



Helping Youth with Pica: Insights for Caregivers

Rachel L. Moline, PhD, RPsych – Canmore Child & Family Psychology – Canmore, AB

INTRODUCTION

Imagine a young toddler playing with her toys and bringing a train to her mouth to explore. Caregivers watch with delight, intervening only when she goes to put a piece of Lego in her mouth – swallowing hazard and crisis averted! When this youngster grows and can grab things, her caregivers are more watchful, in case she tries to eat Spot’s dog food or a battery. Typically, over time, young children explore things with their mouths *less* and begin to distinguish between what is safe and unsafe to eat.

Now imagine this girl is 6 years old, and her eating of non-food items has not stopped. Walking to school, she picks up a dandelion and eats the flower. Her teacher watches with concern when she begins eating the crayons during class – and her reminders not to eat them are ineffective. Now her classmates are teasing her and laugh when the teacher takes away her crayons. She feels upset by the negative attention. When she returns home, her parents remove the cleaning products from the bathroom before she enters, fearful she might swallow chemicals. Later, they notice a chunk bitten out of the soap. They scold her and tell her why it is unsafe but she denies it and storms into her room. She feels like she has no control and the urge to eat the soap was so strong that she had “no choice”. She thinks about her teacher and classmates and feels embarrassed and “weird”. Feeling overwhelmed and alone, she reaches for her chapstick. She bites off a piece; the texture of it in her mouth feels comforting to her. Her parents are downstairs and reading with unease an e-mail from school staff about their safety concerns. They can

relate to the burden and stress that accompany keeping their daughter safe. Understandably, this girl’s pattern of eating of non-food behaviours, or *pica*, is concerning and poses a threat to her health. These safety concerns are omnipresent for caregivers of youth with pica.

Pica is characterized as a feeding and eating disorder involving “eating non-nutritive, non-food substances over a period of at least one month” as per the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5; American Psychiatric Association, 2013). Pica is associated with considerable health risks (e.g., diarrhea, constipation, toxicity, lead poisoning, and bowel obstructions and perforations; Call, Simmons, Mevers, & Alvarez, 2015) which can be life-threatening. The significant social, emotional, and physical health consequences of pica for individuals have been long-recognized, however, the impact on caregivers is underemphasized in research and treatment approaches (Moline, Thomassin, & Hou, 2023). Pica does in fact significantly affect parents, daycare staff, and teachers which deserves attention (Thomas, Bowman, Sanchez & Strohmeier, 2023).

“The significant social, emotional, and physical health consequences of pica for individuals have been long-recognized, however, the impact on caregivers is underemphasized in research and treatment approaches.”

WHAT DO WE KNOW ABOUT THE CAUSES/ ASSOCIATED FACTORS WITH PICA?

Pica is most commonly observed in pregnant women, children under 6 years of age, and those with neurodevelopmental disorders or other DSM-5 conditions (e.g., psychosis; attention-deficit/hyperactivity disorder [ADHD]; obsessive-compulsive disorder; Bhatia & Gupta, 2009). Pica is more common in children with neurodevelopmental disorders, including intellectual development disorder (IDD) and autism spectrum disorder (ASD; Fields et al., 2021). While the exact causes of pica are not fully known, it has been linked to multiple biopsychosocial factors that interact to influence its development. Namely, biological factors including sickle cell anemia, pregnancy, and nutritional deficiencies (e.g., iron deficiency; Miao, Young, & Golden, 2014), and social and psychological factors including adverse childhood experiences such as neglect, inadequate supervision, and environmental stressors, such as poverty (Singhi, Singhi, & Adwani, 1981), and comorbid conditions have been associated with pica.

“While the exact causes of pica are not fully known, it has been linked to multiple biopsychosocial factors that interact to influence its development.”

WHAT HAVE WE LEARNED ABOUT TREATING PICA?

Progress in our understanding and treatment of pica is ongoing and there are successful treatment approaches. Research on pica is largely geared toward clinicians, to establish guidance for treatment plans. Treatments for youth pica are behaviourally focused. In particular, treatment packages, or a blend of behavioural tools, are recommended (Williams & McAdam, 2012; Moline, Hou, Chevrier, & Thomassin, 2021). A systematic review of clinician-led behavioural interventions for youth pica identified certain interventions that have demonstrated effectiveness (Moline, Hou, Chevrier, & Thomassin, 2021). Historically, punishment-based procedures were more common, which ranged from time-outs to adding negative

stimuli like overcorrection (e.g., after eating a non-food item, the youth must throw out 5 preferred pica items).

However, reinforcement-based procedures are the recommended first target and focus of the treatment package. These may be paired with other interventions, such as response-blocking. The following are examples of behavioural tools involved in a treatment package (Moline et al., 2021):

- **Reinforcement-based interventions** aim to reinforce the desired behaviours, for example, rewarding the youth for *not* engaging in pica. There are different kinds of reinforcement that can be used, such as:
 - **Noncontingent reinforcement** – doing something to compete with the pica (e.g., rewarding them following a schedule when the youth isn't engaging in pica).
 - **Contingent reinforcement** – reinforcing the desired behaviours (e.g., giving a reward and positive attention at the moment in which they do not go to eat the crayon).
 - **Substitution** – exchanging the non-food item with a food item (e.g., replacing the pencil crayon with chips; Kern, Starosta, & Adelman, 2006).
 - **Environmental enrichment** – providing alternatives, like snacks, music, or other activities to the youth's environment (Falcomata, Roane, & Pabico, 2007).
 - **Discrimination training** – teaching the youth to recognize what is safe and not safe to consume, and the risks of pica (Johnson, Hunt, & Siebert, 1994).
 - **Response blocking** – involves interrupting the act of pica, such as moving the youth's hand away from their mouth when they are about to eat a non-food item. While response blocking can be necessary for safety, this is not a stand-alone effective treatment and should accompany other interventions.

Newer publications highlight growing support for the integration of parents/caregivers and social and emotional factors in treating youth pica. Excitingly, research has demonstrated the effectiveness of **parent/caregiver involvement** (Moline, Thomassin, & Hou, 2023; Thomas, Bowman, Sanchez & Strohmeier, 2023; Taylor, 2020), and using transdiagnostic approaches to treating youth pica. Transdiagnostic approaches target underlying mental health symptoms that span across different diagnoses and can support multiple presenting challenges, such

as anxiety, depression, or challenging behaviours (for a case study in which this is applied to pica, see Moline, Thomassin, & Hou, 2023). These recent developments build on the evidence demonstrating the positive outcomes for caregiver interventions in youth eating disorders, including Emotion Focused Family Therapy (EFFT; Nash, Renelli, Stillar, Streich, & Lafrance, 2020).

PRACTICAL TIPS FOR CAREGIVERS FACING YOUTH PICA (GOING BEYOND THE RESEARCH)

Below are some tips and strategies for caregivers seeking to support their loved one with pica alongside professional interventions. *These tips are not meant to replace professional treatment.*

Building a treatment team

Medical doctor:

- Seek ongoing monitoring from a physician. Discuss the pica and provide details (e.g., the non-food items consumed). Discuss accompanying diagnoses like ASD or ADHD, and treatment considerations.
- Explore testing such as blood work to investigate nutritional deficiencies or possible toxicities (e.g., consumption of paint chips with lead), and imaging for possible bowel obstruction or perforation, etc.

Experienced treatment providers:

- Seek a qualified mental health professional (e.g., psychologist) with experience treating pica (Williams & McAdam, 2012).
- Seek a dietitian who specializes in eating disorders and pica. A dietitian can assess for and help treat nutrient deficiencies that might be underlying the pica behaviour, and can also address other disordered eating patterns that may be present.

Caregivers:

- Primary caregivers are important allies to their youth in treatment. Caregivers can communicate with teachers, coaches, and other care providers to teach how to intervene and prevent pica, flagging known risks/hazards (Williams & McAdam, 2012).

CAREGIVER SUPPORT TIPS

To build on the treatment plan established by the treatment provider(s), caregivers can implement the following tips, which draw from a transdiagnostic approach informed by Chorpita & Weisz, 2009 (Moline, Thomassin, & Hou, 2023) and expand on strategies rooted in behavioural interventions for pica (Williams & McAdam, 2012) and caregiver-focused treatments, including EFFT (Lafrance, Henderson, & Mayman, 2020; Moline et al., 2021).

- **Take safety precautions.** Remove poisonous, dangerous, and preferred non-food items from easy access and increase supervision.
- **Identify triggers, high-risk times, and learn what comes before and after the pica, or the ABCs (antecedent, behavior, and consequence).**
 - **Get curious and track the pica.** When, and in what contexts, does it happen? What are the triggers? Have they preferred non-food items? What aren't you seeing? How do you respond to seeing it (and how they respond in turn)?
 - **Become a detective with them.** Does the youth know what the triggers are? Support them to develop this awareness (e.g., "Were you feeling bored at school when you went for the crayons?"). Explore the urge or compulsion to eat non-food items (i.e., associated thoughts, feelings, actions).
 - **Talk about it.** Explain pica to the youth and provide factual information (e.g., what is safe and unsafe to eat). Discuss the love and desire to protect that is motivating the caregivers' efforts to stop the pica.
 - Talk about the feelings. Validate their accompanying feelings and be curious and nonjudgemental (e.g., "I can imagine you may have felt stressed when I talked about the soap, and perhaps you were already feeling sad and embarrassed about what happened in class... I can imagine how you might be looking for comfort in those moments").
 - Support the youth to be aware of, and collaborate on ways to inhibit pica behaviours, as guided by the clinician's treatment plan.
 - Communicate hope. Share with the youth a sentiment of "We've got this and we're in this together."

- **Make a plan.** Once the youth can notice their triggers and urges, **give them something to do instead** (e.g., “When I see crayons, and I feel pulled to eat them, I am going to chew a piece of gum instead”).
 - Create a “feel good” or “self-soothing” box that contains options to supplant or replace the pica behaviour with a different behaviour. If the youth gravitates toward pica items with a certain texture, identify a food alternative (i.e., if they like the softness and viscosity of hand cream, have a yogurt tube readily available).
 - Limit access to preferred non-food items preemptively (e.g., remove the soap bar; talk with the teacher to replace crayons with markers).
 - As caregivers, planning involves thinking ahead and feeling prepared with a game plan.
 - For example, if vacation or transition periods are stressful for the youth, plan for a possible increase in pica symptoms and prepare (i.e., have snacks/alternatives for the youth, increase supervision and structured activities to help them feel engaged and supported).
- **Highlight meaningful positive connections** to replace or interrupt the pica. Increased supervision of the youth can lead to a disproportionate amount of negative reinforcement, such as corrections, instructions, and demands, compared to positive reinforcement, like praise. For example, it is more common to regularly interrupt a child and correct something (e.g., to call out, “Don’t hit your sister!”) versus interrupt to *praise* and *celebrate or reinforce* something (e.g., “Look at you both playing so collaboratively”).
 - **Keep in mind the *balance* of negative versus positive reinforcement**, aiming for a higher ratio of praise and positive reinforcement.
 - **Reinforce the positive.** Reinforcement increases a behaviour (e.g., “Excellent job not eating the crayons and grabbing your fidget toy”) and is more effective in changing behaviour compared to punishment (Papageorgi, 2021). Positive reinforcement is more likely to build the young person’s belief in themselves and their self-direction than punishing a behaviour, which may lead to negative outcomes (Papageorgi, 2021).
- **When interrupting/intervening with the pica, be nonjudgemental and calm.** “De-energize” first (e.g., by taking some deep breaths) if feeling activated or overwhelmed, and try to intervene in a calm and collected way.
 - For example, “I am seeing you go to eat that (or have taken a bite of X), so I am going to take that away to keep us safe. Let me pass you [chewelry, snack, gum, fidget toy], and let’s notice together what’s happening (in your body, mind)...”)
- **Strengthen caregiver and child connection.** For example, schedule regular opportunities for “one-on-one time” allocated to meaningful connection with the youth, joining them in an activity of their choice, having fun, and not correcting/teaching.

CONCLUSION AND FUTURE DIRECTIONS

Although pica can pose life-threatening risks, it is treatable, and caregivers play an important role in supporting their child’s recovery. In the future, it might be fruitful to explore EFFT as an accompanying caregiver treatment. EFFT focuses on caregivers as the way *through* a youth’s eating disorder, with effectiveness in promoting recovery (Nash et al., 2020). This could build upon the youth-focused pica treatment by empowering caregivers and aiming to bolster their feelings of self-efficacy in their ability to provide their child with the support they need to combat the pica.

REFERENCES

1. American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing. <https://doi.org/10.1176/appi.books.9780890425596>
2. Bhatia, M. S., & Gupta, R. (2009). Pica responding to SSRI: An OCD spectrum disorder? *The World Journal of Biological Psychiatry: The Official Journal of the World Federation of Societies of Biological Psychiatry*, 10(4 Pt 3), 936–938. <https://doi.org/10.1080/15622970701308389>
3. Call, N., Simmons, C., Mevers, J., & Alvarez, J. (2015). Clinical outcomes of behavioral treatments for pica in children with developmental disabilities. *Journal of Autism & Developmental Disorders*, 45(7), 2105–2114. Retrieved from <http://10.0.3.239/s10803-015-2375-z>
4. Chorpita, B. F., & Weisz, J. R. (2009). Modular approach to therapy for children with anxiety, depression, trauma, or conduct problems (MATCH-ADTC). PracticeWise, LLC.
5. Falcomata, T. S., Roane, H. S., & Pabico, R. R. (2007). Unintentional stimulus control during the treatment of pica displayed by a young man with autism. *Research in Autism Spectrum Disorders*, 1(4), 350–359. <https://doi.org/10.1016/j.rasd.2006.12.004>
6. Fields, V. L., Soke, G. N., Reynolds, A., Tian, L. H., Wiggins, L., Maenner, M., ... & Schieve, L. A. (2021). Pica, autism, and other disabilities. *Pediatrics*, 147(2), e20200462. <https://doi.org/10.1542/peds.2020-0462>
7. Johnson, C. R., Hunt, F. M., & Siebert, M. J. (1994). Discrimination-training in the treatment of pica and food scavenging. *Behavior Modification*, 18(2), 214–229.
8. Kern, L., Starosta, K., & Adelman, B. E. (2006). Reducing pica by teaching children to exchange inedible items for edibles. *Behavior Modification*, 30(2), 135–158. <https://doi.org/10.1177/0145445505283414>
9. Lafrance, A., Henderson, K. A., & Mayman, S. (2020). *Emotion-focused family therapy: A transdiagnostic model for caregiver-focused interventions*. American Psychological Association. <https://doi.org/10.1037/0000166-000>
10. Miao, D., Young, S. L., & Golden, C. D. (2015). A meta-analysis of pica and micronutrient status. *American Journal of Human Biology*, 27(1), 84-93.
11. Moline, R., Hou, S., Chevrier, J., & Thomassin, K. (2021). A systematic review of the effectiveness of behavioural treatments for pica in youths. *Clinical Psychology & Psychotherapy*, 28(1), 39-55.
12. Moline, R., Thomassin, K., & Hou, S. (2023). A transdiagnostic, modular approach to treating pica in young girl. *Clinical Practice in Pediatric Psychology*, 11(1), 58.
13. Nash, P., Renelli, M., Stillar, A., Streich, B., & Lafrance, A. (2020). Long-term outcomes of a brief emotion-focused family therapy intervention for eating disorders across the lifespan: a mixed-methods study. *Canadian Journal of Counselling and Psychotherapy*, 54(2), 130-149.
14. Papageorgi, I. (2021). Positive and negative reinforcement and punishment. In *Encyclopedia of Evolutionary Psychological Science* (pp. 6079-6081). Cham: Springer International Publishing.

15. Singhi, S., Singhi, P., & Adwani, G. B. (1981). Role of psychosocial stress in the cause of pica. *Clinical Pediatrics*, 20(12), 783–785. <https://doi.org/10.1177/000992288102001205>
16. Taylor, T. (2020). Assessment and treatment of pica within the home setting in Australia. *Behavioral Development*, 25(1), 40–51. <https://doi.org/10.1037/bdb0000094>
17. Thomas, B. R., Bowman, M. D., Sanchez, A., & Strohmeier, C. W. (2023). Parent treatment of complex pica in a teen with autism. *Behavioral Interventions*, 38(3), 611–624. <https://doi.org/10.1002/bin.1956>
18. Williams, D. E., & McAdam, D. (2012). Assessment, behavioral treatment, and prevention of pica: Clinical guidelines and recommendations for practitioners. *Research in Developmental Disabilities*, 33(6), 2050–2057. <https://doi.org/10.1016/j.ridd.2012.04.001>



NEDIC Helpline (416) 340-4156
or Toll-Free 1-866-NEDIC-20
Live Chat: www.nedic.ca
E-mail: nedic@uhn.ca

Through our programming, campaigns, and national toll-free helpline, NEDIC is committed to prevention, building awareness and ensuring that people no longer suffer in silence.