

THE SALTY KISS

(Sample PBL Case)

CASE WRITER

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OBJECTIVES

1. Develop a hypothesis list for malnutrition in a previously healthy infant.
2. Describe the mechanism for excessive salt excretion in a cystic fibrosis patient.

DAY 1 – PART 1

Setting: You are a student working with your preceptor, Dr. Imrie, in the Pediatric and Adolescent Medicine Clinic at the Solon Family Health Center. Dr. Imrie is seeing a new patient, Seamus O'Donnell, who is 12 months old, and his mother.

As you enter the room and introduce yourself to Mrs. O'Donnell, you are struck by the appearance of her child sitting on her lap. He is a very thin boy with a prominent appearing head covered in blond curls and big, blue eyes.

Seamus and Mrs. O'Donnell normally see Dr. Smith, a family practitioner in Troy Township (a rural township). Mrs. O'Donnell tells Dr. Imrie she came to see her because Seamus, her first child, cannot seem to gain weight. His birth weight was 7 pounds, 7 ounces (approximately the fiftieth percentile for birth weight). The doctor in the nursery said he was a healthy looking boy. When he was 2 months of age, he weighed 9 pounds (approximately the tenth percentile for age). At 6 months of age, he weighed 13 pounds (below the fifth percentile for age). At 9 months of age, he weighed 15 pounds (below the fifth percentile for age). Today Seamus weighs 16 pounds (well below the fifth percentile for age).

Mrs. O'Donnell initially breast-fed Seamus for the first three months. She then switched him to bottle-feeding using a common cow's milk based formula recommended by her family practitioner. Seamus is eating some puréed baby foods that Mrs. O'Donnell makes herself. He is eating carrots, squash, peas, potatoes, beef and chicken. He feeds himself some foods using his fingers.

Seamus seems to frequently have a runny nose. By his mother's estimation, Seamus' runny nose seems to last longer than those of other children. He has a frequent wet cough.

Seamus has frequent loose stools that smell bad.

Seamus is not walking yet. He says mama and dada. Mrs. O'Donnell believes Seamus is able to hear properly. He turns to noises that are not very loud. Upon questioning, Mrs. O'Donnell relates that he uses his thumb and first finger to pick up items (particularly Cheerios®). You are happy that you read about developmental milestones so you know that his speech and motor skills are on target for his age. The median age for walking is 12-13

months, standing alone is 9-10 months, specific use of Dada, Mama is 9 months, and thumb-finger grasp is 8-9 months.

She relates that he is a fussy baby. She describes this as a gradual change over the last few months. She thought he was a happy infant in the first few months after his birth.

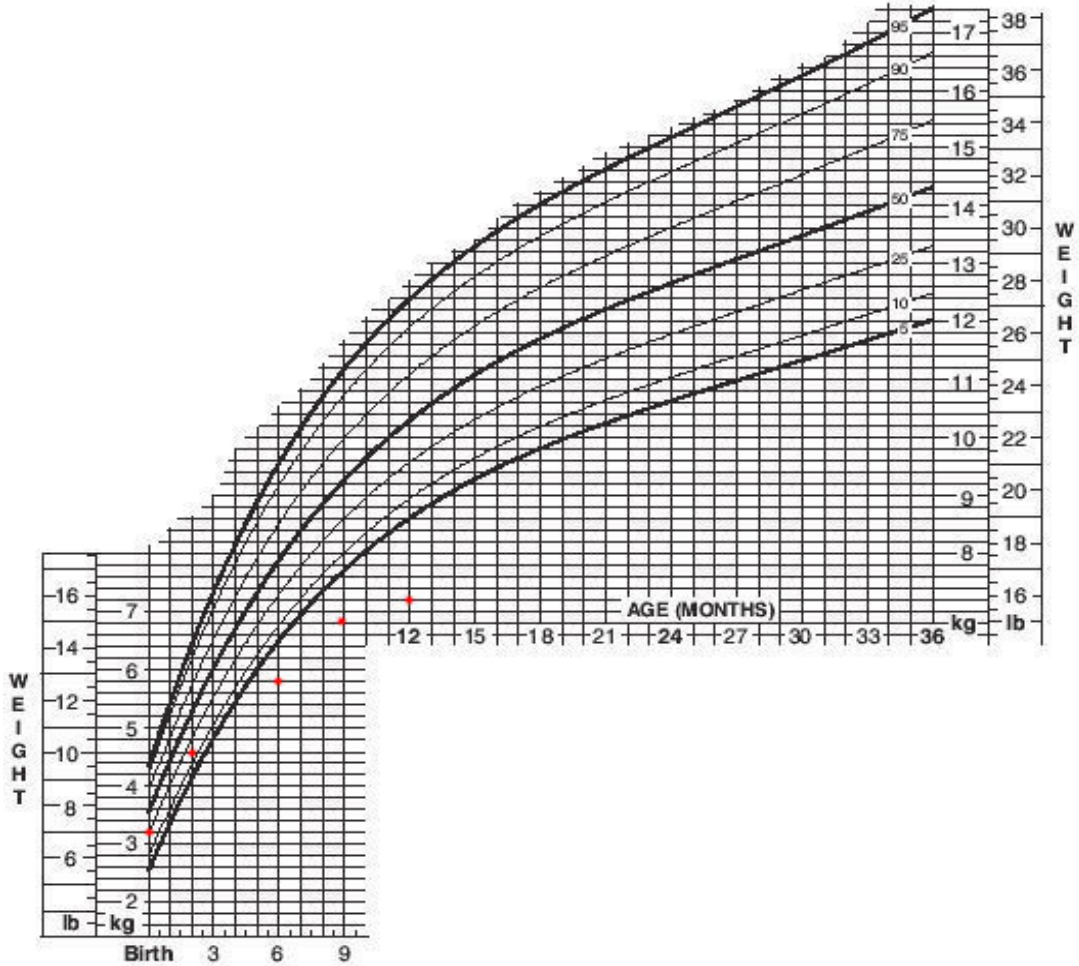
Seamus has had all his immunizations. He has not had any untoward reactions to them. Seamus' mom and dad (Kevin O'Donnell) are healthy and 23 years old. Her sister died very young of a "lung infection," otherwise Mrs. O'Donnell's family is healthy, including 5 other siblings.

DAY 1 – PART 2A

Birth to 36 months: Boys
Length-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____



Published May 30, 2000 (modified 4/20/01).
SOURCE: Developed by the National Center for Health Statistics in collaboration with
the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>

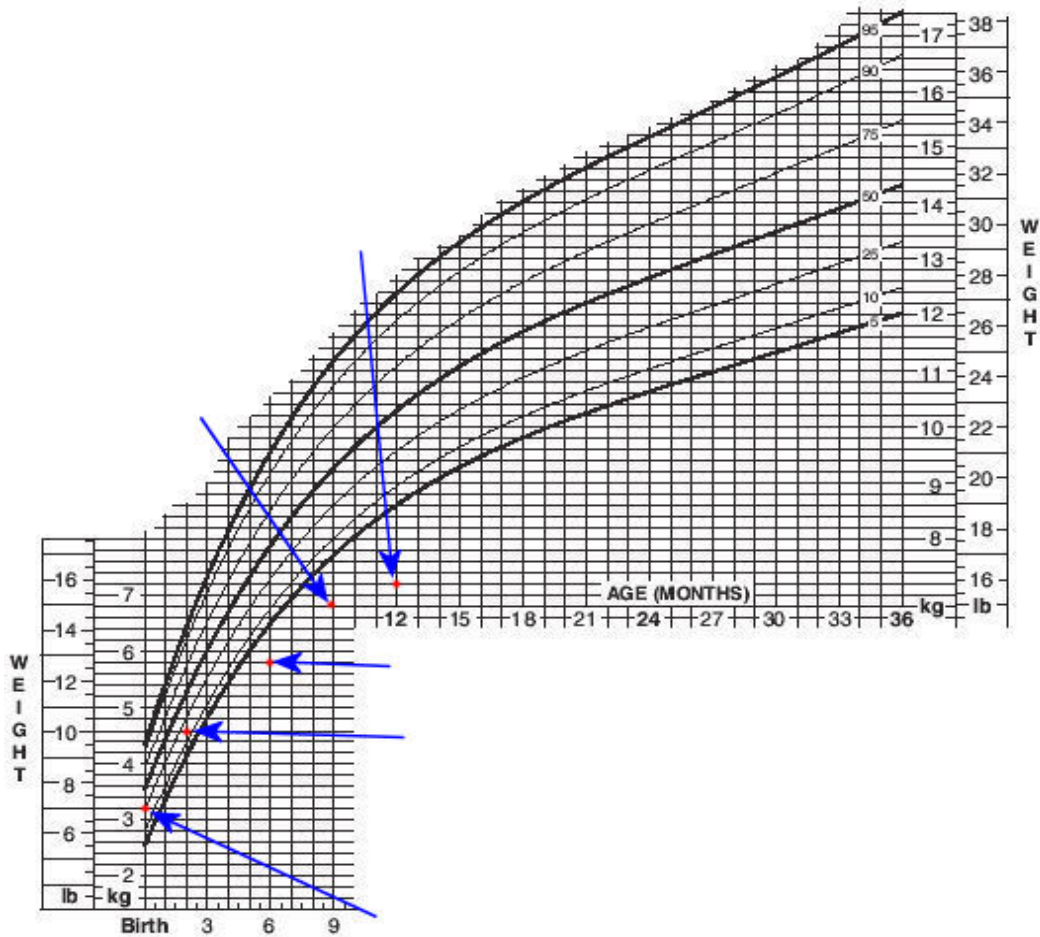


DAY 1 – PART 2B

Birth to 36 months: Boys
Length-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____



Published May 30, 2000 (modified 4/20/01).
SOURCE: Developed by the National Center for Health Statistics in collaboration with
the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>

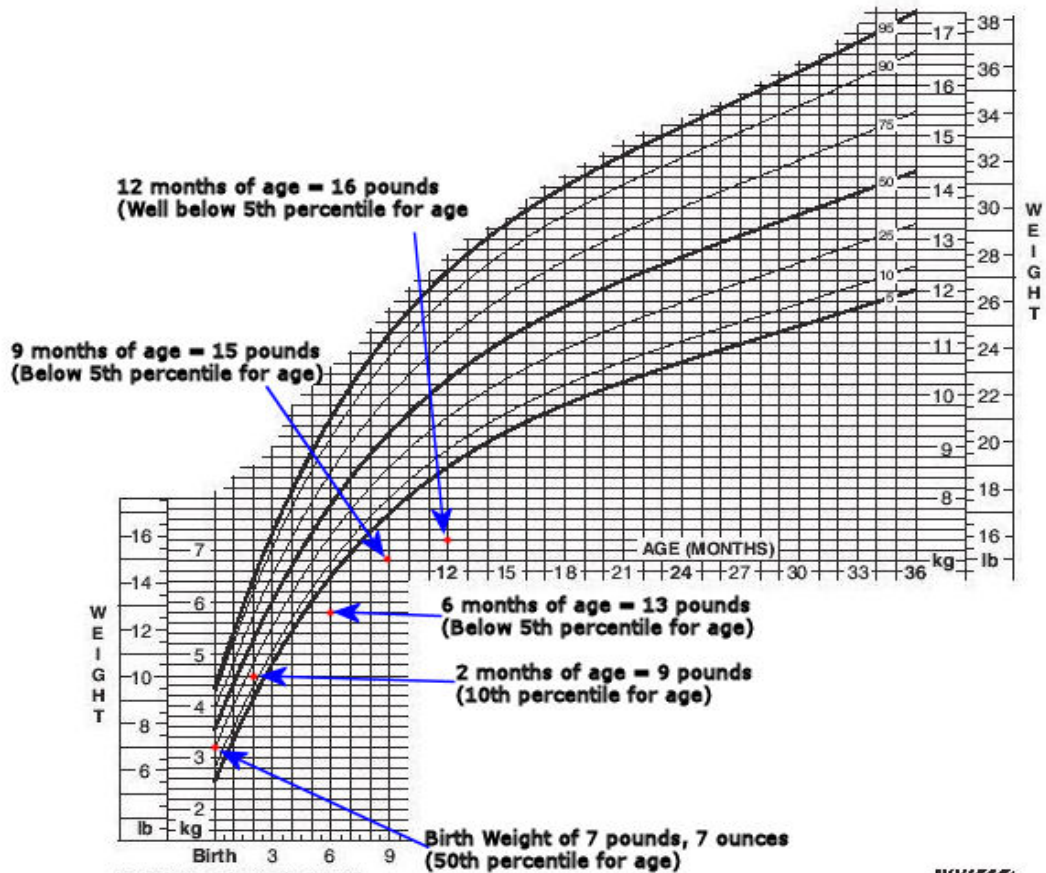


DAY 1 – PART 2C

Birth to 36 months: Boys
 Length-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____



Published May 30, 2000 (modified 4/20/01).
 SOURCE: Developed by the National Center for Health Statistics in collaboration with
 the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>



DAY 1 – PART 3

Seamus is alert, paying attention to everything Dr. Imrie does. Though Dr. Imrie is very experienced, speaks softly and makes no sudden movements, Seamus seems upset by the exam and clings tightly to his mother. Separation anxiety, a normal behavior, begins at age nine months. Dr. Imrie performs a physical examination and makes comments to both Seamus' mother and to you as she does. Dr. Imrie notes that Seamus' head looks large compared to his body because Seamus has not gained weight well, his caloric intake has spared his brain and head growth at the expense of his body. Dr. Imrie notes that Seamus has green mucus dripping from his nose as he cries. She looks in his mouth in the midst of one loud cry. Dr. Imrie listens to Seamus' chest and says that he has rhonchi (ron-kye) bilaterally.

Dr. Imrie states that these are coarse, snoring, whistling sounds made when the air tubes are partially obstructed by mucus. She examines Seamus' heart and abdomen. She then stands him up on his mother's lap and turns him to face his mother. Pulling down his diaper, she notes that Seamus has small buttocks, another sign of an infant who has had nutritional problems.

Dr. Imrie tells Mrs. O'Donnell that she is done with her exam. She then says, "I have a sort of funny question for you. When you give Seamus a kiss, does he taste salty?" Mrs. O'Donnell replies, "You know, I thought I was crazy when I noticed it, but yes, he does. What causes that?"

Dr. Imrie tells you that she will send Seamus for a sweat test.

Break for research.

DAY 1 – PART 4

Dr. Imrie tells Mrs. O'Donnell that she is pretty certain she knows what is wrong with Seamus. Before she can speak any further, Mrs. O'Donnell says, "Thank God—I've been so worried about him."

Dr. Imrie continues, "I'm pretty certain that Seamus has cystic fibrosis." Mrs. O'Donnell begins to cry. Dr. Imrie asks Mrs. O'Donnell if she knows what cystic fibrosis is. Mrs. O'Donnell nods her head, but does not speak. Dr. Imrie reaches to hold Mrs. O'Donnell's hand and gives it a squeeze. Dr. Imrie tells Mrs. O'Donnell that Seamus needs to have a sweat test and some gene tests done to verify the diagnosis. Dr. Imrie tells Mrs. O'Donnell that cystic fibrosis is a disease that causes mucus to build up in the lungs and interferes with the digestion and absorption of food from the bowels. Dr. Imrie states that Seamus needs to see specialists in children's lung diseases and children's gastrointestinal diseases at a Cystic Fibrosis Center. They will start him on a program that will provide him a large amount of help and help him put on some weight and grow. Dr. Imrie will make the appointments to get Seamus into the Cystic Fibrosis Center in the next day or two.

DAY 1 – PART 5

Three months later, you are again with Dr. Imrie at the Solon Family Health Center Pediatric and Adolescent Medicine Clinic. You see Mrs. O'Donnell and Seamus and cannot believe your eyes. Seamus appears to have put on a significant amount of weight. He is smiling and playing with a toy in the examination room. Mrs. O'Donnell tells you that Seamus has been on pancreatic enzyme replacement therapy and has been consistently gaining weight. He seems happier and is making progress in his development. He has started to walk and is saying a few words. She says that the people at the Cystic Fibrosis Center are really nice and helpful. She knows Seamus will be dealing with one problem or another for all of his life—but she is very hopeful that research will bring a better life for all children with CF. She has signed up as a volunteer for the 65 Roses® Charity and wants to know if you would like to contribute to their Annual 65 Roses® Research Fund Drive.

His weight is close to the fortieth percentile for age. He's walking, "talking" up a storm, squealing, and smiling. His legs have baby fat rolls on them now.

You ask Mrs. O'Donnell if anyone in the family has cystic fibrosis and she says that she checked with her mother and her sister did had it but she died when she was young of a lung infection. Her husband, Kevin, chimes in to

say that his cousin, Eric, aged 39 years, has cystic fibrosis, takes lots of medications, looks healthy and works full time.

END