

Pica: The Mysterious Eating Disorder

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Epidemiology & Risk Factors

While the percentage of the population that suffers from pica is unknown, common risk factors are: (a) nutritional deficiencies such as iron-deficiency anemia, (b) low socioeconomic status due to the inaccessibility of nutritious foods, (c) non-discriminating oral behaviors in those with intellectual disabilities, (d) an underlying biochemical behavior, and (e) GI distress. No specific laboratory tests are indicated to evaluate pica. Although this disorder is seen most frequently in children and the developmentally disabled, it is also observed in pregnant women who ingest starch to quell morning sickness.

Clinical Manifestations & Complications

Patients have been reported to ingest a variety of substances including, but not limited to: (a) clay, (b) dirt, (c) stones, (d) cigarette butts, and (e) lead paint and soil. Lead poisoning affects the CNS and leads to irreversible neurological damage; it is also associated with decreased renal function and hypertension. Lead ingestion is commonly observed in children who are left unattended and live in homes with lead-based paint. It is recommended that high-risk populations be tested early and frequently for levels of lead in the blood: (a) children in areas where at least 27% of homes were built prior to 1950, (b) areas where the prevalence of elevated blood levels in children are at least 12%, and (c) high risk children between the ages of one and two years old.

What is Pica?

'Pica' is the Latin word for *magpie*, a bird that ingests inedible substances. The **DSM-V** defines pica as a disorder of *persistent eating of nonnutritive, nonfood substances over a period of at least one month.* Pica is often seen as a social anomaly which prevents most patients from admitting their behavior. As the behavior continues untreated, patients will experience the adverse effects of ingesting foreign materials. Thus, healthcare providers and family members should educate themselves on pica's etiologies and manifestations to prevent complications and avoid unnecessary hospitalizations.





Assessment & Diagnosis

No specific laboratory tests are indicated to evaluate pica. Providers have found success in diagnosing pica through: (a) dietary history, (b) interviewing family members, and (c) a high index of suspicion. Without verbal admittance, the only way to evaluate pica is to test for nutrient deficiencies and identify ingested materials using: (a) abdominal radiography, (b) barium enema, and (c) upper GI endoscopy.

Prevention & Treatment

Complication of pica include obstruction or perforation of the GI tract and lead poisoning. There is no definitive management for pica but current therapies include (a) nutrient replacement, (b) behavioral therapy, and (c) dopaminergic medications such as olanzapine. Pica is a condition that requires a multidisciplinary approach utilizing physicians, psychologists, and social workers and it is recommended that healthcare providers treating high-risk patients ask appropriate primary and exploratory questions during physical exams.



REFERENCES

Ali, Z. (2001). Pica in People with Intellectual Disability: A Literature Review of Etiology, Epidemiology and Complications. Journal of Intellectual & Developmental Disability, 26(3), 205-215. doi:10.1080/13668250020054486

American Psychiatric Association. (2013). Diagnostic and Statistical Manual of Mental Disorders (5th ed.). Arlington, VA: American Psychiatric Publishing

Centers for Disease Control and Prevention. (2017). Lead Toxicity What Are Possible Health Effects from Lead Exposure? Retrieved from https://www.atsdr.cdc.gov/csem/csem.asp?csem=34&po=10 Chalker, A. E. (2017). The Psychopathology of Pica: Etiology, Assessment, and Treatment. Inquiries Journal, 9(2). Retrieved from http://www.inquiriesjournal.com/articles/1540/2/thepsychopathology-of-pica-etiology-assessment-and-treatment

Ellis, C. R., Schnoes, C. J., & Pataki, C. (2017). Pica. Retrieved from

https://emedicine.medscape.com/article/914765-overview Federman, D. G., Kirsner, R. S., & Federman, G. S. (1997). Pica: Are You Hungry for the Facts? Connecticut Medicine, 61(4), 207-209. Retrieved from http://europepmc.org/abstract/med/9149482

Ivascu, N. S., Sarnaik, S., Mccrae, J., Whitten-Shurney, W., Thomas, R., & Bond, S. (2001). Characterization of Pica Prevalence Among Patients with Sickle Cell Disease. Archives of Pediatries & Adolescent Medicine, 155(11). doi:10.1001/archpedi.155.11.126

Johnson, B.E (1990). Clinical Methods: The History, Physical, and Laboratory Examinations (3rd ed.). Retrieved from: https://www.ncbi.nlm.nih.gov/books/NBK255/pdf/Bookshelf_NBK255.pdf Kirchner, J. T. (2001). Management of Pica: A Medical Enigma. American Family Physician, 63(6), 1177-1178. Retrieved from https://www.aafp.org/afp/2001/0315/p1177.html.

Lanzkowsky, P. (1959). Investigation into the Etiology and Treatment of Pica. Archives of Disease in Childhood, 34(174), 140-148. doi:10.1136/adc.34.174.140

Rogge, T., Zieve, D. & Ogilvie, I. (2016). Pica. Retrieved from

https://medlineplus.gov/ency/article/001538.htm

Rose, E. A., MD, Porcerelli, J. H., PhD, & Neale, A. V., PhD. (2000). Pica: Common but Commonly Missed. Journal of the American Board of Family Medicine. 13(5), 353-358. doi:10.3122/15572625-135-353