Inclusion Criteria
- 5-18 years (if ≥ 18, call ADO Med and Psych re: consent issues that may preclude admission)
- Concern for eating disorder
- Medically unstable (see Admit Criteria)

Exclusion Criteria
- ≥ 18 years with refusal to consent to refeeding
- Other diagnosis resulting in severe malnutrition that is NOT an eating disorder (e.g. cystic fibrosis, inflammatory bowel disease)

MEDICAL UNIT HIGH RISK CRITERIA
1. High risk for refeeding syndrome (adapted from NICE guidelines)
   A. Patient has at least one of the following:
      - Weight loss ≥ 10% usual body weight in last 3-6 months
      - Low levels of potassium, phosphate, magnesium before feeding
   B. Patient has two or more of the following:
      - BMI < 70% mBMI (mBMI = BMI at 50th percentile for age & gender)
      - Abnormal EKG other than sinus bradycardia requires telemetry bed
      - Acute medical complications of malnutrition (e.g. syncope, seizures, cardiac failure, pancreatitis, severe electrolyte disturbance)
      - Clinical concern for medical acuity that requires higher level of medical monitoring

Admit Criteria
One or more of the following:
- Electrolyte disturbance (e.g. hypokalemia, hyponatremia, hypophosphatemia)
- EKG abnormalities (e.g. prolonged QTc, males>450ms/ females>470ms or severe bradycardia)
- Physiologic instability unresolved after management in ED
  - Severe bradycardia (HR<50BPM daytime; <45 BPM at night)
  - Hypotension (MAP < 65)
  - Hypothermia (Temp < 96F or 35.6°C)
  - Symptomatic orthostasis (systolic BP decrease >20mmHg systolic, or diastolic BP decrease >10mmHg)
- Acute medical complications of malnutrition (e.g. syncope, seizures, cardiac failure, pancreatitis)

Medical Unit Refeeding Syndrome
- High risk for refeeding syndrome
- Acute medical complication
- Admit to Medical Unit

Medical Unit Low Risk Criteria
- Patients who do not meet medical admit criteria may still benefit from the PBMU Eating Disorder Program, which is a psych admission
- Requires extensive review by insurance (often takes days)
- Requires stabilization on medical service or discharge home with subsequent coordination with outpatient service providers

Refeeding Syndrome
- High risk for refeeding syndrome
- Acute medical complication
- Admit to Medical Unit

Refeeding Syndrome
- Moderate to low risk
- Admit to Medical-Behavioral Bed

Eating Disorders Include:
- Anorexia nervosa
- Avoidant restrictive food intake disorder
- Eating disorder unspecified
- Bulimia nervosa

For questions concerning this pathway, contact: EatingDisorderRefeeding@seattlechildrens.org
© 2018 Seattle Children’s Hospital, all rights reserved, Medical Disclaimer
Last Updated: May 2018
Next Expected Review: April 2022
**Inclusion Criteria**
- 5-18 years (if ≥ 18, call ADO Med and Psych re: consent issues that may preclude admission)
- Concern for eating disorder*
- Medically unstable (see Admit Criteria)

**Exclusion Criteria**
- ≥18 years with refusal to consent to refeeding
- Other diagnosis resulting in severe malnutrition that is NOT an eating disorder* (e.g. cystic fibrosis, inflammatory bowel disease)

*Eating Disorders Include:
- Anorexia nervosa
- Avoidant restrictive food intake disorder
- Eating disorder unspecified
- Bulimia nervosa

**Evaluation**
- Vital signs, orthostatics, weight (after void), height
- Labs: Electrolytes, BUN, Creatinine, Phos, Mg, Ca, ALT, CBC, TSH, UA, urine preg
- EKG (if not done already)
- After work-up complete, call Adolescent Med (ADO) On-call if plan to admit or other questions
- Cardiorespiratory monitor
- IVF bolus if needed (recommend start with 10 mL/kg and then re-evaluate if 2nd bolus needed)
- Correct electrolytes at same time/prior to refeeding

**Admit Criteria**
- One or more of the following:
  - Electrolyte disturbance (e.g. hypokalemia, hyponatremia, hypophosphatemia)
  - EKG abnormalities (e.g. prolonged QTc males≥450ms/ females≥470ms or severe bradycardia)
  - Physiologic instability unresolved after management in ED
    - Severe bradycardia (HR≤50BPM daytime; ≤45 BPM at night)
    - Hypotension (MAP<70)
    - Hypothermia (Temp<96F or 35.6°C)
    - Symptomatic orthostasis (systolic BP decrease >20mmHg systolic or diastolic BP decrease >10mmHg)
  - Acute medical complications of malnutrition (e.g. syncope, seizures, cardiac failure, pancreatitis)

**Discharge Instructions**
- Follow up with PCP within 2 days for weight/vital signs/ labs
- Follow up with adolescent medicine/dietitian/therapist within 1 week (if new patient) or 1-2 weeks (if known patient)

**Consider Psychiatry and Behavioral Medicine Unit (PBMU) Eating Disorder Program**
- Patients who do not meet medical admit criteria may still benefit from the PBMU Eating Disorder Program, which is a psych admission
- Requires extensive review by insurance (often takes days)
- Requires stabilization on medical service or discharge home with subsequent coordination with outpatient service providers

**Medical Unit High Risk Criteria**
1. High risk for refeeding syndrome (adapted from NICE guidelines)
   - A. Patient has at least one of the following:
     - Weight loss ≥ 10% usual body weight in last 3-6 months
     - Little or no nutritional intake for >10 days
     - Low levels of potassium, phosphate, magnesium before feeding
   - B. Patient has two or more of the following:
     - BMI < 18.5
     - Weight loss ≥ 7.5% usual body weight in last 3-6 months
     - Little or no nutritional intake for >5 days
   - 2. BMI < 70% mBMI
   - 3. Abnormal EKG other than sinus bradycardia requires telemetry bed
   - 4. Acute medical complications of malnutrition (e.g. syncope, seizures, cardiac failure, pancreatitis, severe electrolyte disturbance)
   - 5. Clinical concern for medical acuity that requires higher level of medical monitoring

---

**For questions concerning this pathway, contact:** EatingDisorderRefeeding@seattlechildrens.org

© 2018 Seattle Children’s Hospital, all rights reserved, Medical Disclaimer

Last Updated: May 2018
Next Expected Review: April 2022
Assess for Transfer after Initial Refeeding Phase
Reassess every 24 hours, transfer to MBB as soon as medically able.

Transfer Criteria to move from general medical floor to MBB or Eating Disorder Inpatient Program on PBMU
- Heart rate >30 for 48 hours
- Resolution of abnormal EKG other than sinus bradycardia
- Resolution or stabilization of any acute medical complication of malnutrition (e.g. syncope, seizures, cardiac failure, pancreatitis, severe electrolyte disturbance)
- Resolution or stabilization of medical acuity that requires a higher level of medical monitoring

Expected length of stay 0-5 days on medical unit, then transfer to Medical-Behavioral Bed (MBB) in PBMU
Total length of hospital stay averages 2-3 weeks for safe refeeding, to be determined by interdisciplinary team

Discharge Criteria
- Resolution of physiologic instability (daytime HR >50 (required) and nighttime HR-45 (recommended), EKG changes, symptomatic orthostasis
- All electrolyte abnormalities corrected (no longer on supplements)
- Low risk for refeeding syndrome (highest risk in first 2 weeks of refeeding)
- Eating all prescribed nutrition in the form of solid food (recommended)
- Complete education and care coordination

Discharge Instructions
- Follow-up in 1 week with Adolescent Medicine Provider (or PCP weekly until available)
- Follow-up in 2 weeks with dietitian (prefer eating disorder or adolescent expertise)

Inclusion Criteria
- 5-18 years, (if ≥18, call ADO Med and Psych re: consent issues that may preclude admission)
- Concern for eating disorder*
- Medically unstable (see Admit Criteria)

Exclusion Criteria
- ≥18 years with refusal to consent to refeeding
- Other diagnosis resulting in severe malnutrition that is NOT an eating disorder* (e.g. cystic fibrosis, inflammatory bowel disease)

*Eating Disorders Include:
- Anorexia nervosa
- Avoidant restrictive food intake disorder
- Eating disorder unspecified
- Bulimia nervosa

Medically able
Solid food
Resolution of physiologic instability
Longer on supplements
Orthostatis (HR)
Resolution of any acute medical complication of malnutrition
Resolution of abnormal EKG other than sinus bradycardia
Restoring Nutrition
Electrolytes
Continuous cardiorespiratory monitoring
Bedrest with bathroom privileges; avoid excess movement
Wear loose sleeves/long pants/socks/under covers
Recommend bathroom restriction 60 minutes after all meals/snacks
Showers 5 minutes; use shower stool due to fall risk
Initiate refeeding protocol at 1200 kcal per day until assessed by Dietitian
Correct electrolytes at same time/prior to refeeding
Proceed with NG tube placement with FIRST incomplete meal, snack, or water AND incomplete oral supplement
Call Support Nurse if needed (7-0036)

Consistent messaging from all providers is critical. Confer before you set treatment plans with family. Refer to Restoring Nutrition-Refeeding.

Provider Job Aid for Difficult Conversations (for SCH only)

Admit
- Medical Team
- Initiate Medical Stabilization Eating Disorder orders
- Provide family with Restoring Nutrition-Refeeding (PE643) and describe feeding protocol

Vitals
- Continuous cardiorespiratory monitoring; vitals q 4 hours
- Activity
- Bedrest with bathroom privileges; avoid excess movement
- Wear loose sleeves/long pants/socks/under covers
- Recommend bathroom restriction 60 minutes after all meals/snacks
- Showers 5 minutes; use shower stool due to fall risk

Refeeding
- Initiate refeeding protocol at 1200 kcal per day until assessed by Dietitian
- Correct electrolytes at same time/prior to refeeding
- Proceed with NG tube placement with FIRST incomplete meal, snack, or water AND incomplete oral supplement
- Call Support Nurse if needed (7-0036)

Nursing
- Follow GOC: Eating Disorders and Refeeding (for SCH only)
- Labs
  - On admit check electrolytes/BUN/creatinine/Phos/Mg/Ga/ALT/CBC/TSH/UA/urine preg / EKG (if not already done)
  - Check electrolytes, Ca, Mg, Phos daily for **refeeding day #1-5 then Mon/Thurs
- **Refeeding day #1 > 24 hours after completion of 100% prescribed nutrition

Consults (to facilitate consistent messaging)
- Consult Adolescent Medicine, Dietitian, Psychiatry C&L within 24 hours

Education
- Provide family with info about Meal Support Classes
- Family Care Conference: Monday or Thursday

Criteria for Admit to PBMU Eating Disorder Program
- Insurance pre-authorization (often takes days)
- Less than 80% treatment goal weight
- Severity of disorder/malnutrition makes outpatient success unlikely
- Unable to complete meals and snacks without oral supplement
- Reliance on feeding tube
- Patient/family request and consent to 3-6 weeks length of stay

*Seattle Children’s Hospital, all rights reserved, Medical Disclaimer
Inclusion Criteria
- 5-18 years (if ≥ 18, call ADO Med and Psych re: consent issues that may preclude admission)
- Concern for eating disorder* 
- Medically unstable (see Admit Criteria)

Exclusion Criteria
- ≥18 years with refusal to consent to refeeding
- Other diagnosis resulting in severe malnutrition that is NOT an eating disorder* (e.g. cystic fibrosis, inflammatory bowel disease)

Transaction from Medical Floor Management
- Page Psychiatry C&L Team to coordinate timing with PBMU & arrange review of roadmap with patient and family (no tours)
- Discontinue Eating Disorder-Refeeding Medical Stabilization phase and initiate Eating Disorder-Refeeding Med Behavior Bed or PBMU orders according to Job Aid: Entering PBMU Med Orders for Med Unit to PBMU Transfer (for SCH only)
- Medical team continues to be primary team, same consultant teams (ADO, Psych, Nutrition), same interdisciplinary meetings
- Check PBMU daily schedule for best time to round outside of meals and snacks
- PBMU refs: Charge RN 7-2455 Behavior RN 7-0036 UC 7-2065 Intake 7-2195

Eating Disorders Include:
- Anorexia nervosa
- Avoidant restrictive food intake disorder
- Eating disorder unspecified
- Bulimia nervosa

Admit to Medical-Behavioral Bed (MBB) Management
Admit
- Medical team
- Initiate Med Behavior Bed or PBMU Eating Disorder orders
- Provide family with Restoring Nutrition-Refeeding (PE643) Vitals
- Vitals q 4 hours
- Cardiorespiratory monitoring per GOC: Eating Disorders and Refeeding (for SCH only)

Activity and Nursing
- Per patient recovery level, see GOC: Eating Disorders and Refeeding (for SCH only)
- Refeeding
- Continue calorie level from medical admission
- If new patient, initiate refeeding protocol at 1200 kcal per day until assessed by Dietitian
- Correct electrolytes at same time/prior to refeeding
- Proceed with NG tube placement with FIRST incomplete meal, snack, or water AND incomplete oral supplement

Labs
- On admit check electrolytes/BUN/creatinine/Phos/Mg/Ca/ALT/CBC/TSH/UA/urine preg / EKG (if not already done)
- Check electrolytes, Ca, Mg, Phos daily for ** refeeding day 1-5 then Mon/Thurs

** Refeeding day #1 – 24 hours after completion of 100% prescribed nutrition

Consults (to facilitate consistent messaging)
- Consult Adolescent Medicine, Dietitian, Psychiatry C&L within 24 hours (if not already done)
- Family Care Conference Monday or Thursday

Education
- Orientation to PBMU
- Provide family with info about Meal Support Classes
- Total length of hospital stay to be determined by interdisciplinary team. Average length of stay 2-3 weeks for safe refeeding.

Criteria for Admit to PBMU Eating Disorder Program
- Insurance pre-authorization (often laces days)
- Less than 80% treatment goal weight
- Severity of disorder/malnutrition makes outpatient success unlikely
- Unable to complete meals and snacks without oral supplement
- Reliance on feeding tube
- Patient/family request and consent to 3-6 weeks length of stay

To PBMU Phase

Discharge Criteria
- Resolution of physiologic instability (daytime HR >50 (required) and nighttime HR=45 (recommended), EKG changes, symptomatic orthostasis
- All electrolyte abnormalities corrected (no longer on supplements)
- Low risk for refeeding syndrome (highest risk in first 2 weeks of refeeding)
- Eating all prescribed nutrition in the form of solid food (recommended)
- Complete education and care coordination

Discharge Instructions
- Follow-up in 1 week with Adolescent Medicine Provider (or PCP weekly until available)
- Follow-up in 2 weeks with Dietitian (prefer eating disorder or adolescent expertise)

Criteria for Admit to MBB
- Medical team
- Initiate Med Behavior Bed or PBMU Eating Disorder orders
- Provide family with Restoring Nutrition-Refeeding (PE643) Vitals
- Vitals q 4 hours
- Cardiorespiratory monitoring per GOC: Eating Disorders and Refeeding (for SCH only)

Activity and Nursing
- Per patient recovery level, see GOC: Eating Disorders and Refeeding (for SCH only)
- Refeeding
- Continue calorie level from medical admission
- If new patient, initiate refeeding protocol at 1200 kcal per day until assessed by Dietitian
- Correct electrolytes at same time/prior to refeeding
- Proceed with NG tube placement with FIRST incomplete meal, snack, or water AND incomplete oral supplement

Labs
- On admit check electrolytes/BUN/creatinine/Phos/Mg/Ca/ALT/CBC/TSH/UA/urine preg / EKG (if not already done)
- Check electrolytes, Ca, Mg, Phos daily for ** refeeding day 1-5 then Mon/Thurs

** Refeeding day #1 – 24 hours after completion of 100% prescribed nutrition

Consults (to facilitate consistent messaging)
- Consult Adolescent Medicine, Dietitian, Psychiatry C&L within 24 hours (if not already done)
- Family Care Conference Monday or Thursday

Education
- Orientation to PBMU
- Provide family with info about Meal Support Classes
- Total length of hospital stay to be determined by interdisciplinary team. Average length of stay 2-3 weeks for safe refeeding.

Criteria for Admit to PBMU Eating Disorder Program
- Insurance pre-authorization (often laces days)
- Less than 80% treatment goal weight
- Severity of disorder/malnutrition makes outpatient success unlikely
- Unable to complete meals and snacks without oral supplement
- Reliance on feeding tube
- Patient/family request and consent to 3-6 weeks length of stay

To PBMU Phase

Discharge Criteria
- Resolution of physiologic instability (daytime HR >50 (required) and nighttime HR=45 (recommended), EKG changes, symptomatic orthostasis
- All electrolyte abnormalities corrected (no longer on supplements)
- Low risk for refeeding syndrome (highest risk in first 2 weeks of refeeding)
- Eating all prescribed nutrition in the form of solid food (recommended)
- Complete education and care coordination

Discharge Instructions
- Follow-up in 1 week with Adolescent Medicine Provider (or PCP weekly until available)
- Follow-up in 2 weeks with Dietitian (prefer eating disorder or adolescent expertise)
Criteria for Admit to PBMU Eating Disorder Program

- Insurance pre-authorization (often takes days)
- Less than 80% treatment goal weight
- Severity of disorder/malnutrition makes outpatient success unlikely
- Unable to complete meals and snacks without oral supplement
- Reliance on feeding tube
- Patient/family request and consent to 3-6 weeks length of stay

Discharge

- Home

Discharge Instructions

- Follow-up with mental health therapist within 2 weeks
- Follow-up in 1 week with Adolescent Medicine Provider (or PCP weekly until available)
- Follow-up in 2 weeks with dietitian (prefer eating disorder or adolescent expertise)

Discharge Criteria

- Resolution of imminent safety risks
- Achieved medical stabilization
- Eating all prescribed nutrition in the form of solid food
- Ability for less restrictive treatments to be safe options
- May be triggered by insurance and utilization reviews
- Complete education and care coordination

Inclusion Criteria

- 5-18 years (if ≥ 18, call Psych Leader on Call)
- Concern for eating disorder*
- Insurance preauthorization

Exclusion Criteria

- ≥18 years and out of high school

Eating Disorders Include:

- Anorexia nervosa
- Avoidant restrictive food intake disorder
- Eating disorder unspecified
- Bulimia nervosa

*Eating Disorders Include:

- Anorexia nervosa
- Avoidant restrictive food intake disorder
- Eating disorder unspecified
- Bulimia nervosa

Admit to PBMU Eating Disorder Program

Admit

- Psychiatry team
- Initiate Eating Disorder Med Behavior Bed or PBMU orders
- Change recovery level to match clinical status, see GOC: Eating Disorders and Refeeding (for SCH only)
- Medical (HR<50 bpm) or psych bed

Vitals

- Vitals q 4 hours
- Cardiorespiratory monitoring per GOC: Eating Disorders and Refeeding (for SCH only)

Activity and Nursing

- Per patient recovery level, see GOC: Eating Disorders and Refeeding (for SCH only)

Refeeding

- Continue calorie level from medical admission
- If new patient, initiate refeeding protocol at 1200 kcal per day until assessed by Dietitian
- Correct electrolytes at same time/prior to refeeding
- Proceed with NG tube placement with FIRST incomplete meal, snack, or water AND incomplete oral supplement

Labs

- On admit check electrolytes/BUN/creatinine/Phos/Mg/Ca/ALT/CBC/TSH/UA/urine preg / EKG (if not already done)
- Check electrolytes, Ca, Mg, Phos daily for **refeeding day 1-5 then Mon/Thurs

** Refeeding day #1 = 24 hours after completion of 100% prescribed nutrition

Consults (to facilitate consistent messaging)

- Consult Adolescent Medicine, Dietitian

Education

- Orientation to PBMU
- Provide family with Restoring Nutrition-Refeeding (PE643)
- Provide family with info about Meal Support Classes
- Total length of hospital stay to be determined by psychiatry team. Average length of stay 3-6 weeks.

For questions concerning this pathway, contact: EatingDisorderRefeeding@seattlechildrens.org
© 2018 Seattle Children's Hospital, all rights reserved, Medical Disclaimer

Last Updated: May 2018
Next Expected Review: April 2022
Eating Disorder – Refeeding v2.2
Adolescent Clinic (ADO) Direct Admit

Inclusion Criteria
- 5-18 years (if ≥ 18, consider consent issues that may preclude admission)
- Concern for eating disorder
- Medically unstable (see Admit Criteria)

Exclusion Criteria
- ≥18 years with refusal to consent to refeeding
- Other diagnosis resulting in severe malnutrition that is NOT an eating disorder (e.g., cystic fibrosis, inflammatory bowel disease)

Information needed for direct admit
- Patient Name, MRN, DOB
- Group Health Insurance?
- Allegro Peds or Sea Mar for primary care?
- HPI/Reason for Direct Admit
- Medications/Compliance
- Allergies
- Other PMH
- Vital Signs
- Mode of transportation to SCH
- Have/will you notify Adolescent Medicine Consult Team of admission?

Assess Need for Emergency Department Evaluation
- Dehydration requiring fluid resuscitation
- Electrolyte disturbance (hypokalemia, hyponatremia, hypophosphatemia)
- EKG abnormalities (e.g. prolonged QTc males>450ms/ females>470ms or severe bradycardia)
- Physiologic instability
- Cardiac failure
- Hypotension MAP <87
- Symptomatic orthostatic changes/fall risk
- Syncope
- Infractions likely to require immediate intervention: mental status change (including altered mental status (AMS), delirium, seizures), respiratory distress (tachypnea, bradypnea, hypoxia), acute cardiac dysfunction (e.g. severe bradycardia, cardiac arrest), severe electrolyte disturbance (e.g. hypokalemia, hyponatremia, hypophosphatemia), hypotension (MAP <87 mmHg), or severe acid-base disturbance (e.g. hypercapnia, metabolic acidosis)

Direct Admit to Medical Unit
- Obtain approval from chief resident on call and send them the information needed via message center
- Inform patient about direct admission and advise that there will be a wait before a bed is ready
- Provide family with Restoring Nutrition-Refeeding (PE643)
- Instruct patient/family to wait in ADO waiting room; if there is no parent/caregiver keep in exam room
- Informed patient/family to check-in at the River entrance security desk at the designated check-in time; if the wait will be prolonged, location of waiting is per provider discretion
- Advise families that they may be waiting in their room for up to 2 hours before they are seen by a provider
- Dictate the clinic note STAT (#9 at the end of the dictation)
- Notify Adolescent Medicine Consult Team
- Give patient Boost Plus to drink before leaving the clinic

Admit Criteria
One or more of the following:
- Electrolyte disturbance (e.g. hypokalemia, hyponatremia, hypophosphatemia)
- EKG abnormalities (e.g. prolonged QTc males>450ms/ females>470ms or severe bradycardia)
- Physiologic instability unresolved after management in ED
- Severe bradycardia (HR<50 BPM; duration <45 BPM at night)
- Hypotension MAP <87
- Hypothermia (Temp <96F or 35.6C)
- Symptomatic orthostasis (systolic BP decrease >20mmHg systolic, or diastolic BP decrease >10mmHg)
- Acute medical complications of malnutrition (e.g. syncope, seizures, cardiac failure, pancreatitis)

To Qualify for Direct Admission
Meets admission criteria (above) for hospitalization AND ALL of below:
1. Patient has been seen by a provider and has vital signs checked in the last 24 hours. NOTE: ≤24hrs since last visit but all other criteria met, can discuss with Pediatric Chief Resident if rapid visual assessment/vital signs in ED, without full ED visit appropriate.
2. Patient could safely wait on the floor for up to 2 hours before being seen by a medical provider or having orders placed.
3. In the past 48hrs, patient has had labs and EKG and there are no concerns OR patient has not yet had labs or EKG but results are not expected to require immediate intervention.

Medical Unit High Risk Criteria
1. High risk for refeeding syndrome (adapted from NICE guidelines)
   A. Patient has at least one of the following:
      - BMI z-score ≤ -3
      - Weight loss ≥ 10% usual body weight in last 3-6 months
      - Little or no nutritional intake for ≥10 days
      - Low levels of potassium, phosphate, magnesium before feeding
   B. Patient has two or more of the following:
      - BMI z-score ≤ -3
      - Weight loss ≥ 7.5% usual body weight in last 3-6 months
      - Little or no nutritional intake for ≥5 days
   2. BMI < 70% nBMI
   3. Abnormal EKG other than sinus bradycardia requires telemetry bed
   4. Acute medical complications of malnutrition (e.g. syncope, seizures, cardiac failure, pancreatitis, severe electrolyte disturbance)
   5. Clinical concern for medical acuity that requires higher level of medical monitoring

For questions concerning this pathway, contact: EatingDisorderRefeeding@seattlechildrens.org
© 2018 Seattle Children’s Hospital, all rights reserved, Medical Disclaimer
Last Updated: May 2018
Next Expected Review: April 2022
### Hypotension MAP

<table>
<thead>
<tr>
<th>AGE</th>
<th>MAP ≤5% for age</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;4-6 years</td>
<td>≤ 51</td>
</tr>
<tr>
<td>&gt;6-10 years</td>
<td>≤ 54</td>
</tr>
<tr>
<td>&gt;10-13 years</td>
<td>≤ 55</td>
</tr>
<tr>
<td>&gt;13 years</td>
<td>≤ 57</td>
</tr>
</tbody>
</table>
What is refeeding syndrome (RFS)?

- A potentially life-threatening complication in the first 2-3 weeks of refeeding; patients may appear deceptively well.
- Body cannot tolerate the amount of nutrition consumed.
- Hallmark is hypophosphatemia: occurs when carbohydrates trigger release of insulin; insulin drives phosphate and other electrolytes into depleted cells.
- Risk of RFS present in most patients with severe malnutrition.
- Highest risk if very low body weight, rapid weight loss, minimal intake over past 5-10 days regardless of body weight, and electrolyte abnormality prior to refeeding (replete electrolytes at same time or prior to refeeding).

How to obtain BMI and Z-Score:

1. Select Growth Chart from the menu.

2. Click the Enter New button that appears to view a drop-down menu.

3. Select Measurement from the drop-down.

4. In the Pediatric Growth Chart dialog box that appears, enter the patient’s Measured Weight and Height.

5. Under CDC/WHO Growth Charts, select BMI.

6. On the CDC Body Mass Index (BMI) table, click on the dot.

7. A Periodic Data Point dialog box appears with the BMI, Percentile, and Z-score included. Record this information (to be used in ADO consult).

Once the BMI has been obtained, use the instructions on the %mBMI tab to view the %mBMI.
Once the BMI has been obtained, the %mBMI can be viewed by doing the following:

1. In the Patient Summary view of mPage, on the left side of the page, click on the Clinical Pathways: Eating Disorder – Refeeding (ED) line.

2. The % of Median BMI and Median BMI will appear at the top of the CSW Pathway Summary Tool popup that appears.
Enter where patient should be admitted in the Clinical Summary field:
- PBMU Medical Behavioral Bed
- Medical Unit

Recommended language: “Place patient on <location> for Eating Disorder.”
Family Care Conferences for Medical Patients on Refeeding Protocol

**Goal:** To improve family engagement and satisfaction by addressing their concerns and aligning treatment expectations

**Attendees:** Conferences designed to be led by a team member from the primary General Medical service, in addition to specialty consultants from Psychiatry, Nutrition, Adolescent Medicine

**Suggested Format:**
- Introductions and brief description of clinical roles of team members
- Elicit parental concerns & questions (which may be answered below; if not address at end)
- Review reason for admission, current status, and hospitalization roadmap utilizing Restoring Nutrition – Refeeding PE643 Document
- Update & establish plan of care from each discipline:
  - **Psychiatry:** Discuss diagnostic conceptualization, comorbidities, and currently recommended treatments (FBT, residential, etc)
    - Discuss importance of familial participation during stay: Parent Meal Support Class, PsychoEd Modules, practicing meal support, +/- PBMU Parent Discussion Groups
  - **Ado Med:** Discuss medical risks of starvation, refeeding approach, potential complications and monitoring
  - **Nutrition:** Discuss nutritional needs and refeeding plan
  - **Gen Med:** Address parental concerns & questions if not yet answered; identify discharge goals and potential barriers;
- Review disposition planning needs (if indicated)
- Further Questions? (may need to followup after conference)
Inpatient Discharge Criteria and Follow-Up
From Medical Floor or Medical-Behavioral Bed

Discharge Criteria

- Resolution of physiologic instability (daytime bradycardia HR > 50 (required) and night-time HR > 45 (recommended), EKG changes, symptomatic orthostasis)
- All electrolyte abnormalities corrected (no longer on supplements)
- Low risk for refeeding syndrome (highest risk first 2 weeks of refeeding)
- Eating all prescribed nutrition in the form of solid food (recommended)

All appointments scheduled below:

- Schedule new visit or follow-up visit with Adolescent Medicine Provider within one week of discharge (if appt unavailable follow-up with PCP weekly until seen by Adolescent Medicine)
- Schedule new visit or follow-up visit with Adolescent Dietitian within 2 weeks of discharge
- Schedule new visit for follow-up visit with eating disorder mental health specialists as soon as possible

Education

- Complete hospitalization discharge checklist prior to discharge:
  - Nutrition Education Session 1 and 2
  - Psychiatric Education (Psych team)
  - Medical Complications Education (Adolescent Medicine team)
  - Parents must attend Meal Support Class and provide meal support for at least 2 meals/ snacks
Approved by the CSW Eating Disorder – Refeeding team for April 12, 2017 go live.

CSW Eating Disorder - Refeeding Team:

**Adolescent Medicine, Owner**
Taraneh Shafii, MD, MPH

**Psychiatry, Co-Owner:**
Ian Kodish, MD, PhD

**Dietitian:**
Laura Hooper, MS, RD, CD

**Clinical Nurse Specialist:**
Sarah Caufield, BSN, RN-BC
Maureen O’Brien, MHA, BSN, RN-BC
Anjanette Allard, MN, RN, CPN

**Clinical Effectiveness Team:**

**Consultant:**
Claudia Crowell, MD
Jennifer Hrachovec, PharmD, MPH

**Project Manager:**
Dawn Hoffer, SAPM

**CE Analyst:**
Susan Stanford

**CIS Informatician:**
Carlos Villavicencio, MD, MMI

**CIS Analyst:**
Heather Marshall

**Librarian:**
Sue Groshong, MLIS

**Program Coordinator:**
Kristyn Simmons

**Executive Approval:**

**Sr. VP, Chief Medical Officer**
Mark Del Beccaro, MD

**Sr. VP, Chief Nursing Officer**
Madlyn Murrey, RN, MN

**Surgeon-in-Chief**
Bob Sawin, MD


**Please cite as:**
This pathway was developed through local consensus based on published evidence and expert opinion as part of Clinical Standard Work at Seattle Children’s. Pathway teams include representatives from Medical, Subspecialty, and/or Surgical Services, Nursing, Pharmacy, Clinical Effectiveness, and other services as appropriate.

When possible, we used the GRADE method of rating evidence quality. Evidence is first assessed as to whether it is from randomized trial or cohort studies. The rating is then adjusted in the following manner (from: Guyatt G et al. J Clin Epidemiol. 2011;4:383-94.):

Quality ratings are *downgraded* if studies:
- Have serious limitations
- Have inconsistent results
- If evidence does not directly address clinical questions
- If estimates are imprecise OR
- If it is felt that there is substantial publication bias

Quality ratings are *upgraded* if it is felt that:
- The effect size is large
- If studies are designed in a way that confounding would likely underreport the magnitude of the effect OR
- If a dose-response gradient is evident

Guideline – Recommendation is from a published guideline that used methodology deemed acceptable by the team.

Expert Opinion – Our expert opinion is based on available evidence that does not meet GRADE criteria (for example, case-control studies).

**Quality of Evidence:**
- ★★★★★ High quality
- ★★★★☆ Moderate quality
- ★★★☆☆ Low quality
- ★★☆☆☆ Very low quality

Guideline
Expert Opinion
Summary of Version Changes

**Version 1.0 (4/12/2017):** Go live

**Version 2.0 (5/24/2017):** Clarified Admit Criteria and High Risk Criteria; added Refeeding Syndrome definition; added Family Care Conference description; added instruction on how to view %mBMI

**Version 2.1 (9/20/2017):** Added action for PMHS2/ED2 to provide Restoring Nutrition (PE643) handout to patient and answer questions prior to leaving the ED. Contact information and backup resources also provided.

**Version 2.2 (5/30/2018):** Refined Admit Criteria
Medical Disclaimer

Medicine is an ever-changing science. As new research and clinical experience broaden our knowledge, changes in treatment and drug therapy are required.

The authors have checked with sources believed to be reliable in their efforts to provide information that is complete and generally in accord with the standards accepted at the time of publication.

However, in view of the possibility of human error or changes in medical sciences, neither the authors nor Seattle Children’s Healthcare System nor any other party who has been involved in the preparation or publication of this work warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such information.

Readers should confirm the information contained herein with other sources and are encouraged to consult with their health care provider before making any health care decision.
Literature Search Strategy

Studies were identified by searching electronic databases using search strategies developed and executed by a medical librarian, Susan Groshong. An initial search was performed in March and April, 2015. The following databases were searched—on the Ovid platform: Medline, PsycINFO and Cochrane Database of Systematic Reviews; elsewhere: Embase, CINAHL, Clinical Evidence, National Guideline Clearinghouse, TRIP and Cincinnati Children’s Evidence-Based Recommendations. In Medline, Embase, CINAHL and PsycINFO, appropriate subject headings were used along with text words and the search strategy was adapted for other databases using text words. Concepts searched were eating disorders, anorexia nervosa and female athlete triad syndrome. An additional search was conducted in June, 2016, using the same databases listed above except Clinical Evidence and with the addition of Nursing+ and Registered Nurses’ Association of Ontario Best Practice Guidelines. Previously searched concepts were limited to March, 2015 to current. Newly selected concepts, bulimia nervosa, feeding and eating disorders of childhood and avoidant/restrictive food intake disorder (ARFID), were searched from 2006 to current. Retrieval from all searches was limited to humans, English language and certain evidence categories, such as relevant publication types, index terms for study types and other similar limits. Additional articles were identified by team members and added to the results.

Susan Groshong, MLIS
March 29, 2017

Identification

655 records identified through database searching

10 additional records identified through other sources

Screening

670 records after duplicates removed

670 records screened

515 records excluded

Eligibility

144 records assessed for eligibility

118 full-text articles excluded,
2 did not answer clinical question
112 did not meet quality threshold
4 outdated relative to other included study

Included

26 studies included in pathway

Flow diagram adapted from Moher D et al. BMJ 2009;339:bmj.b2535


Bibliography


