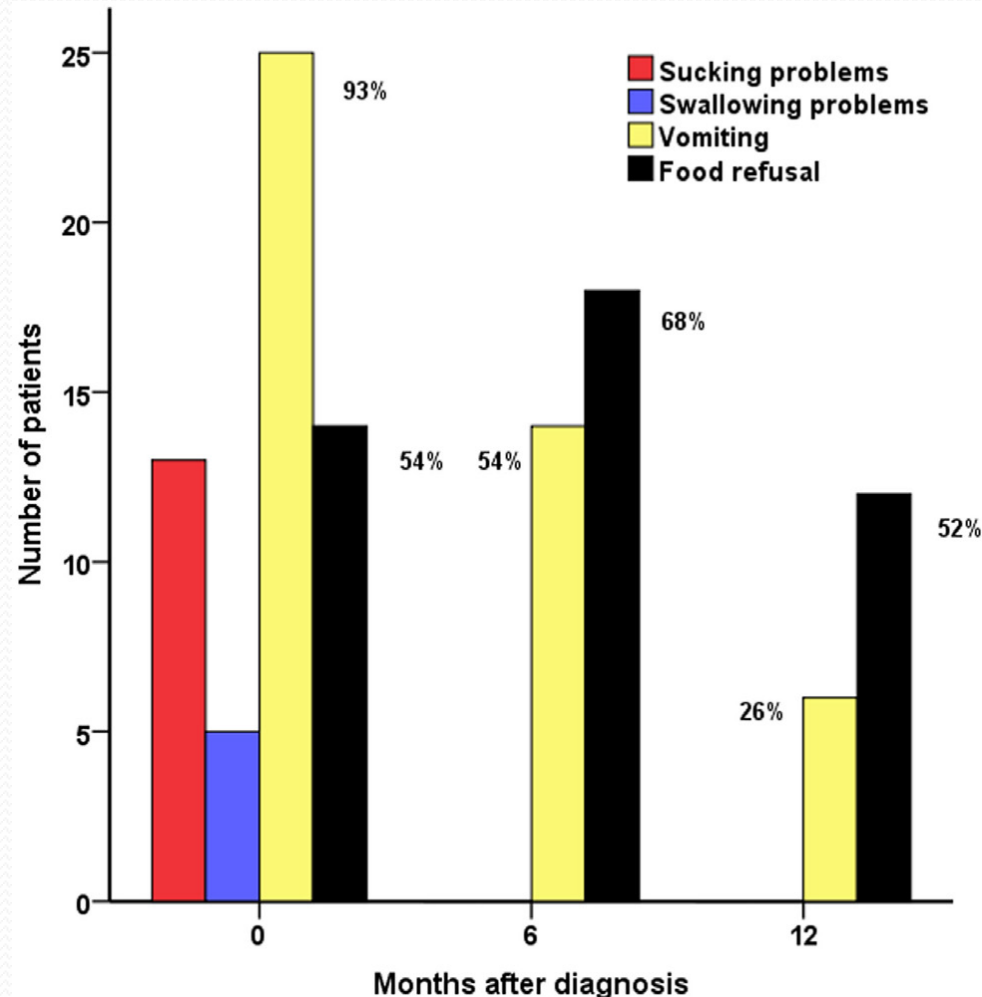


Hyperinsulinism and Feeding

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Do children with HI have feeding difficulties?

- 34% of children with congenital hyperinsulinism were identified as having a feeding disorder at diagnosis
 - 93% treated for gastroesophageal reflux
 - 75% received tube feeding



Why do children with HI have feeding difficulties?

Disease severity

- Insulin reduces appetite and feeding through signaling mechanisms in the brain

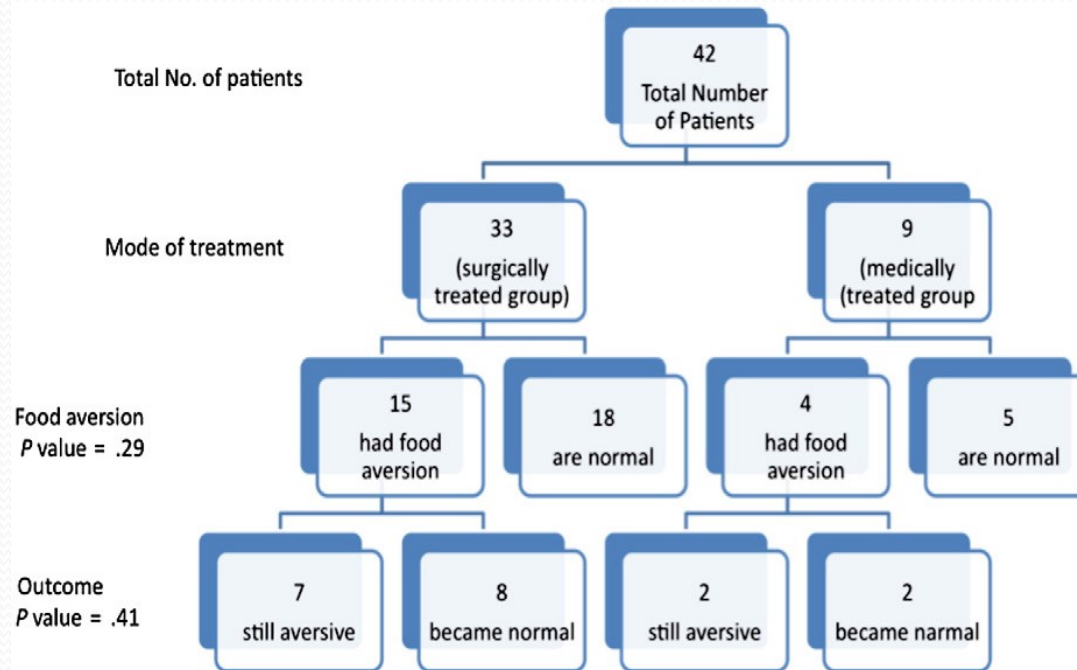
Glucose stability

- Need for frequent meals
 - Stressful mealtimes
 - Tube feeds

Medications

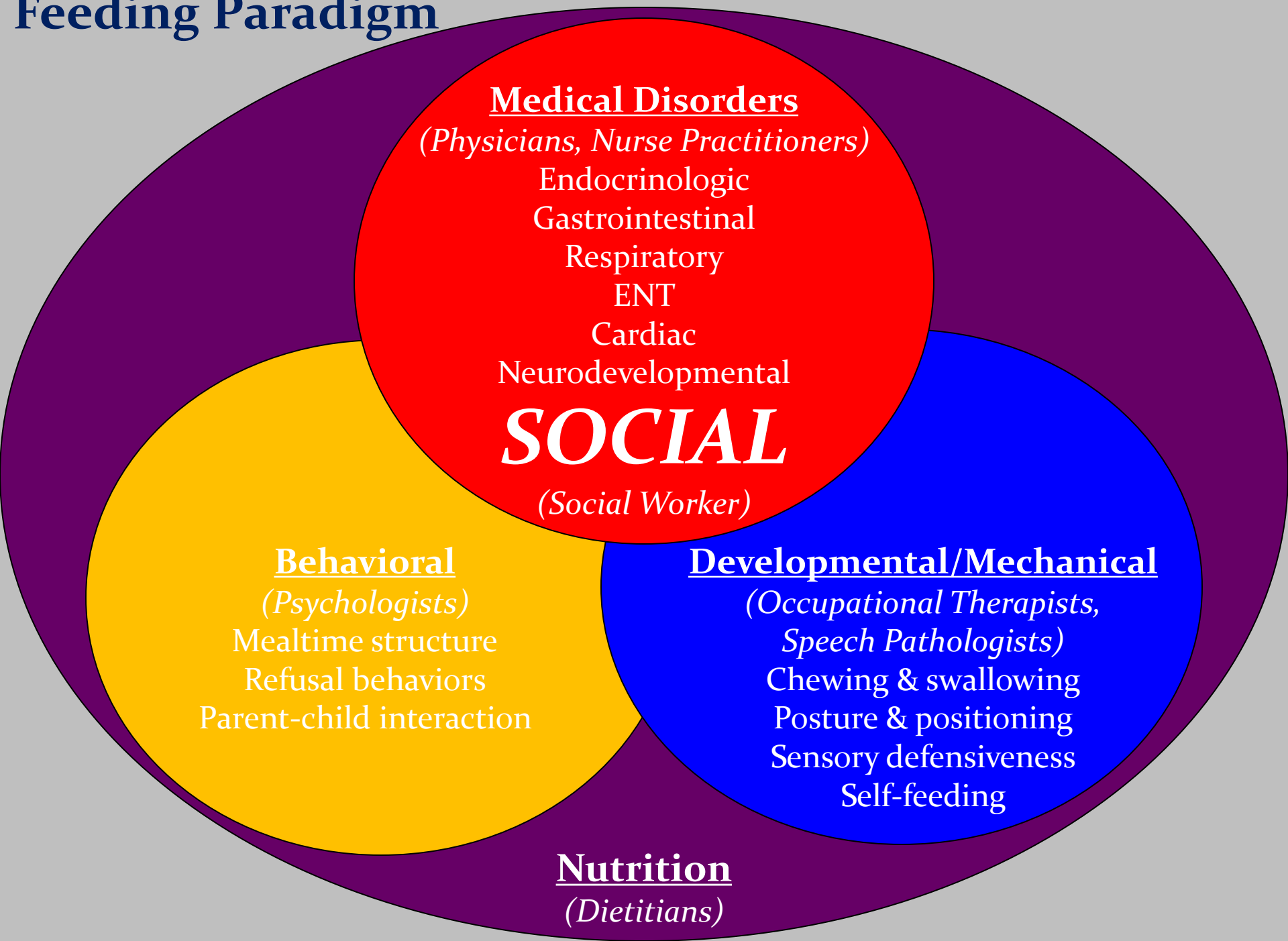
- Diazoxide
 - Unpleasant taste
- Octreotide
 - Gastrointestinal dysmotility

Does type of treatment influence development of food aversion?



- 45% had food aversion
- Mode of treatment did not impact likelihood of developing food aversion

Feeding Paradigm



ABC paradigm

ABC paradigm

- **A**ntecedent
 - What precedes or triggers the behavior
- **B**ehavior
 - What is the behavior of interest
- **C**onsequence
 - What happens after the behavior to ultimately change the frequency of the behavior



ABC paradigm

Antecedent: what precedes or triggers the behavior

- Factors that can disrupt the typical progression of feeding development
 - Discomfort associated with chronic medical condition
 - Endocrinologic, Gastrointestinal, Respiratory, Cardiac, Neurologic
 - Developmental
 - Delayed feeding skill acquisition
 - Anatomical
 - Unrepaired tracheoesophageal fistula
 - Limited appetite
 - Organic, temperamental, learned
 - Inconsistent mealtime routine
 - Difficult to develop a typical hunger/satiety cycle
 - Inappropriate presentation of food
 - Bite size, texture

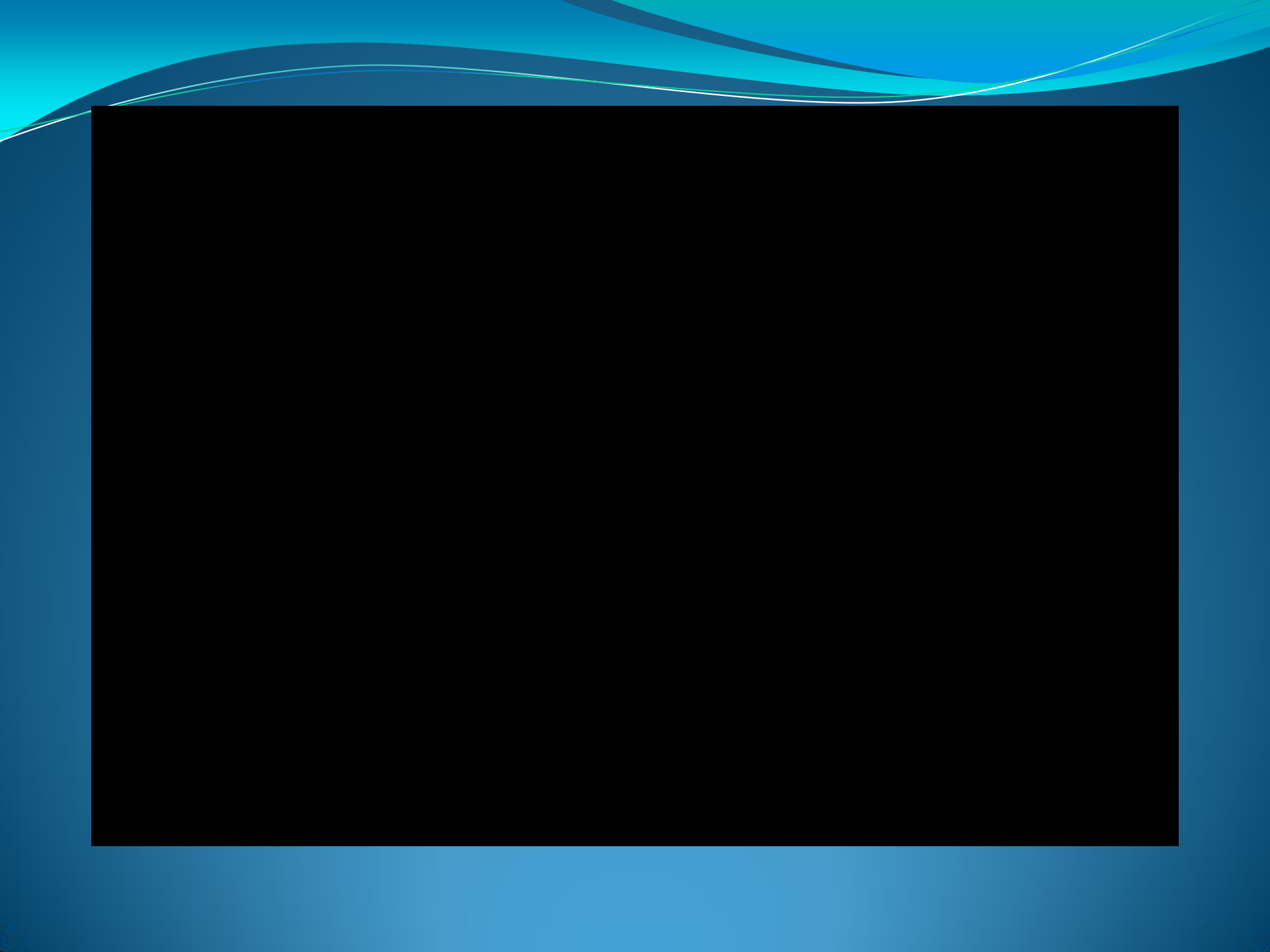


ABC paradigm

Behavior: what is the target behavior

- Increase the consumption of food
 - Volume
 - Variety
 - Texture
- Decrease disruptive behavior





ABC paradigm

Consequence: feeding problem is maintained by environmental factors (inadvertent reinforcement)

- The consequence affects the likelihood of the behavior occurring in the future
 - Negative reinforcement
 - Child behaves inappropriately, parent removes the food, increases the likelihood the behavior will occur in the future
 - Positive reinforcement
 - Child behaves inappropriately, parent provides attention, increases the likelihood the behavior will occur in the future
- Parents have difficulty responding effectively to negative mealtime behavior
- Caregivers focus more on maladaptive eating behavior than appropriate eating behavior

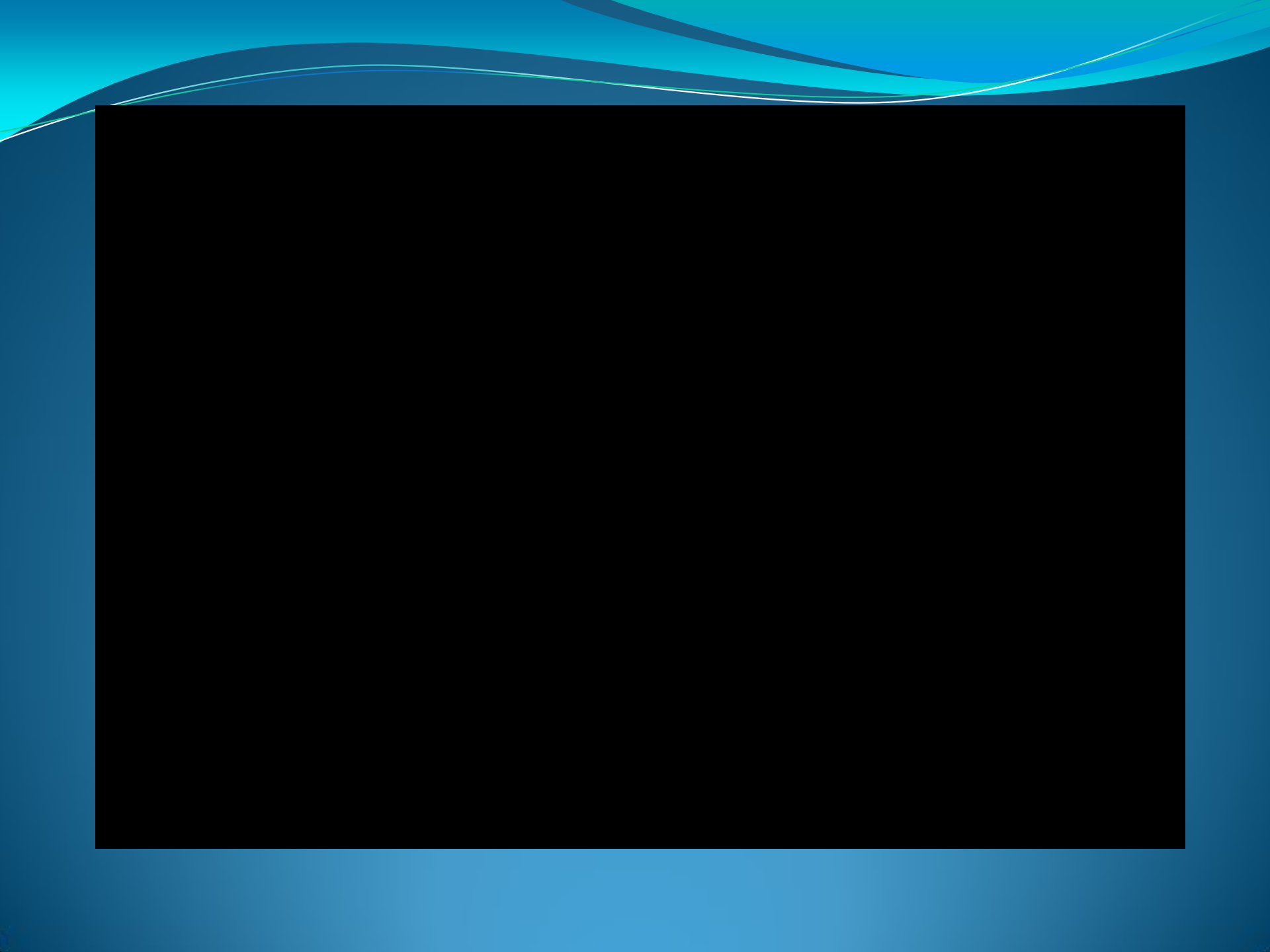
Behavior Shaping

- Change the **antecedent**
 - *Cannot have active physical discomfort for behavioral therapy to be successful*
 - Mealtime structure: develop hunger and satiety cycle
 - 3 meals, 2-3 snacks
 - Limit meals to 20-30 minutes
 - Minimize grazing
 - Feed in developmentally appropriate supportive seating
 - Limit distractions
 - Texture progression
 - Gradual transition from baby food to pureed then mashed table foods
 - Avoid stage 3 baby foods
 - Avoid mixing crunchy foods into pureed foods

Behavior Shaping

- Change the **consequence**
 - Use rewards instead of distractions
 - Alternate bites of preferred and non-preferred foods
 - Repeated introduction of new foods is needed before acceptance is established
 - Consistent approach across all caregivers





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