nutrition
it's about balance

Feeding Healthy Term Infants

Resource Manual

Section D.

Feeding Relationships

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Winnipeg Regional Health Authority
Caring for Health

Office régional de la santé de Winnipeg
À l'écoute de notre santé

D.1 Division of Responsibility in Feeding

Overview

- Responsive feeding is defined by the World Health Organization as follows: "Infants and young children need assistance that is appropriate for their age and developmental needs to ensure that they consume adequate amounts of complementary food."[1]
- Responsive feeding helps infants retain their ability to self-regulate energy intake by not overriding their internal hunger and satiety cutes. Interfering with self-regulation may increase the risk of over-feeding and promote poor eating habits and a negative relationship with food.[2]
- Critical dimensions of responsive feeding are:[1]
  - Feeding with a balance between giving assistance and encouraging self-feeding, as appropriate to the child's level of development;
  - Feeding with positive verbal encouragement, without verbal or physical coercion
  - Feeding with age-appropriate and culturally appropriate eating utensils;
  - Feeding in response to early hunger and satiety cues;
  - Feeding in a protected and comfortable environment; and
  - Feeding by an individual with whom the child has a positive emotional relationship and who is aware of and sensitive to the individual child's characteristics, including changes in physical and emotional state.

Recommendations

The division of responsibility for feeding infants that are transitioning to complementary foods:

a) Parents are responsible for deciding:
   - what foods to offer;
   - when to offer solid food; and
   - where to serve solid food.

b) Infants are responsible for deciding:
   - whether to eat; and
   - how much food to eat.

Evidence

- The healthy feeding relationship is a division of responsibility between parent and child. The parent sets an appropriate and nurturing feeding environment and provides healthy foods. The child decides whether to eat and how much to eat.[2]
- Families that follow the division of responsibility in feeding raise children that instinctively know how much to eat, eat a variety of foods and grow on a predictable curve.[2]
- Parents and caregivers require assistance and encouragement to recognize and respond to infants' hunger and satiety cues. This will help parents and caregivers determine how much food to offer, thereby avoiding under- or overfeeding.[3] *[Level C Evidence]*

- Responsive parenting lies at the core of a healthy feeding relationship, and involves:
  - balancing the child's need for assistance with encouragement of self-feeding;
  - allowing the child to initiate and guide feeding interactions; and
  - responding early and appropriately to hunger and satiety cues.[2] (See *Hunger and Satiety Cues*, page 7).

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D.2 Feeding Environment

Recommendations

a) Parents and caregivers should eat meals with children together, preferably at a table.
b) Infants and young children should sit while eating, to decrease the risk of choking.
c) Parents and caregivers should ensure that the feeding environment is peaceful and relaxed, and free from toys, television or other distractions.
d) Parents and caregivers should not force infants or children to eat (see *Division of Responsibility in Feeding*, page 2).

Evidence

- Early childhood food experiences and the social environment in which children are fed are critical to the development of healthy eating habits later in life.[1] *[Level C Evidence]*
- The social context in which children's eating patterns develop is important, as the eating behaviours of people in their environment serve as models for the developing child and profoundly shape their food acceptance patterns and ability to regulate energy intake.[2,3]
- Parents influence the development of children's eating behaviours and preferences by making healthy foods available and by being models of eating behaviour.[2,3]
- Infants must always be supervised while eating in case they begin to choke.[1]
- Playing with toys or watching television during meals are distracting activities for infants and young children; distractions during eating may cause infants and young children to choke.[4]
- It has been demonstrated that television viewing during dinner may negate the positive effects of family meals. Moreover, children who eat while watching television have lower intakes of fruit and vegetables and higher intakes of fatty foods and soft drinks than those who do not watch television while eating. Eating in front of the television is also linked to overweight and obesity.[1] *[Level C Evidence]*
- Infants who are learning to eat are often messy; allow them to explore their food.[4]

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D.3 Hunger and Satiety Cues

Overview

According to Health Canada, "responsive feeding means that a parent or caregiver responds in a prompt, emotionally supportive and developmentally appropriate manner to a child's hunger and satiety cues." [1] This applies to all stages of infant and child development; from breastfeeding or formula feeding on cue, to introducing solids and feeding older children.[1]

Recommendations

a) Parents and caregivers should practice responsive feeding according to the hunger and satiety cues outlined in Table 1.
b) Crying is often, but not always, a sign of hunger. Parents and caregivers should determine if an infant is crying due to hunger or, rather, is experiencing discomfort.

Table 1. Hunger and satiety cues

Age	Hunger Cues	Satiety Cues
<6 months of age	• Excited arm and/or leg movements • Eyes open wider than usual • Sucking sounds, or sucking on hands • Turning head or rooting when touched on the cheek, mouth or chin • Fussing and crying are late hunger cues	• Arching the back • Squirming • Spitting out nipple • Stopping sucking • Slowing the pace of eating • Turning away • Falling asleep
>6 months of age	• Opening mouth and moving forward as spoon approaches • Moving head to reach spoon • Fussing and crying are late hunger cues	• Falling asleep • Becoming fussy • Slowing the pace of eating • Refusing spoon • Closing mouth when spoon approaches • Turning head away from spoon
Toddlers	• Pointing at food and beverages • Asking for, or reaching for, foods	• Slowing the pace of eating • Becoming distracted • Throwing food • Playing with food • Not eating everything on plate

Evidence

- Responsive feeding helps infants and children learn to self-regulate their energy intake. Non-responsive feeding may teach an infant to override their internal hunger and satiety cues, interfering with their ability to self-regulate.[1]

- To avoid underfeeding or overfeeding, parents and caregivers must be sensitive to the hunger and satiety cues of the healthy infant and the young child.[1,2]
- When parents and caregivers trust their child's ability to decide how much and whether to eat, they promote the development of autonomy.[1,3]

Hunger Cues

- In infants <6 months of age, hunger cues can include his/her eyes open wider than usual, turning head or rooting when touched on the cheek, mouth or chin, making sucking sounds or sucking on hands. Fussing and crying are late hunger cues.
- In infants > 6 months of age, hunger cues may include crying, excited arm and leg movements, opening mouth and moving forward as spoon approaches, swiping food toward the mouth, and moving head forward to reach spoon.[2,4,5]
- Smiling, cooing and gazing at the caregiver during feeding may indicate the desire to continue.
- Hungry toddlers may point at foods or beverages, ask for foods or beverages, or reach for foods.[2]

Satiety Cues

- In infants <6 months of age, satiety cues can include arching the back, pushing hands at feeder, squirming, spitting out the nipple, stopping sucking, slowing the pace of sucking and turning away.
- In infants >6 months of age, satiety cues may include falling asleep, becoming fussy during feeding, slowing the pace of eating, stopping sucking, spitting out or refusing nipple, refusing spoon, batting the spoon away, closing mouth as spoon approaches and turning head away from the spoon.[2,4,5]
- In toddlers, satiety cues include slowing the pace of eating, becoming distracted or noticing surroundings more, playing with food, throwing food, wanting to leave the table or chair, or not eating everything on the plate.[2]

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D.4 Gagging vs. Choking

Overview

Gagging is normal and occurs when an infant is learning to eat and trying new food textures. Choking is neither normal nor safe. When choking, an infant either makes no sound or emits a squeaky, whistling or inhaling sound.

Recommendations

a) Parents and caregivers should match foods offered to infants or toddlers with the child's developmental and physiological readiness to minimize the risk of choking.
b) Parents and caregivers should always remain with infants and toddlers while they eat, in the event that they begin to gag or choke.
c) It is crucial that parents and caregivers know how to provide first aid for choking.

Evidence

- Gagging is a normal part of learning how to eat. Indeed, it is normal for babies to gag on foods that have a texture with which they are unfamiliar.[1]
- Gagging occurs when food goes down the wrong way and comes back up; it is accompanied by a soft coughing sound.[1]
- Choking is blockage of the airway. Choking occurs when the infant takes a breath while food moves past the wind pipe. Choking can be characterized as the infant not being able to make a sound or able to make only a squeaky, whistling or inhaling sound.[2]
- Children <4 years of age should not be given foods that they could choke on, such as: small, round, hard and/or sticky objects like nuts, hard candy, cough drops, raisins, grapes and seeds; wieners; fish with bones; popcorn; and nut or seed butters spread thickly or served on a spoon. Safer ways of preparing some of these foods include cutting wieners into small cubes or cutting them lengthwise, grating raw vegetables, or chopping grapes into small pieces. Infants and children should always be supervised when they are eating.[3] *[Level C Evidence]* (See *Choking Hazard Foods* in *Section B. Introduction of Solids*)
- Choking risk can be minimized when caregivers match foods offered to infants and toddlers based on their developmental and physiological readiness, supervise infants/toddlers when eating and know how to handle choking if it occurs.[4] *[Level C Evidence]*
- Supervision includes the infant sitting upright while eating, and not lying down, walking, running or being distracted from the task of safe eating. Eating in the car is considered unsafe since if choking should occur, it is difficult to pull over to the side of the road safely. In addition, there is the increased risk of choking if the car stops suddenly.[3]

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