

Fifteen-minute consultation: The healthy child: "My child is a fussy eater!"

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Received 29 March 2017

Revised 15 June 2017

Accepted 18 June 2017

Published Online First

8 August 2017

ABSTRACT

Feeding a child is an emotive experience. Selective eating (often referred to as fussy eating) is a typical part of early childhood but can cause significant anxiety to parents. This article covers the factors that influence the development of selective eating, the key points to elicit in history and examination, and evidence-based advice for parents.

CASE VIGNETTE 1

The parents of a 5-year-old boy are anxious that their child has a very restricted diet. On a typical day, he eats half a Weetabix with milk for breakfast, one round of peanut butter sandwiches for lunch with a chocolate biscuit and chicken nuggets and chips for dinner, sometimes with some tinned sweetcorn. For snacks, he likes a particular brand of crisps but will sometimes eat bananas or grapes. He drinks water and orange juice. He will not allow different foods to touch on his plate, and if there is a disliked food on the plate, he will not eat anything. He shows a limited interest in food and often needs encouragement and prompting to eat, which means mealtimes are prolonged and stressful. The child is growing along the ninth centile. The restricted diet is not impacting on his activities, education or social development. Is this child's eating problematic? What would you advise the parents?

CASE VIGNETTE 2

A 7-year-old girl with coeliac disease has developed significant anxiety about trying new foods due to fear of eating anything 'unsafe'. She does not want to go to birthday parties or play dates at friends' houses. She will only eat a specific combination of four prepackaged foods in her packed lunch at school and becomes very distressed if her parents try to include

anything new. What support is likely to be helpful for this child?

INTRODUCTION

Difficulty with feeding is an emotive topic for parents—it can become a major focus of family life and a source of significant anxiety. Many parents find it difficult to understand why their child does not enjoy food in the way they expect. However, most children go through periods of selective eating, which will often resolve without intervention. When presented with children with reported feeding difficulties, health professionals should determine whether the feeding behaviour is problematic for the child (in terms of health, development, education, psychological well-being and socialisation) and, therefore, whether intervention is required.

WHAT IS SELECTIVE EATING?

There are many definitions of selective eating, also known as fussy, picky, faddy or choosy eating. A recent systematic review proposes 'the rejection of a large proportion of familiar (as well as novel) foods, resulting in a habitual diet characterised by the consumption of a particularly low variety of foods'.¹ Selectivity can be caused by a number of factors, including food neophobia—rejection of novel foods due to anxiety. There is a broad spectrum of severity in terms of how restricted a child's diet has become and whether it remains balanced. Parents vary significantly in their perception of what level of selective eating is typical and what concerns them. Many parents will report their child to be a selective eater, but very few of these children will meet criteria for a diagnosis of any form of disordered eating.

The new diagnostic classification 'avoidant/restrictive food intake disorder' (ARFID)² is defined as an eating or



To cite: Levene IR, Williams A. *Arch Dis Child Educ Pract Ed* 2018;**103**:71–77.

feeding disturbance resulting in persistent failure to meet appropriate nutritional or energy needs (and not caused by another disorder such as anorexia nervosa).

This would include significant weight loss, faltering growth, major nutritional deficiency or dependence on enteral feeding and nutritional supplements.

Box 1 Strategies for parents to overcome selective eating

- ▶ **Realistic expectations:** A portion of carbohydrate or protein for a young toddler is two tablespoons. A portion of fruit or vegetable is one tablespoon. A preschool child portion is double this amount. For example, this may equate to four chips or half a piece of fruit, in a preschool child, which is often significantly less than parental expectations.¹⁵ See [figure 1](#) for photographs of preschool portion sizes.
- ▶ **Start where you are:** When introducing new foods, select one target food at a time. Initially start with a food that is very close to an already accepted food, for example, a new flavour of crisps. This increases the chances of success and builds the child's confidence before moving onto more challenging foods.
- ▶ **Repeated exposure:** It may take up to 15 positive experiences of food to accept it into the habitual diet.¹² Parents should aim to continue offering tastes of foods that are novel or that the child appears to dislike. This should be done using the positive, gradual and rewarded approach outlined in the following points.
- ▶ **Steps before tasting:** The starting level of exposure should be individualised to the child. For example, if the target food is apple, a child with extreme anxiety might start with looking at apples in a shop and choosing one to purchase, then play games with the apple, such as catch. Then the child can explore the texture and smell of a chopped apple, before being encouraged to lick, bite, chew, swallow a small amount and so on. This graded exposure may need to be done over a matter of days or weeks with the child doing each step multiple times. A child with less significant anxiety may start by licking or taking small tastes. See [table 1](#) for an example of graded exposure.
- ▶ **Non-food reward:** Rewarding tastes of the target food with a non-food reward increases acceptance. Food rewards (eg, dessert) should be avoided—reward with another (desired) food seems to decrease acceptance of the target food and increase excess consumption of the reward food due to its increased desirability.¹⁶ Reward could be through praise, particularly objects like stickers, a points scheme for a large reward, or experiences like reading a book together. Starting small makes the first steps more achievable. The reward needs to be motivating and desirable for the child.
- ▶ **Positive approach:** Foods highlighted positively are more likely to be accepted.¹ Examples for a child who is actively rejecting target foods are 'you're learning to like this food' or 'maybe you will like it tomorrow'. A positive approach can also include involving children in food-related games, preparation and gardening.¹⁷ Meals may have become loaded with negativity, and parents may need ideas for how to get out of this cycle, for example, tea parties or picnics.
- ▶ **Positive taste association:** Vegetables have increased acceptance when initially paired with dextrose and/or calories.^{17 18} Parents can introduce a vegetable prepared with butter, oil, some sugar or honey (honey should only be offered over 1 year of age, natural sources of sugar are preferred to refined sugar). Once the vegetable is accepted, they should gradually offer it in plainer forms without being sweetened. Notably, this is not a recommendation to hide target foods—although this is associated with increased short-term intake, it does not increase acceptance of the target food¹⁸ and may lead to a loss of trust and increased anxiety if the child discovers it.
- ▶ **Avoid negativity:** Parental pressure to eat is associated with higher food neophobia and decreased enjoyment of eating.¹⁸ Parents should not punish children for selective eating, and a recommended time limit for meals is 30 min. Although the parent chooses what food to offer, the child's autonomy and appetite should be respected—they are encouraged to taste but choose what to eat. Notably, warning children of the bad effect of eating unhealthy foods or even labelling foods as healthy can decrease fruit and vegetable intake.¹⁹ Instead, child-focused positive language can be used, for example, 'eating tomatoes can give you lots of energy to ride your scooter'.
- ▶ **Parental modelling:** Parents eating target foods and commenting on them positively is associated with higher fruit and vegetable intake in the short term.¹⁶ There is a high concordance of foods that a child likes with foods that the parents like^{3 8 17} so parents can be encouraged to look at their own diets.
- ▶ **Promoting appetite:** General promotion of appetite at meal times includes daily exercise, limiting caloric drinks and limiting cows milk to less than 600 mL per day. Instead of grazing and unplanned snacks, there should be a clear structure of meals and one or two snacks per day depending on the child's age. Serving vegetables first and limiting the size of the main dish has been shown to increase the amount of vegetable ingested.¹⁸
- ▶ **Social food experiences:** Children eat more target foods when others around them are eating these foods. The impact is increased when there are more people involved in the meal, they are well known to the child and admired (eg, siblings and nursery peers), and they are talking positively with positive facial expressions.¹⁷
- ▶ **Focusing on long-term goals:** Parents should be reassured that children will not be harmed by short periods of low intake but will benefit significantly from having healthy eating patterns established while they are young. Having a small appetite does not make a child a 'bad eater'. Parents may have specific worries, for example, that a toddler will not sleep well if they have not eaten well, which should be addressed.
- ▶ **Consistency:** This takes great effort and commitment from parents, which needs to be acknowledged. Change can be slow, and expectations should be set realistically to maintain motivation. Support and follow-up are often needed.

HOW COMMON IS SELECTIVE EATING?

Food neophobia increases in prevalence from the age of weaning onto solids to a peak between 2 and 6 years of age.¹ There is a large range in estimates of prevalence of selective eating, due to different definitions and study methods. Most studies estimate the prevalence to be between 10% and 30% of preschool and primary age children.³ A relevant example is the Avon Longitudinal Study of Parents and Children (ALSPAC), a cohort of 14 000 births in the UK in 1991–1992. Between the ages of 2 and 5 years, the prevalence of being ‘very choosy as far as food was concerned’ was 10%–15%, with a peak at age 3 years.³ Notably, only 26% of children over the 3-year period were never reported to be choosy, emphasising that selective eating is a typical part of childhood behaviour, with a fluctuant course.

WHY DOES SELECTIVE EATING DEVELOP?

There are many different causes of selective eating. There is an evolutionary theory that caution in ingesting novel substances, particularly those with bitter taste, is beneficial to avoid poisoning in a young, mobile child exploring their environment.¹ For some children, selective eating is a learnt aversion due to undesirable experiences such as choking, vomiting, reflux or burning. Sensory sensitivity can account for selective eating, and children with autistic spectrum disorder frequently present with selective eating for this reason. Children with food allergies or dietary restrictions, such as coeliac disease, can have significant anxiety over contamination danger. The development

of selective eating can also be related to parent factors, such as mental health difficulties or the child–parent relationship; mothers of children with feeding problems have higher levels of depression and anxiety.⁴

IS SELECTIVE EATING PROBLEMATIC?

Children in the Western world generally eat a poor diet in comparison to official recommendations. For example, children in the UK eat too few fruit and vegetables, with high sugar, saturated fat and salt intake.⁵ Between 2009 and 2012, a third of UK children were overweight or obese.⁶ In the ALSPAC cohort, ‘normal eaters’ ate less than half the recommended fruit and vegetables, and ‘picky eaters’ ate less than half again.³ Some studies show that selective eaters have lower reported intake of iron, zinc, vitamin E and vitamin C than the general population, but there is no evidence of lower blood levels or an impact on health.¹⁷

Constipation is more frequent in selective eaters, with correspondingly lower fibre intake,⁷ but there is little agreement as to whether selective eating has any other short- or long-term impact on health. Long-lasting selective eating (eg, for longer than 2 years) may affect growth.⁷

Early childhood is an important time for establishing healthy eating patterns,⁸ and the WHO has made increasing fruit and vegetable intake a global public health priority.⁹ It is therefore clear that helping parents to increase children’s fruit and vegetable intake is a public health responsibility of all health professionals involved with young children.

For some children, selective eating can become a chronic difficulty and impact on health, socialisation and family relationships. Selective eating can also make dietary management more difficult in chronic diseases, such as type 1 diabetes or cystic fibrosis.¹⁰ A presentation of selective eating may also mask an underlying or emerging eating disorder in a school age child.

PARENTAL EXPERIENCES OF FEEDING

Parents often feel under pressure and fear judgement about feeding from the time their child is born. Parents can feel like they are viewed as good or bad parents based on how they feed their child (eg, breastmilk or formula) and feel guilt and failure over early feeding decisions, even when they have not felt in control of these decisions.¹¹ Parents receive messages from birth that easy feeding is associated with having a ‘good’ baby, and that more intake and more growth are desirable.

At weaning age, it is common for babies to push food out of their mouths and to have an expression of distaste when eating novel foods—this is a normal immaturity of oromotor skills. Parents may misinterpret this as disliking a particular food and, on average, will stop offering after five ‘rejections’.⁴ However, research shows that up to 15 exposures to a new food

Table 1 Sample plan for graded exposure to pasta

Step	Ticks or stickers
1. Go to the supermarket to look at different types of pasta and choose one to buy	
2. Explore and play with dry pasta at home	
3. Help mum or dad cook pasta	
4. Touch/play with cooked pasta	
5. Have pasta on the table during dinner—see others eat and enjoy pasta	
6. Have pasta on a separate plate near to your plate	
7. Move the pasta on a separate plate closer to your plate	
8. Have one piece of pasta on your plate (not touching other foods and not to eat)	
9. Smell the pasta on the plate	
10. Touch the pasta to your lips	
11. Lick the pasta	
12. Put the pasta in your mouth	
13. Bite a piece of pasta	
14. Chew and swallow a piece of pasta	
15. Gradually increase amount of pasta until it reaches typical portion size for age	

Best practice

may be necessary for familiarity and trust, before even tasting is achieved^{12 13} (see [box 1](#)). A cycle of tension may build up when parents are anxious about their child's intake, which makes meal times more negative and reinforces the child's behaviour.

Healthy eating messages for parents are fairly prevalent, for example, eating a variety of fruit and vegetables and keeping the diet low in sugar and salt. However, this can be very challenging for parents in practice, and frequently, parents will prioritise the short-term goal of consumption (ensuring their child eats) over the longer term goal of a healthy diet.¹⁴

HISTORY, EXAMINATION AND INVESTIGATION

The main areas to cover during assessment are the parents' concerns, their expectations, what the child is eating, the strategies parents have tried and any physical or psychological factors.

Find out what the child is eating on a day-to-day basis, with particular emphasis on the major food groups (is there at least one source of carbohydrate, protein, fat, fruit and vegetable?). Assess constipation and dietary fibre sources. Ask about medical history, looking for conditions that may impact on eating, such as food allergy, prematurity and severe reflux.

Explore how the parents approach meals and any behavioural strategies they use to encourage their child's intake. Find out the impact of the selective eating on their lives—for example, the effect on the child and family's social life and relationships and the duration and experience of mealtimes. Explore whether the child eats better in other contexts such as nursery. Ask about trigger events such as choking.

Explore briefly the parents' mental health, emotional resources and attitude toward food (previous or current eating disorder will be relevant).

Suggest further assessment from their general practitioner (GP) if needed.

Consider the possibility of childhood-onset anorexia nervosa in an older child and look at the child's perception of food and body image. Explore whether they are purposely restricting certain food groups or amounts and whether there is any bingeing or purging. If you suspect childhood-onset anorexia nervosa, the Junior MARSIPAN framework²⁰ gives guidance on risk stratification and referral urgency.

On examination, look for causes of physical discomfort during eating, particularly mouth and throat pathology (including teething). Perform a general examination for underlying systemic disease. Measure the child's height and weight, plot them on appropriate growth charts and look at their growth trends. Calculate mid parental height if the child is short.

Consider testing for iron deficiency anaemia if the diet is low in iron sources, as this is relatively common in children (5% of children between 18 months and 3 years have iron deficiency anaemia).⁵

HOW SHOULD I MANAGE SELECTIVE EATING?

After ensuring that the parents have been able to fully explain their concerns, reassurance on the normal pattern of selective eating will be helpful. Specific advice on evidence-based practical and behavioural strategies to increase dietary variety is outlined in [box 1](#). This can be summarised as presenting a balanced diet in a positive way, with non-food rewards for tasting new foods up to 15 times. If children experience anxiety about trying new foods, they may need to increase their familiarity with the food first and gradually build up to tasting it, for example, starting with being rewarded for having food present on the table or touching it (see [table 1](#)). Boundaries should be clear—no alternative

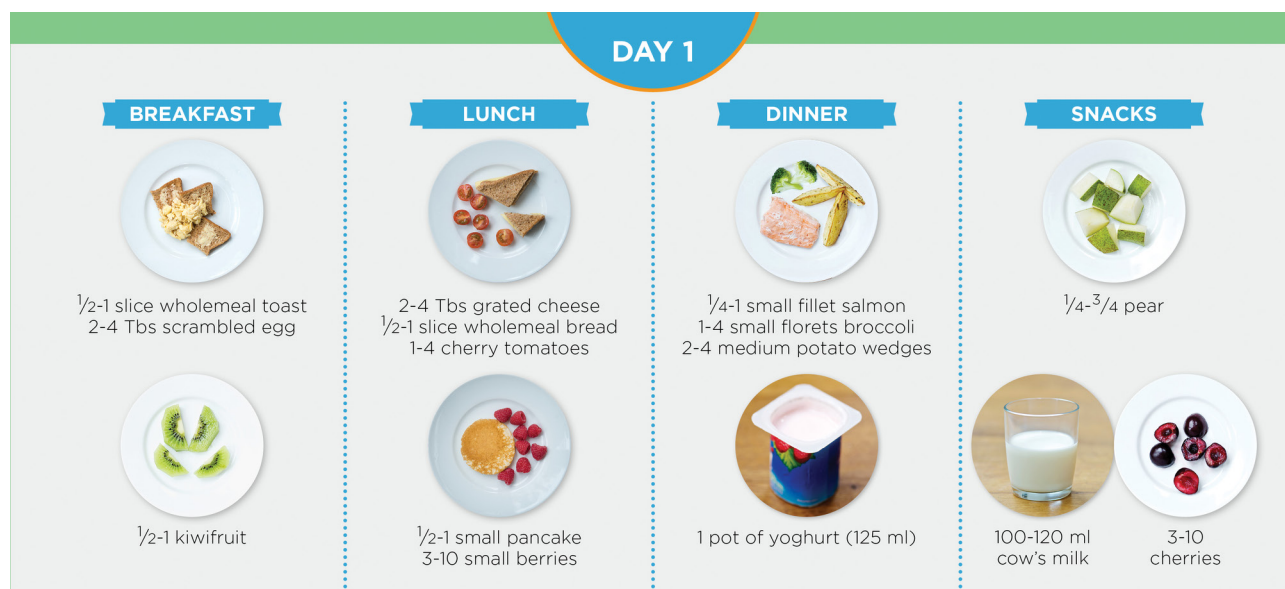


Figure 1 Sample portion sizes for 1- to 4-year-olds (with permission from The Infant and Toddler Forum).

meals or calorie-dense drinks when children refuse the meal provided. The small portion sizes that children need should be emphasised—as a rule of thumb a portion is the size of a child's palm (see [figure 1](#)).

Parents will need reassurance that short-term refusal of meals is not harmful in a child of healthy weight and that it may take some time to see improvement. The aim is for the child to eat to their own appetite level from the major food groups, with occasional small portions of foods that are higher in sugar and salt. This change in parental strategy requires a large investment of time, energy and self-discipline—it is important to discuss support mechanisms and follow-up for the parents, for example, from a health visitor or GP. You can also direct parents to online resources to reinforce the central messages (see [box 2](#)) and local parenting

Box 2 Resources for parents and health professionals

- ▶ Public Health England campaign Change4Life has comprehensive advice on healthy eating. The companion site Start4Life is aimed at babies and has preventative advice on good weaning practices. Parents can sign up for text messages and emails on general evidence-based parenting topics. www.nhs.uk/Change4Life, www.nhs.uk/start4life
- ▶ NHS Choices offer simple evidence-based summaries of feeding issues. www.nhs.uk/conditions/pregnancy-and-baby/pages/fussy-eaters.aspx
- ▶ 'A psychological guide for Families: Feeding and Eating' produced by NHS Wales Child and Family Psychology Service is a comprehensive and accessible guide for parents. <http://www.wales.nhs.uk/sitesplus/documents/866/Feeding%20and%20Eating.pdf>
- ▶ The infant and toddler forum has information on all elements of normal feeding, including a gallery of portion size pictures (see [figure 1](#)) and a calculator to look at an individual child's diet. Note that infant formula producer Danone Nutricia Early Life Nutrition provides funding for this group, but they declare that their views and outputs are independent. www.infantandtoddlerforum.org
- ▶ 'Child Feeding Guide' is a free app produced by Loughborough University. It goes through common feeding issues and problematic parental practices with evidence-based recommendations.
- ▶ The Healthy Child Programme is provided by the Department of Health to improve child health. There is a comprehensive set of free e-learning modules for NHS staff, accessible through Health Education England's e-Learning for Healthcare (e-LfH) <http://www.e-lfh.org.uk> or the National Learning Management System. www.ersupport.co.uk/
- ▶ The Royal College of Psychiatrists have produced guidance on assessing severity of anorexia nervosa in children ('Junior MARSIPAN'). <http://www.rcpsych.ac.uk/usefulresources/publications/collegereports/cr/cr168.aspx>

Box 3 UK recommendations on vitamin supplements for all children

In July 2016, Public Health England (PHE) released new guidance on vitamin D supplements in babies and children. 'Children aged 1 to 4 years should have a daily 10 microgram vitamin D supplement. PHE recommends that babies are exclusively breastfed until around 6 months of age. As a precaution, all babies under 1 year should have a daily 8.5 to 10 microgram vitamin D supplement to ensure they get enough. Children who have more than 500 mL of infant formula a day do not need any additional vitamin D as formula is already fortified.'²¹

NHS Choices recommends that, in addition to this, all children aged 6 months to 5 years should be given vitamin supplements containing vitamins A and C (unless they are consuming 500 mL or more of infant formula per day). This recommendation dates back to 1994, and the original report advised supplementation only for children with a diet low in sources of vitamin A (milk products and vegetables) and vitamin C (fruit and fruit juice).²²

courses. Group interventions providing education and social support for parents have shown positive effects on children's eating patterns.⁴

In addition to management of selective eating, give specific advice on constipation if necessary, with medication if appropriate. Make parents aware of the UK recommendation for universal vitamin D supplements in children under 5, as well as vitamins A and C if the diet is poor ([box 3](#)). Explain to parents how to access free Healthy Start vitamins and vouchers for fruit and vegetables if they qualify ([box 4](#)). Recommending an over the counter multivitamin can help to allay parental anxiety.

Box 4 Healthy Start scheme

Healthy Start is a UK-wide government scheme that provides a 'nutritional safety net' for pregnant women and children where the family is receiving income support, income-based jobseeker's allowance, income-related employment and support allowance, child tax credit or universal credit.

Pregnant women and children between 1 and 4 years of age get one Healthy Start voucher a week worth £3.10. Babies younger than 1 year get two vouchers a week worth £6.20. Vouchers are posted every 4 weeks and can be spent on infant formula, plain cow's milk and plain fresh or frozen fruit and vegetables.

Every 8 weeks, participants are sent vitamin coupons to swap for Healthy Start vitamins. Healthy Start vitamin drops for children contain vitamins A, C and D. How to get the vitamins varies with location—check: <https://www.healthystart.nhs.uk/healthy-start-vouchers/healthy-start-vitamins/>

WHEN SHOULD I REFER?

Primary referral is to a paediatric dietitian or psychologist, depending on available referral pathways locally. Some areas may have community paediatric or gastroenterology-led multidisciplinary services, whereas others may provide feeding groups at local children's centres. Criteria for referral would be the following:

- ▶ Failure to meet appropriate nutritional or energy needs (diagnostic criteria for ARFID² as described above);
- ▶ Children with medically limited diets such as food allergy;
- ▶ Coexisting chronic disease such as diabetes mellitus or cystic fibrosis (support may be available directly through the child's specialist multidisciplinary team);
- ▶ Learning difficulties and autistic spectrum disorder;
- ▶ Significantly high levels of anxiety despite initial advice and follow-up.

Children who cough and gag on more difficult textures may require referral to a speech and language therapist for assessment of oral-motor dysfunction.

CONCLUSION

Selective eating is a very common experience in early childhood and can make parents very anxious. Health professionals should assess for significant underlying problems and explore parental expectations. Normalisation and evidence-based behavioural advice, with follow-up and emotional support, are the cornerstone of management.

MANAGEMENT OF CLINICAL SCENARIOS

- ▶ Vignette 1—Parents were given reassurance that their child was healthy and that he was eating a balanced diet, despite the selectiveness. They were advised to first try to reduce the stress at mealtimes, by focussing on them being enjoyable, rather than the amount and variety the child was eating. The reduction in the parents' anxiety that came from the thorough assessment and confirmation that their child was healthy allowed them to be more positive about food and eating with their son. They then started to introduce new foods with a stepped approach (starting with acceptance of the food being present on a different plate on the table, moving through smelling, touching and licking the food, before taking small tastes). They rewarded him with stickers at each stage, working toward a particular pencil case that he really wanted. Over time, the child began to enjoy eating more, gradually increased his range of accepted foods and had some positive experiences of trying new foods. No onward referral was required.
- ▶ Vignette 2—The child is at risk for major nutritional gaps due to selective eating on top of a medically restricted diet. She was referred to a paediatric psychologist who completed an assessment of her difficulties and offered a course of behavioural therapy to work on the underlying anxiety, which included graded exposure to new foods. The involvement of a dietitian may also be helpful.

Acknowledgements The authors thank Elizabeth Buttery, paediatric dietitian, and Dr Helen Griffiths, clinical psychologist, for comments on the manuscript.

Key messages

- ▶ Selective eating is a typical part of early childhood, with a naturally fluctuant course. It peaks around 3 years of age.
- ▶ Most children with selective eating have a restricted but balanced diet, covering all major food groups.
- ▶ Parents should aim for mealtimes to be enjoyable with realistic portion sizes and new foods offered in a relaxed, positive way.
- ▶ If selective eating is causing or exacerbating health difficulties, referral to a paediatric dietitian or psychologist may be necessary.

Test your knowledge

1. Selective eating is seen in a minority of young children: true or false
2. Which food groups do children with selective eating tend to eat less frequently (more than one may apply):
 - a. Fruit
 - b. Protein
 - c. Fibre
 - d. Sugar
 - e. Vegetables
 - f. Salt
3. Which factors in the history make you more likely to consider referral to another health professional?
 - a. The child does not like foods mixing with each other on the plate
 - b. The child has allergies to egg and soya
 - c. The child will only eat vegetables at nursery
 - d. The child has constipation
 - e. The child gags on solid foods and prefers soups and yoghurts
 - f. You suspect autistic spectrum disorder
4. Parents should be advised to force children to try new foods at least 15 times: true or false

Answers are at the end of the references

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Commissioned; externally peer reviewed.

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Answers to the questions

1. False. The majority of young children will have periods of selective eating
2. A, C, E
3. B, E, F
4. False. Children should be encouraged to taste new foods up to 15 times by use of non-food rewards. They should never be forced to eat. Some children will need to be rewarded for earlier steps such as touching food.