Nutrition Focused Physical Examination: Overview and application

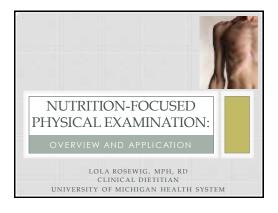
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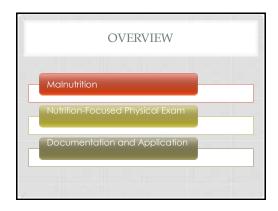
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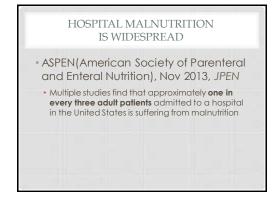
Objectives:

Identify advances in clinical assessment and management of selected healthcare issues related to persons with developmental disabilities

Notes:

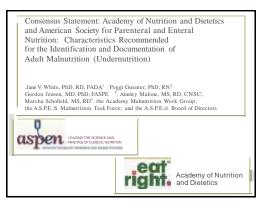






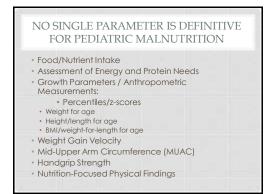
PEDIATRIC MALNUTRITION Reported a prevalence of 6%–51% in hospitalized children. However, it is well known that a gap exists between diagnosing malnutrition in hospitalized patients and actually coding for it.

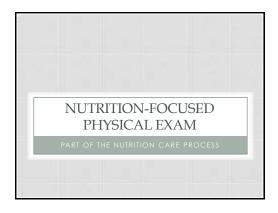




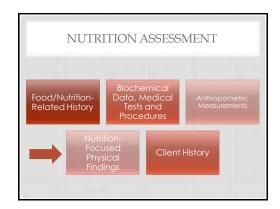












NUTRITION-FOCUSED PHYSICAL EXAM

GETTING STARTED:

- Prepare for patient interaction
- Standard and universal precautions
- Physical exam techniques:
- Inspection—close observation
- Palpation—tactile examination
- Percussion—elicit a sound wave
- Auscultation—listening to body sounds

OVERALL APPEARANCE/ FIRST IMPRESSIONS

- The NFPE begins with a general observation of the patient.
- First impression and physical characteristics to note during interview:
- **ü** What is the apparent state of health?
- **ü** What is the level of consciousness?
- ü Does the patient show signs of physical distress?
- ü How is the patient dressed?
- ü Do you see any obvious signs of nutrient deficiencies?
- ü Is there any involuntary movements or signs of paralysis?

Litchford, 2013

OVERALL APPEARANCE/ FIRST IMPRESSIONS √ Body positioning (muscle contractures, paralysis) √ Body Language √ Body habitus ✓ Amputations √ Ability to communicate ✓ Affect

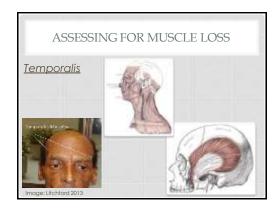
Litchford, 2013

ASSESSING FOR MUSCLE LOSS

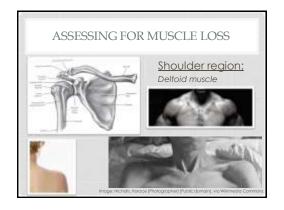
- Regions to assess:
 - Upper body:
 - Temple
 - Collar bone
 - Shoulder
 - Shoulder blade
 - Hand
 - · Lower body: · Thigh/knee

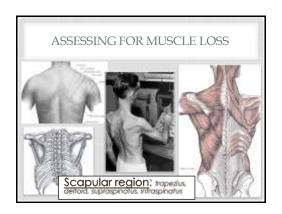
 - Calf



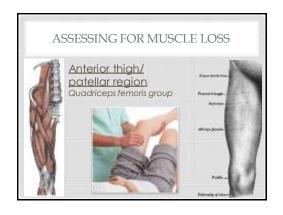


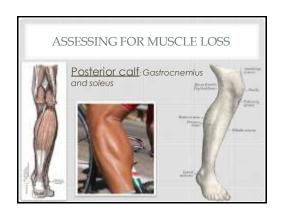










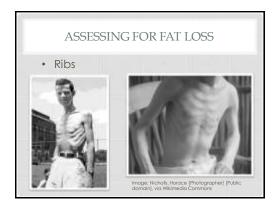


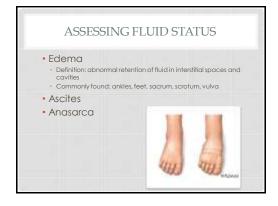




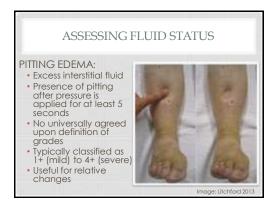


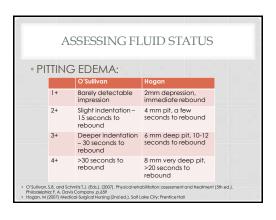


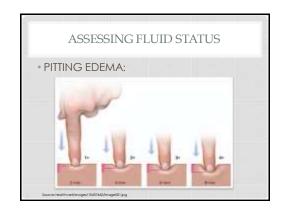




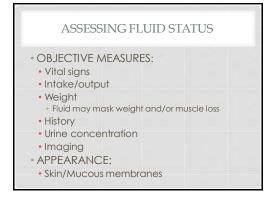
ASSESSING FLUID STATUS ETIOLOGY: • When plasma proteins are depleted, there is decreased oncotic pressure (colloid osmotic pressure), and thus increased capillary filtration. This results in increased fluid accumulation in the interstitical spaces (edema). • Several common conditions are associated with fluid accumulation. Rule these out before using fluid retention as a malnutrition criteria. • CHF • Kidney disease • Liver disease • Lymphatic obstruction • Crifical illness



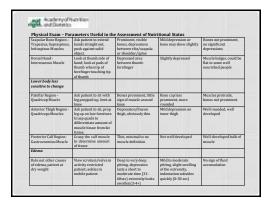




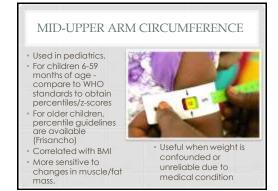




Examareas Subcutaneous fat loss	Tips	Severe Malnutrition	Mild-Moderate Malnutrition	Well Nourished
Orbital Region - Surrounding the Eye	View patient when standing directly in front of them, touch above cheekbone	Hollow look, depressions, dark circles, loose skin	Slightly dark circles, somewhat hollow look	Slightly bulged fat pads. Fluid retention may mask loss
Upper Arm Region- Triceps/biceps	Arm bent, roll skin between fingers, do not include muscle in pinch	Very little space between folds, fingers touch	Some depth pinch, but not ample	Ample fat tissue obvious between folds of skin
Thoracic and Lumbar Region - Ribs , Lower Back, Midaxillary line	Have patient press hands hard against a solid object	Depression between the ribs very apparent. Iliac Crest very prominent	Ribs apparent, depressions between them less pronounced. Iliac Crest somewhat prominent	Chest is full, ribs do not show. Slight to no protrusion of the iliac crest.
Muscle loss			prominent	
Temple Region - Temporalis Muscle	View patient when standing directly in front of them, ask patient to turn head side to side	Hollowing scooping depression	Slight depression	Can see/feel well- defined muscle
Clavicle Bone Region - Pectoralis Major, Deltoid, Trapezius Muscles	Look for prominent bone. Make sure patient is not hunched forward	Protruding, prominent bone	Visible in male, some protrusion in female	Not visible in male, visible but not prominent in female
Clavicle and Acromion Bone Region - Deltoid Muscle	Patient arms at side; observe shape	Shoulder to arm joint looks square. Bones prominent. Acromion protrusion very prominent	Acromion process may slightly protrude	Rounded, curves at arm/shoulder/neck





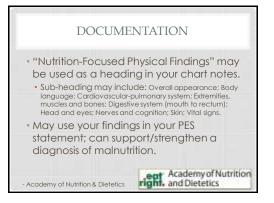




	Abnormal Finding	Possible Vitamin/Mineral Deficiency
SKIN	Pallor, cyanosis	Iron, folate, B12, biotin, copper
	Yellow colloring	Excess of carotene or bilirubin
	Dermatitis, red scaly rash, follicular hyperkeratosis	B-complex vitamins, vitamins A and C, zinc
	Bruising, petechiae, unhealed cuts/ wounds	Vitamins K and C, zinc
NAILS	Pallor, clubbing, spoon-shape, or transverse ridging	Iron, protein
HAIR	Dull/lackluster; banding/sparse; alopecia; depigmentation	Protein and energy, biotin, copper
	Scaly/flaky scalp	Essential fatty acids
	Corkscrew, coiled hairs	Vitamin C

	Abnormal Finding	Possible Vitamin/Mineral Deficiency
EYES	Night blindness, dryness, Bitot's spots	Vitamin A
	Itching, burning, corneal inflammation	Riboflavin and niacin
	Pale conjunctiva	Iron, folate, B12
	Scleral icterus	Excess carotene or bilirubi
ORAL CAVITY	Angular stomatitis/cheilosis	B-comples vitamins
	Glossitis, magenta/red beefy tongue	Riboflavin, niacin, folate, B12, iron, protein
	Bleeding gums, poor dentition	Vitamin C
	Dysgeusia	Zinc







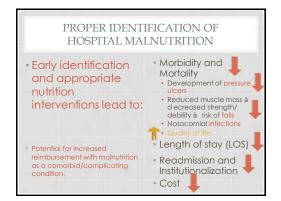
DOCUMENTATION

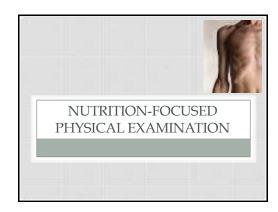
- PES Statement Examples:
- Malnutrition (severe) related to inadequate enteral infusion as evidenced by reduced energy intake <75% of estimated energy needs for >1 month, subcutaneous fat loss in the triceps region, and temporal and clavicular muscle wasting.
- Malnutrition (severe) related altered GI function (gastroparesis) as evidenced by unintentional weight loss of 14% of body weight in the past 6 months, and the physical signs of fat loss, muscle loss, hair loss, and angular stomatitis.

DOCUMENTATION

- PES Statement Example (pediatric):
- Malnutrition (chronic, moderate) related to malabsorption due to history of short bowel syndrome as evidenced by weight for age zscore more than 2 SD below the norm (at -2.35), BMI z-score more than 2 SD below the norm (at -2.25), MUAC more than 2 SD below the norm (at -2.01), and signs of decreased muscle mass.









FOR MORE INFORMATION...

- Academy of Nutrition and Dietetics Nutrition Focused Physical Exam Hands-On Training Workshops.
- NFPE Workshop at Rutgers Department of Nutritional Sciences, Institute of Nutritional Interventions, Newark, NJ.
- · Patient Simulation: Putting Malnutrition Screening, Assessment, Diagnosis and Intervention into Practice. Abbott Nutrition Health Institute. http://anhi.org/courses.
- · Nutrition Focused Physical Assessment Part 1: Setting the Stage for Success; Nutrition Focused Physical Assessment Part 2: Creating Your Malnutrition Toolbox; Nutrition Focused Physical Assessment Part 3: Micronutrient Deficiencies. Laura L. Frank, PhD, MPH, RDN, CD, Nestle Nutrition Institute. https://www.nestlenutrition-institute.org/ Education/Pages/education.aspx.

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