



## PEDIATRIC FEEDING It's Not Just Small Potatoes

Dr Katherine Sanchez



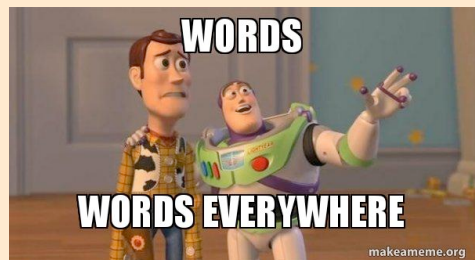
## Financial disclosures

- Dr Sanchez receives salary from:
  - Protea Therapy (co-owner)
  - The Informed SLP
  - Murdoch Children's Research Institute
  - The University of Melbourne
  - La Trobe University
- No relevant non-financial disclosures exist



## Learning objectives

- Use correct current terminology to describe and diagnose issues in pediatric feeding
- Discuss the bases of pediatric feeding problems in young children
- Identify at least three different therapeutic approaches to address pediatric feeding disorders in young children



## DEFINITIONS



## Terminology

- Picky/fussy/selective eating
- Feeding disorder/problem/delay/difficulty/impairment
- Pediatric dysphagia
- Avoidant/restrictive food intake disorder
- Eating disorder not otherwise specified
- Infantile anorexia
- Oral/feeding aversion
- Tube dependence



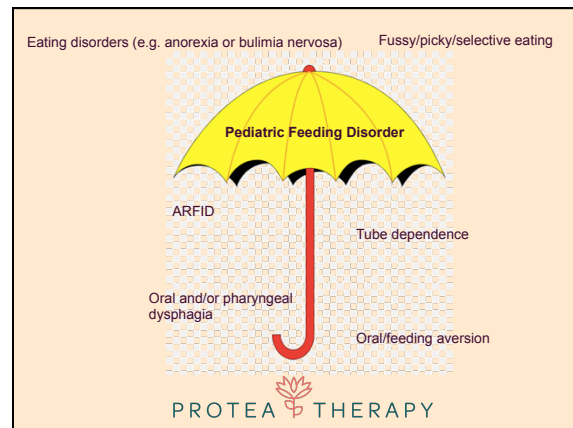
- An eating or feeding disturbance (e.g., apparent lack of interest in eating or food; avoidance based on the sensory characteristics of food; concern about aversive consequences of eating) **as manifested by persistent failure to meet appropriate nutritional and/or energy needs** associated with one (or more) of the following:
  - Significant weight loss (or failure to achieve expected weight gain or faltering growth in children).
  - Significant nutritional deficiency.
  - Dependence on enteral feeding or oral nutritional supplements.
  - Marked interference with psychosocial functioning.
- The disturbance is not better explained by lack of available food or by an associated culturally sanctioned practice.
- The eating disturbance does not occur exclusively during the course of anorexia nervosa or bulimia nervosa, and there is no evidence of a disturbance in the way in which one's body weight or shape is experienced.
- The eating disturbance is not attributable to a concurrent medical condition or not better explained by another mental disorder. When the eating disturbance occurs in the context of another condition or disorder, the severity of the eating disturbance exceeds that routinely associated with the condition or disorder and warrants additional clinical attention.



A. A disturbance in oral intake of nutrients, inappropriate for age, lasting at least 2 weeks and associated with 1 or more of the following:

1. Medical dysfunction, as evidenced by any of the following<sup>1</sup>:
  - a. Cardiorespiratory compromise during oral feeding
  - b. Aspiration or recurrent aspiration pneumonitis
2. Nutritional dysfunction, as evidenced by any of the following<sup>1</sup>:
  - a. Malnutrition
  - b. Specific nutrient deficiency or significantly restricted intake of one or more nutrients resulting from decreased dietary diversity
  - c. Reliance on enteral feeds or oral supplements to sustain nutrition and/or hydration
3. Feeding skill dysfunction, as evidenced by any of the following<sup>1</sup>:
  - a. Need for texture modification of liquid or food
  - b. Use of modified feeding position or equipment
  - c. Use of modified feeding strategies
4. Psychosocial dysfunction, as evidenced by any of the following<sup>5</sup>:
  - a. Active or passive avoidance behaviors by child when feeding or being fed
  - b. Inappropriate caregiver management of child's feeding and/or nutrition needs
  - c. Disruption of social functioning within a feeding context
  - d. Disruption of caregiver-child relationship associated with feeding

B. Absence of the cognitive processes consistent with eating disorders and pattern of oral intake is not due to a lack of food or congruent with cultural norms.



**BUT WHY**

**CAUSES AND CONTRIBUTORS**

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### Normal feeding development

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### Early experiences

- Preterm birth
- Medically/surgically complex
- Attachment issues
- Trauma

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### Inherent vulnerabilities

- Neurodevelopmental
- Neurological
- Craniofacial
- Other body systems
- Sensory processing
- Temperament

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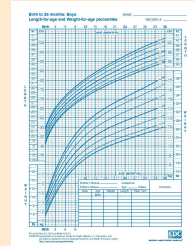
### External factors



- Caregiver input
- Challenging environment
- Trauma

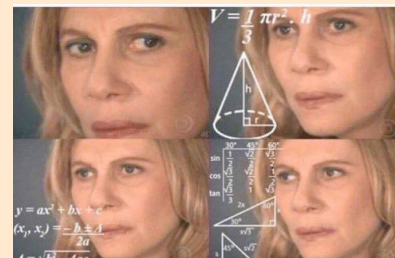
### Where are the bumps?

- Neonatal period
- 3-4 months
- Introduction to solids
- Texture transition
- 12-18 months
- 2-4 years



### Looks like...

- Dysphagia
- Refusal or avoidance
- Food neophobia
- Restrictions by taste, texture, or other sensory properties
- Rigidities
- Limited quantity
- Challenging mealtime behaviour
- Need for lots of compensatory strategies



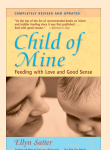
### APPROACHES TO FEEDING THERAPY



External motivation



Internal motivation



External motivation



Internal motivation



**Feeding behaviours:**

- Avoidance
- Refusal
- Neophobia
- Restrictions
- Rigidities
- Tantrums

**Internal barriers:**

- Oral sensorimotor issues
- Sensory integration issue
- GI discomfort/dysfunction (constipation, allergies, in poor motility)
- Other medical issues (e.g cardiac)
- Tube dependence
- Anxiety

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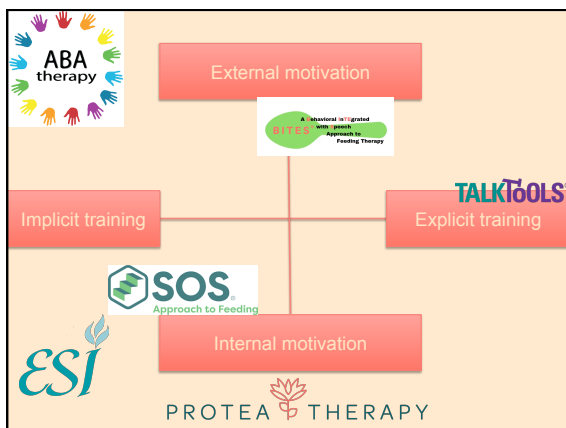
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Implicit training

Explicit training

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YOU MEAN TO TELL ME

HAMMERS DON'T FIX EVERYTHING?

STRATEGIES IN FEEDING THERAPY

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## 'Nudges'

- Mostly shown to be effective with typical 'picky eaters.'
  - Reading books about food
  - Playing with pretend food
  - Watching cooking shows
  - Eating off plates with food pictures



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## Environmental therapies

- Division of Responsibility
- Cue based feeding
- Visual supports
- Mealtime modifications:
  - Scheduling
  - Family mealtimes
  - Specific location
  - Family style service
  - Removal of distractions



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## Exposure therapies

- Repeated exposure
- Systematic desensitisation
- Food chaining
- Taste fading/blending
- Bite/portion fading
- Involvement in food preparation
- Modeling



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## Operant conditioning therapies

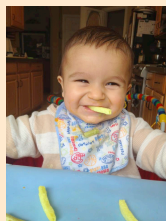
- Contingencies (rewards and punishments)
- Non contingent reinforcement
- Escape extinction
- Physical guidance



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## Bolus modification therapies

- Developmental texture grading
- Thickening fluids
- Giving smaller or larger boluses
- Varying the sensory input from a bolus



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## Motor therapies

- Posture and positioning
- Physical guidance
- Selecting foods to promote certain motor skills
- Using tools or implements to promote certain motor skills



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### Caregiver training

- In any of the above strategies
  - Instruction (verbal, written)
  - Modeling
  - Rehearsing
  - Role play
  - Videofeedback



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### Other therapies

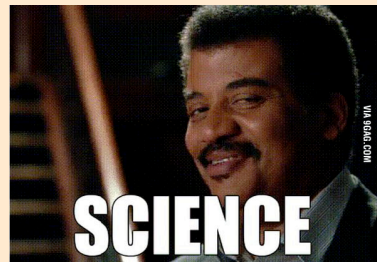
- Appetite manipulation
- Nutritional
- Sensory
- Family therapy/counseling
- Pharmaceutical
- Surgical



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All therapy approaches and programs are combinations of strategies from this list

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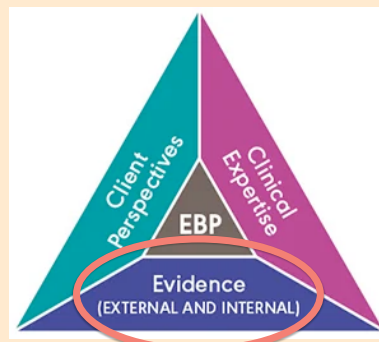


EVIDENCE BASED PRACTICE

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## Limitations of the science

- There's not much treatment research
- Some approaches have received much more funding than others
- A lot of treatments and strategies are extrapolated from population-level or obesity-focused research
- What's there tends to be low level, and/or low quality



## Best supported

- Operant conditioning
- Operant conditioning +




## Low or no evidence


- Exposure
- Environmental
- Motor
- Bolus modification
- Other




Condition	Options	Description	Notes	Evidence in speech
Practice amount	Small vs. <b>large</b>	Small: low number of practice trials or sessions Large: high number of practice trials or sessions	Potential interaction with practice variability (high number of constant practice trials may be detrimental to learning)	No systematic evidence
Practice distribution	Massed vs. <b>distributed</b>	Massed: practice a given number of trials or sessions in small period of time Distributed: practice a given number of trials or sessions over longer period of time		No systematic evidence
Practice variability	Constant vs. <b>variable</b>	Constant: practice on the same target, in the same context (e.g., syllable-initial /f/) Variable: practice on different targets, in different contexts (e.g., syllable-initial and final /f/, /z/, /s/)	Potential interactions with practice schedule, amount, complexity, and feedback variables Opposite effects on GMP vs. parameter learning	Limited evidence for benefit of variable practice in unimpaired speech motor learning; no evidence from MSD
Practice schedule	Blocked vs. <b>random</b>	Blocked: different targets practiced in separate, successive blocks or treatment phases (e.g., treatment on /f/ before initiating treatment on /z/) Random: different targets practiced intermixed (e.g., practice on /f/ and /z/ in each session)	Potential interactions with practice amount and complexity Opposite effects on GMP vs. parameter learning	Limited evidence for benefit of random practice, in unimpaired speech motor learning and treatment for AOS
Attentional focus	Internal vs. <b>external</b>	Internal: focus on bodily movements (e.g., articulatory placement) External: focus on effects of movements (e.g., acoustic signal)	Focus must be task-related Difficult to define external for speech	No systematic evidence
Target complexity	Simple vs. <b>complex</b>	Simple: easy, earlier acquired sounds and sound sequences (e.g., plosives, CV-syllables) Complex: difficult, later acquired sounds and sound sequences (e.g., affricates, CCV syllables)	Potential interactions with practice schedule, feedback variables, and learner's skill level	Limited evidence for benefit of targeting complex items in treatment for AOS



Note: Options that may be expected to enhance learning are indicated in bold. GMP = generalized motor program; MSD = motor speech disorder; AOS = apraxia of speech.

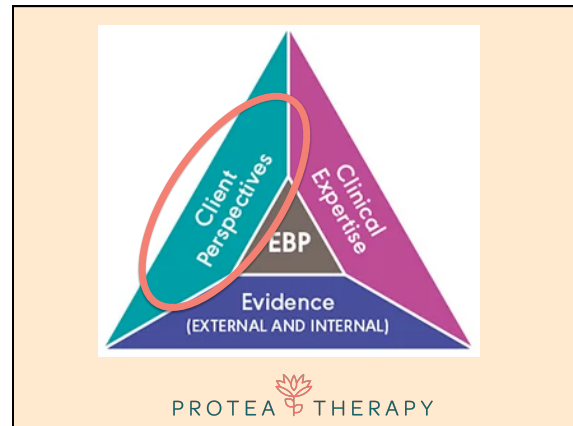
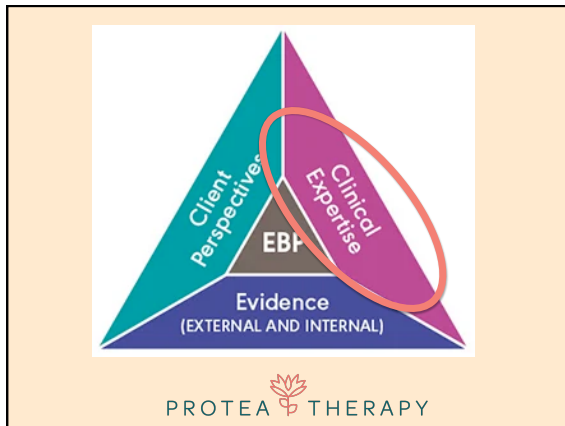
Principle	Description
1. Use It or Lose It	Failure to drive specific brain functions can lead to functional degradation.
2. Use It and Improve It	Training that drives a specific brain function can lead to an enhancement of that function.
3. Specificity	The nature of the training experience dictates the nature of the plasticity.
4. Repetition Matters	Induction of plasticity requires sufficient repetition.
5. Intensity Matters	Induction of plasticity requires sufficient training intensity.
6. Time Matters	Different forms of plasticity occur at different times during training.
7. Salience Matters	The training experience must be sufficiently salient to induce plasticity.
8. Age Matters	Training-induced plasticity occurs more readily in younger brains.
9. Transference	Plasticity in response to one training experience can enhance the acquisition of similar behaviors.
10. Interference	Plasticity in response to one experience can interfere with the acquisition of other behaviors.



## Internal evidence

- Form a hypothesis
- Design and conduct an experiment
- Collect and evaluate the results
- Modify practice accordingly



### Child considerations

- How old is the child?
- What is the cause of the PFD?
- What is the presentation of the PFD?
- How does this child respond to pressure/ demands?
- Are there significant safety concerns?
- What has been effective or ineffective in the past?

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### Family considerations

- What is the family's capacity?
- What is the family's parenting approach?
- How much struggle is tolerable?
- Is there significant time pressure?
- Are there financial pressures?
- What are the child's care arrangements?

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### Also...

- Consider restrictive practices and the experiences of Autistic adults

**ABA PSE Autism Controversy**  
 Warning: abuse  
 Force-feeding in new, modern #ABA  
 Success is judged by meeting observable behaviour targets.  
 Psychological impact is irrelevant  
[youtu.be/zB16nMe2ZY](https://youtu.be/zB16nMe2ZY)  
 #ABAWorks!  
 @AmbitiousAutism @prof\_standards @ABAharms  
 #CPRD #DisabilityRights @CnC\_inRightsRLaw  
 @rayjames

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WHERE TO NOW?

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### Free learning

- PFASE
- Holland Bloorview Feeding and Swallowing Handbook
- Ellyn Satter Institute
- Podcasts (Tube to Table, First Bite, Down the Hatch)



### Books

- 'Helping Your Child with Extreme Picky Eating'
- 'Love Me, Feed Me'
- 'How to Get your Child to Eat (but not too much)'
- 'Pre Feeding Skills'
- 'Anxious Eaters, Anxious Mealtimes'
- 'Child of Mine: Feeding with Love and Good Sense'
- 'Broccoli Boot Camp'
- 'Raising Healthy, Happy Eaters'
- 'Adventures in Veggieland'



### Paid courses

- Lots available!



### Evidence

- SLP journals
- Child development/GI/nursing/dietetic journals
- Google Scholar and PubMed
- Evidence translators

