

Children's Wisconsin Clinical Nutrition Department

Module Enteral Nutrition: Case Study

Sarah is a 5-year-old girl whose past medical history is significant for 28 week prematurity, hypotonia, seizures and global developmental delay. She is 100% G tube (GT) fed.

Sarah is tolerating feedings without vomiting. She is having issues with constipation. Mom is interested in switching to one of the Compleat Pediatric products.

Anthropometrics:

Height: 110 cm (ht/age z-score: 0.49/69th %ile)

Weight: 18 kg (wt/age z-score: 0.03/51st %ile)

BMI z-score: -0.21

Sarah has gained 4 grams/day since her last visit 4 months ago.

Feeding regimen:

1 bottle Pediasure Grow and Gain + 100 mL water 3 times/day by GT.

Assess Sarah's growth parameters. Is she meeting her weight gain goals?:

Sarah is gaining at the low end of normal for age. Her BMI z-score is within normal range.

Calculate the following for her current intake:

Total calories (calories/kg):

720 (40/kg)

Total protein (grams of protein/kg):

21 g (1.17 g/kg)

Free fluid and % of maintenance:

$(720 \times 0.84) + 300 = 905$ mL free water

65% maintenance fluids

Based on your calculations are protein and micronutrient needs being met?

Protein: Yes. DRI = 0.95 g/kg

Micronutrients: No. 1000 mL of Pediasure is needed to meet 100% of micronutrient needs (find this info on manufacturer website).

Questions:

What formula would you recommend, considering mom's desire to have Sarah on a food-based formula?

Compleat Pediatric Reduced Calorie due to low calorie needs

****There are other correct answers, but this formula works well to provide micronutrients and more fluid for Sarah.**

What is your recommendation for formula volume? Water volume? Calculate the calories, protein and free water in her new feeding regimen.

5 cartons Compleat Pediatric Reduced Calorie (1250 mL, ~90% free water) + 320 mL water
Provides: 750 kcal (42 kcal/kg), 37.5g (2.1g/kg) and 1440mL total free water (100% maintenance)

What are some benefits of the new feeding plan?

4% kcal increase to promote continued/slightly increased weight gain

Meets micronutrient needs

Meets fluid needs which may help with constipation