physiologic complications of the eating disorder but also the behavioral and emotional symptoms, which often improve dramatically with restoration of nutrition. During medical hospitalization for an eating disorder, it is extremely important to monitor for signs and symptoms of refeeding syndrome, which may include bloating and abdominal distress, edema, and, in severe cases, hypophosphatemia and cardiac failure. We recommend that the clinician perform a daily review of systems in order to assess these symptoms.

It is also very important to tailor psychotherapeutic interventions to the immediate goal of restoring normal physiologic functioning. While the clinician should convey significant support for the patient and acknowledge how emotionally challenging the "refeeding" stage is, it is important not to view apparently in-depth psychological revelation and discussion (on the patient's part) as an adequate substitute for the needed goal of weight gain. In working with the patient, the family, and other health care providers, the clinician needs to be aware that patients may not like the requirement to gain weight and may therefore (with the support of their families and possibly other health care providers) "doctor shop."

Because of the significant risks involved with both the eating disorder itself as well as its medical treatment, we recommend that consultation-liaison teams consider the use of pathways of care and standard orders for the management of eating disorders—typically anorexia nervosa with cachexia. The standard orders used at our institution are as follows:

- Dietary consult
- Electrocardiogram with rhythm strip
- Urinalysis
- Blood: erythrocyte sedimentation rate, thyroid-stimulating hormone with reflex, chemistry panel with calcium, phosphorus, and magnesium (these are not necessarily part of the panels typically ordered)
- Cardiorespiratory monitor
- Vital signs with orthostatic blood pressures
- Daily weights (after first void, dressed in hospital gown)
- Strict assessment of input/output
- Chemistries every other day or as appropriate (to evaluate for metabolic complications of refeeding syndrome, such as hypophosphatemia)
- No outside food
- Limited fluids
- Modest starting diet
- Postmeal restriction from using the bathroom
- Limited activity

32.2.3 Possible Somatoform Disorder to Explain General Medical Symptoms

It is not unusual for children and adolescents to have somatic symptoms associated with emotional distress. It is likewise fairly common for the pediatric team to request a consultation to address the issue of differential diagnosis of a somatoform disorder (Shaw et al. 2006). When the psychiatric team is consulted, the medical team is not infrequently frustrated by a symptom or sign that does not seem to have a clear organic etiology, and the team wants an additional blessing from psychiatry to make sure that an organic etiology has not been missed.

Koranyi (1979) described how a substantial number of patients in a psychiatric setting may have serious general medical illness that is either undiagnosed or labeled as psychosomatic. Of interest, even Freud (1901) described how a 14-year-old girl, who reportedly "fell ill of an unmistakable hysteria, which did in fact clear up quickly and radically under [his] care," died 2 months later "of sarcoma of the abdominal glands." He admitted that he "had perhaps overlooked the first signs of the insidious and incurable disease."

We believe that the consultation-liaison psychiatrist has a potentially important role in helping the general medical team cautiously approach the challenge presented by patients who present with possible psychosomatic symptoms in a pediatric hospital setting. To appropriately rule in or rule out psychiatric causes for general medical symptoms, we suggest that the consultation-liaison psychiatrist go through the following steps (adapted from Guerrero 2003):

(A) Adequately consider differential diagnoses:
   1. Correctly identify the chief complaint (without being inappropriately biased toward psychiatric etiologies at the exclusion of general medical etiologies).
   2. Identify mechanisms behind the chief complaint to establish an initial list of differential diagnoses (again, to avoid being narrowly focused on only psychiatric etiologies).
   3. Carefully elicit and examine other coexisting signs and symptoms to test the hypotheses.
   4. Ask "Why now?" to evaluate further which hypotheses best explain why the patient is having the symptoms *at this time.*

(B) Specifically consider life-threatening conditions:
   5. Observe the vital signs and specifically consider the most life-threatening explanations (e.g., unexplained hypertension and bradycardia, possibly associated with a space-occupying brain lesion; unexplained tachycardia, possibly associated with substance or medication toxicity).

(C) Consider child development and specific pediatric conditions:
   6. Apply knowledge of child development to the interpretation of presenting symptoms (e.g., preverbal children may manifest pain as unusual behavioral symptoms such as head-banging).
   7. Consider specific pediatric illnesses in the differential diagnosis (e.g., genetic syndromes associated with particular behavioral phenotypes; infections that are statistically probable in children and adolescents such as Epstein-Barr virus infections for depression, streptococcal infections for obsessive-compulsive spectrum disorders).

(D) Advocate for optimal general medical care:
   8. Consider the rarity of certain psychiatric conditions relative to the general medical conditions being ruled out (e.g., many of the specific somatoform disorders are, from a statistical standpoint, relatively rare compared to other general medical conditions).
   9. Consider other general medical conditions that may be comorbid or underrecognized in the context of a psychiatric condition or challenging psychosocial circumstance (e.g., sexually transmitted diseases in homeless or runaway youth).
   10. Use liaison skills in managing bias and countertransference and working with the general medical team.

(E) Effectively communicate and listen:
   11. Consider asking families what they fear may happen to their child to guide supportive explanation.
   12. Listen to other people's suggestions about diagnostic possibilities.

Given the complex nature of many of these cases, we recommend that the consulting psychiatrist follow these patients closely and work closely with the medical team. Even if it is obvious that a patient does not need psychiatric hospitalization, it is not sufficient to see the patient only once and then recommend "outpatient follow-up" without addressing the issue of the unexplained somatic symptom. Finally, in determining whether or not a patient with a possible somatoform disorder can be safely discharged, we recommend performing a final checklist:

1. Have general medical conditions been adequately ruled out?
2. Have patient/family concerns about what they are most worried is causing these symptoms been addressed?
3. Have threats to the patient's safety, including abuse/neglect, been adequately ruled out through individual and family interview?
4. Has the patient and family been "prescribed" a face-saving expected course of recovery?
5. Is there a follow-up plan?

32.2.4 Chronic or Severe Medical Illness

Often, consultations are requested for pediatric patients with chronic or severe medical illnesses, including congenital heart disease, cystic fibrosis, asthma, chronic renal failure, immunodeficiency, diabetes mellitus, cancer, seizure disorders, and various rheumatologic illnesses. We refer the reader to other chapters in this textbook for discussions of the specific illnesses. However, we believe that, in consults on pediatric patients with these conditions, it is often helpful to keep a checklist of the possible individual, family, and staff issues that may need to be addressed (while still being mindful of the specific consultation question and context of the consultation request). The checklist that we use at our institution is shown in Table 32.6.

32.2.4.1 Delirium

Delirium is a well-recognized phenomenon in the critically ill adult population. However, it has only recently been studied and characterized in the pediatric population. It has been reported in children and adolescents with CNS infections (i.e., encephalitis, lupus cerebritis), metabolic abnormalities, seizures, cancer, organ failure, critical care settings, and surgical settings. As in adults, delirium is associated with longer hospital stays and higher rates of morbidity and mortality in children and adolescents (Turkel and Tavare 2003).

Table 32.6 Checklist of the possible individual, family, and staff issues

Discussion with referring physicians:

Biologic/medical issues:

- Specific psychiatric symptoms (depression, anxiety, delirium)?
- Prognosis of medical illness, and what is child/family's understanding?
- Potential end-of-life issues?
- Potential decisional capacity concerns?
- Possibility of brain/neurologic involvement with this illness; any neuroimaging or other neurodiagnostic tests done?
- Medications (including those with neurobehavioral effects, e.g., steroids)?
- Medication and other compliance issues and real/potential barriers?
- Medical symptoms that likely impact on emotions (e.g., pain, nausea, pruritus)?
- Concern about physical symptoms not fully explained by general medical causes?
- Possibility of transplant or other major procedure in the near future?

Psychosocial issues:

- What is known about family structure and coping?

Discussion with nursing staff:

- Specific psychiatric symptoms (see above)?
- Medical symptoms that likely impact upon emotions (see above)?
- Staff responses, including possible splitting, burnout, etc.?

Discussion with family:

- Specific psychiatric symptoms (see above)?
- Medical symptoms that likely impact on emotions (e.g., pain, nausea, pruritus)?
- Perception of underaddressed medical conditions and symptoms?
- Past psychiatric and developmental history, including history of learning difficulties?
- Family members' coping? (consider administering rating forms)

Discussion with patient:

- Safety concerns?
- Screening cognitive exam, assessment of decisional capacity if applicable
- Consider administering rating forms for specific symptoms

Potential interventions:

Biologic/medical	Individual	Family	Team
• Labs/neurodiagnostics • Medications (PRN, palliative, or other medications) • Change in medications • Frequent reorientation for confusion	• Relaxation training • Coping with procedural pain and other discomfort (guided imagery, hypnosis) • Education regarding healthy and unhealthy coping	• Discussing illness with child and siblings • Education regarding healthy and unhealthy coping • Problem-solving around barriers to compliance	• Education regarding healthy and unhealthy coping • Management of countertransference, splitting; risk management • Liaison forums • Family conferences • Who is following the patient, mechanisms for follow-up and contact

Potential other consults and resources:

Mental health related	In-hospital	Other community
• Psychiatry (medications, general medical considerations) • Psychology (testing, specialized behavioral interventions) • Specific evaluation (e.g., pretransplant) • DOH/DOE services • Referrals for family members	• Social work • Chaplain • Rehabilitation (occupational therapy, physical therapy, SLT) • Risk management	• Condition-specific organizations • Hospice

Mortality rates of up to 20 % have been reported in specific pediatric subgroups such as transplantation and autoimmune diseases (Turkel and Tavare 2003).

Psychiatric consultants are often asked to assess acute mental status changes in the pediatric hospital population. The clinical presentation of delirium in the pediatric population is similar to that of adults. The DSM-V describes delirium as a disturbance in awareness, attention, and cognition that develops acutely and tends to fluctuate in severity throughout the day. Delirium usually has an acute onset (usually hours to days) and represents a significant change from baseline functioning. There are two main subtypes: hyperactive type which presents as psychomotor agitation often accompanied by emotional lability, confusion, and refusal to cooperate with medical care. The hypoactive type is more often missed as it presents with psychomotor retardation and can be accompanied by lethargy and may be accompanied by tearfulness and confusion. Individuals are usually cooperative with care. Hypoactive delirium can sometimes be mistaken for depression.

The following principles can be helpful in guiding the consultant in management of delirium:

Look for the underlying medical etiology. The mnemonic "I WATCH DEATH" can be helpful in discerning the various medical etiologies of delirium.

Use medications judiciously. Often the psychiatric consultant is called to help manage the agitation associated with hyperactive delirium. In these settings, while psychotropic medications can be helpful, it is just as important to identify the other medications that may be exacerbating delirium, such as sedatives/hypnotics (benzodiazepines), pain medications, and anticholinergic medications.

Non-pharmacological interventions can be very helpful. At our institution, we recommend memory boards (with date, name, brief one-line description of why a child is in the hospital) to help with orientation, bringing in familiar things from home (blankets, pictures, etc.), trying to keep bedtime routines (for younger children), if possible.

Rating Scales

Rating scales are useful both in the evaluation of delirium and to assess treatment response. While most scales have been designed for the adult population and adapted for use in pediatrics, there are a few scales that have been created specifically for use in the pediatric population.

The Pediatric Confusion Assessment Method for the ICU (pCAM-ICU) was developed by the Vanderbilt Pediatric Delirium Group and has been validated to assess delirium in children greater than 5 years of age. It uses a two-step approach to diagnose delirium: (1) assessment of level of consciousness (using a standardized sedation scale), (2) assessment of content of consciousness (using the pCAM-ICU). It takes into account the inherent challenges of developmental expressions of cognition by creating an Attention Screening Examination (ASE) that uses pictures of non-threatening figures that are easily recognized by children. One of the advantages of this particular scale is that is able to be given at the bedside to ventilated and non-ventilated critically ill pediatric patients by non-psychiatric trained caregivers.

The Delirium Rating Scale (DRS-98) is a valid and reliable tool created to assess delirium in a critically ill adult population and has been found to be applicable to the pediatric population as well (Trzepacz et al. 1999). The DRS-98 is a clinician-rated scale divided into a 13-item severity section and a 3-item diagnostic section. The sum constitutes the total score and a score of 10 or greater identifies delirium. The severity scale can be repeated to further measure a patient's clinical status within an episode of delirium.

MoCA

The Montreal Cognitive Assessment (MoCA) was created in 1996 and validated for assessment of mild cognitive impairment in adults. It can be useful for older adolescents, as it assesses a variety of cognitive domains, including memory, visuospatial abilities, attention, concentration, and working memory. It is a one-page 30-point test and can be administered in approximately 10 min. It has three variations and is available free of charge in numerous languages.

Management of Delirium

It is important to note that delirium may often be under-recognized in the pediatric setting and thus psychoeducation regarding the identification of delirium and appropriate steps to take to help with appropriate management is essential. Once the psychiatric consultant is called to help with management of delirium, the first step will be obtaining a thorough medical and psychiatric history as well as a comprehensive assessment of mental and cognitive status.

Environmental interventions can be very helpful in the management of delirium. Patients with delirium should be placed close to the nurses' station with a familiar staff member or family member in the room at all times. If the delirium is severe, one should consider a 1:1 sitter at all times to ensure the safety of the patient. Additionally, every effort should be made to help to restore the sleep–wake cycle as quickly as possible. Interventions in this regard can be keeping lights on and curtains open during daytime hours and lights off during nighttime hours. One may also consider the use of melatonin to help with further regulating the sleep–wake cycle. If possible, it is helpful to reduce the activity at nighttime and consolidating medical procedures, including the taking of vital signs. Further, one should consider having a clock or memory board with the date, hospital, nurse, and reason for hospitalization present in the room. Familiar objects and pictures from home can also help to make the hospital environment more comfortable for patients that have delirium.

Pharmacological Interventions

While obtaining a thorough medical history, the psychiatric consultant should also do a thorough review of medications to help identify particular medications that may be exacerbating delirium. Several medications used commonly in the critical care setting have the potential of exacerbating delirium, with some of the most common being benzodiazepines, anticholinergics, opiates, and corticosteroids. While some of these medications may be essential for the treatment of the underlying illness or to help manage specific symptoms, such as pain, or seizures, every effort should be made to reduce the frequency and dosage of these classes of medications, so as to reduce any potential adverse effects on the mental status. Benzodiazepines in particular may have different effects in children and adolescents than in adults. They may cause a paradoxical reaction, which can look like an increase in agitation and emotional lability or may also cause further disinhibition.

Antipsychotic Medications

While there are currently no FDA approved medications for delirium in the adult or pediatric population, literature does indicate that antipsychotic medication can be helpful in reducing the symptoms of agitation and confusion associated with delirium as well as reducing the psychotic symptoms that are often present with delirium (Martini 2005). In pediatric delirium, similar to adult delirium, haloperidol has been one of the most commonly used agents. It has the advantage of being available in oral, intravenous, and intramuscular formulations. However, there are certain adverse side effects that one must be cautious with, including the risk of prolongation of the QTc interval with IV formulations of haloperidol, extrapyramidal symptoms, dystonic reactions. These side effects may be more common in younger children.

Given the potential for adverse side effects with typical antipsychotics and the improved tolerability of atypical antipsychotics, one may also consider the use of atypical antipsychotics in pediatric delirium. Until recently, there was little available literature looking at the use of atypical antipsychotics in the management of delirium in children and adolescents. However, over the past 5–10 years, there have been several studies looking at the utility of atypical antipsychotics in the management of pediatric delirium. Olanzapine, risperidone, and quetiapine have all been shown to be effective in managing symptoms of delirium in the pediatric population without significant adverse side effects (Turkel 2012). While olanzapine and risperidone are available in orally disintegrating tablets, there are no atypical anitpsychotics that are available in parenteral formulations, which may, at times, limit their use in severely critically ill patients.

At our institution, we use atypical antipsychotics, including olanzapine, risperidone, and quetiapine, as first-line medications for the management of pediatric delirium.

Clinical characteristics of delirium
Fluctuating disturbance in attention and awareness
Disorientation
Impaired memory
Acute onset of change in mental status
Sleep–wake cycle disturbance
Perceptual disturbances (may have visual hallucinations, delusions)
Arousal disturbance (hyperactive, hypoactive, or mixed)
EEG findings (generalized slowing)

Differential diagnosis of pediatric delirium "I WATCH DEATH"	
*I*nfection	Encephalitis, sepsis
*W*ithdrawal	Methamphetamine, Alcohol, Benzodiazepines
*A*cute Metabolic	DKA, renal failure, electrolyte abnormalities
*T*rauma	Head injury, burns
*C*NS Pathology	Intracranial hemorrhage, abscess, tumors
*H*ypoxia	Cardiac failure, pulmonary failure, carbon Monoxide poisoning
*D*eficiencies	Vitamin B12, folate, niacin, thiamine
*E*ndocrinopathies	Hyperglycemia/hypoglycemia, hyperparathyroidism
*A*cute Vascular	Stroke, hypertensive encephalopathy
*T*oxins/Drugs	Medications, pesticides, illicit drugs
*H*eavy Metals	Lead, mercury

Adapted from Clinical Manual of Pediatric Psychosomatic Medicine (Shaw 2006).

32.3 Other Issues in Pediatric Consultation-Liaison Psychiatry

32.3.1 Outpatient Child and Adolescent Consultation-Liaison Psychiatry

A discussion of the entire specialty of child and adolescent psychiatry is beyond the scope of this handbook, but it is important for administrators of consultation-liaison psychiatric services to recognize their potential role in the provision of quality preventive and treatment-focused behavioral health care in primary care settings, including pediatric and family practice clinics.

Table 32.7 lists the suggested screening areas where consultation-liaison psychiatrists may be a helpful resource for primary care clinicians who primarily practice in outpatient settings.

When acting as a resource for outpatient primary care providers for children and adolescents and their parents, the psychiatrist should be mindful of the major causes of morbidity and mortality in children and adolescents, including accidents (often related to childhood behavioral problems or psychosocial adversities in the family), homicide, and suicide (Guerrero et al. 2003). We recommend that consultation-liaison psychiatrists should be prepared to take the following steps in preventing violence-related causes of morbidity and mortality:

- Early identification and intervention for children, adolescents, and families at risk for or involved in violence

Table 32.7 Screening tools to address specific conditions

Age group	Condition	Potential screening tools	References
Newborn to age 1 year	Maternal postpartum depression	Edinburgh Postnatal Depression Scale (EPDS)	Cox et al. (1987)
Toddler, e.g., 12–18 months	Autism and the pervasive developmental disorders	Checklist for Autism in Toddlers (CHAT)	Baron-Cohen et al. (2000)
Preschool to adolescence	Internalizing, externalizing, and attentional conditions	Pediatric Symptom Checklist (PSC)	Borowsky et al. (2003)

Table 32.8 A process for continuous improvement of the quality and value of the consultation-liaison service

Stakeholders →	Steering processes →	Program →	Operational processes →	Products
• Medical center • Training programs • Health professional colleagues	• Forums to determine how stakeholder needs are best met • Forums to review and discuss implementati-on of best practice guidelines	Pediatric consultation-liaison program (described in a continuously updated and widely disseminated manual)	• Day-to-day activities (e.g., work schedules, rounds) • Electronic medical record templates and care pathways (that are responsive to stakeholder needs and congruent with best practices)	• Patient care • Education and training ↓

↑ ← Evaluation feedback loop ←

- Facilitation of families' access to mental health care services
- Reduction of youth's unsupervised access to firearms
- Education of parents on alternatives to corporal punishment for behavior management (American Academy of Pediatrics 1999; Commission for the Prevention of Youth Violence 2000)

32.4 Educational and Administrative Aspects

Pediatric consultation-liaison may often not be financially viable based on direct revenue. According to Shaw et al. (2006), collection rates for professional billing for pediatric consultation-liaison services appear to average around 30 %. Nevertheless, pediatric consultation-liaison services can prove their significant value to the sponsoring medical center (which often provides a substantial "coverage contract" to the service) by enhancing the overall quality and efficiency of care that children and adolescents receive and by contributing to the education and training of pediatric and other health care providers. We believe that it is of utmost importance to maintain collaborative attitudes with, and financial and administrative accountability to, all stakeholders in a pediatric consultation-liaison service. Given Campo et al.'s (2000) finding that financial viability of pediatric consultation-liaison services is correlated with integration of the psychiatry program within the medical center and adequate fiscal information being provided to the psychiatry chair, we recommend regular meetings with hospital administration and the establishment of a process that allows for financial and revenue cycle issues to be regularly reviewed. We also recommend a process that allows for continuous improvement of the quality and value of the consultation-liaison service (Table 32.8).

32.5 Summary

A checklist before doing a pediatric consultation should include the following:

- Understand the context, including the general medical condition and its prognosis
- Ensure parent/guardian consent, and documentation of consultation request

The differences between pediatric and adult consultation/liaison encounters are as follows:

- The psychiatrist needs to more prominently consider the developmental level of the patient, in assessing the psychological impact of the general medical condition and its treatment.
- The psychiatrist needs to more prominently consider the family context in assessment and management, but being careful not to assume inappropriate or inadvertent roles (e.g., forensic investigator, psychiatrist providing individual treatment for a family member).
- The psychiatrist needs to appreciate the differences in responses to medications, and to become familiar with commonly used medications in pediatric consultation-liaison psychiatry.

Tips for managing suicidal or potentially suicidal patients:

- Follow hospital policies (e.g., risk assessments, standard orders).
- Ask "why now?" and use the biopsychosocial approach to crisis intervention and determination of disposition.
- Use checklists (e.g., no unsupervised access to firearms) to optimize the safety of patients being discharged.

Tips for managing *eating disorders*:

- Utilize existing practice guidelines to determine optimal site of treatment.
- Medical refeeding and slow, steady weight gain is the cornerstone of treatment in anorexia nervosa.
- Consider using standard orders or pathways of care to implement practice guidelines.

Tips for managing possible *somatoform disorders*:

- Help the team to thoroughly and conscientiously consider general medical etiologies or comorbidities.
- Help the parents to express what they are most concerned about.
- Assess the risk situations (e.g., abuse/neglect).

Tips for consultations on patients with *chronic or severe medical illnesses*:

Ensure a comprehensive approach that anticipates potential areas of intervention to benefit the patient, family, and staff.

Overall tips:

- Remember the leading causes of morbidity and mortality in children and adolescents (including accidents, homicide, suicide) and the prevalence of mental health conditions in children and adolescents.
- Remember our duty and our potential value to our stakeholders

32.6 An Illustrative Case: Eating Disorder

The patient is a 17-year-old girl, a cosmopolitan 11th grader, who was initially brought to the outpatient clinic by her mother, who was concerned about "depression." She was subsequently admitted to the inpatient pediatric unit, and a psychiatric consultation is requested for a likely eating disorder (labeled as "anorexia/bulimia.")

She reports that, ever since a breakup 1 year ago, her life has been "headed downhill." For the past 3 or 4 months, she has experienced depression, anhedonia, difficulty concentrating, and intermittent suicidal thoughts. Previously a straight-A student, she has experienced a marked decline in grades this past semester, which is nearly complete.

There is no history of any symptoms suggestive of mania or hypomania. In terms of any substance abuse, she endorses tasting alcohol at a party "once or twice," trying marijuana once, and (because she learned that it could help her to lose weight) "focusing pills," supplied by a friend. "But it was only a few times… I know better than to get hooked on pills."

Upon specific questioning, the patient reluctantly discloses that, for the past 5 or 6 months, she has been skipping meals, using her fingers to induce vomiting, and running several miles per day. She also has been consuming large amounts of water and caffeinated beverages. She says that, for her body type, she thinks her ideal weight should be around 90 lb. She has lost 25 lb since 5 or 6 months ago. She admits to thinking

constantly about her weight, and to being overwhelmed with feelings of needing to lose more weight to avoid becoming fat.

Around 1½ years ago, for a few months after quitting cross-country running, she would consume large quantities of food in a short period of time and then induce vomiting by using her fingers. She denies any history of consuming emetics, laxatives, or diuretics. "But I researched them at one point." She has been amenorrheic since 3 months ago, and has not been sexually active since her breakup.

Past medical history is negative for any significant illnesses. She is on no chronic medications and has no allergies.

32.6.1 Family History

The patient has two older brothers, ages 21 and 25. Her mother is 50 years old and in good health, and her father is 57 years old, with a history of hypertension. Family history is also significant for lupus in a maternal aunt, hypothyroidism in the paternal mother, and leukemia in her brother's infant daughter.

32.6.2 Social History

Patient had previously been involved in numerous extracurricular activities, and she had been popular among her friends. Also, her mother reports a good mother–daughter relationship throughout most of her daughter's life. However, recently, the patient has been more isolative. The patient denies any past history of physical or sexual abuse.

32.6.3 Examination

A review of systems is significant for fatigue, cold sensitivity, and episodes of light-headedness. The patient also tends to be constipated.

On examination, her vital signs are as follows: temperature 96.8 °F, sitting pulse 44 per minute, sitting blood pressure 84/54, weight 92 lb, and height 5 ft 5 in. She is dressed in thick clothing and makes fair eye contact. Her mood is depressed, and her affect is congruent and restricted. Her thoughts are linear, without delusions. There are no auditory or visual hallucinations. She denies any current suicidal or homicidal ideations. She is alert and oriented. Attention and concentration is intact. Registration is intact; however, she needs prompting to recall one of three objects after 5 min. Insight is questionable regarding her ability to connect her eating behaviors to her medical and psychological symptoms.

32.6.4 Questions

1. Calculate body mass index (BMI) (answer: 41.8 kg/1.65 m^2 yields a BMI of 15.4). Calculate 50th percentile BMI for age (answer: 21). Calculate weight for height, corresponding to 50th percentile BMI for age (answer: 126 lb). Calculate percentage of ideal body weight (answer: 92/126 = 73 %).
2. Present a biopsychosocial formulation, followed by a five-axis differential diagnosis (Table 32.9).
3. Work with the medical team to ensure appropriate management orders:

Table 32.9 A biopsychosocial formulation for eating disorders

	Biologic	Psychological	Social
Precipitating	Physiologic effects of starvation on the brain	Recent breakup	
Predisposing		Distorted body image	
Perpetuating			Isolation from family and friends

Axis I: Anorexia nervosa, binging–purging type.
Axis III: Cachexia, hypothermia, symptomatic bradycardia, and hypotension.

Admit:	To medical team care
Diagnosis:	Cachexia, hypothermia, symptomatic bradycardia with hypotension
Condition:	Fair
Vital signs:	Per routine, with orthostatic blood pressures once per shift; cardiorespiratory (CR) monitor; daily weights (after first void, hospital gown)
Allergies:	None
Activity:	Bedrest
Nursing:	Postmeal observation and restriction from using the bathroom
Diet:	Dietary consultation ASAP
	No outside food
	Begin 1,500-calorie diet
	No fluids outside of agreed-upon diet
I/O:	Strict monitoring
Meds:	
Labs:	CBC with differential
	Comprehensive metabolic profile with phosphorus and magnesium
	Erythrocyte sedimentation rate
	Thyroid-stimulating hormone with reflex to free thyroxine (T_4)
	Urinalysis
	Electrocardiogram with rhythm strip
	Daily basic metabolic profile with calcium, phosphorus, and magnesium
Consults:	Psychiatry

The patient is admitted to the medical unit for further management and refeeding. You see her daily. You provide individual and family psychoeducation, and work closely with the general medical team. With adequate stabilization of her physiological parameters and weight gain according to targeted goals, she is ready for discharge 1½ weeks later. You plan for close outpatient follow-up.

32.6.5 Further Questions

1. During the inpatient hospitalization, what complications of refeeding would you make sure to assess for on a frequent basis? (Answer: bloating, edema, hypophosphatemia.)
2. During the inpatient hospitalization, what would be the appropriate content of individual and family psychotherapy? (Answer: psychoeducation and building therapeutic alliance around primary importance of medical stabilization and weight gain.)
3. What would be the targeted rate of weight gain in an inpatient setting? (Answer: approximately 2 lb per week.)
4. How would you assess readiness for discharge? (Answer: refer to APA practice guidelines.)

References

Allen MH, Curier GW, Hughes DH, Reyes-Harde M, Docherty JP, Carpenter D. (2001). A practical guide to treatment of behavioral emergencies. *The expert consensus guidelines* (pp. 39). Minneapolis, MN: McGraw-Hill.

American Academy of Child and Adolescent Psychiatry. (2001). Practice parameter for the assessment and treatment of children and adolescents with suicidal behavior. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(7 suppl), 24S–51S.

American Academy of Child and Adolescent Psychiatry. (2002). Practice parameter for the use of stimulant medications in the treatment of children, adolescents, and adults. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(2 suppl), 26S–49S.

American Academy of Pediatrics. (1999). The role of the pediatrician in youth violence prevention in clinical practice and at the community level. *Pediatrics, 103*, 173–181.

American Psychiatric Association, Work Group on Eating Disorders. (2006). *Practice Guideline for the treatment of patients with eating disorders* (3rd ed.) Washington, DC: American Psychiatric Association. http://www.psych.org/psych_pract/treatg/pg/EatingDisorders3ePG_04–28–06.pdf

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders, fifth edition (DSM-V)*. Washington, DC: American Psychiatric Association.

Baron-Cohen, S., Wheelwright, S., Cox, A., et al. (2000). Early identification of autism by the Checklist for Autism in Toddlers (CHAT). *Journal of the Royal Society of Medicine, 93*, 521–525.

Blair, J., Scahill, L., State, M., & Martin, A. (2005). Electrocardiographic changes in children and adolescents treated with ziprasidone: A prospective study. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*, 73–79.

Borowsky, I. W., Mozayeny, S., & Ireland, M. (2003). Brief psychosocial screening at health supervision and acute care visits. *Pediatrics, 112*, 129–133.

Campo, J. V., Kingsley, R. S., Bridge, J., & Mrazek, D. (2000). Child and adolescent psychiatry in general children's hospitals. A survey of chairs of psychiatry. *Psychosomatics, 41*, 128–133.

Commission for the Prevention of Youth Violence. (2000). *Youth and violence: Medicine, nursing, and public health: Connecting the dots to prevent violence*. http://www.ama-assn.org/ama/upload/mm/386/fullreport.pdf

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *The British Journal of Psychiatry, 150*, 782–786.

Fleming, T. (Ed.). (2003). *PDR pharmacopoeia pocket dosing guide*. Montvale, NJ: Thomson.

Freud, S. (1901). *The psychopathology of everyday life* Standard edition (vol VI, p. 146). London: Hogarth Press and the Institute of Psychoanalysis.

Green, W. H. (1995). *Child and adolescent psychopharmacology* (2nd ed.). Baltimore, MD: Williams & Wilkins.

Guerrero, A. P. S. (2003). General medical considerations in child and adolescent patients presenting with psychiatric symptoms. *Child and Adolescent Psychiatric Clinics of North America, 12*, 613–628.

Guerrero, A. P. S. (2004). Failure to thrive. In L. Yamamoto, A. S. Inaba, J. K. Okamoto, M. E. Patrinos, & V. K. Yamashiroya (Eds.), *Case based pediatrics for medical students and residents* (pp. 53–54). Author House: Bloomington, IL.

Guerrero, A. P. S., Derauf, D. C., & Nguyen, M. A. K. (2003). Early detection and intervention for common causes of psychosocial morbidity and mortality in children and adolescents. *Pediatric Annals, 32*, 408–412.

Hoyert, D. L., Mathews, T. J., Menacker, F., Strobino, D. M., & Guyer, B. (2006). Annual summary of vital statistics: 2004. *Pediatrics, 117*, 168–183.

Janssen, L. P. (2006). *Full U.S. prescribing information for risperdal*^{R}. http://www.risperdalautism.com/active/janus/en_US/assets/common/company/pi/risperdal.pdf

Johnson, K. B. (1993). *The Harriet lane handbook* (13th ed.). St. Louis, MO: Mosby Year Book.

Koranyi, E. K. (1979). Morbidity and rate of undiagnosed physical illnesses in a psychiatric clinic population. *Archives of General Psychiatry, 36*, 414–419.

Lavid, N., & Budner, L. J. (2000). Review of the pharmacological treatment of delirium in the pediatric population with accompanying protocol. *Jefferson Journal of Psychiatry, 15*, 25–33.

March, J., Silva, S., Petrycki, S., Curry, J., Wells, K., Fairbank, J., et al. (2004). Fluoxetine, cognitive-behavioral therapy, and their combination for adolescents with depression: Treatment for Adolescents With Depression Study (TADS) randomized controlled trial. *JAMA, 292*, 807–820.

Martini D. R. (2005). Commentary: The diagnosis of delirium in pediatric patients. *Journal of the American Academy of Child and Adolescent Psychiatry 44*, 395–398.

Pappadopulos, E., MacIntyre, J. C., Crismon, M. L., et al. (2003). Treatment recommendations for the use of antipsychotics for aggressive youth (TRAAY). Part 2. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*, 145–161.

Shaw, R., & DeMaso, D. (2006). *Clinical manual of pediatric psychosomatic medicine: Mental health consultation with physically ill children and adolescents*. American Psychiatric Publications.

Shaw, R. J., Wamboldt, M., Bursch, B., & Stuber, M. (2006). Practice patterns in pediatric consultation-liaison psychiatry: A national survey. *Psychosomatics, 47*, 43–49.

Trzepacz P. T. (1999). The delirium rating scale: Its use in consultation-liaison research. *Psychosomatics 40*, 193–204.

Turkel, S. B., & Tavare, C. J. (2003). Delirium in children and adolescents. *The Journal of Neuropsychiatry and Clinical Neurosciences, 15*, 431–435.

Turkel, S. B., Jacobson, J., Munzig, E., & Tavaré, C. J. (2012). Atypical antipsychotic medications to control symptoms of delirium in Children and Adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 22*, 126–130.

Weller, E. B., Weller, R. A., & Fristad, M. A. (1986). Lithium dosage guide for prepubertal children: A preliminary report. *Journal of the American Academy of Child and Adolescent Psychiatry, 25*, 92–95.