Weight Management Case Study: Using the Nutrition Care Process and the Evidence Analysis Library's Pediatric Weight Management Guidelines

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Introduction

The following pediatric weight management case study is designed to integrate the Nutrition Care Process (NCP) and the American Dietetic Association (ADA) Pediatric Weight Management Guidelines (PWMG). The purpose of the case study is to illustrate to practitioners how the NCP can be used in clinical practice with evidence-based guidelines. The case will be divided into the NCP sections with reference to the appropriate PWMG.

INITIAL NUTRITION OUTPATIENT VISIT NOTE

Patient history: Sophomore in high school with B+ grades. Plays catcher on the junior varsity school baseball team. Lives with mother and father and two younger siblings in a multiple family home. Father and mother both have full-time jobs outside the home. **Family Hx**: A review of his family history for chronic disease reveals that EJ's paternal grandmother and maternal grandfather are both overweight and have type 2 diabetes and hypercholesterolemia, both treated by medication. His mother is obese and has hypertension, controlled by medication. His father is within his ideal body weight (IBW) and is in good health. His 12–year–old sister has been gaining weight rapidly over the past year and his 10–year–old younger brother is overweight.

Food/nutrition-related history: EJ is not really concerned about his medical risk factors and family history but would like to lose some weight in order to improve his sports performance at school so that he can make the varsity baseball team. He has previously tried to lose weight on his own by reducing the amount of sweetened soda he consumes and increasing physical activity in preparation for spring baseball season. Initially he was successful, but a couple of weeks after baseball season finishes he gains back all the weight he lost plus some additional weight. He typically eats fast foods daily (double cheeseburger with large order of french fries, large cola), drinks two quarts of sweetened beverages throughout the day, and has four hours of screen time daily. His family is supportive of his efforts but does not join him when he modifies his diet and exercise habits. EJ would like to be successful in managing his weight.

Nutrient intake analysis:

24 hour recall: 4000 calories, 40% kcal from fat, 10 grams fiber, 30% kcal from sweetened beverages.

Biochemical data, medical tests, and procedures

Lipid Profile	Date:	Pertinent labs	Date:
	1/10/09		1/10/09
Total Cholesterol mg/dL	220	Fasting Glucose mg/dL	90
LDL calculated mg/dL	137		
TG mg/dL	125		
HDL mg/dL	43		

Anthropometric measurements:

Weight: 210 lb (95.45 kg)
Height: 5'8" (172cm)
BMI: >97th%tile

Weight History: Weight gain from 150 to 180 over recent 2–to–3–year period

Nutrition-focused physical exam findings:

Blood Pressure: 120/82 (<90th %) Pulse 76

Estimated energy needs:

Total energy expenditure using low active physical activity factor = 3381.2 Kcal/day

Nutrition diagnoses

Overweight/obesity (NC-3.3) *related* to high frequency of eating away from home and menu selections as *evidenced by* self report of 4000kcal/day, large portions, high–fat foods, sweetened beverages, and a BMI of 30.3

Physical inactivity (NB-2.1) *related* to daily school routine and lack of a plan for physical activity *as evidenced by* increased sedentary activity, four hours of screen time daily, and limited physical activity in daily routine except for baseball season

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Nutrition Prescription:

1. Reduced glycemic load diet
2. Avoid sweetened beverages
3. Limit added fat from outside dining
4. 30 minutes of moderate physical activity on most days of the week, starting with 30 minutes of accumulated activity 2 to 3 times/week

Interventions

Nutrition Education:

E-1.1 **Initial/Brief Nutrition Education:**
Purpose of nutrition education to link client values (increased sports performance) to dietary prescription

Goal/Expected Outcome:
Create a client-centered rationale for dietary modifications resulting in a motivation to change lifestyle

E-2.2 **Comprehensive Nutrition Education:**

Recommended modifications:
Overall plan for weight loss: reduced glycemic load diet, increased physical activity, behavior changes; strategies for reducing sweetened beverage and fried food consumption.

Goal/Expected Outcome:
Use eating strategies: select lower-fat, high–fiber items at outside dining meals; consume water or non-caloric beverages; increase frequency of high–fiber grains, fruits, vegetables at meals.

Nutritional Counseling:

Transtheoretical model/Stages of change client-centered counseling

Strategy: Goal setting and self-monitoring related to food selections and increased physical activity.

Keep food and activity logs

Increase frequency of 30 minute baseball training drills to three times a week (Monday, Wednesday, and Friday)

Goal/Expected Outcome:

- Increased awareness of food consumption patterns
- Decreased sweetened beverage consumption
- Increased reduced–glycemic–load foods
- Increased weekly physical activity

Coordination of Care:

RC-1 Collaboration/referral to other providers
Discuss nutrition intervention plan with referring PMD

Goal/Expected Outcome:

Increased communication between health care providers
Reinforcement of strategies and goals

Monitoring and evaluation

Criteria for evaluation:

Maintain a food intake record 5 days per week recording time, site of eating, food/beverage, portion size, homemade or purchased source of food.

Adherence to a low–glycemic–load diet, as determined by food record analysis.

Meet consistency, frequency, and duration of activity goals by baseball training drills 3 times per week for 30 minute sessions

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The following is not intended to be included in the nutrition assessment. This is only for your information, as an example of how to apply the American Dietetic Association's Evidence Library (www.adaevidencelibrary.com) Analysis Pediatric Weight Management (PWMG) recommendations.

Nutrition Prescription PWMG Recommendations:

Energy Restriction

Energy Restricted Diets

Altered Macronutrient Diets

Reduced Glycemic Load Diet

Very Low Carbohydrate Diet

Using Protein Sparing Modified Fast Diets for Pediatric Weight Loss

Very Low Fat Diet (<20% Daily Energy Intake from Fat)

Nutrition Counseling

Nutrition Counseling and Behavior Therapy Strategies in the Treatment of Overweight in Children and Adolescents

Family Participation in Treating Pediatric Overweight in Children and Adolescents

Nutrition Counseling: Setting Weight Goals with Patient and Family

Treatment Format Options: Group Versus Individual Intervention

Counseling for Changes in Physical Activity and Inactivity

Decreasing Sedentary Behaviors in Children and Adolescents

Physical Activity in the Treatment of Childhood and Adolescent Overweight

Adjunct Therapies

Use of Weight Loss Medications in Treating Overweight in Adolescents

Adjunct Therapies: Weight Loss Surgery and Adolescent Overweight

Nutrition Assessment

Date: _____ Time: _____ Referral Source: _____

Client History
Dx: _____
Nutrition-Oriented Medical/Health Hx: _____
Medical Treatment/Therapy: _____

Biochemical Data, Medical Tests, and Procedures
Labs: _____
Tests and Procedures: _____

Anthropometric Measurements
Birth Wt: _____ ❑SGA ❑AGA ❑LGA
Length or Ht: _____(%tile) Wt: _____ (%tile) Recent Wt Changes:_____
HC: _____ (%tile) Wt/L: _____ %tile BMI: _____ %tile
Growth Chart Used: ❑CDC ❑Fenton ❑Other (specify) _____
_____

Nutrition-Focused Physical Findings
Overall Appearance:_____
Skin Assessment: _____
GI Symptoms: ❑None ❑Nausea ❑Vomiting ❑Diarrhea ❑Constipation
❑Difficulty Chewing/Swallowing

Food-Nutrition Related History
Self-selected diet(s) followed: _____
Liquid Supplements/Vitamins/Herbal Products: _____
Allergies/Intolerances: _____
Current Diet Order: _____
Total Energy Intake: ❑0-25% of usual ❑25-50% of usual ❑50-75% of usual ❑>75% of usual
Nutritional Risk: ❑Low Risk ❑Moderate Risk ❑High Risk
Nutrition-Related Co-Morbidities: _____

Comparative Standards
Ideal Wt: _____ % IBW: _____ ❑normal ❑mild wasting ❑moderate wasting ❑severe wasting
% of Median Ht for Age: _____ ❑normal ❑mild stunting ❑moderate stunting ❑severe stunting
Estimated Energy Needs: _____ Method: _____
Protein: _____ (_____g/kg)
Estimated Fluid Needs: _____ Method: _____

Nutrition Diagnostic Statements: (Problems, Etiology, Signs/Symptoms)
1) _____
2) _____
3) _____

Nutrition Intervention: Nutrition Prescription: _____
Actions: _____
Recommendations: _____
_____

Goals: ❑Wt maintenance/gain/loss ❑Catch-up growth ❑Promote optimal growth & development
❑Protein repletion ❑Wound healing ❑Transition from EN to oral intake ❑Transition from PN to EN
❑Other (specify): _____

Nutrition Monitoring/Evaluation: (criteria/indicators)
_____

Signature: _____ Pager: _____

Adapted with permission. Original form by Sherri Jones MS, MBA, RD, LDN. This form is only a draft.

From the Editor

I hate to admit this, but here it goes…I was very intimidated by the concept of devoting an entire issue of *Building Block for Life* to the Nutrition Care Process (NCP). Could it have been that I was overwhelmed by all the acronyms flying around that I didn't fully understand (ADIME, PES, and NCP)? Quite frankly, on the outset of this issue's development I knew little more about the NCP than what I'd garnered from recent conferences and discussions with colleagues. The NCP remained a very abstract concept—and that scared me.

I want to thank all of the amazingly talented and generous individuals who contributed to this issue. So many people were willing to share their resources and experiences that I wasn't able to include everything I would have liked. I hope that this issue demystifies the Nutrition Care Process for you—it has for me!

This is my last issue as Editor, and I want to take this opportunity to thank PNPG leadership for supporting and guiding me during my tenure. I've learned so much from each and every one of you. In closing, I want to thank you, our readers, for your feedback throughout the year—*Building Block* continues to evolve with the ultimate goal of meeting your needs.

Warm regards,
Liesje Nieman Carney

2008-2009 Editor
Building Block for Life

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Possible nutrition care outcome categories

Food and Nutrient Intake Outcomes

Beverage intake–oral fluids amounts
Types of foods/meals
Amount of food

Carbohydrate Intake

Total carbohydrate, sugar, starch, glycemic index, glycemic load

Fiber Intake

Total fiber

Behavior

Self-monitoring at agreed upon rate

Physical Activity and Function

Consistency/frequency/duration

Anthropometric Outcomes

Body mass index (kg/m2)

Biochemical Data, Medical Tests and Procedure Outcomes

Lipid profile–serum cholesterol, HDL cholesterol, LDL

Knowledge Beliefs and Attitudes Outcomes

Readiness to change nutrition-related behaviors, self-efficacy

Case Study Using the Nutrition Care Process: A Child with Kidney Failure

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The Nutrition Care Process leads to a consistent yet individualized care for a patient or client in which improved nutrition care and predictable outcomes are intended. Nutrition care is not meant to be standardized, but the process for providing the care may be established. Following along with the case study, the four steps of the process should be identifiable. The four steps are Nutrition Assessment, Nutrition Diagnosis, Nutrition Intervention, and Nutrition Monitoring and Evaluation.

Please note the standardized language appears in bold face throughout.

Patient Background:

JW is a 6–year–old boy who presented to the hospital with chief complaint of short stature, abnormal gait, and elevated BUN and creatinine. Past medical history is significant for von Willebrand disease and poor growth. A consult with the registered dietitian occurred secondary to initiation of peritoneal dialysis.

Timeline	Pertinent Information	Nutrition Therapy
2/12	Patient admitted to the Pediatric Intensive Care Unit with suspicion of kidney failure.	Diet order: renal diet
2/13	Social work consulted for adjustment issues/counseling.	10 mcg
2/14	Peritoneal dialysis initiated.	Nutrition Assessment completed

Teaching Point: *While performing a Nutrition Assessment, it is important to cluster pertinent data to get a "clear picture of the patient's nutritional health." This is established from reviewing Food/Nutrition Related History, Anthropometric Measurements, Biochemical Data, Medical Tests and Procedures, Nutrition Focused Physical Findings and Client Hx. Although all parameters are reviewed, not all parameters need to be documented. The documentation included should support the current nutrition diagnosis and planned interventions. Nutrition Monitoring and Evaluation refers to the desired outcomes or results that are identified which are measurable, as compared to established criteria or reference standards.*

Nutrition Assessment

Personal data: 6–year–old boy admitted two days ago.

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