Cue-Based Feeding: Getting Past “But We’ve Always Done it This Way!”

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Session Summary

Recent evidence contradicts our decades-long feeding practices, but how do we depart from what we have always thought to be true? This presentation shows the evidence for cue-based feeding and illustrates the journey taken by one NICU that successfully transformed its culture.

Session Objectives

Upon completion of this presentation, the participant will be able to:

- compare traditional medical model and cue-based feeding model;
- examine the evidence for cue-based feeding;
- describe the University of Virginia NICU’s transition to cue-based feeding, including what worked and what didn’t.

References


**Session Outline**

See presentation handout on the following pages.
Cue-Based Feeding: Getting Past “But We’ve Always Done It This Way!”

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“I can feed a ROCK!”

Objectives:

- Compare traditional medical model and cue-based feeding model
- Examine the evidence for cue-based feeding
- Describe the University of Virginia NICU's transition to cue-based feeding, including what worked, what didn't
The Traditional Medical Model

- Medical team orders volume/caloric density
- Typically ~120kcal/kg/day
- Nurse administers feeding by mouth, gavage, or a combination or the two

*Volume-driven culture*

The Traditional Medical Model: Attitudes

- "Better nurses"—coax volume into babies
- "Poor feeders"—babies who don't take volume prescribed volumes
- "The light bulb turned on" (Skarbo, 2013)

The Traditional Medical Model: Attitudes

- Nurses might say:
  - "If I can just get him to take these last 5mL..."
- Nurses less likely to say:
  - "We had a positive feeding experience, he woke up, showed cues, no aversive behaviors."

The Traditional Medical Model: Attitudes

- RN documentation=volume NG vs. volume PO
- Little documentation of to how the baby fed
- NNPs/MDs—we like quantitative measurements:
  - Total fluids in mL/kg/day
  - Output in mL/kg/hour
  - Weight gain in grams

Oral Feeding: It's Not That Simple!

- Oral feeding involves 5 subsystems:
  - Autonomic→Motor→State→Behavioral→Self-Regulatory
  - Not just time for maturity, but caregiver/baby reciprocity
  - Caregiver must recognize feeding cues and disengagement cues

Als' Synactive Theory of Development

- Oral feeding involves 5 subsystems:
Als’ Synactive Theory of Development
Caregiver recognizes/responds to:
Rooting, sucking on hands, alert quiet state

Cue-Based Feeding: The Evidence
• Two prospective trials:
  – Kirk, Alder, & King, 2007:
    • Full PO feedings 6 days sooner
  – McCain, 2003:
    • Full PO feedings 5 days sooner
• Preparing for PO feeding: Non-nutritive suck
  – Bingham et al, 2010: NNS-better organization and earlier transition to full PO feeds, average of 3 days earlier

Als’ Synactive Theory of Development
Just as important to pay attention to subtle “stop” signs:
Hiccups, fanning fingers, gaze aversion, worried expression, yawning, looking exhausted

Als’ Synactive Theory of Development:
• Caregiver should recognize physiological “stop” signs:
  • Apnea, bradycardia, desaturations
  • If not, can lead to oral aversion
Cue-Based Feeding: The Evidence
What does Cochrane say?

- 8 RCTs
- 3 trials showed 2-4 days earlier to PO feedings
- Trials were small, poorly designed
- Inconclusive
- Need a large RCT

(McCormick, Tosh, & McGuire, 2010)

Cue-Based Feeding: The Benefits

- Is developmentally appropriate
- Decrease LOS/Healthcare costs
- Can improve parent satisfaction

Despite the Evidence, Change is Difficult!
“But we’ve always done it this way!”

Despite the Evidence, Change is Difficult!
Some reasons for resistance are valid, others not

- Most experienced nurses—were in support of not “feeding a rock.”
- “I have a 3 or 4 baby assignment and have to keep a schedule.”— Interruption of workflow
- NPs and physicians—uncomfortable with what we can’t measure and less than 120kcal/kg/day

The way things used to be.....
You can’t start soda soon enough!
Do your child a favor!
They will fit in better during those awkward preteen years!
A strict regimen of sodas and other sugary, carbonated beverages right now for a lifetime of guaranteed happiness!!
Laboratory tests have proven this!

Making The Change: Step 1

- Champions—to get buy in
- Who?
- Nurses
- Physicians
- Speech Therapists
- Physical Therapists
- Occupational Therapists
- Dietitians
- Parents
- Anyone could be a champion!
Making The Change: Algorithm and Guidelines

- Begin with non-nutritive suck
- How early for PO feedings??
- Is the baby showing cues? 30 weeks CGA or greater? On nasal cannula or room air? Then offer a PO feeding!

Making The Change: The Guidelines

- Begins with Milestone One: 1 PO feeding/shift, progresses through Milestone Four, all PO feedings
- 75% of feeding, no need to gavage feed
- Guidelines for breastfeeding, too
- Can directly breastfeed and **NOT** know the volume (gasp!!)
- Measure growth/weight gain, not mLs or kcals
- Champions sought approval of algorithm/guidelines

Making The Change: Documentation

***Quality—not quantity—of PO feedings as a measure of success***

Changes made to EMR for NNPs/MDs to order Cue-Based Feeding
Nurses now documenting qualitative assessment of feeding

Making The Change: Education

- Extensive!
- Many formats
- Over 9 months
- Small group mini-lectures for RNs
- Lectures for residents at morning rounds
- Captive audience—at RN staff meetings
- Friday Footnotes-bi-weekly email
- Quizzes with prizes—who doesn’t love a coffee card??
- Shadow box
- NICU Core Curriculum—newly hired RNs
**Education: Don’t Forget Mom and Dad**

- Educate parents
- Ideally, they do the feeding

**Along The Way:**

- Can we go from Milestone #1 to Milestone #2? My patient showed cues every feeding. Too bad I had to use the NG tube!
- Feed the baby! Infant-driven model.
- Guidelines are to guide.
- What if the baby is showing cues more than every 3 hours?
  - Feed the baby!

**Questions Along The Way:**

- What if the baby is showing cues less often than every 3 hours?
  - Feed the baby! But use NGT if >3.5 hours and no hunger cues.

**Questions Along The Way:**

Guideline—not policy.
Not substitute for clinical judgment.
Not set in stone.

**Questions Along The Way:**

My patient PO fed 75% of his breastmilk feeding. I can’t refrigerate the rest. You want me to **DISCARD** the remainder of the **liquid gold**?

- 1.8kg baby
- Receiving 24kcal
- 150mL/kg/day
- 34mL q 3 hours, if baby fed 25mL (75%), **only 9mL would be discarded**
- Allows baby to feel hunger
- Maybe sooner to reach full PO feed/discharge sooner
- Mom not low supply or terribly upset
What Worked?

- What did all of those champions do?? Many jobs.....
- Developing algorithm
- Approval of Division of Neonatology
- Approval of Nursing Clinical Practice Committee
- Education
- Developing order sets and documentation through EMR
- Pre-intervention data collection
- Post-intervention data collection

What Worked?

- Remember this? Instead of this at bedside.....

What Worked?—Bedside Flip Cards

- ...We used these:

What Worked?—Bedside Flip Cards

- ...We used these:

What Worked?—Bedside Flip Cards

- ...We used these:

What Worked?—Bedside Flip Cards

- ...We used these:
What Did And Did Not Work?

- More frequent feedings sometimes unrealistic
- The exception was breastfeeding! This worked really, really well.

What Did Not Work?

- Several other changes—too much at once??
- LOS Reduction Taskforce:
  - Thermoregulation protocol
  - Oxygen weaning protocol
  - Increase in documentation
  - Recent change to EMR from paper charting

Outcomes

- Goal: to reach full PO feedings by 36 0/7 weeks
- Excluded NEC, Grade IV IVH, or VP shunt
- Pre-intervention data
- Post intervention data