19 - 31.9a Pica

31.9a Pica

meta-analysis. Pediatr Neurol. 2012;47:77–90. Kraft JT, Dalsgaard S, Obel C, Thomsen PH, Henriksen TB, Scahill L. Prevalence and clinical correlates of tic disorders in a community sample of school-age children. Eur Child Adolesc Psychiatry 2012;21:5–13. Roessner V, Plessen KJ, Rothenberger A, Ludolph AG, Rizzo R, Skov L. European clinical guidelines for Tourette syndrome and other tic disorders. Part II: Pharmacologic treatment. Eur Child Adolesc Psychiatry. 2011;20:173–196. Scharf JM, Miller LL, Mathews CA, Ben-Shlomo Y. Prevalence of Tourette syndrome and chronic tics in the populationbased Avon longitudinal study of parents and children cohort. J Am Acad Child Adolesc Psychiatry 2012;51:192–201. Spencer TJ, Sallee FR, Gilbert DL, Dunn DW, McCracken JT, Coffey BJ. Atomoxetine treatment of ADHD in children with comorbid Tourette syndrome. J Atten Disord. 2008;11:470–481. Steeves T, McKinlay BD, Gorman D, Billinghurst L, Day L, Carrol A, et al. Canadian guidelines for the evidence-based treatment of tic disorders: Behavioural therapy, deep brain stimulation and transcranial magnetic stimulation. Can J Psychiatry. 2012;57:144–151. Storch EA, Murphy TK, Geffken GR, Sajid M, Allen P, Roberti JW, Goodman WK. Reliability and validity of the Yale Global Tic Severity Scale. Psychol Assess. 2005;17:486. Verdellen C, Griendt JVD, Hartmann A, Murphya T, the ESSTS Guidelines Group. European clinical guidelines for Tourette syndrome and other tic disorders. Part III: Behavioural and psychosocial interventions. Eur Child Adolesc Psychiatry. 2011;20:97–207. Woods DW, Piacentini JC, Scahill L, Peterson AL, Wilhelm S, Chang S. Behavior therapy for tics in children: acute and long-term effects on psychiatric and psychosocial functioning. J Child Neurol. 2011;7:858–865. 31.9 Feeding and Eating Disorders of Infancy or Early Childhood Feeding and eating disorders of infancy and childhood are characterized by persistent disturbances in eating or eating-related disorders that can lead to significant impairments in physical health and psychosocial functioning. The American Psychiatric Association’s Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) category Feeding and Eating Disorders includes three disorders that are often, but not always, associated with infancy and early childhood: pica, rumination disorder, and avoidant/restrictive food intake disorder (formerly known as feeding disorder of infancy or early childhood). These three disorders are discussed in this section. Anorexia nervosa, bulimia nervosa, and binge-eating disorder are more often associated with young adulthood and discussed separately in Chapter 15. 31.9a Pica Pica is defined as persistent eating of nonnutritive substances. Typically, no specific biological abnormalities account for pica, and in many cases, pica is identified only when medical problems such as intestinal obstruction, intestinal infections, or poisonings arise, such as lead poisoning due to ingestion of lead containing paint chips. Pica is more frequent in the context of autism spectrum disorder or intellectual disability; however, pica is diagnosed only when it is of sufficient severity and

persistence to warrant clinical attention. Pica can emerge in young children, adolescents, or adults; however, a minimum of 2 years of age is suggested by DSM-5 in the diagnosis of pica, in order to exclude developmentally appropriate mouthing of objects by infants that may accidentally result in ingestion. Pica occurs in both males and females, and in rare cases, it may be associated with a cultural belief in the spiritual or medicinal benefit of ingesting nonfood substances. In this context, a diagnosis of pica is not made. Among adults, certain forms of pica, including geophagia (clay eating) and amylophagia (starch eating), have been reported in pregnant women. EPIDEMIOLOGY The prevalence of pica is unclear. A survey of a large clinic population reported that 75 percent of 12-month-old infants and 15 percent of 2- to 3-year-old toddlers placed nonnutritive substances in their mouth; however, this behavior is developmentally appropriate and typically does not result in ingestion. Pica is more common among children and adolescents with autism spectrum disorder and intellectual disability. It has been reported that up to 15 percent of persons with severe intellectual disability have engaged in pica. Pica appears to affect both sexes equally. ETIOLOGY Pica is most often a transient disorder that typically lasts for several months and then remits. In younger children, it is more frequently seen among children with developmental speech and social developmental delays. Among adolescents with pica, a substantial number of them exhibited depressive symptoms and use of substances. Nutritional deficiencies in minerals such as zinc or iron have been anecdotally reported in some instances; however, these reports are rare. For example, cravings for dirt and ice have been reported to be associated with iron and zinc deficiencies, which are corrected by their administration. Severe child maltreatment in the form of parental neglect and deprivation has been reported in some cases of pica. Lack of supervision, as well as adequate feeding of infants and toddlers may increase the risk of pica. DIAGNOSIS AND CLINICAL FEATURES Eating nonedible substances repeatedly after 18 months of age is not typical; however, DSM-5 suggests a minimum age of 2 years when making a diagnosis of pica. Pica behaviors, however, may begin in infants 12 months to 24 months of age. Specific substances ingested vary with their accessibility, and they increase with a child’s mastery of locomotion and the resultant increased independence and decreased parental supervision. Typically, in infants, paint, plaster, string, hair, and cloth are objects that may be ingested, whereas older toddlers and young children with pica may ingest dirt, animal feces, small stones, and paper. The clinical implications can be benign or lifethreatening, depending on the objects ingested. Among the most serious complications are lead poisoning (usually from lead-based paint), intestinal parasites after ingestion

of soil or feces, anemia and zinc deficiency after ingestion of clay, severe iron deficiency after ingestion of large quantities of starch, and intestinal obstruction from the ingestion of hair balls, stones, or gravel. Except in autism spectrum disorder and intellectual disability, pica often remits by adolescence. Pica associated with pregnancy is usually limited to the pregnancy itself. Chantal was 2½ years of age when her mother urgently brought her to her pediatrician due to severe abdominal pain and lack of appetite. Chantal’s mother complained that she still put everything in her mouth but refused to eat regular food. The pediatrician observed that Chantal to be pale, thin, and withdrawn. She sucked her thumb and quietly looked down while her mother reported that Chantal often chewed on newspapers and put plaster in her mouth. The medical examination revealed that Chantal was anemic and suffered from lead poisoning. She was admitted to the hospital for treatment, and a child psychiatric consultation was obtained. Further exploration of the history and the observation of mother and child during feeding and play revealed that Chantal’s mother was overwhelmed, caring for five young children and had little affection for Chantal.

Chantal’s mother was a single mother, living with her five children and four other family members in a threebedroom apartment in an old housing project. Her 7-year-old daughter had behavior problems, and her 6-year-old and 4-year-old sons were impulsive and hyperactive and required constant supervision. Chantal’s 18-month-old sister was an engaging and active little girl, whereas Chantal was withdrawn, and would sit quietly, rocking herself, sucking her thumb, or chewing on newspaper. The treatment plan included the involvement of social services and protective services to remove any lead paint from the walls in their current apartment, seek better living arrangements for the family, and provide a safe environment for the children. Chantal’s mother received guidance in enrolling Chantal in a preschool program, and her older sister and two brothers in an after-school program that provided structure and stimulation, and some respite time for her mother. Chantal, her mother, and her younger sister started family therapy to help their mother’s understanding of her children’s needs and to increase her positive interactions with Chantal. Once Chantal’s mother felt more supported and less overwhelmed, she was able to become more empathic and warm toward Chantal. When Chantal began chewing on paper, her mother was coached to engage her in a play activity rather than screaming at her and grabbing her mouth. Chantal and her mother continued in therapy for a year, during which their relationship gradually became more interactive and warm, while Chantal’s chewing behaviors decreased, and even her thumb sucking abated. PATHOLOGY AND LABORATORY EXAMINATION

No single laboratory test confirms or rules out a diagnosis of pica, but several laboratory tests are useful because pica has sometimes been associated with abnormal levels of lead. Levels of iron and zinc in serum should be determined and corrected if low. In rare cases when this is the etiology, pica may disappear when oral iron and zinc are administered. Hemoglobin level should be determined to rule out anemia. DIFFERENTIAL DIAGNOSIS The differential diagnosis of pica includes avoidance of food, anorexia, or rarely iron and zinc deficiencies. Pica may occur in conjunction with failure to thrive, and be comorbid with schizophrenia, autism spectrum disorder and Kleine-Levin syndrome. In psychosocial dwarfism, a dramatic but reversible endocrinological and behavioral form of failure to thrive, children often show bizarre behaviors, including ingesting toilet water, garbage, and other nonnutritive substances. Lead intoxication may be associated with pica. In children who exhibit pica that warrants clinical intervention, along with a known medical disorder, both disorders should be coded according to DSM-5. In certain regions of the world and among certain cultures, such as the Australian aborigines, rates of pica in pregnant women are reportedly high. According to DSM-5, however, if such practices are culturally accepted, the diagnostic criteria for pica are not met. COURSE AND PROGNOSIS The prognosis for pica is usually good, and typically in children with normal intellectual function, pica generally remits spontaneously within several months. In childhood, pica usually resolves with increasing age; in pregnant women, pica is usually limited to the term of the pregnancy. In some adults with pica, particularly those who also have autism spectrum disorder and intellectual disability, pica can continue for years. Followup data on these populations are too limited to permit conclusions. TREATMENT The first step in determining appropriate treatment of pica is to investigate the specific situation whenever possible. When pica occurs in the context of child neglect or maltreatment, clearly those circumstances must be immediately corrected. Exposure to toxic substances, such as lead, must also be eliminated. No definitive treatment exists for pica per se; most treatment is aimed at education and behavior modification. Treatments emphasize psychosocial, environmental, behavioral, and family guidance approaches. An effort should be made to ameliorate any significant psychosocial stressors. When lead is present in the surroundings, it must be eliminated or rendered inaccessible or the child must be moved to new surroundings. When pica persists in the absence of any toxic

manifestations, behavioral techniques have been utilized. Positive reinforcement, modeling, behavioral shaping, and overcorrection treatment have been used. Increasing parental attention, stimulation,

---

Revision #1
Created 2026-01-04 19:52:12 UTC by Omar Ayman
Updated 2026-01-04 19:52:12 UTC by Omar Ayman