UNC Children's Eating Disorder Protocol

Introduction:

Target population:

Patients requiring admission for medical stabilization for new or previously diagnosed eating disorder, specifically anorexia nervosa and bulimia nervosa. *This may not apply for patients with ARFID (Avoidant/Restrictive Food Intake Disorder) as the mechanism and motivation for their disordered eating behaviors may be different and may require an alternative approach*. For the purposes of this protocol, eating disorder can be defined as at least one of the following:

- Significant low body weight compared with percent median BMI or expected body weight and/or significant weight loss with concern for malnutrition.
- Unreasonable weight control methods (restriction of food intake, self-induced vomiting, or excessive use of laxatives, diet pills, exercise, etc)
- Distorted body image
- Intense fear of gaining weight or becoming fat, even though underweight

Note that patients may meet the criteria for an eating disorder but not require inpatient admission for medical stabilization and can be managed as an outpatient.

Goals:

1) Describe criteria for inpatient admission for medical stabilization of eating disorders
2) Collaborate as an interdisciplinary team to support the medical stabilization of patients with eating disorders, including a standard interdisciplinary team meeting within 72 hours of hospitalization
3) Provide education for patients and families to aid in recovery
4) Reduce the occurrence of refeeding syndrome
5) Promote patient weight gain and medical stability in a structured manner
6) Decrease number of hospital days required for medical stabilization.
7) Ensure safe discharge for patient.

Multidisciplinary treatment team involvement:

- Pediatric Hospitalist
- Registered Dietitian
- Nursing
- Psychiatry
- Adolescent Medicine
- Patient Care Technician (Sitter)
- Case Management/Social Work
- Previously established outpatient treatment team (if applicable)

- ***Recommend consultation with Psychiatry at time of presentation for the following:***
  - ***Diagnostic clarification***
  - ***Psychotropic medication management***
  - ***Disposition planning***
  - ***Evaluation for admission to the eating disorder unit***

******Any variations/exceptions made to the protocol should be made by the Pediatric Attending/Psychiatry Attending only (who should also be in agreement with the proposed modification). ******

Inpatient admission criteria for medical stabilization:

1) Clinical dehydration and/or electrolyte imbalance (secondary to poor intake and/or purging)
   a. Hypokalemia < 3.5 mmol/L
   b. Hypophosphatemia < 3.0 mg/dL
   c. Hypomagnesemia < 1.8 mg/dL
2) Need for cardiac monitoring
   a. Heart rate is < 50 beats per minute awake and < 45 beats per minute during sleep
   b. *Symptomatic* orthostasis: Heart rate increase by 30 bpm in adults > 19 yo or > 40 bpm in adolescents < 19 yo or sustained decrease of blood pressure (> 20 mm Hg systolic or > 10 mm Hg diastolic) on standing.
   c. Syncope
   d. Prolonged QTc ≥ 0.45
3) Acute medical complications of malnutrition and/or purging (i.e.: syncope, esophageal tears, hematemesis, seizure, cardiac failure, pancreatitis)
4) Temperature < 35.6°C (96°F)
5) ≤75% median BMI OR loss of 15% body mass loss in 6 months OR loss of 10% body mass in 3 months
6) Acute food refusal >72 hours
7) **Uncontrollable bingeing and purging (could go to a residential treatment facility if available if otherwise stable but often difficult to achieve)

Consider PICU admission when the following is present:

1) QTc ≥ 0.5
2) Cardiac arrythmia other than sinus bradycardia (Single PVCs may be normal in adolescent patients and may not warrant PICU transfer. Consider patient condition. Cardiology consult prior to decision to transfer may be appropriate.)
3) Altered neurologic status
4) Persistently low heart rate < 30 beats per minute not responsive to waking, warming or oral nutrition

IF patient does not meet above inpatient medical stabilization admission criteria, they may still require a dedicated eating disorder unit admission if:

1) Ongoing weight loss despite intensive outpatient management

2) Food restriction but drinking liquids, patient is not dehydrated, and do not meet any of the above medical criteria.
3) Resistance to outpatient care
4) Uncontrollable bingeing and purging

Hospitalization Guidelines

A.) Medical Evaluation:

1) **Pertinent history**
   - Weight loss? How much? Max/min-when (rapidity of weight loss); restriction of calories? Self-induced vomiting? Laxatives? Excessive exercise? Headaches?
   - Dizziness or syncope?
   - Nausea, abdominal pain, vomiting, constipation, diarrhea?
   - Blood in stool?
   - Hair changes, skin changes?
   - Cold intolerance?
   - Menstrual history? (Make sure to ask about OCP use because patient could have menses regardless of weight/nutrition status)
   - Risk assessment: abuse, drugs, alcohol, tobacco, sexual activity, depression/anxiety, suicidality, self-harm

2) Pertinent physical exam findings to look for:
   - Bruises, scratches on palate and posterior pharynx
   - Sub-conjunctival hemorrhage from vomiting
   - Salivary/parotid gland enlargement
   - Dental enamel erosion
   - Callouses on knuckles
   - Cardiac rhythm changes
   - Murmurs
   - Acrocyanosis
   - Abdominal distension with hypoactive bowel sounds, stool palpated in LLQ
   - Delayed sexual maturity rating, breast atrophy
   - Low muscle mass/emaciation
   - Edema
   - Hypercarotenemia, dry skin
   - Dull/brittle hair or nails
   - Lanugo

3) Vital Signs/measurements
   - Vital signs q4h
     - If HR < 30, or complaints of chest pain or palpitations, obtain STAT EKG to monitor QTc, strict bedrest until HR stabilizes.
     - If T< 35.5°C (96°F) warm with blankets and recheck or use Bair Hugger.

        - Cardiorespiratory monitor- if patient is bradycardic, orthostatic, or abnormal QTc. (Can be discontinued once vital signs are normal for 24h. Monitor alarm settings can be discussed with physician.)
    - Orthostatic vital signs
        - Obtain on admission and daily until normalized.
        - Patient should be supine for 10 minutes prior to the initial measurement of blood pressure and heart rate. Record blood pressure and heart rate.
        - Have the patient sit on the edge of the bed with legs dangling. Record blood pressure and heart rate immediately.
        - Ask the patient to stand. Record blood pressure and heart rate immediately.
        - Repeat and record blood pressure and heart rate after patient standing for 3 minutes.
        - Note symptoms with each change in position.
        - Positive orthostatic definition for eating disorder protocol*:* Heart rate increase by 40 bpm and/or systolic blood pressure decrease by 20mmHg or diastolic blood pressure decrease by 10 mmHg upon standing.
    - Height measured on admission.
    - Weigh patient on admission
        - <u>Subsequent weights to be done daily.</u>
        - Patient should be wearing hospital gown and underwear only with back to scale. Nursing to perform contraband search prior to weights.
        - **<u>Weights should be blinded. The patient should not be told their weight even if asked.</u>**
        - Staff must show a neutral response to any weight gain or loss and not discuss the actual weight in front of the patient.
        - Do not reweigh per patient's request.
        - If numbers do not make sense, patient can be reweighed at the discretion of the medical team.
    - Measurements should occur before breakfast each day in the following order (6am-8am): **orthostatic vital signs, void, weight.** If patient cannot void, wait until first void to obtain weight, and <u>do not provide liquids prior to voiding</u>.
    - Strict I/Os.
4) **Labs and tests**
    - Admission:
        - CBC, ESR, CMP, Phos, Mag, amylase, lipase. urine pregnancy test, urine toxicology screen, urinalysis.
            - If not obtained within the last month: cholesterol, triglyceride, GGT, TSH, free T4, quantitative T3, thiamine, Vitamin D, ferritin
            - If amenorrheic: LH, FSH, prolactin, estradiol.
            - Post-pubertal males: total testosterone
            - If vegetarian or vegan, consider B9 or B12
            - Based on history, consider celiac panel if has been consuming gluten regularly.
        - EKG

- Daily:
  - CMP, Mag, Phos daily for the first three days after initiating nutrition. Depending on refeeding risk and need for replacement, may obtain more frequently. Once stable, space to q48h- q72h.
  - POC glucose post-prandial (30min to 1 hour after meal + supplement (if needed)) and at 0200 over the first 48 hours. Discontinue if/when no hypoglycemia for 48 hours. Ideal treatment = glucose + protein (i.e. Supplement, peanut butter w/crackers)
  - Urinalysis daily for urine pH (>8-9 suggests purging; can also be seen in vegetarian and vegan diets) and specific gravity (<1.010 suggests water loading
  - EKG daily for 3 days, then as needed if electrolytes normal

5) Medications

- Multivitamin with zinc 1 tablet PO daily.
- Thiamine 100-300mg PO daily for first 7 days.
- If hypophosphatemia and/or hypokalemia supplement with Neutra-Phos.
  - Mild hypophosphatemia 2.5-2.9mg/dL: Phos-NaK 1 packet (250mg) TID
  - Moderate hypophosphatemia 2.0-2.4mg/dL: Phos-NaK 2 packets (500mg) TID
  - Severe hypophosphatemia <2.0mg/dL: IV Na-K-Phos 0.24mmol/kg; max 15mmol/dose; contact PICU
- Consider medication for sleep (melatonin).
- Docusate or Miralax if constipated. Avoid stimulant laxatives.
- **Be mindful of medications that can prolong Qtc (common examples include certain psychiatric medications, antibiotics, antiemetics)**

B.) Bedside sitter

- Checklist to delineate responsibilities.
- If suicidal ideation, follow suicide protocol.
- Patient must be monitored 24h.
- Bedside sitter must be present during meal times for monitoring, as staffing permits.
- If the patient is not suicidal or at risk for self-harm, video monitoring may be used at the discretion of the care team.. Patient should be monitored for exercise behaviors, purging behaviors, and self-harm. Patient should only go into the bathroom with the supervision of a staff member physically in the room. **If there are concerns that the patient is not able to be adequately supervised via video monitoring, then a bedside sitter should be used at all times.**

C.) Nutrition

1) Nutrition Therapy consult at time of admission for:
   - Malnutrition assessment
   - Calorie, weight, and fluid goals
   - Recommendations for daily meal plans and supplementation as needed
   - Assistance with parent education in making meal choices

2) Meals/snacks
    - **Food is medicine for patients with eating disorders. Food and supplements are non-negotiable.**
    - Caloric goals:
        - Start with **1800 kcal/day**, unless the patient is eating <500 kcal/day, then start at 1200 kcal/day
        - Increase by **300 kcal/day** starting on hospital day 2
        - Target weight gain of 0.3-0.4lb/day (100-200g/day)
        - The dietitian can provide a calorie goal, however if a dietitian is not available, please reference the appendix for estimating calorie goals
    - Meals and snacks are selected by the parent with the dietitian/nursing
        - At least 3 meals and 2 snacks/24hours will be ordered at a time to meet the daily calorie goals. A third snack may be ordered if needed to keep the volume of meals lower. This is in line with the advancement of meals in the EDU.
        - Once patients reach **2800 kcal/d** they may be offered to have a supplement (Boost Plus, Ensure Plus, Kate's Farm) with up to 2 meals, if they are struggling with volume.
        - Parents can identify 3 "dislikes" for their child that will not be included in the meals offered. "Dislikes" should be a specific food, not a food group (i.e. sausage not meat). Recommend "dislikes" be something that the child has never liked rather than specific foods avoided since disordered eating. This should be documented in the dietitian note and the sticky note in the patient chart.
        - Avoid ordering low-calorie, high-volume foods if struggling with volume.
        - Ordered as Eating Disorder Diet/UNCH/Rex-Only-RD-Manage.
        - No swapping, exchanging or substitutions allowed.
        - Condiments can be offered except for hot sauce and salt.
        - If supplementation is required, patient will receive Ensure Plus for meal/snack replacements. Nursing has a conversion chart indicating how much supplement to give for meal coverage.
        - Vegetarian, lactose-free (if intolerant), gluten-free (if Celiac) and religious diets will be respected. If no confirmed gluten allergy, will respect diet preference if able to meet nutritional requirements. If not, this will be readdressed with the patient.
    - Meal Trays
        - All food should be delivered to the nurse's desk and given to the patient in unlabeled containers.
        - Tray should be checked against the tray ticket for accuracy by the nurse. The menu plan is in a notebook on the floor for reference.
        - Snacks (if ordered) will come with the meal tray. For example, morning snack on breakfast tray, afternoon snack on lunch tray, and evening snack on dinner tray.
    - Meal Times
        - Meals will be given as close to time as possible as delays in meals/snacks may

result in condensing of later meal times and the patient may experience distress. However, delivery of meal trays are often susceptible to problems with food services.

- Breakfast 0800
- Morning snack 1000
- Lunch 1200
- Afternoon snack 1430
- Dinner 1700
- Evening snack 2000
- Meals last for **45 minutes**, including any time needed for reheating of food items, and snacks last for **20 minutes**
- **15 minutes** after meals and snacks are allotted for supplementation, if needed.

- Meal rules
  - No food or condiments from home.
  - Patient will only eat in their room.
  - No other food or drinks are permitted in the patient's room at any time (ie. family members, visitors, etc). The sitter may have one drink with lid in the room.
  - Patient can use the restroom prior to meal as this will not be allowed during the meal or post-meal observation time.
  - The patient will be observed throughout the meal by the sitter. The patient may watch TV, read a book, complete a puzzle, etc. as this may be a coping strategy for completing meals.
  - Patient must eat sitting in a chair using side table. Patients cannot get up during meal time. They are not allowed to eat in bed. Hands and napkins must be above the table at all times.
  - The medical team may decide if a patient can wear their own clothes, however clothing should not have pockets or a hood. <u>If concerns for hiding/manipulating food patients will be asked to wear a hospital gown for meals.</u>
  - Staff must check trays for hidden food or food discarded in napkins. Staff must check tray table to ensure no food is hidden in tray.
  - When the patient is first admitted, no family members or visitors are allowed during meals. However, recent studies have shown benefit of family mealtime as the patient progresses. Parents should meet with team member prior to be "coached" on how to best provide support through mealtimes with their child and should also reference the parent packet. If possible, parents may have a shared, "mirrored meal" with the patient after coaching has been completed and prior to discharge if the patient is going home rather than to an inpatient or residential program.
  - If the family is not participating in the meal, they should be asked to leave the room just prior to mealtime.
  - If the patient has significant mealtime anxiety interfering with eating, physician

can consider short term use of hydroxyzine. Use caution with hydroxyzine due to risk for arrythmia. SSRIs, SNRIs, or Olanzapine are options for longer term use that can be prescribed in coordination with Psychiatry.

- Meal and snack replacements/supplementation
  - *Any uneaten or vomited food* will be removed and replaced with a supplement.
  - Supplementation will occur after each meal and snack.
  - The patient has **15 minutes** to drink the entire supplement. If this does not happen or vomiting occurs, a nasogastric tube will be placed, and caloric replacement will occur via this route. The supplement will be bolused through the NG tube at 400ml/h.
  - The NGT can be removed after use after the first insertion. **After the second insertion, the NGT is to stay in place until the patient has consumed 100% of meals (and snacks if applicable) for at least 24h, or the provider's discretion.**
  - Portions of food consumed and any replacement supplements that the patient received will be documented in the electronic medical record by the RN.
  - If expected weight gain (100-200g/day) is not made during the first week or patient reaches a point in the meal plan where additional nutrition outside of the meal is warranted, changes in the nutritional plan will be made with the dietitian to increase calories as needed to promote weight gain. *May consider increasing calories sooner if weight loss for more than 2 days.* <u>Caution if patient is gaining excess weight as this may be due to fluid overload rather than actual weight gain.</u>

3.) Fluid intake

- Physicians and dietitian should determine the target daily fluid intake depending on age, level of hydration, and presence of symptomatic orthostasis. This is usually equivalent to maintenance rate if not dehydrated. Typically, patients will require 1.5 to 2L of fluid a day.
- The dietitian may assist with determining amount of free fluid needed if patient is receiving substantial volume of supplementation.
- Target fluid amount should be entered into the diet order. Patient should not consume more than 2500 ml fluid/day.
- Fluid can be given orally as water, whole milk, juice, or caffeine-free soda. No diet drinks or caffeinated beverages are allowed.
- No fluids allowed 30 minutes prior to meals/snacks to preserve appetite and 30 minutes prior to daily weighing
- IV fluids should not be used routinely unless patient had moderate to severe dehydration or symptomatic orthostasis. IV fluids should not be bolused or exceed 50% of maintenance rate so long as patient is stable. Oral or NG fluids are encouraged.
- Fluid intake should be documented in the electronic medical record by the RN.

D.) Activity

- Rest periods must be observed in bed after meals for 60 minutes and after snacks for 30 minutes. No bathroom/shower use during this time. Bathroom use only permitted if an emergency and is supervised.
- Activity level allowed at the discretion of the care team. Considerations include:

- If daytime HR<45, symptomatic orthostasis, hypotension, temperature < 35.5°C or other unstable vital sign: strict bed rest with assisted bedside commode privileges.
- Once vital signs stable, the patient can be given the option of using the bedside commode or using the bathroom and one shower per day is allowed. When using the bathroom or showering, the door should be cracked so staff member can witness movements in their peripheral vision.
    - **Patients are allowed to go outside of their room in a wheelchair on the pediatric floor, but other travel off the unit to the playroom or other hospital locations should only be approved by the Pediatric and Psychiatry Attendings.**

  Be consistent among team members of what activity is allowed. **MD order will be entered for bathroom privileges (including shower) and activity allowances. Activity accommodations can also be documented in patient's room and sticky note in patient's chart for clarity among team members.**

- Exercise is not allowed. If exercise behaviors are witnessed by staff, patients will be asked directly to stop.
- Going out of the room in a wheelchair is safe starting day of admission if vital signs are stable. Activity can progress gradually from strict bedrest, to out of bed to chair, to ad lib around the room, to limited walks in the hallway and time in the playroom. Supervised, time-limited walks twice a day may be allowed if MD approves.

E.) Electronic devices

- Patient allowed to use personal electronic devices in room but are restricted from searching things pertaining to body image, nutrition, calories, or exercise.
- Staff should directly ask patient to stop if electronic devices are being used inappropriately, and notify MD. If action continues, loss of personal electronic devices may occur.

F.) Visitors

- **Visitation is limited to parents and may be liberalized if appropriate at the discretion of the Pediatric Attending/Psychiatry Attending. No visitors should be present during meal/snack times.**

Discharge Criteria for next level of treatment

- Pediatric hospitalist should discuss appropriate disposition following medical stabilization with Psychiatry, case management, and the patient/family to determine the safest, least restrictive, level of care
- For patients requiring a dedicated eating disorder unit, Psychiatry and Case Management will coordinate the intake and identify the specific program within the potential accepting unit. The accepting facility will determine the appropriate level of care based off their specific intake requirements.

General Criteria for transfer to dedicated eating disorders unit:

1) Normal electrolytes
2) Normal vital signs (HR ≥ 45 daytime/awake and ≥40 nighttime/asleep), normal blood pressure for age, no symptomatic orthostasis
3) Normal cardiac rhythm and normal QTc (< 0.45) on EKG

4) No acute medical complications (i.e. no esophageal tears/hematemesis, no seizure, no cardiac failure, no pancreatitis

Criteria for going home if patient/family declining recommended higher level of care:
All of the above plus:

1) Weight is ≥ 75% median BMI* and meeting daily kcal goal for at least 24 hours and a robust outpatient plan is in place
2) Comprehensive follow up in place, which can include PCP, adolescent medicine, therapist, registered dietitian, etc. If possible, have the patient go to clinic the day of discharge to get a weight done on the clinic scale that can be used as baseline. Recommend conversation with PCP. If making referral to adolescent medicine outpatient, notify one of the adolescent providers and/or Heather Horne (nurse coordinator) of the patient via EPIC secure chat.

*This does not necessarily indicate a healthy weight, but is a reasonable standard for discharge from the hospital

****If patient/parent wishes to leave AMA, psychiatry should be paged regardless of time of day/week to assist in discussions and assessments.****

Partnering with patient and family

1) Patients and families will receive and sign the treatment contract. This will be reviewed with the family by the admitting resident physician. **If feasible, the medical stabilization for adolescents with eating disorder protocol and contract should be reviewed with the patient and family prior to referral for admission.**
   - **It is essential that all members of the treatment team are consistent with the protocol and contract, and in their communications with patient and family. Any accommodations should be agreed upon by the medical team and documented in the patient room so all team members are aware.**

2) At least one multidisciplinary team and family meeting within 72 hours of admission. Dispo planning and discussions should be initiated as soon as possible.
3) For patients/families who are not in agreement with treatment plans and/or recommended level of care recommendations there should be provider level conversations on options for backup plans if/when needed.
4) Discussions with patients/families: (creating the crisis with compassion)
   - Focus on the medical condition and objective data such as vital signs, labs and orthostatic information.
   - Reinforce that the purpose of this hospitalization is for medical stabilization, and that therapy is unlikely to occur during this time and of limited benefit until malnourishment has improved.
   - Do not discuss patient's weight or calorie goals in front of the patient.
   - Avoid positive or negative reactions towards amount of meals eaten. It is best to stay neutral. May state whether patient is following their medical plan. Praise for eating their meal may be construed as failing at their eating disorder and cause the patient distress.
   - Avoid discussing body image, even if intended to be complementary and not related to the patient's weight.

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Protocol adapted with permission from Cone Health Guidelines for Medical Treatment of Eating Disorders On the Inpatient Pediatric Unit and UNC Division of General Pediatrics and Adolescent Medicine Guidelines for Evaluating and Treating Children and Adolescents with Eating Disorders.

Evidence base

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