Management of Failure to Thrive
Evidence-Informed Pathway

**Outpatient Evaluation**

Medically stable? (NO hypothermia, bradycardia, hypotension) or dehydration?

- **Yes**
  - Off Algorithm
  - ED evaluation and management

- **No**
  - Does the patient meet ≥1 FTT criteria?*
    - **No**
      - Not Failure to Thrive
      - Manage as appropriate for symptoms, conditions and diagnosis
    - **Yes**
      - Outpatient Management
      - PCP follow up within 72 hours
      - Consider referral to Dietitian, OT (for feeding), Speech Therapy (for swallowing) and Lactation (if breastfeeding)

- **Fail Outpatient Management?**
  - **Yes**
    - Continue to manage as appropriate in the outpatient setting
  - **No**
    - Admit
      - Perform FTT specific Admission H&P (use Epic template; include HELP social history)
      - Order set: "IP FTT Admission"
      - Consult social work with full psychosocial assessment
      - If concern for child abuse: non-accidental trauma workup, report to child protective services and Child Protection Team consult
      - Consult dietitian
      - Consult OT if there are concerns about feeding technique and/or oral-motor function
      - Consult Speech as needed for swallow evaluations
      - Consult lactation if breastfeeding

- **Pathologic / Organic condition requiring intervention ruled out?**
  - **Yes**
    - Manage as appropriate for condition or diagnosis
  - **No**
    - Fail to Moderate Malnutrition AND psychosocial assessment with no concerns?*
      - **Yes**
        - Assess for discharge readiness#
      - **No**
        - Manage as appropriate for condition or diagnosis

- **Outside of scope: Individualized management**

**Inclusion/Exclusion Criteria**
- Inclusion criteria: children < 24 months of age admitted to the hospital with suspected failure to thrive (FTT)
- Exclusion criteria: children > 24 months of age, children with a known medical disorder which can cause growth delay, previous inpatient admission for FTT

**Failure to Thrive criteria (meet one or more)***
- Weight for age < 5% on a standard WHO growth chart 0-24 months
- Weight for length < 5% (0-24 months) on WHO growth chart
- Deceleration of growth velocity across two major percentile lines and/or decrease of more than 2 standard deviations on a WHO growth chart over a period of 3 to 6 months

**Meets HIGHER criteria?**
- **Yes**
  - Inclusion/Exclusion Criteria
  - Discharge Criteria#
    - Patient medically stable with a appropriate fluid/caloric intake and stable/improved weight
    - Labs/imaging/consults recommendations appropriate for outpatient management
    - Caregiver interaction and care appropriate or concerns adequately addressed
    - Caregiver demonstrates understanding of nutrition recommendations and growth expectations and understands discharge plan / education
    - Discharge Home: PCP follow up within 1-3 days with appointment scheduled prior to discharge
  - **No**
    - Out of scope: Individualized management

**Discharge Criteria#**
- **Yes**
  - Discharged Home: PCP follow up within 1-3 days with appointment scheduled prior to discharge
  - **No**
    - Continue to manage as appropriate in the outpatient setting

**Outside of scope: Individualized management**
**Critical Points of Evidence**

**Evidence Supports**
- A multidisciplinary team consisting of social work, case management, occupational therapy, lactation consultants (if breastfed), and registered dietitians should be involved with all pediatric failure to thrive admissions.\(^{(1-4)}\) – Strong recommendation, very low quality evidence
- Providers should consider obtaining an upper GI or endoscopy in children admitted with FTT and vomiting.\(^{(3-7)}\) – Weak recommendation, very low quality evidence
- Providers should consider a screening metabolic profile with magnesium and phosphorus with appropriate follow-up monitoring for patients with severe failure to thrive and malnutrition to identify refeeding syndrome. Uncomplicated pediatric patients with failure to thrive have a low risk of refeeding syndrome.\(^{(8,9)}\) – Weak recommendation, very low quality evidence

**Evidence Against**
- Providers should not obtain screening labs and imaging in children with FTT without specific indication identified on history and physical exam as it does not change the diagnosis or management in these patients.\(^{(3-7)}\) – Strong recommendation, very low quality evidence

*NOTE: The references cited represent the entire body of evidence reviewed to make each recommendation.*

**References**
Clinical Standards Preparation
This pathway was adapted from clinical standards at Nationwide Children’s Hospital as part of the Pediatric Initiative for Clinical Standards (PICS) Collaborative. Development of this clinical standard supports the TCH Quality and Patient Safety Program initiative to promote clinical standards and outcomes that build a culture of quality and safety within the organization.

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No relevant financial or intellectual conflicts to report.

Development Process
This clinical standard was developed using the process outlined in the EBOC Manual. The literature appraisal documents the following steps:

1. Review Preparation
   - PICO questions established
   - Evidence search confirmed with content experts
2. Review of Existing External Guidelines
3. Literature Review of Relevant Evidence
   - Searched: PubMed, Cochrane Library
4. Critically Analyze the Evidence
   - 1 randomized controlled trial and 4 nonrandomized studies
5. Summarize the Evidence
   - Materials used in the development of the clinical standard, literature appraisal, and any order sets are maintained in a Failure to Thrive evidence-based review manual within EBOC.

Evaluating the Quality of the Evidence
Published clinical guidelines were evaluated for this review using the AGREE II criteria. The summary of these guidelines are included in the literature appraisal. AGREE II criteria evaluate Guideline Scope and Purpose, Stakeholder Involvement, Rigor of Development, Clarity and Presentation, Applicability, and Editorial Independence using a 4-point Likert scale. The higher the score, the more comprehensive the guideline.

This clinical standard specifically summarizes the evidence in support of or against specific interventions and identifies where evidence is lacking/inconclusive. The following categories describe how research findings provide support for treatment interventions.

“Evidence Supports” provides evidence to support an intervention
“Evidence Against” provides evidence against an intervention.
“Evidence Lacking/Inconclusive” indicates there is insufficient evidence to support or refute an intervention and no conclusion can be drawn from the evidence.

The GRADE criteria were utilized to evaluate the body of evidence used to make practice recommendations. The table below defines how the quality of the evidence is rated and how a strong versus weak recommendation is established. The literature appraisal reflects the critical points of evidence.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Quality</th>
<th>Type of Evidence</th>
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<tbody>
<tr>
<td>STRONG</td>
<td>Desirable effects clearly outweigh undesirable effects or vice versa</td>
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<tr>
<td>WEAK</td>
<td>Desirable effects closely balanced with undesirable effects</td>
<td></td>
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<tr>
<td>High</td>
<td>Consistent evidence from well-performed RCTs or exceptionally strong evidence from unbiased observational studies</td>
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<tr>
<td>Moderate</td>
<td>Evidence from RCTs with important limitations (e.g., inconsistent results, methodological flaws, indirect evidence, or imprecise results) or unusually strong evidence from unbiased observational studies</td>
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<tr>
<td>Low</td>
<td>Evidence for at least 1 critical outcome from observational studies, RCTs with serious flaws or indirect evidence</td>
<td></td>
</tr>
<tr>
<td>Very Low</td>
<td>Evidence for at least 1 critical outcome from unsystematic clinical observations or very indirect evidence</td>
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Recommendations
Practice recommendations were directed by the existing evidence and consensus amongst the content experts. Patient and family preferences were included when possible. The Content Expert Team and EBOC team remain aware of the controversies in the diagnosis/management of failure to thrive in children. When evidence is lacking, options in care are provided in the clinical standard and the accompanying order sets (if applicable).

Approval Process
Clinical standards are reviewed and approved by hospital committees as deemed appropriate for its intended use. Clinical standards are reviewed as necessary within EBOC at Texas Children’s Hospital. Content Expert Teams are involved with every review and update.

Disclaimer
Practice recommendations are based upon the evidence available at the time the clinical standard was developed. Clinical standards (guidelines, summaries, or pathways) do not set out the standard of care and are not intended to be used to dictate a course of care. Each physician/practitioner must use his or her independent judgment in the management of any specific patient and is responsible, in consultation with the patient and/or the patient’s family, to make the ultimate judgment regarding care.

Version History

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<th>Date</th>
<th>Comments</th>
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