

SUGGESTED CASE STUDY OUTLINE (75 points)

Complete each section of the outline. Depending on your location and patient type, all the information may not be available or collected. If information is not available, mark with a N/A, in your report. It would be good to provide this outline to the preceptor so they are aware of the types of information you are needing to collect.

- I. Demographics – brief description of patient
 - A. Patient initials - AC
 - B. Age, Race, Gender – 43yo, Caucasian, female
- II. Chart Review
 - A. Diagnosis: etiology, symptoms, treatment – Anorexia binge/purge (bulimia) subtype
 - B. Pertinent medical/surgical history – Anxiety, depression, PTSD
 - C. Nutrition principles of treatment of diagnosis- limit one page
 - The expectation is that you research the diagnosis. What is the current research/standards of care indicating the care areas that should be addressed by the RDN with members of the medical care team and with the patient?

Refeeding syndrome is a common ailment that needs to be monitored closely when dealing with anorexia/bulimia. Blood draws for lab monitoring of electrolytes three times per week at the start of rehabilitation is imperative to watch for electrolyte imbalances. As calorie intake increases and lab values are stable blood draws may decrease to every three days. Blind weighing is a practice used at the facility to inhibit any adverse feelings related to gaining or losing weight. The goal is to stabilize the patient medically first and then have the patient work with both a psychiatrist and RD. A team should be in place to help the patient reach specific goals by also changing their way of feeling towards food.

"Although eating disorders are classified as psychological disorders, to treat a patient with an eating disorder strictly from a physiological perspective would be grossly inadequate. Treatment requires a multidisciplinary treatment team in which all members are experts in dealing with eating disorders and therefore thoroughly understand the complex psychological aspects of the disease. Team members may vary in number and professional background depending on patient needs but should ideally include, at minimum, a physician, a registered dietitian, and one or more mental health professionals, such as a psychotherapist and/or psychiatrist. Depending on symptoms/organ systems and family members involved, the treatment may include a dentist, a family therapist, a nephrologist, a cardiologist, a psychiatric nurse practitioner, other nurses, a physical therapist, and/or other specialists. Care should be taken to recruit members to the team who have experience working with eating disorders, and team communication is essential, as treatment can be derailed or delayed if practitioners are not fully aware of the possibilities of manipulation or deception on the part of the patient. In patients with anorexia, it is crucial to first address the immediate symptoms of starvation before any psychological treatment can be successful. It is important to note that any list or definition is provided as an overview and is by no means an effort to define any one patient. Every situation is unique and each patient should be assessed and treated as an individual ([American Dietetic Association, 2001](#); Brownell, 1986; Schebendach, 2000)".

- III. Medications/Supplements
 - A. Purpose of drug and side effects –
Zoloft – Used to treat depression and anxiety. Common side effects are nausea, dizziness, dry mouth, loss of appetite, upset stomach, trouble sleeping.

BuSpar – anti-anxiety. Common side effects are Dizziness, drowsiness, headache, nausea, nervousness, lightheadedness, restlessness, blurred vision, tiredness, and trouble sleeping.

Remeron – antidepressant - fast/irregular heartbeat, severe dizziness, fainting, eye pain/swelling/redness, widened pupils, vision changes (such as seeing rainbows around lights at night, blurred vision).

Naltrexone – Prevent relapses of drug/alcohol abuse. S/E - Nausea, headache, dizziness, anxiety, tiredness, and trouble sleeping

Doxycycline – Used for bacterial infections. S/E - Stomach upset, diarrhea, nausea, or vomiting

Spiromolactone – used for heart failure, high blood pressure (hypertension), or hypokalemia (low potassium levels in the blood). S/E - diarrhea and abdominal cramping
nausea and vomiting, high potassium levels, leg cramps, headache, dizziness, drowsiness, itching, irregular menstrual cycles or bleeding after menopause

potassium – Used for treating and preventing low potassium levels, treating high blood pressure, and preventing stroke. S/E - stomach upset, nausea, diarrhea, vomiting, or intestinal gas.

Magnesium - Magnesium is most commonly used for constipation, as an antacid for heartburn, for low magnesium levels, for pregnancy complications called pre-eclampsia and eclampsia, and for a certain type of irregular heartbeat (torsades de pointes). S/E - stomach upset, nausea, vomiting, diarrhea, and other side effects

ensure 1x/d – used as meal replacement. S/E - constipation, nausea, and flatulence

B. Drug/Nutrient interaction –

Spiromolactone - As a potassium-sparing diuretic, spironolactone reduces urinary loss of potassium, which can lead to elevated potassium levels. People taking spironolactone should avoid potassium supplements, potassium-containing salt substitutes (Morton Salt Substitute, No Salt, Lite Salt, and others), and even high-potassium foods (primarily fruit). Doctors should monitor potassium blood levels in patients taking spironolactone to prevent problems associated with elevated potassium levels.

Doxycycline - Magnesium

Many minerals can decrease the absorption and reduce effectiveness of doxycycline, including calcium , magnesium , iron , zinc , and others. To avoid these interactions, doxycycline should be taken two hours before or two hours after dairy products (high in calcium) and mineral-containing antacids or supplements.

Buspar – grapefruit and grapefruit juices

Zoloft - Grapefruit

In a study of healthy volunteers, ingestion of grapefruit juice along with sertraline increased blood levels of the drug. Eating grapefruit or drinking grapefruit juice may therefore increase both the effectiveness and the adverse effects of sertraline. People taking sertraline should not consume grapefruit without medical supervision.

IV. Laboratory Values

- A. Serial values by date in table form
- B. Normal values listed within the table
- C. Brief discussion of abnormal values
- D. Document any abnormal lab values that can be impacted by nutritional intake

Lab test	Date	Lab Value	Normal Ranges
Amylase	1/11/21	323 u/l	32 – 143 u/l
K	1/11/21	2.7 mmol/L	3.3 – 5.1 mmol/L
Chloride	1/11/21	78 mmol/L	96 – 108 mmol/L
Co2	1/11/21	44 mmol/L	21 – 31 mmol/L
Ca	1/11/21	11.1 mg/dL	8.6 – 10.3 mg/dL
eGFR	1/11/21	67 mL/min/1.73m ²	>89
Vitamin B12	1/11/21	153 mmol/L	180 – 914
Vitamin B6	1/11/21	66 mmol/L	20 – 202
TSH	1/11/21	4.46 ulu/mL	0.34 – 5.6 ulu/mL
Lipase	1/11/21	50 u/L	18 – 71 u/L

Mg	1/11/21	2.2 mg/dL	1.7 – 2.4 mg/dL
Phosphorus	1/11/21	2.9 mg/dL	2.4 – 4.6 mg/dL
WBC	1/11/21	6.4	4.0 – 10.5 x10E3/uL
RBC	1/11/21	4.4	3.77 – 5.28 x10E6/uL
Hgb	1/11/21	12.9	11.1 – 15.9 g/dL
Hct	1/11/21	39	34 – 46.6 %
MCV	1/11/21	88.6	79-97 fL
MCH	1/11/21	29.3	26.6 – 33 pg
MCHC	1/11/21	33.1	31.5 – 35.7 g/dL
RDW	1/11/21	12.6	12.3 – 15.4 %
Platelet	1/11/21	345	140 – 415 X10E3/uL

Lab values showing signs of malnutrition are increased amylase seen in chronic vomiting, low potassium as seen in bulimia, this can leave muscles weak and heart rhythms may be abnormal. Low chloride levels may show signs of excessive vomiting. High levels of Co2 can be caused by vomiting and metabolic alkalosis. Elevated calcium showing signs of dehydration, eGFR decreased function sign of Malnutrition; Overhydration, very low protein diet.

V. Anthropometrics

- A. Height – 5'5"
- B. Weight: usual, ideal, percent of usual, percent of ideal – current weight - 93lbs (42kg), UBW – 125lbs (56.8kg), IBW – 126lbs (57kg) - % of ideal – 74% (0.7)
- C. BMI – 15.5

VI. Diet History – from patient (family member) interview and medical chart

- A. Diet prior to admission – modifications previously prescribed – Purged 100% of all food eaten right away.
- B. Usual intake – from recall

Wake up	Chobani 2% yogurt, 1/4c. granola (homemade with oatmeal, nuts, dried blueberries, chia seeds, coconut oil)
Lunch	Turkey sandwich (avocado, cheese, onion)
No dinner	
Snack	Pretzels, almonds, fruit/veggie w/ hummus

- C. Any supplements used -n/a

VII. Estimation of Needs

- A. Energy: formulas or factors used to calculate
 - a. You will use the formula utilized at the facility in which you observe
30-40 kcal/kg 1260-1680 kcals. Restorative 70-100 kcals/kg 2940-4200 kcals. Maintenance 40-60 kcal/kg 1680-2520 kcals.
 - b. If no formula used, base on NCM manual information or equations utilized in FND 430; choose a formula and state reasoning.
- B. Protein needs - 15-20% of total energy or 0.8 g/kg to 1.2 g/kg of recommended body weight
20% of 2200kcals = 110g of protein
Nitrogen needs – 17.6 Gm/kg – 2.6g/kg Calorie:Nitrogen ratio – 125:1
- C. Fluid – 61oz/day
- D. Vitamins/Minerals – increased requirements (only if documented by the RDN and supported by lab value, Dx or dietary assessment)

VIII. Assessment of Nutritional Status

- A. Statement or paragraph listing current nutritional problems based on all the above information

Inadequate oral intake, severe calorie restriction. Some muscle wasting as evidenced by physical exam. Excessive exercise - running excessively per day. Feelings of unworthiness, depression, and PTSD due to childhood trauma around food. Malnutrition due to calorie restriction and binge/purge of 100% of food eaten right after.

- B. Overall nutritional status: poor, fair, good, excellent
May use screening tools provided in FND 430 (samples in textbook, Chapter 4, the appendix and the NCM)

Overall nutritional status is poor.

- C. Patient feedback of nutrition intervention (comprehension, individual goals, willingness to comply)

Patient is compliant and motivated.

X Outcome/Evaluation/Monitoring

- A. Statement or paragraph regarding nutrition intervention and impact on patient outcome

Current nutritional problems stem from restricted eating pattern with binge/purge subtype of 100% of food right away. Close monitoring of electrolytes, fluid balance, and weight gain in case of refeeding syndrome. Will start at 50% of kcals – 2200 – 2400 kcals/day with a 200 – 300 kcal increase every two days until 100% is reached.

The goals of nutritional rehabilitation for seriously underweight patients are to restore weight, normalize eating patterns, achieve normal perceptions of hunger and satiety, and correct biological and psychological sequelae of malnutrition.

- B. If no follow up available, what would be covered in a follow up appointment and possible expected outcomes.

Follow up will include additional testing (monitor for refeeding syndrome) and weight check. A conversation about how feeding intervention is going. Increasing calorie intake if initial reintroduction has been tolerated. Exploration of feelings toward increasing calories and trying trigger foods (except those that are extreme triggers that will not be eaten outside of the facility).

IX Nutrition Care Plan (Use ADIME charting method from textbook Table 10-2)

A. Assessment

<u>Client Hx:</u>	<u>Nutrition focused physical findings:</u>	<u>Anthropometrics:</u>
<p>43 yo female admitted with severe malnutrition related to extreme calorie restriction/binge purge. Excessive exercise (running preferred but currently walking 3x/day) Dx with anxiety, depression, PTSD Trauma from childhood abuse surrounding food Disordered eating pattern for >10yrs Have attended previous treatments with continuous relapses Has a dog who she says is the reason she wants to get help</p>	<p>Severely underweight - Malnourished Muscle-wasting Pale</p>	<p>Ht 5'5" (165cm) Wt 93lbs (42kg) BMI 15.5 IBW 125lb (57kg)</p>

<p><u>Food/nutrition-related Hx & Comparative Standards (Usual Intake, Recent Intake, Diet order, PA):</u></p> <p>24hr recall Severe calorie restricted diet with binge/purge subtype start at 50% of kcals – 2200 – 2400 kcals/day with a 200 – 300 kcal increase every two days until 100% is reached.</p>	<p><u>Biochemical, Medical Tests & Procedures:</u> As of 1/11/21</p> <p>Bradycardic Low BP Abnormal blood test Low K High amylase Low kidney function</p>
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B. Nutrition Diagnosis; using a PES statement and included N:code

Malnutrition (NI-5.2) related to disordered eating pattern as evidenced by BMI of 15.5.

Disordered eating pattern (NB-1.5) related to past trauma surrounding food and feelings of unworthiness as evidenced by weight of 93lb and self-limited intake of < 700 kcal daily with 100% purge right after oral intake.

C. Nutrition Intervention

Reintroduction of nutrient dense food starting at 50% of kcals – 2200 – 2400 kcals/day with a 200 – 300 kcal increase every two days until 100% is reached. Close monitoring of electrolytes, fluid balance and weight regain to watch for refeeding syndrome. Team of medical professionals that will provide counseling, behavior modification, cognitive/behavioral therapy and nutrition counseling. Therapeutic therapies can also be initiated such as art, yoga, meditation, and light exercise (walking). Medication can be used to help with anxiety, depression, PTSD. Weight gain and body nourishment with increased connection of the reason to eat.

D. Monitoring and Evaluation

Blood lab draw 3x/wk to monitor for refeeding syndrome. Weight gain to be monitored until ideal body weight has been achieved and patient has been stabilized. Continued counseling to normalize eating behaviors and prevent relapse upon discharge.

XI. Education Materials

Provide a sample of the educational materials that would be appropriate for this case study
You may use materials utilized by the facility or information from the NCM for the nutritional Dx.

Plan your daily meal and snack needs with the following in mind:

- Eat a meal/snack every 3 to 4 hours , even though you may not feel hunger at the beginning of this process.
- Eat protein-rich foods, foods that contain fat, and complex carbohydrates , such as whole grains, at all meals and snacks.
- Recognize that feeling full after eating a small amount of food does not mean you have eaten too much. Feeling full is only temporary.
- Gradually increase the portion size of your current "safe" foods.

- Consume the planned amounts of all of foods. Vegetables and fruits are important, but they should not be consumed to the exclusion of other foods.
- Gradually increase the variety of foods and food groups you consume daily.
- Drink enough water/beverages to fulfill your particular needs while avoiding consumption of all diet drinks.
- Include supplementation, if prescribed by your physician, until you are able to consume adequate food to supply your daily nutrition needs.

Learn to recognize your eating behaviors while you learn to connect with your body's messages of hunger and fullness with your therapist and registered dietitian so you will be able to do the following:

- Challenge your dietary rules or ritualistic eating patterns, which can disconnect you from your hunger or fullness signals.
- Use a hunger scale prepared to meet your understanding and needs.
- Increase awareness of and discuss your fears and taste and eating patterns with your support and medical treatment teams.
- Learn to trust that there are no "good foods" or "bad foods," but all foods can fit in your meal plan.
- Reduce obsessive thoughts regarding your food, eating, weight, and body image.
- Develop increased patience to nourish yourself with daily meals and snacks in a peaceful, enjoyable setting.
- Create a plan of alternative activities and rewards to replace your preoccupation with your weight, weight gain, and body image.
- Understand your weight restoration is the vital component of recovery from anorexia nervosa; as you allow this to occur, your body and brain will begin to function more effectively.

XII. References

A. Show adequate referencing to demonstrate the diagnosis and treatment were researched

Kaiser Permanente website for drug/nutrient interactions
 Nutrition care manual
 Webmd