INFORMATION SHEET

Pica (Eating Inedible Objects)

What is pica?

Pica refers to eating objects which are inedible such as stones, faeces, clothing and cigarette butts. Pica may be specific to just one inedible object or an individual may ingest a variety of different inedible objects.

Research into causes, assessment and interventions for pica are extremely limited. This information sheet is based on the research that is available and current clinical practice.

What are the risks?

Whilst some objects may pass harmlessly through the body, pica can be potentially life threatening. Risks range from vomiting, constipation and infections to blockages in the gut and intestines, choking and poisoning. In some cases, surgery may be needed to remove objects from an individual's gut or to repair tissue injuries.

⇨ If you are worried about an individual who has eaten an inedible object it is very important to contact their GP or your nearest accident and emergency department for medical advice.

What causes pica?

The specific causes of pica are unknown, but certain conditions and situations can increase an individual's risk of developing pica, these are:

- learning disabilities
- autism
- nutritional deficiencies
- pregnancy.

It is estimated that between 4% and 26% of individuals with a learning disability display pica behaviour[1, 2, 3]. It is thought that the more severe the individual's learning disability the greater the chance that they will display pica[4].

Health checks

Pica can be associated with mineral deficiencies including iron and zinc[5].

⇨ A general health check should be conducted by the individual's GP. Tests to rule out iron and zinc deficiencies as the cause of pica should be considered.

There is also limited evidence which associates pica with mental health problems[4].

⇨ A psychiatric assessment to rule out mental health problems should be considered.

© The Challenging Behaviour Foundation. Registered as a charity no. 1060714. www.challengingbehaviour.org.uk
Registered office: The Old Courthouse, New Road Avenue, Chatham, ME4 6BE. Tel: 01634 838739

Assessing pica

Functional Assessment

Functional assessment is the most commonly used way in which professionals such as clinical psychologists and behavioural nurse specialists try to find out what the causes of pica are. Functional assessment aims to look at **why** the individual is eating inedible objects. Ways of reducing or eliminating the pica based on the causes identified during the assessment are then used to form a behaviour support/intervention plan. Please see the Challenging Behaviour Foundation Information sheet “Functional Assessment” for detailed information on functional assessment.

A functional assessment usually involves a clinician interviewing the individual’s main carer and the use of recording charts. However in some circumstances an analogue assessment may be used. An analogue assessment is when artificial “test” situations are used to try to establish what is causing the pica behaviour.

The reasons why individuals with learning disbailities engage in challenging behaviour are usually explained in the following four ways:

1. Social attention

Does the individual receive a lot of attention as a result of ingesting inedible objects? If so the individual may have learned that eating inedible objects means that they are rewarded with lots of adult attention. Even if the attention is negative e.g. “no”, or shouting, this can prove rewarding and may lead to the behaviour being repeated in the future. Additionally the natural reaction when an individual eats an inedible object is concern and care, for example, a hospital visit may be essential to ensure the individual’s wellbeing. However the concern and care may also prove rewarding for the individual and increase the likelihood that the behaviour will be repeated again in the future.

2. To obtain a favourite activity, object, food or drink (tangibles)

Does the individual receive a favourite object, activity or food or drink after ingesting inedible items? If so the individual may have learned to associate eating inedible objects with obtaining a favoured item and this may lead to the behaviour being repeated again in order to obtain the favoured item. Additionally the activities of going to a hospital or doctor’s surgery e.g. ride in an ambulance/car, waiting room, consultation etc. may prove rewarding for the individual.

3. To escape from an activity or situation

Does the individual escape from tasks they don’t want to do or situations that they don’t want to be in as a result of ingesting inedible items? If so then the individual may have learned that eating inedible objects is associated with escape from disliked situations or tasks. They are then more likely to repeat the pica behaviour in the future to avoid the task/situation again.

4. Sensory feedback

Is the texture, taste, smell or visual information similar between objects? If so the individual may have learned to associate eating particular inedible objects with experiencing an

© The Challenging Behaviour Foundation. Registered as a charity no. 1060714. www.challengingbehaviour.org.uk
Registered office: The Old Courthouse, New Road Avenue, Chatham, ME4 6BE. Tel: 01634 838739

enjoyable or unusual texture/taste/smell or visual information. Cigarettes are commonly eaten by individuals with a severe learning disability. Research has shown that the nicotine in cigarette butts reinforces the behaviour [6], [7]. Additionally it is important that people generally have things and activities in their life that they enjoy. If the individual lacks these then boredom may result in pica.

Note that the individual who engages in pica to obtain attention or one of the other consequences described above will not usually be deliberately or consciously seeking the consequence. Rather, in situations of need, they behave automatically in ways which have been successful in the past.

Interventions for pica

The following examples of interventions are not intended to be exhaustive but to provide some examples of how clinicians and parents working in partnership can seek to eliminate or reduce pica behaviour.

Interventions based on the cause(s) of pica

1.) Social attention

If pica is motivated by gaining social attention, an intervention strategy may include ignoring the pica behaviour (only if it is safe to do so) or preventing the individual from eating the object with the minimum possible attention. This may include not giving any eye contact, maintaining a ‘neutral’ facial expression and using speech to issue instructions only (no social chat) in a neutral tone of voice. Providing the individual with lots of positive social attention when the individual is not engaging in pica is essential. Additionally trying to increase the individual’s communication skills so that they have a less dangerous way of requesting attention would be an important long term goal.

Case Study 1

After moving to a residential service, Samantha started to search out and swallow small objects around the house. The behaviour developed over the course of a year, from her picking up small items of fluff or paper from the floor and eating them, to swallowing coins, pen tops, and other larger items, and this resulted in several trips to Accident and Emergency. Staffing had been increased to monitor her continually and prevent the behaviour, and although this reduced the frequency considerably, she still managed to find small objects and swallow them, and continually looked for opportunities to do this. She was observed for a period of several weeks, and the recordings showed that she was more likely to engage in the behaviour when there were fewer staff present, and because of the risk, staff reacted to the behaviour with a great deal of attention. It was felt that the behaviour attracted and maintained staff attention, and had developed because she had moved from a home environment where she had continual attention to one where she had to share the attention of staff with other residents of the house, and she had learned that putting things in her mouth resulted in a great deal of attention. An intervention was developed where staff responded as little as possible when she ate something inappropriate, but gave her large amounts of attention when she was engaging in other behaviours. The behaviour reduced significantly, but still re-emerges occasionally when staffing levels are low.

© The Challenging Behaviour Foundation. Registered as a charity no. 1060714. www.challengingbehaviour.org.uk
Registered office: The Old Courthouse, New Road Avenue, Chatham, ME4 6BE. Tel: 01634 838739

2.) To obtain a favourite activity, object, food or drink (tangibles)

If pica is motivated by obtaining a favourite activity, object, food or drink an intervention strategy may include making sure the individual is able to access their favourite activity/object/food/drink without needing to eat an inedible item. Additionally working towards increasing the individual's communication skills so they have another way to request their favourite activity/object/food/drink e.g. with a symbol or sign would be an important long term goal.

3.) To escape from an activity or situation

If pica is motivated by escaping from an activity or situation an intervention strategy may include looking for early warning signs (i.e. any behaviours that tend to occur prior to the pica) that alert you to the possibility that the individual wants to end an activity or escape from a situation. If possible try to end the task/move to a new situation before the individual engages in pica. It is also important to look at why the individual wants to finish the activity. Is it something they don't like? Have they been doing it for too long? Is it too difficult? An important long term goal would be working towards increasing the individual's communication skills so that they have a less dangerous way of saying "no" or "finished" or "break", e.g. signing "finished".

Case Study 2

Susie shows a large number of repetitive behaviours that are associated with her autism. She tries to spend a lot of time on her own and away from other people. She had developed the behaviour of keeping small amounts of faecal material in her hand after visiting the toilet, and putting this in her mouth. Clear records of the behaviour were kept, and it was found that because of the behaviour, she was interacted with far less frequently than other people she lived with, and carers openly said that they found it difficult to be with her because of the behaviour. The observations suggested that she had developed the behaviour because she was unable to communicate to carers when she needed to spend time away from other people, but had learned that the behaviour allowed her to do this. A communication system was developed where Susie could clearly indicate to others when she wanted to be alone and staff would respect and facilitate this. Susie learned to use this system very effectively and the eating of faecal material disappeared. Observations were continued, and the amount of time she interacted with others actually increased. It was thought that this was because once she had a reliable way of isolating herself, she felt more in control of situations.

4.) Sensory feedback

If pica is motivated by sensory feedback e.g. the smell of the object, the colour of the object or the texture of the object then an intervention plan may be based on providing the individual with items which give the individual the same type of sensory feedback without being harmful. Once an alternative has been identified this could be scheduled in as an activity for certain times of the day to reduce the impact on the individual's daily routine.

Case Study 3

Ever since his family and carers could remember, Jimmy picked up cigarette butts in the street and from ash trays and would chew them and keep a ball of chewed tobacco in his hand. It had been thought that this was to get attention from others who spent a lot of time

© The Challenging Behaviour Foundation. Registered as a charity no. 1060714. www.challengingbehaviour.org.uk
Registered office: The Old Courthouse, New Road Avenue, Chatham, ME4 6BE. Tel: 01634 838739

trying to prevent the behaviour, and in getting him to give them the chewed tobacco. The behaviour had significant health risks, and prevented Jimmy from participating in a number of ordinary day to day activities. He was closely observed over a period of two weeks, and one of the important observations was that the behaviour happened when he thought he was on his own, and he would often put the tobacco that he had in his hand back into his mouth. It was also noted that Jimmy had a lot of sensory behaviours, e.g. he liked playing with water, running his hands over different textures etc. Following these observations, one idea was that the behaviour was sensory (that he liked the very strong taste), another was that he might be addicted to nicotine. Further observations suggested that even when he was unable to engage in the behaviour that he did not show withdrawal symptoms. A programme was devised to give him access to small amounts of very strong tasting foods (anchovies, marmite), especially when he was more likely to eat tobacco. Over a short period of time, Jimmy replaced the cigarette eating behaviour in favour of accessing the strong tasting food.

Increasing the number of structured activities and levels of engagement with other people has also been shown to reduce pica behaviour[8]. It is important to look at how many structured daily activities the individual takes part in and consider whether this should be increased to reduce boredom.

Other Interventions for Pica

Identifying incompatible/alternate behaviours (differential reinforcement)

Identifying behaviours which are incompatible with eating inedible objects and rewarding the individual for using these alternate behaviours can reduce pica. For example if a student eats inedible objects when he is moving from one classroom to another then instructing him to keep his hands in his pockets when walking and rewarding him for doing so may be an effective intervention as keeping hands in pockets is incompatible with picking up inedible objects and putting them in the mouth.

Providing alternative forms of oral stimulation

Chewing gum, theratubing (cylindrical rubber tube which can be used to bite on) and popcorn have been used to reduce pica. It is thought that they act as an alternative source of oral stimulation. Different tastes and textures may need to be tried before a suitable alternative is found.

Discrimination training

Does the individual think that everything is edible? Discrimination training involves explicitly teaching an individual to discriminate between food and non-food items e.g. a sorting task can be used and the individual asked to sort objects into edible and non-edible items. This could then be turned into a visual chart displaying edible and non-edible items.

Pica box

A pica box contains items which are safe for the individual to chew, mouth and/or ingest so there is a supply of safe items on hand as an alternative to non-edible items. Items should resemble the appearance or texture of the items the individual has shown a preference for in the past. Initally the pica box should always be available to the individual. The amount of time the pica box is available for can then be reduced over time.

© The Challenging Behaviour Foundation. Registered as a charity no. 1060714. www.challengingbehaviour.org.uk
Registered office: The Old Courthouse, New Road Avenue, Chatham, ME4 6BE. Tel: 01634 838739

Aversive techniques

Historically aversive techniques (unpleasant/punishing techniques) which inflict physical or mental discomfort such as spraying water, ammonia, lemon and using devices such as a helmet to place over the individuals head have all been used to treat pica. These techniques are no longer recognised as acceptable practice and it would be expected that every effort would be made to use non-aversive techniques.

What can you do?

- Request a general health check from a GP to eliminate medical problems as the cause of pica
- Rule out iron and zinc deficiencies as the cause of pica by requesting a blood test from a GP
- Rule out mental health problems as the cause of pica by requesting a mental health assessment
- Ask your GP or social worker for a referral to a clinical psychologist or behavioural specialist for an assessment of pica behaviour and an intervention plan to help reduce or eliminate the pica behaviour
- A functional assessment is the most common assessment used to identify the causes of pica

Whilst you are waiting for an assessment and intervention/behaviour support plan to be put in place the following may be considered:

- As far as possible manage the individual's environment so that 'favoured' non-edible objects are out of reach/locked away. Specialist equipment may be necessary such as virtually indestructible mattresses. Please see the Challenging Behaviour Foundation information sheet "Specialist equipment and safety adaptations" for more details.
- Keep a careful record of the person's attempts to eat inedible objects. What do they try to eat? Under what circumstances? This kind of information will be very useful to the assessment process
- Close observation of the individual may limit the ingestion of non-edible items. If the pica behaviour is severe and persistent you may wish to consider the following:

  <u>For a child</u>: Make sure pica behaviour is included on the child's statement of special educational needs and insist that as pica can be life threatening the child is supervised on a 1:1 ratio at all times. Details of hospital visits and medical appointments may be helpful as local authority budgets are stretched and obtaining this level of support may be very difficult. For more information see the Challenging Behaviour Foundation information sheet "Getting a Statement" or contact your local Parent Partnership Service.

  <u>For an adult</u>: Make sure that pica behaviour is detailed in the individual's care plan and person centred plan. If the individual requires 1:1 attention for the maintenance of their safety insist that the individual receives this support. Details of hospital visits and medical appointments may be helpful as local authority budgets are stretched and obtaining this level of support may be very difficult. For more information on obtaining support see "Fair Access to Care Services (FACS). Guidance on eligibility criteria for adult social care", Department of Health (2003).

© The Challenging Behaviour Foundation. Registered as a charity no. 1060714. www.challengingbehaviour.org.uk
Registered office: The Old Courthouse, New Road Avenue, Chatham, ME4 6BE. Tel: 01634 838739

References

[1] Danford, D. E., and Huber, A. M. (1982). *Pica among mentally retarded adults*. American Journal of Mental Deficiency, 87 (2), 141-146.

[2]Dudley, J. R., Ahlgrim-Delzell, L., and Calhoun, M. L. (1999). *Diverse diagnostic and behavioural patterns amongst people with a dual diagnosis*. Journal of Intellectual Disability Research, 43, 70-79.

[3] McAlpine, C., and Singh, N. (1986) *Pica in Institutionalized Mentally Retarded Persons*. Journal of Mental Deficiency Research, 30 (2),171-8.

[4] Dudley, R., Ahlgrim-Delzell., L and Calhoun, M. (1999) *Diverse diagnostic and behavioural patterns amougst people with a dual diagnosis*. Journal of Intellectual Disability Research, 43, 70-79.

[5]Pace, G. M., and Toyer, E. A (2000). *The effects of a vitamin supplement on the pica of a child with severe mental retardation*. Journal of Applied Behavior Analysis, 33, 619-622.

[6]Piazza, C. C., Hanley, G. P., & Fisher, W. W. (1996) *Functional analysis and treatment of cigarette pica*. Journal of Applied Behavior Analysis, 29, 437-450.

[7]Goh, H-L., Iwata, B. A., Kahng, S. W. (1999) *Multicomponent assessment and treatment of cigarette pica.* Journal of Applied Behavior Analysis, 32, 297-316.

[8] Mace, F. C., & Knight, D. (1986) *Functional Analysis and Treatment of Severe Pica*. Journal of Applied Behavior Analysis. 19, 411-416.

Last updated July 2008

With thanks to:

Peter McGill, Tizard Centre, University of Kent at Canterbury for commenting on drafts of this information sheet.

Allan Davis, Consultant Clinical Psychologist, Kent & Medway NHS and Social Care Partnership Trust for providing the case studies.

© The Challenging Behaviour Foundation. Registered as a charity no. 1060714. www.challengingbehaviour.org.uk
Registered office: The Old Courthouse, New Road Avenue, Chatham, ME4 6BE. Tel: 01634 838739