A warm welcome to all…

The webinar will begin shortly

Attendance certificates and a reflection sheet will be available after the webinar

The Emerging Trends of Blended Diets; Sharing Best Practice Amongst Healthcare Professionals

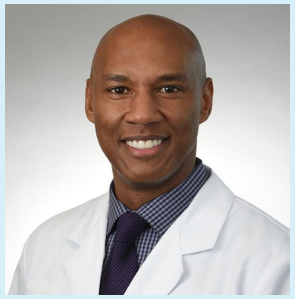
30 June 2020

Sponsored by Nestlé Health Science

Speakers

- Jayne Lewis – Community Dietitian

  Children's Home Enteral Feeding Oxford



- Gerard Minor M.M.S, PA-C – Physician Assistant, Paediatric Gastroenterology, Hepatology and Nutrition

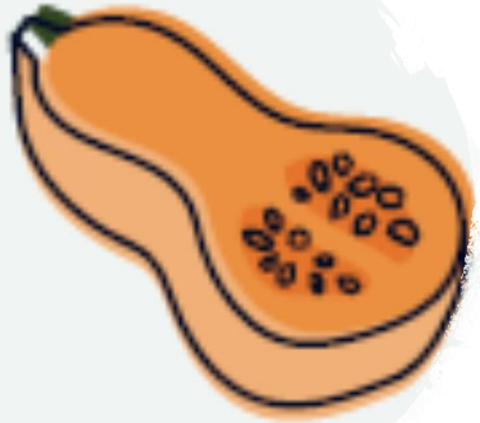
  South Florida USA

- Clare Thornton-Wood – Highly Specialised Paediatric Dietitian

  Great Ormond Street Hospital for Children

Housekeeping

- Webinar 1 hour and 15 mins including questions at the end
- Please send questions in during the webinar and we will answer as many as we can at the end
- Certificates
- Conflict of interest



Blended Diets

- What is a blended diet ?
- Why might parents/caregivers want to use a blended diet ?
- What are the challenges with administering a blended diet ?
- What is the current British Dietetic Association (BDA) position statement ?

British Dietetic Association Policy Statement

The Association of UK Dietitians

Policy Statement

The Use of Blended Diet with Enteral Feeding Tubes

Background

The use of blended food administered into an enteral feeding tube is commonly referred to as following a ‘blended diet’. Alternative descriptions exist including liquidised tube-feeds, blenderised food, liquidised diet and pureed table food (1). This mode of enteral tube-feeding has been met with caution, as some professionals raised concern that blended diet could be unsafe in comparison to commercially prepared enteral formulas (2). Professional

BDA Policy Statement – Blended diet

Published November 2019

- Change from previous statement in 2015
- Supports dietitians to discuss feeding openly with families
- Supports raising topic blended diet and offering as an option where '….potential physiological, social or emotional benefits to individual and family'
- Toolkit to follow in 2020

BDA Policy Statement

	Key Recommendations
1	Dietitians should lead multidisciplinary discussion
2	Commercial formula first line choice for majority
3	Commercial formula not tolerated by small number patients
4	Gastrostomy rather than jejunostomy safer choice
5	Share decision making considering local policies and family preferences
6	Families need to fully understand time and cost
7	Blended diet can be sole source nutrition or in combination with formula
8	Families should be education on balanced diet, safety and storage
9	Dietitian to work with MDT to enable use in all care settings
10	Families should be aware not always appropriate as an inpatient and need a back up plan

Isosource Junior Mix (ISJMIX)

Nutritionally Complete

Contains fibre

Sterile

Easy to transport

Can be fed overnight

Improves tolerance ?

Contains food derived ingredients pea protein, orange juice, dehydrated chicken, peach puree

Isosource Junior Mix Study

Thornton-Wood C and Saduera S, J Neonatol Clin Pediatr 2020, 7: 050
DOI: 10.24966/NCP-878X/100050

HSOA Journal of Neonatology and Clinical Pediatrics

Research Article

Tolerance and Acceptability of a New Paediatric Enteral Tube Feeding Formula Containing Ingredients Derived From Food: A Multicentre Trial In The United Kingdom

Clare Thornton-Wood[1] and Sharan Saduera[2]

[1]Paediatric Dietitian, NHS and Freelance, United Kingdom

[2]Dietitian, Medical and Scientific Affairs Dietitian, United Kingdom

Participants (1-14 years) had a range of medical conditions. A number of participants reported positive changes in stools; including becoming firmer and decreasing in frequency. One child saw improved mood, eye contact and concentration. Resolution of reflux and a gradual decrease in retching were observed in 2 participants. One child experienced bloating and flatulence; they were previously on a tube feed without fibre which may have caused symptoms. There were no changes in weight during the study.

The new tube feed was well tolerated by the majority of participants; with a decrease in GI symptoms and beneficial changes in stool type.

Introduction

Homemade blended diets are becoming popular amongst caregivers and parents of children with long-term tube feeding [1]. Regular use of Homemade Blended Food (HBF) has been reported in the United States of America (USA) and parts of Europe for many years [2]

Isosource Junior Mix Study

Recruitment

- 5 sites across UK
- Participants (n=19), age 1-14 years
- 16 participants completed
- Undertaken to fulfil requirements of ACBS

Method

- All fed via gastrostomy (>75% energy)
- Whole protein feed or step down from peptide
- Isosource Junior Mix given for 7 days
- Compliance, volume, gastro-intestinal symptoms recorded

Isosource Junior Mix Study – Results

- Participants who completed all consumed 100% prescribed volume
- Positive changes in stool frequency (decreased frequency, firmer consistency)
- Improved mood, eye contact, concentration (report from caregiver)
- Resolution of reflux
- Decrease in retching
- Participants not completing (n=3)
- Small cohort but favourable results

Thank You

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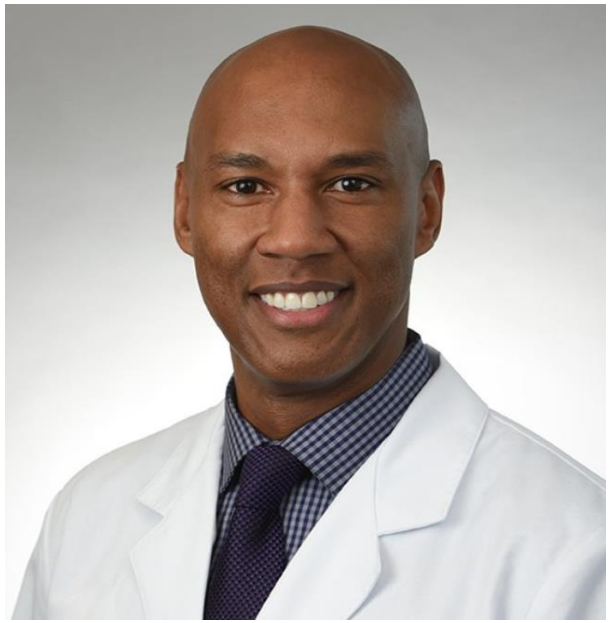

Up Next….
Gerard Minor

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Educational Webinar

Isosource Junior Mix

(& Compleat Pediatric, USA)

Food Derived Ingredient Formula for Enteral Feedings

For healthcare professionals only

My Background

- Physician assistant in pediatric gastroenterology since 2003, working primarily with patients who have developmental delay and feeding disorders that require nutrition via enteral tube. I work in a private multispecialty pediatric physicians group who is contracted for services by local pediatric hospitals and two total care pediatric nursing facilities in south Florida.

- During times of COVID19 my outpatient practice has relied more on telehealth, when possible, and in-patient environment has been same volume with small protocol changes to reduce close encounters. For our outpatients with developmental delays and/or in nursing facilities we have monthly telehealth visits for updates from parents, home nurses, and medical facility providers.

- I usually spend 75% of my day attending to hospital inpatients and nursing facility residents, and about 25% outpatient encounters. In all cases I work the families and a nutritionist to compose individual feeding plans.

Enteral Feeding Options

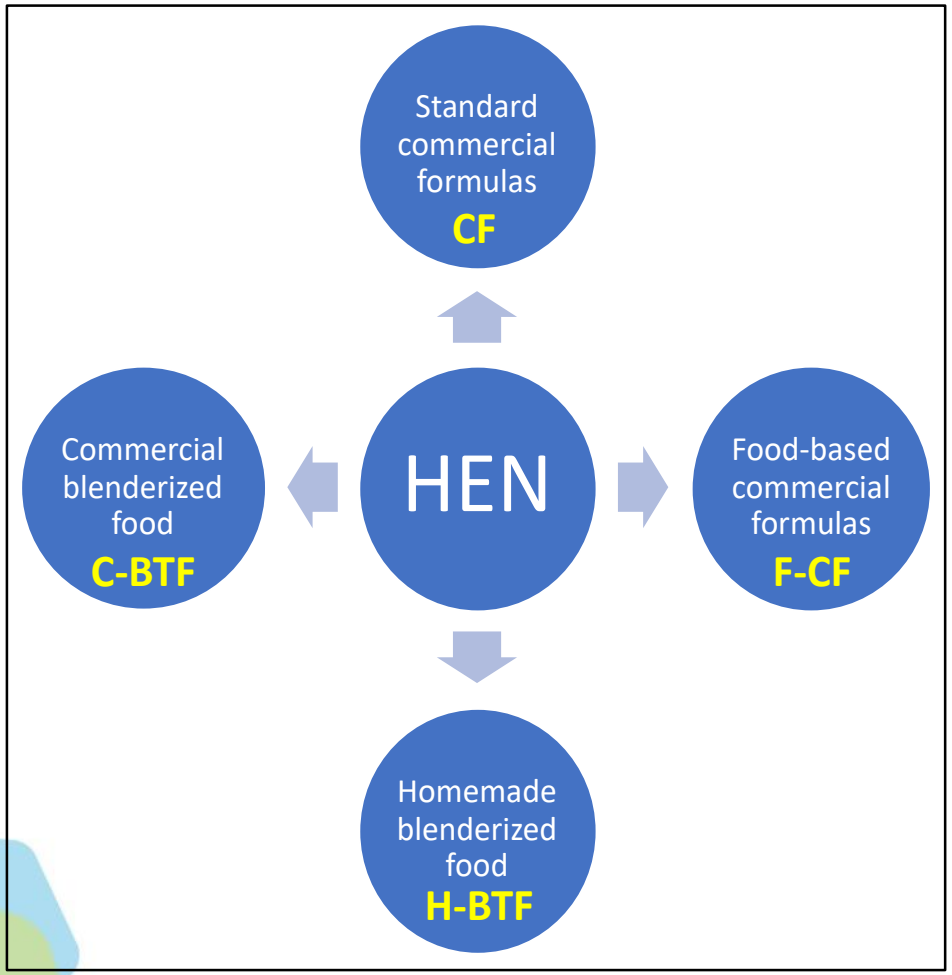
A real push has come from the parents and caregivers for what they call “real food”

Many have voiced dissatisfaction with standard commercial formulas

How can they incorporate different ethnic and cultural foods into the diet of their child?

This begins conversation about home blenderized diets and food derived ingredients formula options

Enteral Feeding Options



Enteral tube feeding options for home enteral nutrition (HEN):

- **SCF** – standard commercial formulas (SCF)
- **F-CF** – commercially prepared tube feeds containing more food-based ingredients than in SCF **(ie: Isosource Junior Mix)**
- **H-BTF** – home-made food, blenderized for tube feeding
- **C-BTF** – commercially-prepared food, blenderized for tube feeding (C-BTF).

Blenderized Diets

- Time consuming
  - -Shopping for variety foods
  - -Preparation
  - -Storing
  - -Administration
  - -Visits with nutritionist (for monitoring)

- Inconsistent daily nutritional content
  - -Balance of protein/fat/carbs
  - -Vitamins and minerals
  - -Daily fluid volume
  - -Total daily calories

Compleat Pediatric Tolerance Study

Tolerance study 2016: Compleat Pediatric (US) food derived ingredients formula

Formula was well tolerated by all participants

Less complaints of feeding intolerance (ie: constipation, abdominal distention, or gas).

Study formula provides a convenient supplementation to daily blenderized diets

Compleat Pediatric Poster

MEETING PEDIATRIC NUTRITION NEEDS WITH AN ENTERAL FORMULA CONTAINING REAL FOOD

Gerard Minor, M.M.S, PA-C[1]; Pamela Cekola, RDN[2]; Sarah Cohen, PhD[3]; Maureen Huhmann, DCN, RD, CSO[2]
[1]Children's Center for GI and Nutrition, Hollywood, FL; [2]Nestlé Health Science, Bridgewater, NJ; [3]EpidStat Institute, Ann Arbor, MI

BACKGROUND

- Enteral nutrition (EN) is critical for growth and development in children unable to meet daily energy and protein needs orally
- Health care professionals and caregivers are asking for enteral formulas that include more real food and easy to recognize ingredients
- Caregivers are blenderizing foods at home more often which can be both complex and time intensive to prepare
- A pediatric fiber-containing formula with real food ingredients was renovated to add more real food, improve the vitamin and mineral content and update to a blend of insoluble (pea hull fiber) and soluble (fructooligosaccharides, inulin and acacia gum) fiber plus fiber from fruits and vegetables (Table 1)

OBJECTIVES

- The purpose of this prospective observational study was to assess the ability to meet energy goals in a clinically stable, pediatric tube-fed population
- Secondary objectives included the ability to meet protein goals, assess formula tolerance, subject mood and frequency and nature of adverse events

	Study Formula
Kcal/mL	1.0
Protein (% kcal)	15
Carbohydrate (% kcal)	51
Fiber (g/L)	8
Fat (% kcal)	34
Protein Source	Dehydrated chicken powder, milk protein concentrate, pea protein isolate
Fiber Source	Pea fiber, gum acacia, FOC, inulin, fiber from fruits and vegetables
Fruit & Vegetable Ingredients	Tomatoes, green beans, peaches, carrots, cranberry juice concentrate

Presented at FNCE, October 21, 2017 in Chicago, IL.
Sponsored by Nestlé Health Science.

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METHODS

- Clinically stable, tube-fed children (1–13 years) with established enteral access, currently tolerating enteral feeding (EN) and anticipated to require EN to provide at least 90% of their nutritional needs for 7 days were recruited
- Consented subjects were observed on their Pre-Study Formula (PSF) for 1 day (Day -1)
- At study Day 0, study formula (SF) Compleat® Pediatric (Nestlé Health Science, Bridgewater, NJ) was initiated
- Each subject was fed for another 7 days (Day 1–7)
- Caregivers completed a Daily Diary to record study formula intake, gastrointestinal measures (stool frequency/consistency, vomiting, gas, abdominal pain), mood and general health
- Physician assessment of tolerance measures was completed at final visit (Day 8)
- All data analyses were conducted using descriptive statistics. Means, standard deviations, minimum and maximum values calculated for continuous data, and counts and percentages calculated for categorical data.

RESULTS

- Twenty-one children (mean age 6.4 yrs, 57% male) fed via G-tube with feeding disorders secondary to developmental delay or other neurological disorders enrolled in study; one subject withdrew early
- Calorie & protein intake was similar with PSF and SF (1246 vs 1205 kcals/d; 39 vs 48 g/d, respectively) **(Figure 1)**
- Twelve subjects met at least 90% of calorie goal on SF; 8 subjects met 59-85% of goal
- Study formula was not associated with an increase in gastrointestinal symptoms; Formula was well tolerated based on caregiver report
- Stool consistency was reported most frequently as 'Soft' for both PSF and SF, with fewer reports of 'Hard' and 'Watery' for SF **(Figure 2)**
- Caregiver reported subject mood as "happy" or "content" the majority of the time
- No serious adverse events reported

Figure 1: Daily Percentage of Nutritional Goals Met

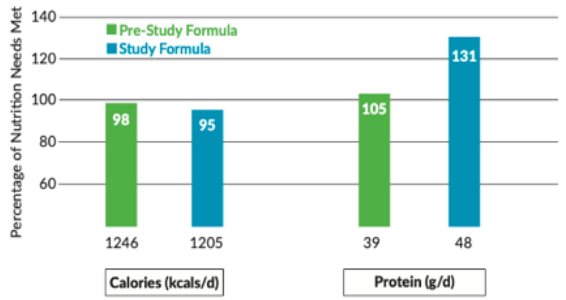
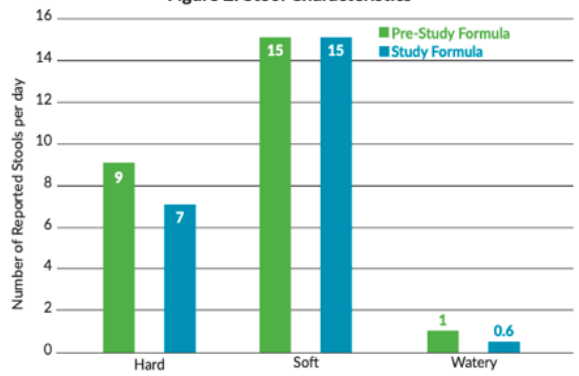


Figure 2: Stool Characteristics*



* For study formula stool characteristics reported as average

CONCLUSION

- **Pediatric enteral formula containing food ingredients provided nutritional intake equivalent to pre-study levels in children with neurological medical diagnoses**
- **Formula was well tolerated**
- **Study formula provides a convenient alternative for those looking to incorporate real foods into daily enteral diet**

Food Derived Ingredients Formula

The product is being used for variable amounts of daily nutrition

-Base for pureed food recipes
-Supplement to blenderized meals
-Supplement between meals (snacks)
-Nutrition on-the-go
-Supplement given at nights via GT supplement daytime calories

Benefits for patients/caregiver

-Ease, no prep
-Increase daily calories
-Improved feeding tolerance (ie: reduced constipation)
-Covered by insurers
-Improved micro- and macronutrients profile

Case Studies

Case 1: Patient one is a four-year-old Hispanic male. Diagnosis cerebral palsy and has GT for main source of nutrition. He attends medical daycare during the day, with a limited timeframe for lunch.

Case 2: Patient two a six-year-old Haitian female. Developmental delays due to neurologic injury, status post gastrostomy tube placement. Patient relies on GT for 100% of her meals. Parents admit to a diet that is not diverse and limited fiber dense foods.

Case 3: Patient is a nine-year-old female with developmental delays and has a gastrostomy tube in place. This patient also has Nissen fundoplication for reflux. Increased spasticity has higher calorie goal.

Thank You

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Up Next….
Jayne Lewis

Case Study Presentation

A trial of a new paediatric tube feeding formula, Isosource Junior Mix (IJMIX), containing ingredients from real food.

Jayne Lewis BSc RD

Trial of Isosource Junior Mix (ISJMix)

HEF review-Child aged 3 years

Diagnosis: Bulbar Palsy, Hypotonia, GORD, Unsafe Swallow, Gastrostomy

Nutritional requirements presently met by 660mls of 1.5kcal/ml whole protein formula + Abidec

Weight	13.95 (25th Centile)		
Height	92cm (2nd -9th Centile)		
EAR Age	1080 kcals	**FEED**	990kcals
Protein	1.1g/kg/day		27g
Fluid (GOSH guidance)	1200mls		1100mls
Fibre (US Guidelines /SACN)	8-13g / 15g		0g

Main problem for child and family = stool consistency

- Child A was starting to show interest in using her potty to pass urine and was managing to do this successfully

- She was generally passing 1 loose stool per day, (Bristol Stool Scale type 6), affecting her bowel control and the need for her to remain in nappies.

- This was distressing for the child and her family.

ACTION

- Trial a fibre containing version of same 1.5kcals/ml whole protein feed – to see if would alter stool consistency and help progression with potty training.

OUTCOME

- After 1 month on fibre containing feed (6.6g fibre) (FOS/fibre)–no change in stool consistency. No progress with potty training

Trial of Isosource Junior Mix

What information was collected during the 7 day trial

- Isosource Junior Mix was matched near enough for energy and feed volume to current feed.
- Fibre from Isosource Junior Mix=7g a mixture of FOS, fruit +vegetable Fibre
- Tolerance diaries were kept by parents (stool frequency and type / GI discomfort / GI symptoms)

Trial of Isosource Junior Mix (ISJMix)

No reported issues with tolerance

(tolerance diary kept for the duration of the 7-day trial

On Day 2 Child A's stools started to thicken and were more formed (from stool consistency type 6 → 4 on BSC

Child A was able to successfully produce a stool on her potty thus achieving the expected standard of being fully potty trained between the ages of 24-48 month

Following the end of the trial period of ISJM , child A continued to produce firmer stools even on the return to her previous formula, enabling full use of the potty to continue

Conclusion

- Improved bowel control was established enabling successful progression of potty training for passing a stool, meeting the usual age range standard for potty training.

- This change has produced a positive effect on quality of life for the child and family concerned.

Thank You

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Before Q&A, time for a quick poll…

Q1. Now I have learnt more about this new formula with food derived ingredients, I am confident to use this product in my clinical practice?

Q2. Well designed recipe ideas alongside this formula will be beneficial for my patients?

Q3. Do you think blended diets are the future?

Q&A