The Adult Failure to Thrive Syndrome
A Presentation By:
Tammie Rogers, M.D., Medical Director
Lion Hospice, Hurst, Texas
A. Failure to Thrive – Definition

1. A state of decline in some elderly patients that is multifactor.
   a. Patient eventually undergoes a process of functional decline, progressive apathy, and a loss of willingness to eat and drink that culminates in death.
   b. Should not be considered a normal consequence of aging.

2. Institute of Medicine’s definition: A syndrome manifested by:
   a. Weight loss of greater than 5% of baseline
   b. Decreased appetite
   c. Poor nutrition
   d. Inactivity
   e. Dehydration
   f. Depressive symptoms
   g. Impaired immune function
   h. Low cholesterol levels

3. Associated with:
   a. Increased infection rates
   b. Diminished cell-mediated immunity
   c. Hip fractures
   d. Decubitus ulcers
   e. Increased surgical mortality rates

4. Prevalence
   a. 5 to 35% of community-dwelling older adults
   b. 25 to 40% of nursing home residents
   c. In-hospital mortality rate in patients with Failure to Thrive – 15.9%

5. Initial Evaluation
   a. Four syndromes – prevalent and predictive of adverse outcomes in persons who may have Failure to Thrive:
      1. Impaired physical function
      2. Malnutrition
      3. Depression
      4. Cognitive impairment
B. Comprehensive Initial Assessment
1. Medical assessment
   a. Thorough history and physical examination
   b. Comprehensive review of medication (See Table 1)

TABLE 1
Medications Commonly Associated with Failure to Thrive in Elderly Patients

<table>
<thead>
<tr>
<th>Medication class</th>
<th>Possible effect</th>
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<tbody>
<tr>
<td>Anticholinergic drugs</td>
<td>Cognition changes, dysgeusia, dry mouth</td>
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<tr>
<td>Antiepileptic drugs</td>
<td>Cognition changes, anorexia</td>
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<tr>
<td>Benzodiazepines</td>
<td>Anorexia, depression, cognition changes</td>
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<tr>
<td>Beta blockers</td>
<td>Cognition changes, depression</td>
</tr>
<tr>
<td>Central alpha antagonists</td>
<td>Cognition changes, anorexia, depression</td>
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<tr>
<td>Diuretics (high-potency combinations)</td>
<td>Dehydration, electrolyte abnormalities</td>
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<tr>
<td>Glucocorticoids</td>
<td>Steroid myopathy, diabetes, osteoporosis</td>
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<tr>
<td>More than four prescription medications</td>
<td>Drug interactions, adverse effects</td>
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<tr>
<td>Neuroleptics</td>
<td>Anorexia, parkinsonism</td>
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<tr>
<td>Opioids</td>
<td>Anorexia, cognition changes</td>
</tr>
<tr>
<td>SSRIs</td>
<td>Anorexia</td>
</tr>
<tr>
<td>Tricyclic antidepressants</td>
<td>Dysgeusia, dry mouth, cognition changes</td>
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</tbody>
</table>

SSRI = selective serotonin reuptake inhibitors.

B. Comprehensive Initial Assessment
   1. Medical assessment
      c. Laboratory and diagnostic testing (See Table 2)

### TABLE 2
Evaluating Elderly Patients for Failure to Thrive

<table>
<thead>
<tr>
<th>Test</th>
<th>Target conditions</th>
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<tbody>
<tr>
<td>Blood culture</td>
<td>Infection</td>
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<tr>
<td>Chest radiography</td>
<td>Infection, malignancy</td>
</tr>
<tr>
<td>Complete blood count</td>
<td>Anemia, infection</td>
</tr>
<tr>
<td>Computed tomography, MRI</td>
<td>Malignancy, abscess</td>
</tr>
<tr>
<td>ESR, C-reactive protein levels</td>
<td>Inflammation</td>
</tr>
<tr>
<td>Growth hormone, testosterone (men)</td>
<td>Endocrine deficiency</td>
</tr>
<tr>
<td>HIV, RPR test</td>
<td>Infection</td>
</tr>
<tr>
<td>PPD</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>Serum albumin and cholesterol levels</td>
<td>Malnutrition</td>
</tr>
<tr>
<td>Serum BUN and creatinine levels</td>
<td>Dehydration, renal failure</td>
</tr>
<tr>
<td>Serum electrolyte levels</td>
<td>Electrolyte imbalance</td>
</tr>
<tr>
<td>Serum glucose level</td>
<td>Diabetes</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone level</td>
<td>Thyroid disease</td>
</tr>
<tr>
<td>Urinalysis</td>
<td>Infection, renal failure, dehydration</td>
</tr>
</tbody>
</table>

MRI = magnetic resonance imaging; ESR = erythrocyte sedimentation rate; HIV = human immunodeficiency virus; RPR = reactive plasma reagin; PPD = purified protein derivative; BUN = blood urea nitrogen. Adapted with permission from Verdery RB. Clinical evaluation of failure to thrive in older people. Clin Geriatr Med 1997;13:769-78.
B. Comprehensive Initial Assessment
   1. Medical assessment
      d. Screen for alcohol and substance abuse
      e. Nutritional assessment
      f. Common medical conditions associated with Failure to Thrive (See Table 3)

### TABLE 3
Common Medical Conditions Associated with Failure to Thrive in Elderly Patients

<table>
<thead>
<tr>
<th>Medical condition</th>
<th>Cause of failure to thrive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>Metastases, malnutrition, cancer cachexia</td>
</tr>
<tr>
<td>Chronic lung disease</td>
<td>Respiratory failure</td>
</tr>
<tr>
<td>Chronic renal insufficiency</td>
<td>Renal failure</td>
</tr>
<tr>
<td>Chronic steroid use</td>
<td>Steroid myopathy, diabetes, osteoporosis, vison loss</td>
</tr>
<tr>
<td>Cirrhosis, history of hepatitis</td>
<td>Hepatic failure</td>
</tr>
<tr>
<td>Depression, other psychiatric disorders</td>
<td>Major depression, psychosis, poor functional status, cognitive loss</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Malabsorption, poor glucose homeostasis, end-organ damage</td>
</tr>
<tr>
<td>Hip or other large-bone fracture</td>
<td>Functional impairment</td>
</tr>
<tr>
<td>Inflammatory bowel disease</td>
<td>Malabsorption, malnutrition</td>
</tr>
<tr>
<td>Myocardial infarction, congestive heart failure</td>
<td>Cardiac failure</td>
</tr>
<tr>
<td>Previous gastrointestinal surgery</td>
<td>Malabsorption, malnutrition</td>
</tr>
<tr>
<td>Recurrent urinary infections or pneumonia</td>
<td>Chronic infection, functional impairment</td>
</tr>
<tr>
<td>Rheumatologic disease (e.g., temporal arteritis, rheumatoid arthritis, lupus erythematosus)</td>
<td>Chronic inflammation</td>
</tr>
<tr>
<td>Stroke</td>
<td>Dysphagia, depression, cognitive loss, functional impairment</td>
</tr>
<tr>
<td>Tuberculosis, other systemic infection</td>
<td>Chronic infection</td>
</tr>
</tbody>
</table>

B. Comprehensive Initial Assessment, Continued

2. Functional assessment
   A. Documentation of a patient’s ability to perform ADL’s
      1. Katz ADL Scale
         Assesses a patient’s ability to perform six related functions:
         a. Bathing
         b. Dressing
         c. Toileting
         d. Transferring
         e. Continence
         f. Eating

   2. Lawton IADL scale
      Examine a patient’s ability in certain task:
      a. Telephone Use
      b. Shopping
      c. Transportation
      d. Budget management
      e. Adhering to medication regimens
      f. Cooking
      g. Housekeeping
      h. Laundry

   3. “Up and Go” test
      a. Performance on this test correlates with the patient’s functional mobility skills and ability to safely leave the house unattended.
      b. Test: The patient is asked to rise from a sitting position, walk 10 feet, turn, and return to the chair to sit.
      1. Test completion:
         a. <20 seconds=independent for basic transfers
         b. >30 seconds=more dependent and at higher risk for falls

B. Screen for specific neurological disorders
C. Screen for visual conditions
D. Screen for musculoskeletal disorders
E. Screen for podiatric problems
F. Screen for environmental obstacles
B. Comprehensive Initial Assessment, *Continued*

3. Cognitive (psychosocial function) assessment

   A. Gather information about patient’s:
      1. Social network
      2. Relationships
      3. Family support
      4. Living situation
      5. Financial resources
      6. Abuse and neglect
      7. Recent losses

   B. Cognitive assessment
      1. Mini-mental State Examination – screening tool (*See Table 4*)
      2. Cognition can be affected by:
         a. Delirium-induced effects of chronic illness
         b. Various medications
         c. Nutritional deficiency
# TABLE 4

The Mini-Mental State Exam

<table>
<thead>
<tr>
<th>Maximum</th>
<th>Score</th>
<th><strong>Orientation</strong></th>
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</thead>
<tbody>
<tr>
<td>5</td>
<td>(</td>
<td>What is the (year) (season) (day) (month)?</td>
</tr>
<tr>
<td>5</td>
<td>(</td>
<td>What are we (state) (country) (town) (hospital) (floor)?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Registration</th>
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<tr>
<td>3</td>
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<table>
<thead>
<tr>
<th><strong>Attention and Calculation</strong></th>
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<tbody>
<tr>
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<table>
<thead>
<tr>
<th><strong>Recall</strong></th>
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<td>3</td>
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<table>
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<tr>
<th><strong>Language</strong></th>
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<td>3</td>
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<td>1</td>
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</table>

Total Score: ________

ASSESS level of consciousness along a continuum ________

Alert  Drowsy  Stupor  Coma
B. Comprehensive Initial Assessment, Continued

4. Depression

   A. Symptoms: usually complain of physical problems
      (weight loss – common)
   B. Late in life 1st time depression is common in patient’s with
      significant chronic disease.
   C. Early screening is essential – a delay in diagnosis and treatment
      of depression may accelerate the decline associated with Failure to Thrive and
      increased morbidity and mortality.

       1. Geriatric Depression Scale (See Table 5)
       2. Cornell Scale for Depression in Dementia (See Table 6)
**TABLE 5**

*Geriatric Depression Scale (Short Form)*

For each question, choose the answer that best describes how you felt over the past week.

1. Are you basically satisfied with your life? Yes/NO
2. Have you dropped many of your activities and interests? YES/No
3. Do you feel that your life is empty? YES/No
4. Do you often get bored? YES/No
5. Are you in good spirits most of the time? Yes/NO
6. Are you afraid that something bad is going to happen to you? YES/No
7. Do you feel happy most of the time? Yes/NO
8. Do you often feel helpless? YES/No
9. Do you prefer to stay at home, rather than going out and doing new things? YES/No
10. Do you feel you have more problems with memory than most people? YES/No
11. Do you think it is wonderful to be alive now? Yes/NO
12. Do you feel pretty worthless the way you are now? YES/No
13. Do you feel full of energy? YES/No
14. Do you feel that your situation is hopeless? YES/No
15. Do you think that most people are better off than you are? YES/No

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**NOTE:** The scale is scored as follows: 1 point for each response in capital letters. A score of 0 to 5 is normal; a score above 5 suggests depression and warrants a follow-up interview; a score above 10 almost always indicates depression.

**Figure 1.** Geriatric depression scale (short form)

TABLE 6

NAME __________________ AGE _____ SEX _____ DATE ______

Cornell Scale for Depression in Dementia

Ratings should be based on symptoms and signs occurring during the week before interview. No score should be given if symptoms result from physical disability or illness.

SCORING SYSTEM

a = Unable to evaluate  0 = Absent  1 = Mild to Intermittent  2 = Severe

<table>
<thead>
<tr>
<th>Score greater than 12 = Probable Depression</th>
</tr>
</thead>
</table>

A. MOOD-RELATED SIGNS

1. Anxiety; anxious expression, ruminating, worrying
2. Sadness; sad expression, sad voice, tearfulness
3. Lack of reaction to pleasant events
4. Irritability; annoyed, short tempered

B. BEHAVIORAL DISTURBANCE

5. Agitation; restlessness, hand wringing, hair pulling
6. Retardation; slow movements, slow speech, slow reactions
7. Multiple physical complaints (score 0 if gastrointestinal symptoms only)
8. Loss of interest; less involved in usual activities (score 0 only if change occurred acutely, i.e., in less than one month)

C. PHYSICAL SIGNS

9. Appetite loss; eating less than usual
10. Weight loss (score 2 if greater than 5 pounds in one month)
11. Lack of energy; fatigues easily, unable to sustain activities

D. CYCLIC FUNCTIONS

12. Diurnal variation of mood; symptoms worse in the morning
13. Difficulty falling asleep; later than usual for this individual
14. Multiple awakenings during sleep
15. Early morning awakening; earlier than usual for this individual

E. IDEATIONAL DISTURBANCE

16. Suicidal; feels life is not worth living
17. Poor self-esteem; self-blame, self-deprecation, feelings of failure
18. Pessimism; anticipation of the worst
19. Mood congruent delusions; delusions of poverty, illness or loss

NOTES/CURRENT MEDICATIONS:

Score

ASSESSOR:

Instructions for use: (Cornell Dementia Depression Assessment Tool)

1. The same CNA (certified nursing assistant) should conduct the interview each time to assure consistency in the response.
2. The assessment should be based on the patient’s normal weekly routine.
3. If uncertain of answers, questioning other caregivers may further define the answer.
4. Answer all questions by placing a check in the column under the appropriately numbered answer (a=unable to evaluate, 0=absent, 1=mild to intermittent 2=severe).
5. Add the total score for all numbers checked for each question.
6. Place the total score in the “SCORE” box and record any subjective observation noted in the “Notes/Current Medications” section.
7. Scores totaling twelve (12) points or more indicate probable depression.
B. Comprehensive Initial Assessment, Continued

5. Malnutrition
   A. Independent predictor of mortality
   B. Most accurate evidence of malnutrition in an elderly patient:
      1. Hypocholesterolemia
      2. Hypoalbuminemia
   C. Dietary history
      1. Daily caloric intake
      2. The availability of food
      3. Use of nutritional or herbal supplements
      4. Adequacy of patient’s diet:
         a. Amount of food intake
         b. Number of meals
         c. Balance of nutrients
   D. Physical exam
      1. Body weight
      2. Weight trends
      3. Muscle wasting
   E. Laboratory data
      1. Serum albumin
      2. Cholesterol level
      3. Lymphocyte count
   F. The Mini Nutritional Assessment (See Table 7)
      1. Anthropometric measures
      2. Dietary history
   G. Assess for oral pathology
   H. Assess for ill-fitting dentures
   I. Assess for problems with speech or swallowing
   J. Assess for medication use that might cause anorexia or dysgeusia
   K. Assess for financial or social problems that may be contributing
to malnutrition
### Table 7

**Mini Nutritional Assessment (MNA®)**

<table>
<thead>
<tr>
<th>Last name</th>
<th>First name</th>
<th>Sex</th>
<th>Date</th>
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<tbody>
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Complete the screen by filling in the boxes with the appropriate numbers.

Add the numbers for the screen. If score is 13 or less, continue with the assessment to gain a Malnutrition Indicator Score.

#### Screening

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#### Body Mass Index (BMI) (weight in kg / height in m²)

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#### Screening score (normal max. 14 points)

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#### Assessment

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#### Malnutrition Indicator Score

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#### Notes

- **Screening score**: 12 points or greater Normal - no need to score assessment
- **Screening score**: 11 points or below Possible malnutrition - continue assessment
- **Assessment score (max. 10 points)**
- **Screening score**
- **Total Assessment (max. 20 points)**

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*Mini Nutritional Assessment (MNA®) is a registered trademark of the World Health Organization. The MNA® is used by permission of the World Health Organization.*

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*Screening score (max. 14 points)

Assessment score (max. 10 points)

**Malnutrition Indicator Score**

17 to 23 points: at risk of malnutrition

Less than 17 points: malnourished
Comprehensive Initial Assessment, Continued

C. Treatment
   1. Focus on identifiable diseases
   2. Interventions limited to those with few risks for the patients
      A. Potential benefits of treatment should be considered (use at end of patient’s life)
      B. Initially – modify possible causes
      C. Team approach
      D. Algorithmic Approach (See Table 8)

TABLE 8
Comprehensive Initial Assessment, Continued

C. Treatment
   2. Interventions limited to those with few risks for the patients
      E. Patients with all physical conditions – Resistive and strength testing
         Increased muscle strength
      F. High-intensity resistance exercise training counteracts muscle weakness and physical frailty in very elderly patients.
      G. Cognitive impairment
         1. Treat underlying condition and optimize the patient’s living conditions
            a. Alzheimer’s-type dementia – treat per current guidelines
      H. Adequate energy and protein intake
         1. Nutritional supplementation
            a. Administration between meals rather than with meals may be more effective in increasing energy consumption
         2. Palatability of meals
         3. Time of day of meals and location of meals
            (ex: Alzheimer’s patients eat more in the am)
         4. Medications may be helpful in prompting appetite
            a. Megace or Marinol
            b. Monitor for side effects
      I. Depression
         1. Antidepressants – mainstay of treatment +/- psychotherapy
            a. Selective serotonin reuptake inhibitors
            b. Tricyclic antidepressants
            c. Remeron