



Welcome to Today's Expert Webinar for the 2019 MQii Learning Collaborative: **"Nutrition Focused Physical Exam Mini-Session"**

We will get started promptly at
11AM ET
(10:00AM CT; 9:00AM MT; 8:00AM 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...

Cisco WebEx Meeting Center

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Quick Start Meeting Info 20170322 - M... + New Whiteboard

Participants Chat Recorder Notes

Participants

peak

Laura Fincher (Host, me)

EF Eleanor Fitall

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Recorder

Select button to record on server

Connected

Today's Agenda

Agenda Item	Presenter
Welcome and introduction to the “Nutrition Focused Physical Exam Mini-Session” webinar	Kelsey Jones
Nutrition Focused Physical Exam Mini-Session	Beth Mordarski, RDN, LD, NFPE Program Manager from the Academy of Nutrition and Dietetics
Questions – 15 mins	

Speaker Introductions



Expert Speaker:

Beth Mordarski, RDN, LD

NFPE Program Manager
Academy of Nutrition and Dietetics

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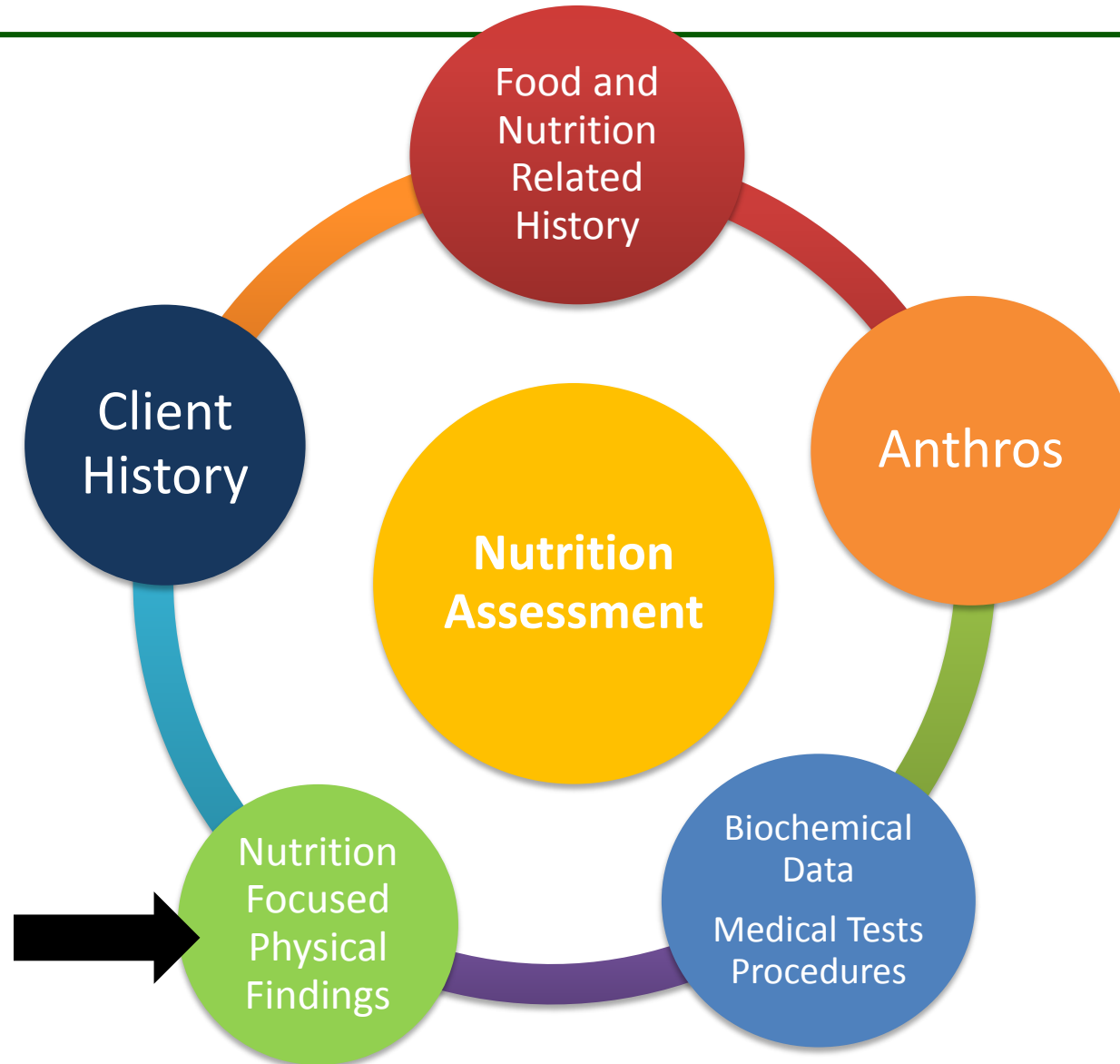
Learning Event:

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

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

Percussion

- Tapping fingers against body surface to listen for solids, liquids, gas
- Organ borders, shape, position, \pm fluids

Auscultation

- Listening to sounds that reflect movement of air or fluid with a stethoscope
- Heart and lung sounds, bowel sounds, blood vessels

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

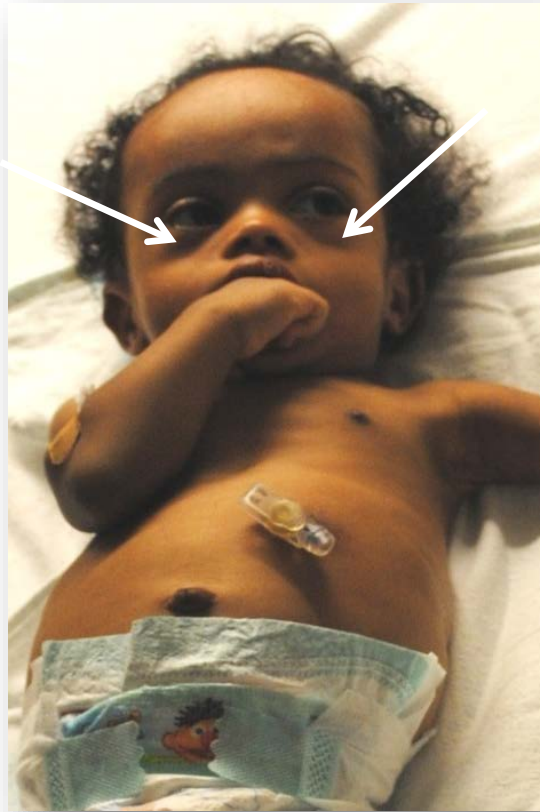
Edema

NFPE and Malnutrition

Fat Loss

- Orbital Fat Pads
- Buccal Fat Pads
- Triceps
- Ribs

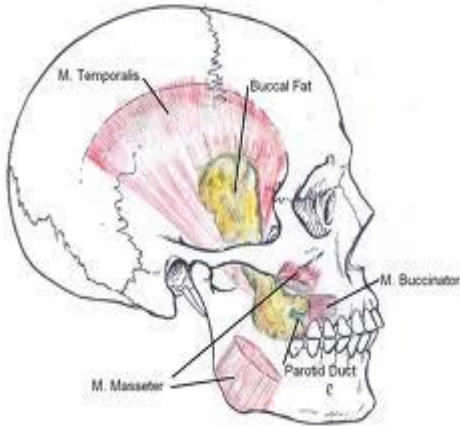
Orbital Fat Loss



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

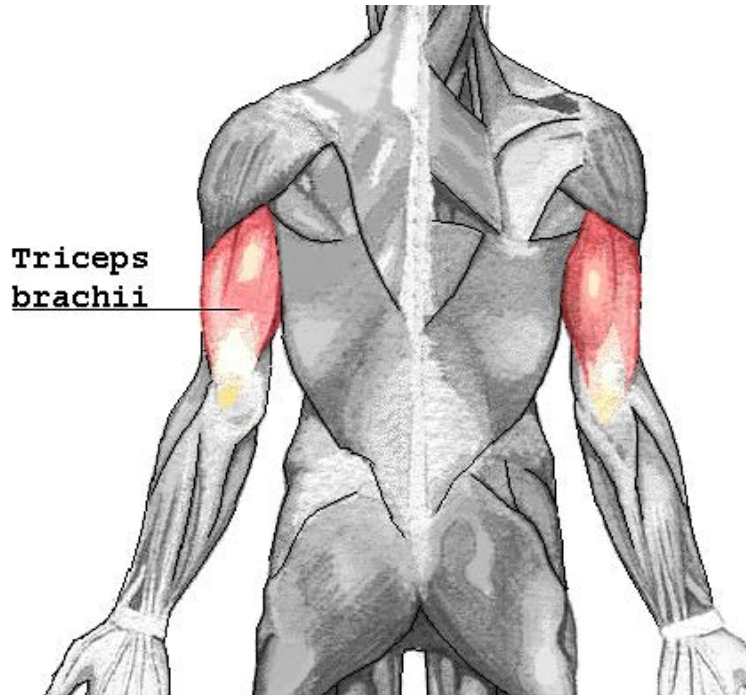


Examine: Area under cheekbone

Landmark: Cheekbone

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

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

Ribs / Mid-axillary Line



Examine: Ribs, lower back, Mid-axillary line

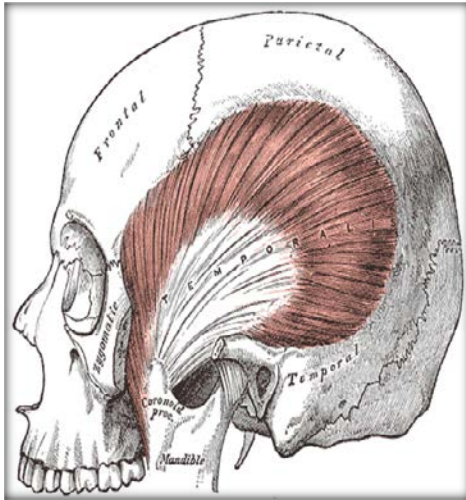
- Well Nourished → Chest and ribs not visible, full
- Mild-Moderate → Loose skin, apparent ribs
- Severe → Depression between ribs apparent

NFPE and Malnutrition

Muscle Wasting

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

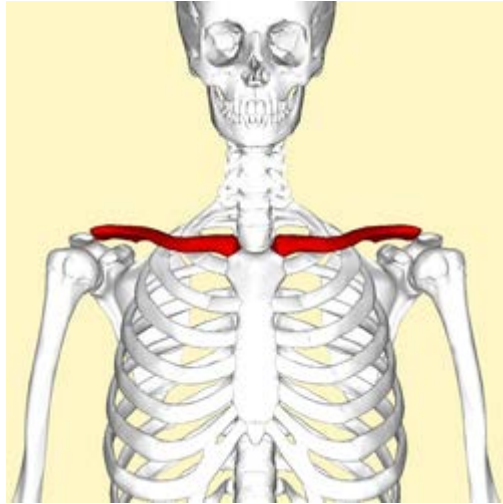
Muscle Wasting: Temporalis



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

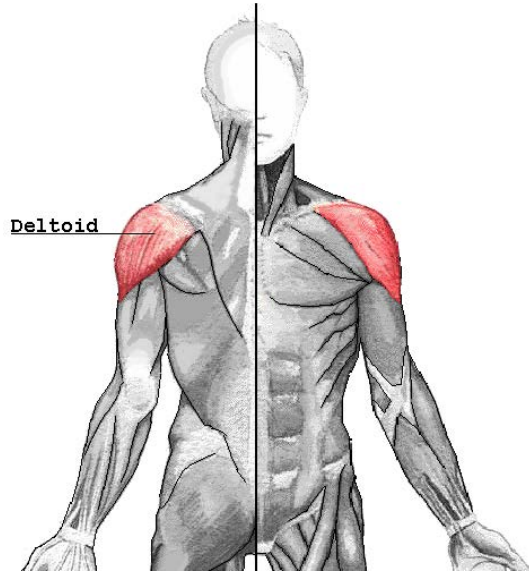


Examine: Pectoral area

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

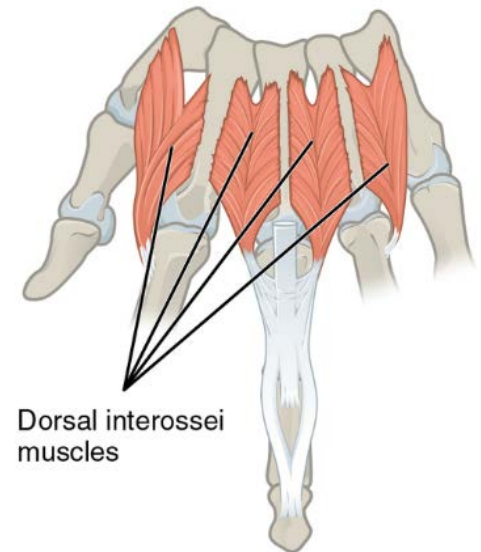
Landmark: Scapula region

- 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

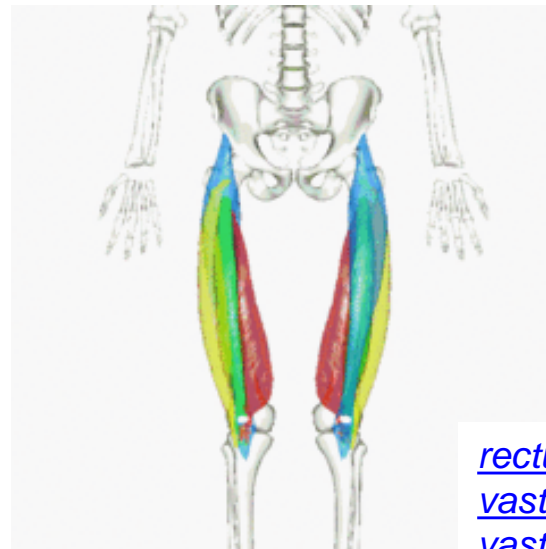
Muscle Wasting: Quadriceps

Quadriceps

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

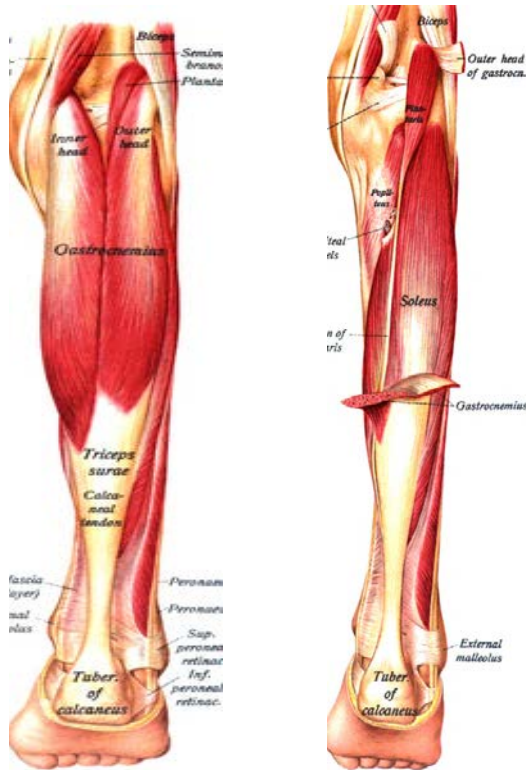
Knee

- 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

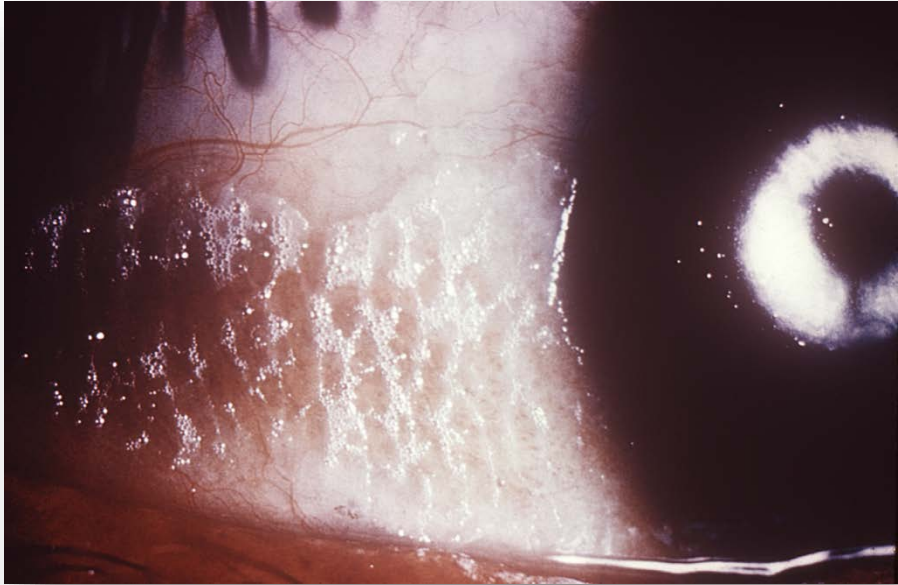


Examine: Scalp, eyebrows and nasal-labial folds, observe for waxy plaques



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

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

Functional/Metabolic/SGA status

Functional Status	<input type="radio"/> Normal activity <input checked="" type="radio"/> Difficulty with normal activity <input type="radio"/> Improvement in function			
Metabolic Stress	<input type="radio"/> No stress <input checked="" type="radio"/> Moderate stress <input type="radio"/> Severe Stress			
SGA Rating	<input checked="" type="radio"/> Moderate malnutrition <input type="radio"/> Severe malnutrition <input type="radio"/> 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 acute 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

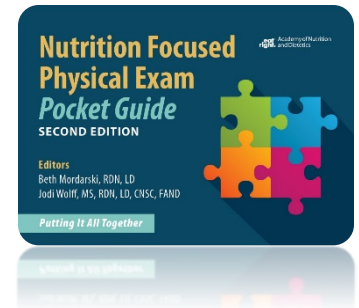
Principal Diagnosis: Idiopathic Spinal Stenosis 2nd Diagnosis: None	Principal Diagnosis (Procedure): Idiop Sp Stenosis w/ Fusion 2nd Diagnosis: None	Principal Diagnosis (Procedure): Idiop Sp Stenosis w/ Fusion 2nd Diagnosis: Mild Malnutrition	Principal Diagnosis (Procedure): Idiop Sp Stenosis w/ Fusion 2nd Diagnosis: 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
Relative Weight 0.5427 Reimb. \$7,831.27	Relative Weight 4.4766 Reimb. \$41,525.35	Relative Weight 5.3576 Reimb. \$54,129.87	Relative Weight 7.6399 Reimb. \$73,273.97
SOI 1 ROM 1	SOI 1 ROM 1	SOI 2 ROM 1	SOI 4 ROM 3

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"> • Muscle and fat wasting, adiposity • Screens for nutrient deficiencies/toxicities <ul style="list-style-type: none"> - Skin - Hair - Eyes - Mouth - Nails • Abdominal exam • Enteral and parenteral access site (infection, granulation tissue) 			
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, Hipkind 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>





NFPE Workshop Benefits

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

Demonstrate
NFPE skills with
real patients
during patient
rounds

Ongoing
support from
Academy
trainers

Find a workshop near you:
www.eatrightpro.org/nfpe

Nutrition Focused Physical Exam Hands-on Training Workshop

Join us to obtain your NFPE skills!



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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

Questions?



15 mins