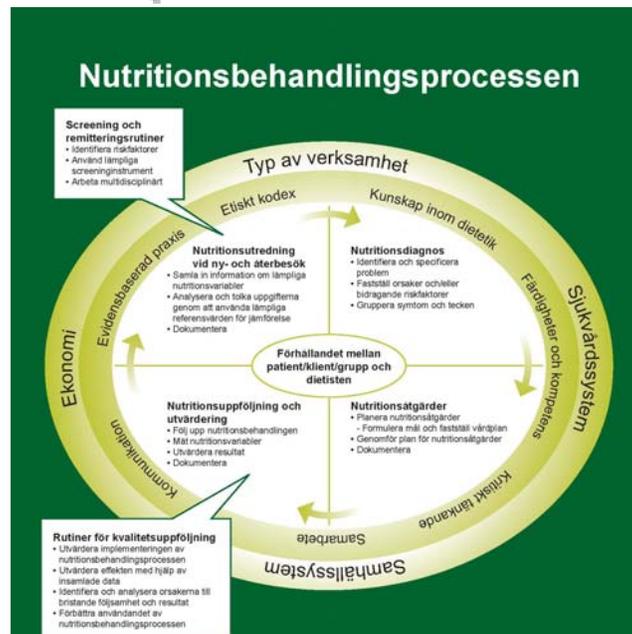




Completed Examples Mini-Cases Workshops April 2011



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Disclaimer: These are "mini" cases that do not contain as much information as you would have available in real practice. They are intended only to show HOW PRACTICE COULD BE CODED using the standardized language. They do not reflect all the nutrition care that would be provided.

Normal Laboratory Values

| Laboratory Test | Normal Range in US Units | Normal Range in SI Units | To Convert US to SI Units |
|----------------------------|--|--|---------------------------|
| Albumin | 3.1 - 4.3 g/dl | 31 - 43 g/liter | x 10 |
| Bilirubin - Direct | 0.0-0.4 mg/dl | 0-7 µmol/liter | x 17.1 |
| Bilirubin - Total | 0.0-1.0 mg/dl | 0-17 µmol/liter | x 17.1 |
| Blood pressure | Normal: 120/70 to 120/80 millimeters of mercury | | No conversion |
| Calcium, serum | 8.5 -10.5 mg/dl | 2.1-2.6 mmol/liter | x 0.25 |
| Calcium, urine | 0-300 mg/24h | 0.0-7.5 mmol/24h | x 0.025 |
| Cholesterol, total | 239 mg/dL | 6.18 mmol/liter | x 0.02586 |
| Desirable | | | |
| Marginal | | | |
| High | | | |
| Cholesterol, LDL | 190 mg/dL | 4.91 mmol/liter | x 0.02586 |
| Desirable | | | |
| Marginal | | | |
| High | | | |
| Very High | | | |
| Cholesterol, HDL | >60 mg/dL | >1.55 mmol/liter | x 0.02586 |
| Desirable | | | |
| Moderate | 40-60 mg/dL | 1.03-1.55 mmol/liter | |
| Low (heart risk) | | | |
| Folate | 3.1-17.5 ng/ml | 7.0-39.7 nmol/liter | x 2.266 |
| Glucose, urine | | | x 0.05551 |
| Glucose, plasma | 70-110 mg/dl | 3.9-6.1 mmol/liter | x 0.05551 |
| Hematocrit | W 36.0% - 46.0% of red blood cells M 37.0% - 49.0% of red blood cells | W 0.36-0.46 fraction of red blood cells M 0.37-0.49 fraction of red blood cells | x 0.01 |
| Hemoglobin A1C | <6% of total Hb | <0.06 of total Hb | |
| | | 48 mmol/mol | |
| Hemoglobin | W 12.0-16.0 g/dl M 13.0-18.0 g/dl | W 7.4-9.9 mmol/liter M 8.1-11.2 mmol/liter | x 0.6206 |
| Lipase | 3 to 73 units/L | 3 to 73 units/L | |
| Leukocytes (WBC) | 4.5-11.0x10 ³ /mm ³ | 4.5-11.0x10 ⁹ /liter | No conversion |
| Lymphocytes | 16%-46% of white blood cells | 0.16-0.46 fraction of white blood cells | x 0.01 |
| Magnesium | 1.5 - 2.4 mEq/L | 0.75 - 1.2 mmol/L | |
| MCV (Mean corpuscular) | W 78-102 µm ³ M 78-100 µm ³ | W 78-102 fl M 78-100 fl | No conversion |
| Phosphorus | 2.5 – 4.5 mg/dL | 0.81-1.45 mmol/L | x 0.323 |
| Potassium | 3.4-5.0 mmol/liter | 3.4-5.0 mmol/liter | No conversion |
| RBC (Red blood cell count) | W 3.9 – 5.2 x 10 ⁶ /µL ³ M 4.4 – 5.8 x 10 ⁶ /µL ³ | W 3.9 – 5.2 x 10 ¹² /L M 4.4 – 5.8 x 10 ¹² /L | No conversion |
| Sodium | 135-145 mmol/liter | 135-145 mmol/liter | No conversion |

Terminology

Units

gram

: common measurement of weight. Used in this table: pg (picograms), g (grams),
katal (kat) : a unit of catalytic activity, used especially in the chemistry of
micrometer (µm) : a unit of length. Mean Corpuscular Volume is expressed in

mole : also "gram molecular weight," a quantity based on the atomic weight of

Some units of measurement include the following fractions and multipliers:

mega (M) : 10^6 or x1,000,000

kilo (k) : 10^3 or x1,000

deca or deka : 10^1 or x10

deci (d) : 10^{-1} or ÷10

milli (m) : 10^{-3} or ÷1,000

micro (μ) : 10^{-6} or ÷1,000,000

nano (n) : 10^{-9} or ÷1,000,000,000

pico (p) : 10^{-12} or ÷1,000,000,000,000

78 year old woman admitted to geriatric ward 2 days ago. Medical Hx of COPD, prior to admission lived at home along, daughter came 3x week. Admitted after being confused and unable to cope by herself

Current wt 46 kg, loss of 9.2 kg over last year, ht 160 cm, BMI 18

Current diet order: energy/protein rich diet (2150 kcal, 3 meals and 3 snacks)

When you interview her you find out that she has never been seen by a dietitian before, that she usually eats one hot meal at home (meals on wheels), she drinks all her apple juice sent with her meals, complains that the portions are too large and food comes too often, reports loss of appetite, can't chew raw vegetables due to dental problems, and feels like food gets stuck in her throat.

When you visually evaluate her appearance you see a loss of muscle mass and loss of subcutaneous fat stores on arms and legs – emaciated appearance

When you talk to nursing staff, they tell you she only eats ½ of the food sent and has none of the between meal snacks.

You estimate her intake to be ~900 kcal per day and her energy requirements to be ~1400 kcal per day

Case Example #1: A 78 year old woman
Step #1: Nutrition Assessment

| Nutrition Assessment Categories | Case Example Indicators |
|---|--|
| Client History | <p>Age (CH-1.1.1): 78-year-old</p> <p>Living/housing situation (CH-3.1.2): Lives alone. Daughter helps with housework three times a week.</p> <p>Patient/client or family nutrition-oriented medical/health history, other (CH-2.1.14): Has recently been admitted to the geriatric ward from home after a period of confusion and unable to cope by herself.</p> <p>Patient/client or family nutrition-oriented medical/health history, respiratory (CH-2.1.13): Patient with history of chronic obstructive pulmonary disease (COPD).</p> |
| Food/Nutrition History | <p>Previous diet/nutrition education/counseling (FH-2.1.2.2): No previous contact with any dietitian.</p> <p>Food intake (FH-1.2.2): At home has eaten a cooked meal once a day (meals-on-wheels). On the ward eats only half-portions of meals three times a day (high protein/high energy diet). No between meal snacks. Complains that meals are served far too often on the ward and that the portions are too large.</p> <p>Fluid/beverage intake (FH-1.2.1): Drinks apple juice with her meals.</p> <p>Energy intake (FH-1.1.1.1): Approximately 900 kcal/day (64% estimated needs).</p> |
| Biochemical data, Medical Tests and Procedures | |
| Anthropometric Measurements | <p>Weight (AD-1.1.2): 46 kg</p> <p>Weight change (AD-1.1.4): loss of 9.2 kg during the past year</p> <p>Height (AD-1.1.1): 160 cm</p> <p>BMI (AD-1.1.5): 18</p> |
| Nutrition-Focused Physical Findings | <p>Digestive system (PD-1.1.5): Loss of appetite. Has difficulty chewing raw vegetables due to dental problems. Feels as if food gets stuck in her throat.</p> <p>Extremities, muscles and bones (PD-1.1.4): Loss of muscle mass and subcutaneous fat.</p> |

Estimated energy requirement (CS-1.1.1): 1400 kcal

Step #2: Nutrition Diagnosis

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| <p>1.(Problem) <u>Inadequate oral intake (NI-2.1)</u> <i>related to</i> (Etiology) <u>potential swallowing and chewing difficulty and loss of appetite</u> <i>as evidenced by</i> (Signs/symptoms) <ul style="list-style-type: none"> ● reports loss of appetite and that food getting stuck in throat, chewing difficulties while eating ● poor intake, one meal/day) ● approximately 900 kcal/day </p> |
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| 2. (Problem) Malnutrition (NI-5.2) <i>related to</i> (Etiology) <u>potential swallowing/chewing difficulty and loss of appetite, limited access to food or sustained inadequate oral intake prior to admission</u> <i>as evidenced by</i> (Signs/symptoms) <ul style="list-style-type: none"> • reports loss of appetite and food getting stuck in throat while eating • weight loss of > 20% in 1 year • loss of muscle mass and subcutaneous fat |
|---|

NOTE: Others that were likely considered but perhaps not used:

- Underweight – fits, but doesn't reflect the entire problem of malnutrition
- Unintentional weight loss – fits, but doesn't reflect the severity of the weight change
- Swallowing difficulty – but it hasn't been confirmed yet, may want to wait until swallowing evaluation has been completed
- Inadequate energy intake – fits, but inadequate oral intake reflects ALL the nutrients that appear to be missing, not just the energy deficit

Step #3: Nutrition Intervention

Nutrition Prescription: high protein/high energy diet (2150 Kcal, 3 meals and 3 snacks)

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| <p>1. Modify distribution, type, or amount of food and nutrients within meals or at a specified time (ND-1.2) Goal(s): Meet estimated needs with high protein/high energy diet by including foods by preference and chewing tolerance. Patient/client to consume apple juice at end of meal.</p> |
| <p>2. Collaboration/referral to other providers (RC-1.3) Goal(s): Recommend evaluation by specialists for swallowing and dental concerns and consideration prescription for appetite stimulant.</p> |

Step #4: Nutrition Monitoring & Evaluation

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| <p>1. Indicator: Food intake (FH-1.2.2) Criteria: At least 70% of meals and between meal feedings consumed in next 2-3 days with apple juice consumed at the end of the meal.</p> |
| <p>2. Indicator: Nutrition-focused physical findings, Digestive system (PD-1.5): Criteria: Specialist evaluation outcome and report of symptoms with food choices more consistent with chewing tolerance.</p> |
| <p>3. Indicator: Weight (AD-1.1.2) Criteria: Stabilized in one week.</p> |
| <p>3. Indicator: Prescription Medication (FH 3.1.1) Criteria: Medication prescription written and started</p> |

Case Progression

Over the next 48 hours, patient with increasing episodes of confusion, fever to 38.8 C, cough, worsening swallowing problems, significant shortness of breath (SOB) requiring mechanical ventilatory support. Patient NPO (nil per os). Medical team has begun treatment for a suspected community acquired pneumonia. With patient history of COPD, team anticipates more than 7 days of mechanical ventilation and NPO status.

Term codes (e.g., CH-1.1.1) used for information. ADA does not recommend using codes in documentation.

| Nutrition Assessment Categories | Case Example Indicators |
|--|--|
| Client History | Patient/client or family nutrition-oriented medical/health history, respiratory (CH-2.1.13): Patient receiving mechanical ventilation. |
| Food/Nutrition History | Modified diet (FH-2.1.1.2): NPO (nil per os) IV fluids (FH-1.3.2.2): Normal saline at 60 mL/hr (1440 mL/d) Energy intake (FH-1.1.1.1): 0 kcal/day X 1 day |
| Biochemical data, Medical Tests and Procedures | Urine volume (BD-1.12.5): 1320 mL over past 24 hours |
| Anthropometric Measurements | Weight (AD-1.1.2): 46.5 kg Weight Change (AD 1.1.4) : increase of .5 Kg |
| Nutrition-Focused Physical Findings | |

Estimated energy needs (CS-1.1.1): 1400 kcal (30 kcal/kg)

Estimated protein needs (CS-2.2.1): 60 gm (1.3 gm/kg)

Step #2: Nutrition Diagnosis

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| 1.(Problem) Inadequate oral intake (NI-2.1) not resolved, on hold given NPO. |
| 2. (Problem) Malnutrition (NI-5.2) not resolved |
| 3. (Problem) Inadequate energy intake (NI-1.4) <i>related to</i> (Etiology) <u>lack of access to GI tract</u> <i>as evidenced by</i> (Signs/symptoms) <ul style="list-style-type: none"> ● no feeding tube at present ● energy intake of 0 kcal/d with estimated needs of 1400 kcal/d. |

Step #3: Nutrition Intervention

Nutrition Prescription: 1400 kcal and 60 gm protein per day with 100% of reference standard for vitamins and minerals with 1 calorie/mL tube feeding formula at 60 mL/hour X 24 hours/day

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| <p>1. Recommend Enteral nutrition, formula/solution (ND-2.1.1) Goal(s): Meet estimated needs with 1 calorie/mL tube feeding formula at 60 mL/hour X 24 hours/day. Tolerance of enteral nutrition.</p> |
| <p>2. Recommend Insert enteral feeding tube (ND-2.1.2) Goal(s): Placement of small bore feeding tube within 1 day</p> |
| <p>3. Collaboration/referral to other providers (RC-1.3) Goal(s): Discussed enteral feeding tube recommendations with medical team.</p> |

Step #4: Nutrition Monitoring & Evaluation

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| 1. Indicator: Enteral nutrition intake (FH-1.3.1) Criteria: At least 60-70% of enteral nutrition goal feeding intake reached within 7 days |
| 2. Indicator: Energy intake (FH-1.1.1.1) Criteria: 60-70% of estimated energy intake within 7 days |
| 3. Indicator: Weight (AD-1.1.2) Criteria: Stabilized in one week. |
| 4. Indicator: Digestive system (PD-1.1.5) Criteria: Enteral nutrition tolerance |

Case 2:

MD office calls and asks you to fit in a patient today and schedule an appointment in the future. Your clinic schedule for this afternoon is fully booked and you manage to squeeze in about a 15 minute appointment for him.

Outpatient consultation includes the following information:

- **43 Year old man referred for diet based on recent diagnosis of Type 2 DM.**
- **HBA1C of 81 mmol/mol,**
- **Wt 97 kg,**
- **Ht 173.5 cm,**
- **BMI 32.2**

When you interview him you find out that both his mother and sister are obese. He works as school teacher and is married with 2 children. He doesn't eat breakfast at home, takes several snacks with him to school in morning (peanuts or cakes). Drinks multiple cups of coffee with milk and sugar throughout the day. He eats school lunch, takes large portions, and drinks at least one regular soda per day, eats large portions of rice/pasta/potatoes at home and several fruit in the late evening. Based on his brief 24 hour recall you estimated his intake to be ~ 3200 Kcal per day. He tells you that he drives to work, doesn't walk for more than ~15 min/day total

When you start to talk about his diet, he states he isn't certain how he could or whether he wants to change his lifestyle since one of the most important things in his family is the time they spend together...and that is usually food-related.

Case Example #2: Patient with type 2 Diabetes**Step #1: Nutrition Assessment**

| Nutrition Assessment Categories | Case Example Indicators |
|---|--|
| Client History | <p>Age (CH-1.1.1): 43-year-old</p> <p>Gender (CH-1.1.2): Man</p> <p>Patient/client or family nutrition-oriented medical/health history (CH-2.1.5): Newly diagnosed with type 2 diabetes. Family history of obesity (mother and sister)</p> <p>Role in family (CH-1.1.7): Married with two children.</p> <p>Occupation (CH-3.1.6): He works as a schoolteacher.</p> |
| Food/Nutrition History | <p>Food intake (FH-1.2.2): Does not eat breakfast at home. He regularly takes several snacks with him to school in the morning for example peanuts or cakes. Drinks several cups of coffee with milk and sugar during the day at school. Eats a school lunch, takes large portions. Usually drinks at least one small bottle of sweetened soda per day. At home he eats large portions of rice/pasta/potatoes. In the evening he eats several pieces of fruit.</p> <p>Total energy intake (FH-1.1.1.1): 3200 kcal/day</p> <p>Physical activity (FH-7.3): He doesn't take much exercise. He drives to work and doesn't walk for longer than 15 minutes a day.</p> <p>Conflict with personal/family value system (FH-4.2.1): Patient/client states that he is uncertain how or if he can change his lifestyle since his family values time together with food in a central role.</p> |
| Biochemical data, Medical Tests and Procedures | <p>HbA1c (BD-1.5.3): 81 mmol/mol (elevated)</p> <p>Blood glucose, casual (BD-1.5.2): 10-15 mmol/l (elevated)</p> |
| Anthropometric Measurements | <p>Weight (AD-1.1.2): 97 kg</p> <p>Height (AD-1.1.1): 173.5 cm</p> <p>BMI (AD-1.1.5): 32.2</p> |
| Nutrition-Focused Physical Findings | <p>Overall appearance (PD-1.1.1): Increased body adiposity</p> |

Estimated energy needs (CS-1.1.1): 2500 kcal

Nutrition Prescription: 2500 Kcal Diabetes Diet, 3 meals and 2 snacks,

Step #2: Nutrition Diagnosis

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| <p>1. (Problem) <u>Excessive carbohydrate intake (NI-1.5) and Excessive energy intake (NI 1.5)</u> <i>related to</i> (Etiology) <u>food and nutrition knowledge deficit and undesirable food choices</u> <i>as evidenced by</i> (Signs/symptoms)</p> <ul style="list-style-type: none"> • use of sugar in multiple cups of coffee and sugar sweetened beverages daily and large portions of carbohydrate containing foods compared to optimal carbohydrate content of diet for DM that contribute ~300 Kcal per day and total energy intake estimated to be 3200 Kcal compared to estimated needs of 2500 Kcal |
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| <p>2. (Problem) <u>Not Ready for Lifestyle or Diet Related Change</u> <i>related to</i> (Etiology) <u>competing family values</u> <i>as evidenced by</i></p> |
|---|

Term codes (e.g., CH-1.1.1) used for information. ADA does not recommend using codes in documentation.

(Signs/symptoms)

- Statements that he is unwilling to make any changes that affect his family time that involves food

Other Nutrition Diagnoses considered

Excessive energy intake (NI 1.5) could also be used alone IF the dietitian was focused only on energy and believed that they could get commitment for either eliminating the sugar/sweetened beverages or reductions in food portions

Excessive Oral intake (NI 2.2) could be used, however may be too broad to reflect specific changes related to CHO and DM,

Undesirable food choices (NB 1.7) could be used as stand along nutrition diagnoses, but wouldn't be as descriptive of the nature of the types of food choices that were problematic and targeted for change

Not ready for lifestyle changes (NB 1.3) – was used, however if the time was not sufficient to begin to address this, it could also be annotated that it would be addressed at later appointment, and will likely be the main focus of the first visit

Altered nutrition-related laboratory values (NC 2.2) could be added also since the focus on reducing CHO intake would likely affect the blood sugar levels

Overweight/Obesity (NC 3.3) – Could be used, however wouldn't be as specific and you are unlikely to focus on obesity in such a short intervention period during this visit

Physical Inactivity (NB 2.1) – could be used if the dietitian believed that they could get a commitment for 2 changes during short intervention, however unlikely to be successful since this would likely affect time available for family activities and he has already stated that these are non-negotiable at this point.

Step #3: Nutrition Intervention

Nutrition Prescription: 2500 Kcal Diabetes diet

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| <p>1. Nutrition education- content provided</p> <p>Goal(s): Verbalize understanding of Survival information (E-1.3) Nutrition relationships to health/disease (E-1.4) Concept of removing sugar and sugar sweetened beverages from time during the workday at school.</p> |
| <p>2. Collaboration/referral to other providers (RC-1.3)</p> <p>Goal(s): Understanding of complete diabetes team treatment plan for patient/client</p> |
| <p>2. Nutrition Counseling –Transtheoretical/Stage of Change (C-1.1) using brief Motivational Interviewing (C-2.1) to begin to set the stage to discuss how to incorporate family activities into approach at follow-up appointment</p> <p>Goal: Verbalize willingness to make appointment with spouse to discuss nutrition and diabetes and ask permission to provide additional information to read about nutrition and DM</p> |

Step #4: Nutrition Monitoring & Evaluation

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| <p>1. Indicator: Food and nutrition knowledge (FH-4.1): Criteria: Nutrition relationships to health/disease (E-1.4): Basic knowledge, 2 of 3 concepts related to verbalized as well as accurate understanding. Survival information (E-1.3) including reduction of sugar sweetened beverages, incorporation of sugar substitutes, and consistent meal/snack intake. Returning for visit in 2 weeks with wife for more comprehensive nutrition education. Provided information for reading by next visit.</p> |
| <p>2. Indicator: Weight (AD-1.1.2) Criteria: No gain over next 2 weeks and will establish weight loss goal at next visit.</p> |
| <p>3. Indicator: Adherence (FH-5.1) Criteria: Assess nutrition visit attendance and completion of agreed upon reading.</p> |

Term codes (e.g., CH-1.1.1) used for information. ADA does not recommend using codes in documentation.

Case Example #3: Child with newly diagnosed Celiac disease

Mother and daughter arrive for outpatient referral for counseling on gluten free diet and the following information is included on the consultation form:

6 year old girl – newly diagnosed with celiac disease...

Wt: 19 Kg, ht 104 cm, -1 Standard Deviation in last year, delayed growth; BMI for age 17.5

Intestinal biopsy shows damage to villi, high levels of anti-tissue transglutaminase antibodies (tTGA)

When you interview child and mom....they report abdominal bloating and pain, chronic diarrhea prior to starting gluten free diet... no symptoms in the 2 weeks since Mom started following gluten free diet after the MD informed her of the diagnosis.

Parents have not received any prior gluten free information from dietitian, however have read a lot of information from the internet.

There is no family history of celiac

You estimate calorie needs to be 1700 kcal for catch-up growth

Step #1: Nutrition Assessment

| Nutrition Assessment Categories | Case Example Indicators |
|---|--|
| Client History | <p>Age (CH-1.1.1): Six year old</p> <p>Gender (CH-1.1.2): female</p> <p>Patient/client or family nutrition-oriented medical/health history, gastrointestinal (CH-2.1.5): Newly diagnosed celiac disease. No close relatives with known celiac disease.</p> |
| Food/Nutrition History | <p>Previous diet/nutrition education/counseling (FH-2.1.1.1): Parents have not received any information about a gluten free diet from the hospital and mother is happy with reduction in symptoms.</p> <p>Food and Nutrition Knowledge (F 4.1.1) Mother is satisfied with current progress not unaware of amount of food needed to provide sufficient calories for catch-up growth.</p> <p>Previously prescribed diet (FH-2.1.2.1): Have however given their daughter gluten free food for the past two weeks.</p> |
| Biochemical data, Medical Tests and Procedures | <p>Antibody level (BD-1.11.7): High levels of anti-tissue transglutaminase antibodies (tTGA)</p> <p>Intestinal biopsy (BD-1.4.18): Showing damage to the villi.</p> |
| Anthropometric Measurements | <p>Weight (AD-1.1.2): 19 kg, - 1 Standard Deviation (S. D.)</p> <p>Weight change (AD-1.1.4): Weight loss over the past year</p> <p>Height/length (AD-1.1.1): 104 cm, - 3 S.D.(delayed growth, decreased 1 S.D. in one year)</p> <p>BMI (AD-1.1.5): 17.5</p> |
| Nutrition-Focused Physical Findings | <p>Digestive system (PD-1.1.5): Abdominal bloating and pain, chronic diarrhea. No symptoms since introduction of a gluten free diet.</p> |

Step #2: Nutrition diagnosis

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| <p>1. (Problem) <u>Malnutrition (NI-5.2)</u> <i>related to</i></p> <p>(Etiology) <u>celiac disease and altered gastrointestinal function</u> <i>as evidenced by</i></p> <p>(Signs/symptoms)</p> <ul style="list-style-type: none"> • delayed growth, weight decreased 1 S.D. and height decreased 3 S.D. • abdominal symptoms prior to gluten free diet. |
| <p>2. (Problem) <u>Increased nutrient needs, (energy, protein, vitamins and minerals) NI-5.1</u> <i>related to</i></p> <p>(Etiology) <u>celiac disease, Altered GI Function and needs for catch up growth</u> <i>as evidenced by</i></p> <p>(Signs/symptoms)</p> <ul style="list-style-type: none"> • delayed growth and reported inflammation of GI tract. • estimated calorie needs of 1700 kcal per day |

3. *(Problem)* **Food and Nutrition Related Knowledge Deficit (NB 1.1)** *related to*

(Etiology) lack of previous contact with dietitian *as evidenced by*

(Signs/symptoms)

- stated lack of awareness of amount of calories needed to promote growth.

Other Nutrition Diagnoses Considered:

Inappropriate intake of protein (NI 5.7.3) could be used, however it isn't clear that at this time they aren't already adhering to a gluten free diet

Altered GI Function (NC 1.4) would be appropriate, but it was used here as an etiology rather than a stand alone nutrition diagnoses

Food and Nutrition-related Knowledge Deficit (NB 1.1)– can not really be documented at this point related to the gluten free with the information provided, however is appropriate related to amount of energy that will be needed. Ideally further probing about depth/extent of knowledge about gluten free would be warranted..

Step #3: Nutrition Intervention

Nutrition Prescription: 1700 Kcal gluten-free diet with multivitamin/mineral supplement

1. Multivitamin/mineral recommended

Goal(s): Multivitamin/mineral supplement (ND-3.2.1): Daily intake of one (1) age-appropriate

2. Nutrition education- content provided

Goal(s): Nutrition relationships to health/disease (E-1.4): Verbalize understanding of 2 of 3 concepts

Other or related topics, (E-1.6): Understanding of increased nutrient needs for catch-up growth at same time as incorporating food products that are gluten free

3. Nutrition education- application provided

Goal(s): Skill development (E-2.2): Identify meal planning that attains desired calorie level while being gluten free

Step #4: Nutrition Monitoring & Evaluation

1. **Indicator: Food and nutrition knowledge (FH-4.1)**

Criteria: Nutrition relationships to health/disease (E-1.4): Comprehensive knowledge, 3 of 3 concepts related to verbalized

Other or related topics (E-1.6): Accurate understanding of Increased nutrient needs for catch up growth and verbalization of how to plan daily intake to meet estimated calorie needs while eliminating food products that contain gluten

2. **Indicator: Weight (AD-1.1.2) and height (AD-1.1.1):** [this could also be **Growth pattern**

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| <p>indices/percentile ranks AD-1.1.6 if this is used] Criteria: Stabilized over next 2 weeks and improved in one month.</p> |
| <p>3. Indicator Adherence (FH-5.1): Criteria: At visit in one month assess self-reported adherence to gluten-free diet and multivitamin/mineral supplement.</p> |
| <p>3. Indicator: Energy intake Criteria: At next visit evaluate daily intake compared to diet prescription for 1700 KCal</p> |