Picky Eating in Children
Clinical Approach and Management
Overview

• Definitions
  – what do we mean by “picky eating”

• Why this is an important topic

• Assessment & Management
  – Classification
  – Feeding Principles (“Food Rules”)
  – Red flags and when to refer
Definitions

Feeding Difficulties

Picky Eating

Any problem that negatively affects the process by which parents or caregivers provide food or supply nourishment to their young children.

Fussiness about eating certain foods and fussy mealtime behaviours.

Other terms – feeding related

• Neophobia
  – Rejection of new foods
  – Normal, protective response
  – Resolves with repeated exposure (8-10x)

• Feeding disorder
  – Results in substantial organic, nutritional or emotional consequences
  – Connotes a severe problem
Feeding involves an interaction between the child and the caregiver\textsuperscript{1,2}

Eating reflects only the child’s actions\textsuperscript{1,2}

Picky Eaters - why bother?

• Prevalent & Important Issue
  – Implications for the Child
    • Nutrition / Growth / Neurocognition
  – Implications for the Family
# Prevalence of Feeding Difficulties: Variability in Estimates

<table>
<thead>
<tr>
<th>Study</th>
<th>Prevalence</th>
<th>Age, Location of Study Population</th>
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<tbody>
<tr>
<td>Carruth et al, 2004</td>
<td>50%</td>
<td>19 to 24 months, US</td>
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<tr>
<td>Jin et al, 2009</td>
<td>40%</td>
<td>1 to 6 years, China*</td>
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<tr>
<td>Dubois et al, 2007</td>
<td>29%</td>
<td>3 to 6 years, Canada</td>
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<tr>
<td>McDermott et al, 2008</td>
<td>28%</td>
<td>2 to 4 years, Australia</td>
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<tr>
<td>Jacobi et al, 2003</td>
<td>21%</td>
<td>3 to 6 years, Germany</td>
</tr>
<tr>
<td>Wright et al, 2007</td>
<td>20%</td>
<td>29 to 33 months, UK</td>
</tr>
<tr>
<td>Li et al, 2001</td>
<td>17%</td>
<td>2 to 6 years, China†</td>
</tr>
</tbody>
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Singapore Data

- Telephone, questionnaire survey (2010)
- Children 1-10 years of age
- Parents/ grandparents / care-givers

Age at first presentation of picky eating (n = 370).

![Bar graph showing the age distribution of picky eating presentation among children. The x-axis represents age in years (0-10) and the y-axis represents the percentage of respondents. The graph shows a peak around age 1, with a decline as age increases. There is also a significant number of respondents who report no recall.]
Prevalence of picky eating and feeding difficulty behaviours.
Consequences – Parental Anxiety

- Parents or caregivers who perceived their children as picky eaters were concerned with their **physical** and **mental** development.
Lower Mental Development Index

- Mental development index (MDI) scores of picky eaters were **14** points below healthy eaters.

- **Determinants** of the differences were mainly **social**
  - Maternal education
  - Parent-child conflict during feeding

*P<0.05 vs healthy eaters.

Maternal pressure to eat at 1 yr negatively predicted child’s weight at 2 yrs\textsuperscript{2}.

\textsuperscript{2}Pediatrics 2008;121:e164-9

Chatoor I. Diagnosis and Treatment of Feeding Disorders in Infants, Toddlers, and Young Children. Washington, DC: Zero to Three; 2009.
Parenting Feeding Styles

Controlling

Responsive

Neglectful

Indulgent

Picky Eating in Children: Clinical Approach

1. Assessment of Growth

2. Assess Nutritional Intake
   – Total / Type of Calories
   – Energy expenditure

3. Identify the Feeding Issue
   – Nutrition & Behaviour / Interaction
Diagnostic Approach: Picking Eating

Assess Calorie Intake

- Sufficient
- Insufficient

- Type of calories consumed
- 4 Main Food groups
  - Dairy
  - Cereals / whole grains
  - Meat (Protein)
  - Fruit / Vegetables

- “Picky Eater”
  - Limited Appetite
  - Selective
  - Fear of Feeding

- Chronic Medical Illness
Classification

- **Limited Appetite**
  - Misperceived
  - Energetic
  - Apathetic (Neglect)
  - **Organic**
    - Structural
    - Gastrointestinal
    - Cardiorespiratory
    - Neurological
    - Metabolic

- **Selective Intake**
  - Misperceived (Neophobia)
  - Mildly selective (>15 foods)
  - **Highly selective**
    - **Organic**
      - Delayed Development
      - Dysphagia
      - Autism

- **Fear of Feeding**
  - Misperceived pain (colic)
  - Infant pattern
  - Older child (choking)
  - **Organic**
    - Causes of pain e.g.
      - Esophagitis
    - Disordered motility
    - Visceral hyperalgesia
    - Tube feeding
“Picky Eater”
- Parental Misperception -

• Child is small but achieving satisfactory growth based on mid-parental height

• Parent believes child’s appetite is limited when it is appropriate

• Excessive parental concern may lead to coercive feeding methods that adversely affect the child
Parental Misperception: Management

• Allay parental fears about nutritional inadequacy

• Educate Parent
  – Expected Growth and Nutrition
  – Feeding principles, & applying them consistently
  – Important not to force feed
Feeding Principles

1. Feed to encourage hunger
   – 3 meals + 2 snacks, min. eating/drinking between meals
2. Limit length of meal times (30min)
3. Avoid distractions
   – Feed in a high chair/at table; time-out if behv. disruptive
4. Serve age-appropriate foods
5. Tolerate age-appropriate mess
6. Encourage self-feeding
7. Consistently offer new foods
8. Maintain a neutral attitude during meals
Selective Intake

- Mild to Severe (< or > 15 foods)
- Refuses specific foods because of taste, texture, smell, or appearance
- **Moderate-Severe**
  - Rejects complete class of foods
  - Nutritionally at risk
  - Visibly anxious if asked to eat aversive foods
  - Sensory difficulties maybe present
Summary: Feeding Difficulties

Mild
eg, picky

Increasing severity
Decreasing prevalence

Severe

Feeding team

Oral-motor specialist and/or Gastroenterologist

Dietitian

Family Physician or Paediatrician
Summary: Classification

Every child and caregiver is influenced by the feeding experience

Caregiver
- Feeding style
  - Responsive
  - Controlling
  - Indulgent
  - Neglectful

Child
- Limited Appetite
  - Misperceived
  - Energetic
  - Apathetic
  - Organic
    - Structural
    - Gastrointestinal
    - Cardiorespiratory
    - Neural
    - Metabolic
- Selective Intake
  - Misperceived (neophobia)
  - Mildly selective (Picky)
  - Highly selective
  - Organic
    - Delayed Development
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- Fear of Feeding
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      - Tube feeding
Summary: Management

1. Assessment of Growth
2. Assessment of Intake (total / type of calories)
3. Diagnose the “Type of Picky Eating”
4. Refer if red flags present
5. Nutritional Support & Intervention
   - Feeding Principles/ Structure Meals
6. Parental/ Care-give Interaction
Nutritional Intervention

Ways to increase Oral Intake

1. Feeding schedule that encourages hunger
   • Feed 3 hour intervals
   • ~5 - 6 feeds / day (main meals + snacks)

2. Build anchor foods into the diet
   • 4 main food groups

3. Supplements if needed
   • High calorie drink
   • Multi-vitamins