



MALNUTRITION QUALITY  
IMPROVEMENT INITIATIVE

Welcome to Today's  
Expert Webinar for the 2018 MQii Learning  
Collaborative:  
**Nutrition-Focused Physical Exam  
Mini-Session**

We will get started promptly at  
12:00PM ET  
(11:00AM CT; 10:00AM MT; 9:00AM PT)

*All phone lines have been muted*

The Malnutrition Quality Improvement Initiative (MQii) is a project of the Academy of Nutrition and Dietetics, Avalere Health, and other stakeholders who provided guidance and expertise through a collaborative partnership. Support provided by Abbott.

# Before We Get Started...

The screenshot displays the Cisco WebEx Meeting Center interface. At the top, the title bar reads "Cisco WebEx Meeting Center" with standard window controls. Below the title bar is a menu bar with "File", "Edit", "Share", "View", "Audio", "Participant", "Meeting", and "Help". A secondary bar contains "Quick Start", "Meeting Info", and a tab for "20170322 - M...".

The main content area features a large orange banner with the MQii logo and the text "MALNUTRITION QUALITY IMPROVEMENT INITIATIVE". Below the banner, a white slide reads: "Welcome to Today's Expert Webinar for the 2018 MQii Learning Collaborative: Nutrition-Focused Physical Exam Mini-Session". It also states: "We will get started promptly at 12:00PM ET (11:00AM CT; 10:00AM MT; 9:00AM PT) All phone lines have been muted".

On the right side, a "Participants" panel is open, showing a list of attendees: "Laura Fincher (Host, me)" and "Eleanor Fitall". A red box highlights the "Chat" icon in the top toolbar, with a red arrow pointing to it. Below the participants list, a "Recorder" panel is visible with the text "Select button to record on server" and a "Connected" status indicator.

# Before We Get Started...

The screenshot displays the Cisco WebEx Meeting Center interface. The main content area shows a slide with the MQii logo and the text: "Welcome to Today's Expert Webinar for the 2018 MQii Learning Collaborative: Nutrition-Focused Physical Exam Mini-Session". Below this, it states: "We will get started promptly at 12:00PM ET (11:00AM CT; 10:00AM MT; 9:00AM PT) All phone lines have been muted".

The right-hand side of the interface shows the "Participants" panel with "Laura Fincher (Host, me)" as the speaker. Below this is the "Chat" panel, which is highlighted with a red box and a large red arrow pointing down to the "Send to" dropdown menu. The "Send to" menu is currently set to "Everyone". Below the dropdown is a text input field with the placeholder text "Select a participant in the Send to menu first, type chat message, and send...".

The bottom of the interface shows the "Recorder" panel with a "Select button to record on server" option and a "Connected" status indicator.

# Today's Agenda

Agenda Item	Speaker
Session Introduction	Lori Granich from the Academy of Nutrition and Dietetics
Nutrition-Focused Physical Exam Mini-Session	Beth Mordarski from the Academy of Nutrition and Dietetics
<b><i>Questions – 5 mins</i></b>	

# Speaker Introductions



## **Session Introduction:**

Lori Granich, MBA, RDN  
*Director, Lifelong Learning and  
Engagement*  
Academy of Nutrition and Dietetics



## **Expert Speaker:**

Beth Mordarski, RDN, LD  
*NFPE Program Manager*  
Academy of Nutrition and  
Dietetics

# Learning Event:

# Nutrition-Focused Physical Exam

# Objectives

---

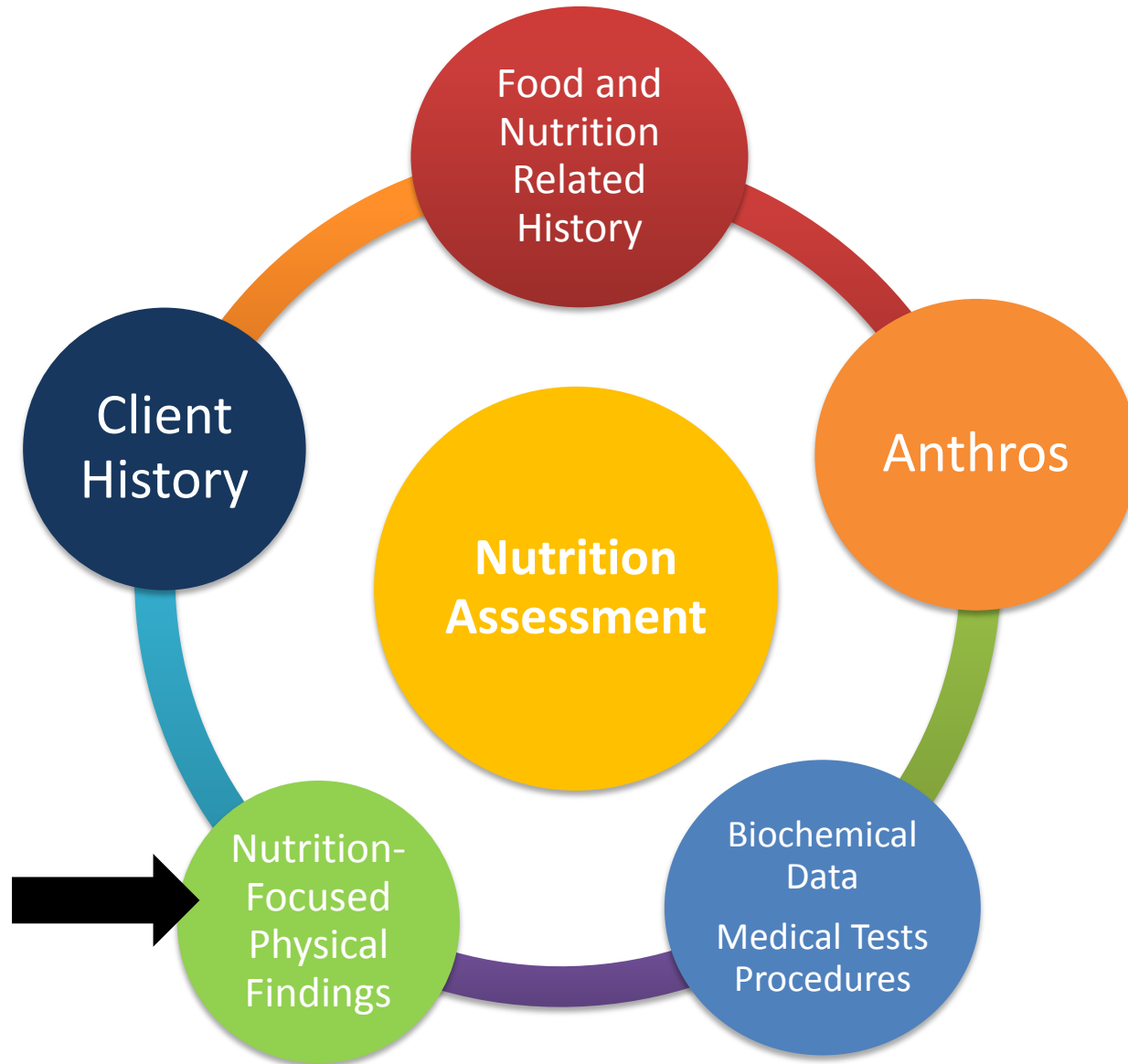
- Identify physical findings that may indicate malnutrition, including loss of subcutaneous fat, muscle wasting and the presence of nutrition related edema
- Recognize signs of common micronutrient deficiencies using nutrition focused physical exam of the hair, eyes, oral cavity, nails, and skin
- Incorporate best-practices for NFPE into everyday clinical practice

# Nutrition-Focused Physical Findings

---

*Findings from a nutrition-focused physical exam, interview, or the medical record including muscle and subcutaneous fat, oral health, suck/swallow/breathe ability, appetite, and affect.*





# Malnutrition Characteristics

## FROM THE ACADEMY

### Consensus Statement



Consensus Statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition)

Jane V. White, PhD, RD, FADA; Peggi Guenter, PhD, RN; Gordon Jensen, MD, PhD, FASPEN; Ainsley Malone, MS, RD, CNSC; Marsha Schofield, MS, RD; the Academy Malnutrition Work Group; the A.S.P.E.N. Malnutrition Task Force; and the A.S.P.E.N. Board of Directors

- Energy Intake
- Weight Loss
- *Fat Loss*
- *Muscle Loss*
- *Edema (Nutrition Related)*
- *Reduced Hand Grip Strength*

**Two criteria are needed to make the diagnosis of malnutrition**

- **Focused**
    - Specific system based on medical record review or interview
  - **Comprehensive**
    - Review of Systems: Head to toe
    - Organized sequence
-

# NFPE Techniques

---

- **Inspection**- visual observation
  - Appearance, movement, color, edema, affect
- **Palpation**- touch using fingertip pads
  - Assess texture, size, tenderness, temperature, edema
  - Light palpation – use fingertips and press 1-2 cm
  - Deep palpation – gently pressing 4cm
- **Percussion**- tapping fingers against body surface to listen for solids, liquids, gas
  - Define organ borders, shape, position, presence or absence of fluids
- **Auscultation**- listening to sounds that reflect movement of air or fluid through organs with stethoscope

# Getting Started

---

- **General Survey**

- Overall first impression of the patient
- Body habitus
- Affect
- Level of Consciousness
- Ability to communicate

- **Tools**

- Basic
  - Hands
  - Eyes
  - PPI, as needed
- Secondary
  - Penlight, Tongue Depressor, BP Cuff, Stethoscope, Reflex Hammer, Thermometer

# NFPE and Malnutrition

## Fat Loss

- Orbital
- Buccal
- Triceps
- Ribs

## Muscle Wasting

- Temporalis
- Pectoralis
- Deltoid
- Interosseous
- Trapezius, Supraspinatus, Infraspinatus
- Quadriceps
- Gastrocnemius

## Edema

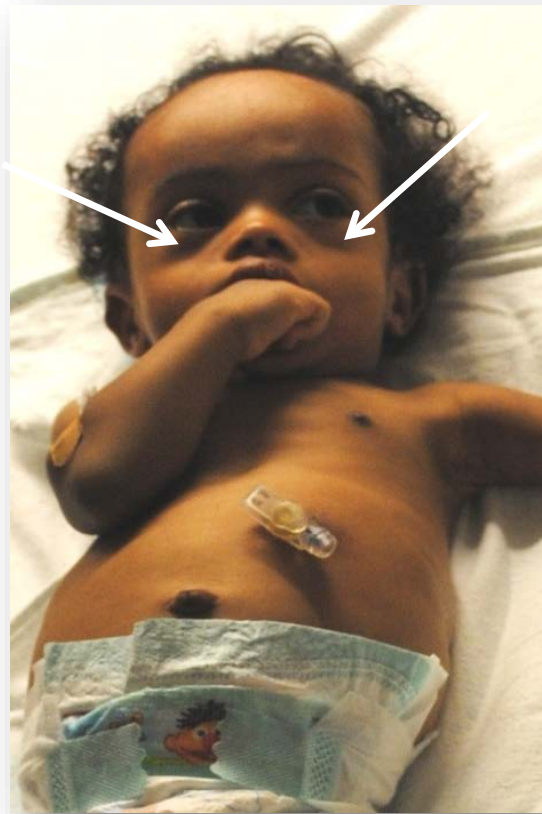
# NFPE and Malnutrition

---

## Fat Loss

- Orbital
- Buccal
- Triceps
- Ribs

# Orbital Fat Loss

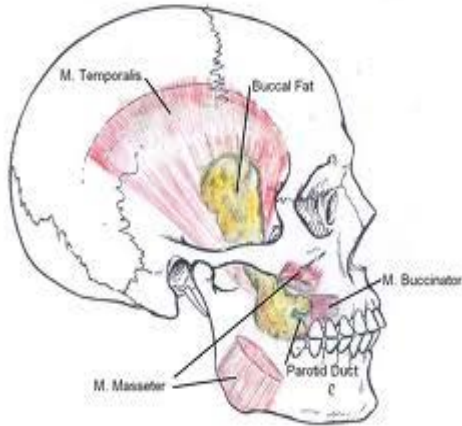


*Examine: Area under eye  
\*Pat lightly with finger tips*

- Well nourished → Slightly bulged fat pad
- Mild-Moderate → Slightly dark circles, somewhat hollow
- Severe → Hollow depressions, dark circles, loose skin



# Buccal Fat Loss

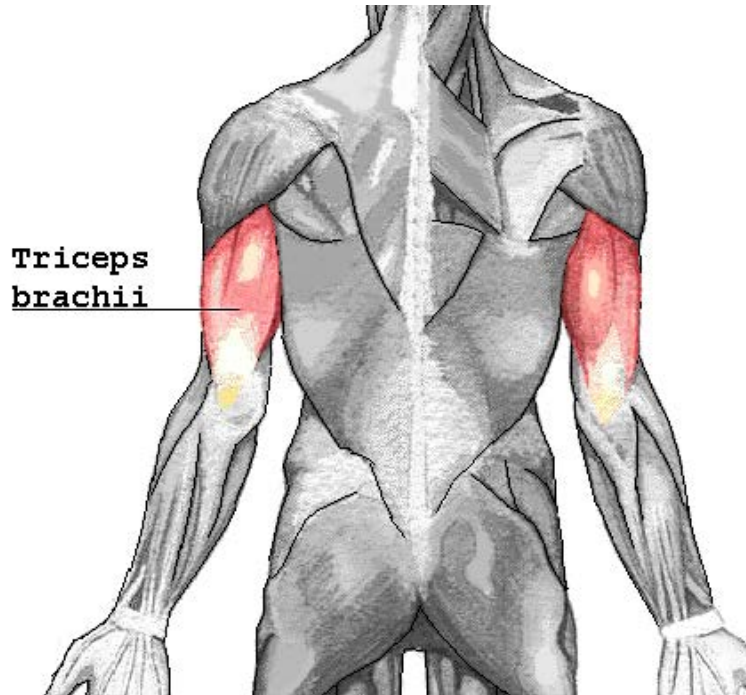


*Examine: Area under  
cheekbone*

*Landmark: Cheekbone*

- Well Nourished → Full round cheeks, filled out
- Mild-Moderate → Flat cheeks
- Severe → Hollow, narrow face

# Upper Body Fat Loss, Triceps



*Examine: Triceps area  
\*Bend arm to 90 degrees,  
Separate muscle from fat,  
Pinch fat between fingers*

- Well Nourished → Ample fat between folds of skin
- Mild-Moderate → Fingers almost touch
- Severe → Very little space between folds, fingers touch

# Upper Body Fat Loss, Ribs



*Examine: Ribs, lower back, Mid-axillary line*

- Well Nourished → Chest and ribs not visible, full
- Mild-Moderate → Loose skin, apparent ribs
- Severe → Depression between ribs apparent

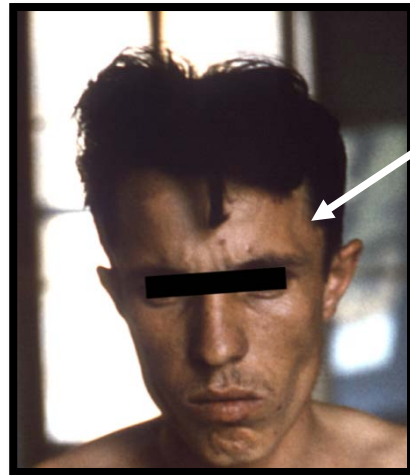
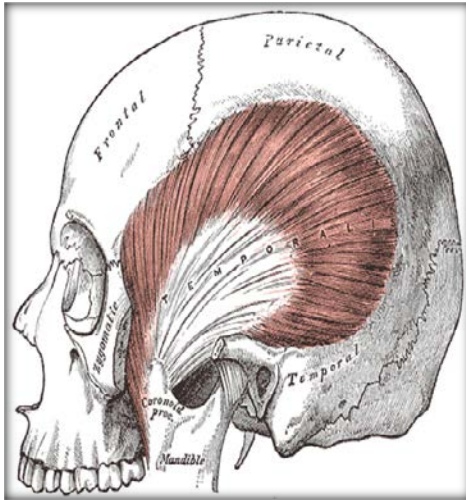
# NFPE and Malnutrition

---

## Muscle Wasting

- Temporalis
- Pectoralis
- Deltoid
- Interosseous
- Trapezius, Supraspinatus, Infraspinatus
- Quadriceps
- Gastrocnemius

# Muscle Wasting: Temporalis

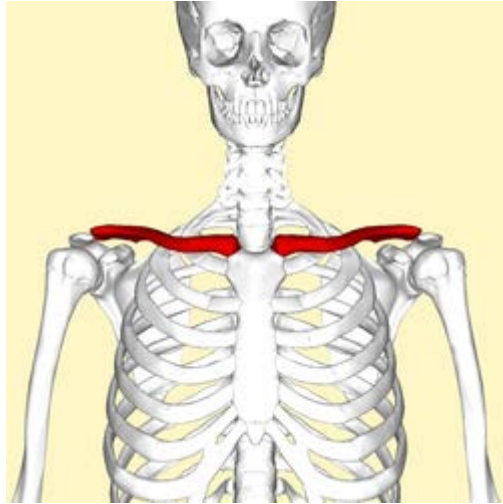


*Examine: Temporal Region  
\*Palpate with two fingers,  
horizontally, diagonally,  
and vertically*

- Well Nourished → Well-defined muscle
- Mild-Moderate → Slight depression of temporalis
- Severe → Hollowing or “scoop-like” depression

# Muscle Wasting: Pectoralis

---



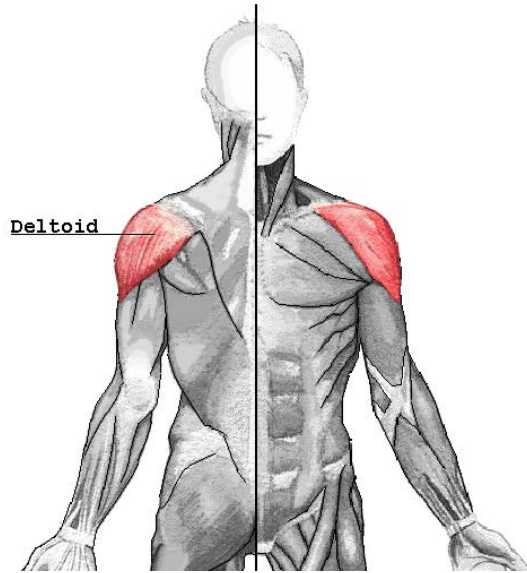
*Examine: Pectoral area*

*Landmark: Clavicle*

- Well Nourished → Visible, not prominent
- Mild-Moderate → Some protrusion
- Severe → Protruding prominent bone

# Muscle Wasting: Deltoid

---



*Examine: Deltoid*

*Landmark: Shoulder and Acromion Process*

- Well Nourished → Rounded curved junction at neck and shoulder
- Mild-Moderate → Shoulder not square, slight protrusion of acromion process
- Severe → Squared shoulders, prominent bones, significant protrusion of acromion process

# Muscle Wasting: Trapezius, Supraspinatus, Infraspinatus



*Examine: Trapezius, Supraspinatus, Infraspinatus muscles*

*Landmark: Scapula region*

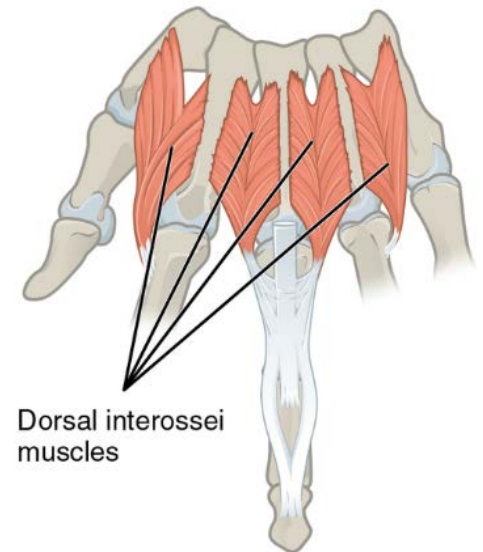
- Well Nourished → Scapula not prominent
- Mild-Moderate → Scapula showing slightly in some but not all areas
- Severe → Prominent bone, depression above scapula



# Muscle Wasting: Interosseous



*Examine: Ask patient to make OK sign, examine muscle between thumb and forefinger*



- Well Nourished → No depression
- Mild-Moderate → Slight depression
- Severe → Deep depression

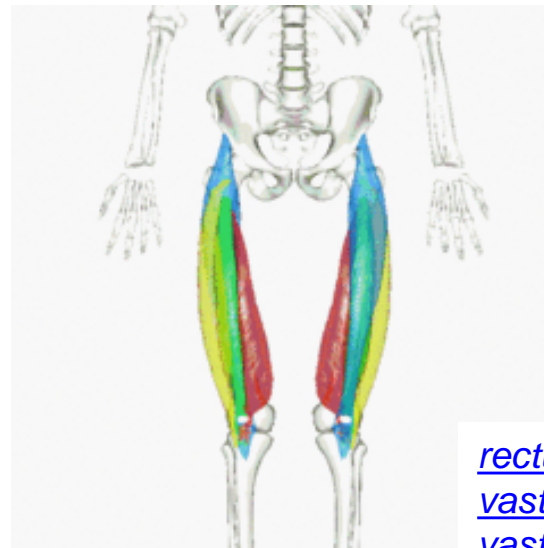
# Muscle Wasting: Quadriceps

## Quadriceps

- Well Nourished → Well rounded, no depressions
- Mild-Moderate → Slight depression along inner thigh
- Severe → Quadriceps can be reduced, depression of thigh

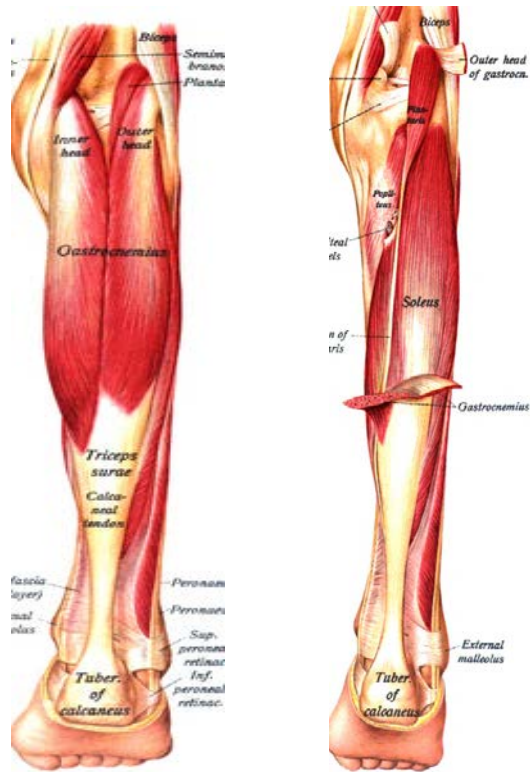
## Knee

- Well Nourished → Bone not prominent
- Mild-Moderate → Knee noticeable, little muscle
- Severe → Knee is square and prominent



[rectus femoris](#) - blue  
[vastus lateralis](#) - yellow  
[vastus intermedius](#) - green  
[vastus medialis](#) - red

# Muscle Wasting: Gastrocnemius



*Examine: Posterior Calf Region*

- Well Nourished → Bulb shaped, firm and well developed
- Mild-Moderate → Some shape and firmness
- Severe → Definite tissue reduction. Thin, flat, no definition

# NFPE and Malnutrition

---



Edema

# Edema Assessment

Category	Description Depth of Pitting (mm)	Description Duration of Pitting (Seconds)
1+	Mild pitting, slight indentation (2 mm or less)	0-15 seconds
2+	Moderate pitting (2-4 mm)	16-30 seconds
3+	Deep pitting, extremity may look swollen (4-6 mm)	31-60 seconds
4+	Very deep pitting, grossly swollen extremity (6-8mm)	> 60 seconds

- Normal → No edema
- Mild → Mild pitting edema
- Moderate → Moderately deep pit that persists
- Severe → Deep depression that persists

# NFPE and Malnutrition

---

## Micronutrients

- Hair
- Eyes
- Oral Cavity
- Nails
- Skin

# Micronutrient: Vitamin B6

---



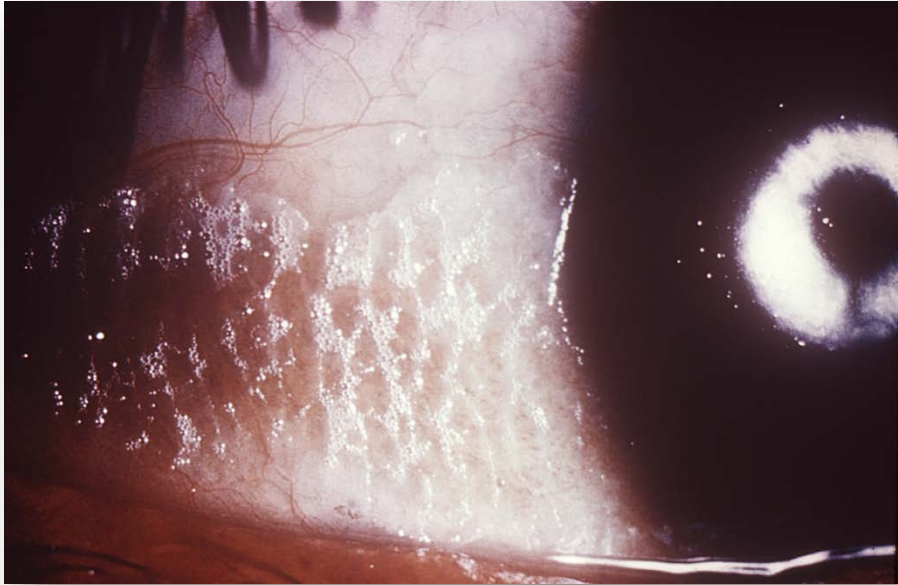
*Examine: Scalp, eyebrows and nasal-labial folds, observe for waxy plaques*



- Seborrheic Dermatitis
- Vitamin B6
  - PCM, dialysis, sickle cell, malabsorption, diuretics, anticonvulsants, oral contraceptives, isoniazid

# Micronutrient: Vitamin A

---



*Examine: White of eye,  
foamy greyish, white  
lesion*

- Bitot's Spots
- Vitamin A Deficiency
  - Limited diet, fat malabsorption, alcoholism, CF, short bowel syndrome



# Micronutrient: Iron

---



- Pale Conjunctiva, Koilonychia, Pallor
- Iron Deficiency
  - Inadequate intake, blood loss, excessive phytate intake

# Micronutrient: Vitamin C



*Examine skin around hair follicles on legs and arms for small hemorrhages or cork screw like hair*

- Perifollicular Hemorrhage
- Vitamin C or Vitamin K Deficiency
  - Limited diet, infants on cow milk, dialysis, malabsorption, smoking

# Micronutrient: Zinc

---



- Vesico-Bullous Lesions
- Zinc Deficiency
  - Premature infants, PN dependent, cholestasis, IV zinc shortage, diarrhea, high phytates intake, celiac disease, Crohn's Disease, SBS, AIDS, Liver Disease, Nephrotic Syndrome, Alcoholism, Trauma, Burns, Sleeve Gastrectomy, penicillamine, diuretics, valproate

# Perceived Challenges

Challenge	Solution
Knowledge	<ul style="list-style-type: none"> <li>• Journal Clubs</li> <li>• Webinars</li> <li>• Journal Articles</li> </ul>
Time	<ul style="list-style-type: none"> <li>• Optimize Documentation</li> </ul>
Confidence	<ul style="list-style-type: none"> <li>• Develop Skills</li> </ul>
Special Populations <ul style="list-style-type: none"> <li>• Geriatric</li> <li>• Obese</li> <li>• ICU</li> <li>• Neurologically Impaired</li> </ul>	<ul style="list-style-type: none"> <li>• Indicators that Affect Nutritional Status</li> <li>• Functional Status</li> <li>• Think Big Picture</li> <li>• Coordinate Exam with Other Disciplines</li> </ul>

# Documentation

## Subcutaneous Fat Loss

Perioral	<input checked="" type="radio"/> None	<input type="radio"/> Moderate	<input type="radio"/> Severe	<input type="radio"/> Not examined
Triceps	<input checked="" type="radio"/> None	<input type="radio"/> Moderate	<input type="radio"/> Severe	<input type="radio"/> Not examined
Biceps	<input type="radio"/> None	<input type="radio"/> Moderate	<input checked="" type="radio"/> Severe	<input type="radio"/> Not examined
Ribs	<input type="radio"/> None	<input checked="" type="radio"/> Moderate	<input type="radio"/> Severe	<input type="radio"/> Not examined

## Muscle Wasting

Temple	<input type="radio"/> None	<input checked="" type="radio"/> Moderate	<input type="radio"/> Severe	<input type="radio"/> Not examined
Clavical	<input checked="" type="radio"/> None	<input type="radio"/> Moderate	<input type="radio"/> Severe	<input type="radio"/> Not examined
Shoulder	<input type="radio"/> None	<input checked="" type="radio"/> Moderate	<input type="radio"/> Severe	<input type="radio"/> Not examined
Thigh	<input type="radio"/> None	<input type="radio"/> Moderate	<input checked="" type="radio"/> Severe	<input type="radio"/> Not examined
Calf	<input type="radio"/> None	<input checked="" type="radio"/> Moderate	<input type="radio"/> Severe	<input type="radio"/> Not examined

## Physical Findings

Hair	<input type="radio"/> Negative	<input checked="" type="radio"/> Positive	<input type="radio"/> Not examined	<input type="text"/>
Eyes	<input checked="" type="radio"/> Negative	<input type="radio"/> Positive	<input type="radio"/> Not examined	<input type="text"/>
Mouth	<input checked="" type="radio"/> Negative	<input type="radio"/> Positive	<input type="radio"/> Not examined	<input type="text"/>
Nails	<input type="radio"/> Negative	<input checked="" type="radio"/> Positive	<input type="radio"/> Not examined	<input type="text"/>
Skin	<input type="radio"/> Negative	<input checked="" type="radio"/> Positive	<input type="radio"/> Not examined	<input type="text"/>

## Functional/Metabolic/SGA status

Functional Status  Normal activity  Difficulty with normal activity  Improvement in function

Metabolic Stress  No stress  Moderate stress  Severe Stress

SGA Rating  Moderate malnutrition  Severe malnutrition  Malnutrition NOT present at this time

# Documentation

---

## PES Statements: Nutrition Diagnosis

(Chronicity) (Degree) (Illness or Social Environmental)  
Malnutrition in the setting of (Injury or Disease) related to  
(Etiology) as evidenced by (Indicators/Supportive Data).

### Acute Illness or Chronic Illness

Severe protein-calorie malnutrition in the setting of a burn injury related to hypermetabolism and increased energy requirements as evidenced by 10% weight loss over one month and physical findings of moderate muscle wasting (temporalis and pectoralis) and severe subcutaneous fat loss (orbital, buccal and triceps).

# Impact of Malnutrition Diagnosis

<b>Principal Diagnosis:</b> Idiopathic Spinal Stenosis <b>2<sup>nd</sup> Diagnosis:</b> None	<b>Principal Diagnosis (Procedure):</b> Idiop Sp Stenosis w/ Fusion <b>2<sup>nd</sup> Diagnosis:</b> None	<b>Principal Diagnosis (Procedure):</b> Idiop Sp Stenosis w/ Fusion <b>2<sup>nd</sup> Diagnosis:</b> Mild Malnutrition	<b>Principal Diagnosis (Procedure):</b> Idiop Sp Stenosis w/ Fusion <b>2<sup>nd</sup> Diagnosis:</b> Severe Malnutrition
DRG 347 Back & Neck Dis, Fx & Unj GLOS 2.28	DRG 303 Dors/Lumb Fusion for Curved Back GLOS 4.08	DRG 303 Dors/Lumb Fusion for Curved Back GLOS 5.02	DRG 303 Dors/Lumb Fusion for Curved Back GLOS 7.25
<b>Relative Weight</b> 0.5427 Reimb. \$7,831.27	<b>Relative Weight</b> 4.4766 Reimb. \$41,525.35	<b>Relative Weight</b> 5.3576 Reimb. \$54,129.87	<b>Relative Weight</b> 7.6399 Reimb. \$73,273.97
SOI 1 ROM 1	SOI 1 ROM 1	SOI 2 ROM 1	SOI 3 ROM 2

# Competencies

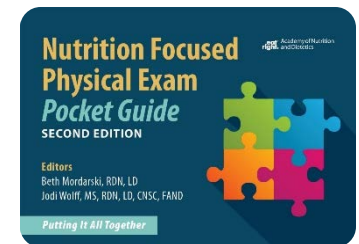
Criteria & Evaluation	Completed Verbally	Demonstrated Satisfactorily	Comments
2. Accurately interprets anthropometric measurements			
3. Demonstrates assessment of growth using z-scores			
4. Demonstrates basic NFPE skills <ul style="list-style-type: none"> <li>• Muscle and fat wasting, adiposity</li> <li>• Screens for nutrient deficiencies/toxicities               <ul style="list-style-type: none"> <li>- Skin</li> <li>- Hair</li> <li>- Eyes</li> <li>- Mouth</li> <li>- Nails</li> </ul> </li> <li>• Abdominal exam</li> <li>• Enteral and parenteral access site (infection, granulation tissue)</li> </ul>			
5. Obtains nutrition/diet History to assess adequacy of intake			
6. Analyzes enteral regimen to assess adequacy of vitamins, minerals, and electrolytes			
7. Accurately interprets biochemical data			
8. Obtains pertinent medical history such as presence of dystonia, athetosis, and spasticity in order to assess energy requirements			
9. Identifies drug nutrient interactions			




# NFPE Resources

---

- Fischer M, JeVenn A, Hipskind P. Evaluation of muscle and fat loss as diagnostic criteria for malnutrition. *Nutr Clin Pract.* 2015;30(2):239-248.
- Litchford, M.D. (2012) *Nutrition Focused Physical Assessment: Making Clinical Connections.* Greensboro, NC: CASE Software.
- Mordarski B and Wolff J. *Nutrition Focused Physical Exam Pocket Guide.*
- DNS NFPE Video
  - <https://www.dnsdpg.org/store.cfm>
- Academy of Nutrition and Dietetics Hands-On Workshop
  - <http://www.eatrightpro.org/NFPE>





1:6 Trainer to  
participant  
ratio for hands-  
on experience

Ongoing  
support from  
Academy  
trainers

Demonstrate  
NFPE skills with  
real patients  
during patient  
rounds



**NFPE**  
**Workshop**  
**Benefits**

Find a workshop near you:  
[www.eatrightpro.org/nfpe](http://www.eatrightpro.org/nfpe)

# Nutrition Focused Physical Exam Hands-on Training Workshop

# Join us to obtain your NFPE skills!



**eat right.** Academy of Nutrition  
and Dietetics



Excellent trainers and curriculum. Support continues even after the workshop with lots of materials to help you get started. So grateful the Academy developed this training!

The Academy's NFPE workshop has taken me and my staff to a whole new level of practice. I highly recommend this training to stretch dietitians to practice at the top of their scope.



For more information visit [www.eatrightpro.org/nfpe](http://www.eatrightpro.org/nfpe)

# *Questions*



**Commission on Dietetic Registration**

**eat right.** the credentialing agency for the Academy of Nutrition and Dietetics

Continuing Professional Education Certificate of Attendance  
—Attendee Copy—

Participant Name:

Registration Number:

Activity Title:

MQii Learning Collaborative 2.0 Learning Event: Nutrition

Focused Physical Exam

Activity Number:

143566

Date Completed:

09/17/2018

Number of CPEUs Awarded:

1.0

\*Suggested Learning Need Code(s):

\*Suggested Performance Indicator(s):

*Diane M. Enos, MPA, RDW, FAND*

Provider Signature

RETAIN ORIGINAL COPY FOR YOUR RECORDS

*\*Refer to your Professional Development Portfolio Guide For LNCs or Pls*

# CPEU Credit (continued)

**Commission on Dietetic Registration**

the credentialing agency for the **eat right.** Academy of Nutrition and Dietetics

## Continuing Professional Education Certificate of Attendance —Licensure Copy—

Participant Name:

Registration Number:

Activity Title:

MQii Learning Collaborative 2.0 Learning Event: Nutrition

Focused Physical Exam

Activity Number:

143566

Date Completed:

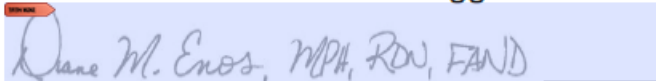
09/17/2018

Number of CPEUs Awarded:

1.0

\*Suggested Learning Need Code(s):

\*Suggested Performance Indicator(s):



Provider Signature

RETAIN ORIGINAL COPY FOR YOUR RECORDS

*\*Refer to your Professional Development Portfolio Guide For LNCs or PIs*