as good, if not better, than medications. The combination of medications and CBT has shown the best response.

Selective serotonin reuptake inhibitors (SSRI) are useful for higher severity of symptoms and complications with comorbidities or when cognitive or emotional ability are insufficient to cooperate in CBT. If quality CBT is not available, treatment with medications alone while psychotherapy referral is pursued is a reasonable choice.

SSRI (paroxetine, fluoxetine, fluvoxamine, sertraline, citalopram and escitalopram) treatment is generally thought to show a favorable risk-to-benefit ratio in OCD. Side effects such as activation, akathisia, disinhibition, impulsivity, and hyperactivity may be seen. Monitoring of height may be advisable due to possible growth suppression associated with the SSRIs.

If an SSRI trial is unsuccessful, clomipramine can be tried next. Combination therapy using an SSRI with an antipsychotic medication (risperidone or another atypical antipsychotic) is also considered especially with specific comorbidities, for example, in tic disorders. Antipsychotics are also useful when the intrusive thoughts associated with OCD become nearly delusional in nature. Psychostimulants are used with comorbid ADHD, even though there is a risk that stimulants may increase obsessional symptoms and tics.

Most *responders* exhibit partial response only, and as many as one third of young people with OCD are refractory to treatment. Poor prognostic factors include comorbid psychiatric illness and a poor initial treatment response.

Deep brain stimulation of the basal ganglia, through surgically implanted electrodes and surgical interventions (anterior capsulotomy, anterior cingulotomy, subcaudate tractotomy, and limbic leucotomy), are reserved for very severe cases or highly refractory cases.

The differential diagnosis for OCD includes psychotic disorders, complex tics, other anxiety disorders, and obsessive-compulsive personality disorder. Often a patient with OCD recognizes that the intrusive thoughts are created by their own brain, whereas psychotic patients feel they are not created by them. This may be less clear in youth. A delusional fixation on appearance in **body dysmorphic disorder** and impulsive hair pulling to relieve anxiety or tension in **trichotillomania** can be confused with OCD. **Obsessive-compulsive personality disorder** is a character style involving preoccupation with orderliness, perfectionism, and control. No true obsessions or compulsions are present.

Chapter 20

PERVASIVE DEVELOPMENTAL DISORDERS AND PSYCHOSES

Pervasive developmental disorders, also known as **autism spectrum disorders** (ASDs), consist of five disorders: autism, Asperger syndrome, childhood disintegrative disorder, Rett syndrome, and pervasive developmental disorder not otherwise specified.

Onset of these disorders is in infancy and preschool years. Hallmarks of these disorders include impaired communication and impaired social interaction as well as stereotypic behaviors, interests, and activities. Mental retardation is common, with a few children showing remarkable isolated abilities (savant or splinter skills).

ASDs are seen in less than 1% of the population with equal prevalence among all racial and ethnic groups. The prevalence is greater in boys (except for Rett syndrome), but girls with the disorders tend to be more severely affected.

Differentiating features of the pervasive developmental disorders are listed in Table 20-1.

Treatment of ASD is symptomatic and multimodal. At present there are no treatments for the core symptoms of ASDs. Antipsychotics (risperidone, olanzapine, quetiapine, aripiprazole, ziprasidone, paliperidone, haloperidol, thioridazine) are used for aggression, agitation, irritability, hyperactivity, and self-injurious behavior. Anticonvulsants and lithium can be used for aggression. Naltrexone has been used to decrease self-injurious behavior, presumably by blocking endogenous opioids. Selective serotonin reuptake inhibitors are given for anxiety, perseveration, compulsions, depression, and social isolation. Stimulants are useful for hyperactivity and inattention (better response with Asperger syndrome). There are reports of significant worsening of irritability and aggression in some patients treated with stimulants. Alpha-2 agonists (guanfacine, clonidine) are used for hyperactivity, aggression, and sleep dysregulation, although melatonin is first-line medication for sleep dysregulation. Behavioral management training for parents is useful in teaching protocols to help their child learn appropriate behavior. Special educational services should be individualized for the child. Occupational, speech, and physical therapy are often required. Referral for disability services and support is often warranted. Potentially useful therapies tailored to the individual include applied behavioral analysis, discrete trial training, and structured teaching. There is a need for family support groups and individual supportive counseling for parents. The prognosis for autism is guarded. There are no known methods of primary prevention. Treatment and educational interventions are aimed at decreasing morbidity and maximizing function.

AUTISM

Autism, the prototypic pervasive developmental disorder, is characterized by lifelong marked impairment in reciprocal social interaction, communication, and a restricted range of activities and interests (Table 20-2). Approximately 20% of parents report relatively normal development until 1 or 2 years of age, followed by a steady or sudden decline. If no clinical manifestations of the disorder are present by 3 years of age, Rett syndrome or childhood disintegrative disorder need to be considered. As an infant, there is delayed or absent social smiling. The young child may spend hours in solitary play and be socially withdrawn with indifference to attempts at communication. Patients with autism often are not able to understand nonverbal communication (eye contact, facial expressions) and do not interact with people as significantly different from objects. Speech often is delayed and, when present, it is frequently dominated by echolalia (sometimes mistaken as a sign of obsessive-compulsive disorder [OCD]), perseveration (confused with psychosis or