

Nutrition Screening

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March 6th 2013





Objectives

- 1. Explain how to take a patient's diet history**
- 2. Be able to appreciate which patients might be at risk for malnutrition**
- 3. Be able to describe some intervention strategies for patients with nutritional concerns**





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Personal Objectives





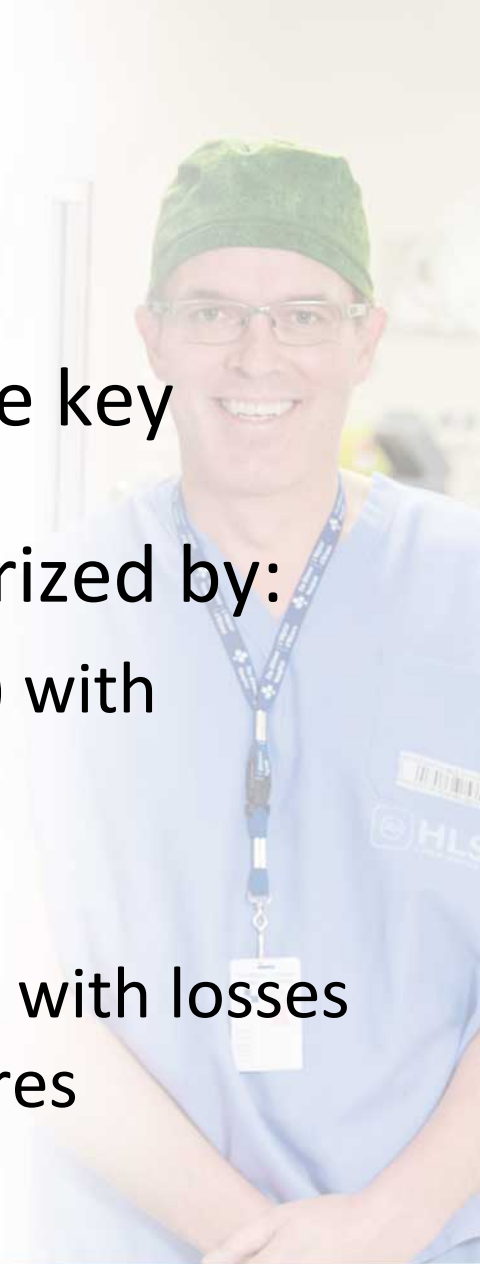
Nutritional Assessment

- Purpose:
 - Identify individuals who need nutrition intervention
 - Confirm the presence of malnutrition (type and severity)
 - Establish a care plan
 - Evaluate the response to treatment
- Nutritional deficiency is associated with an increase in morbidity and mortality



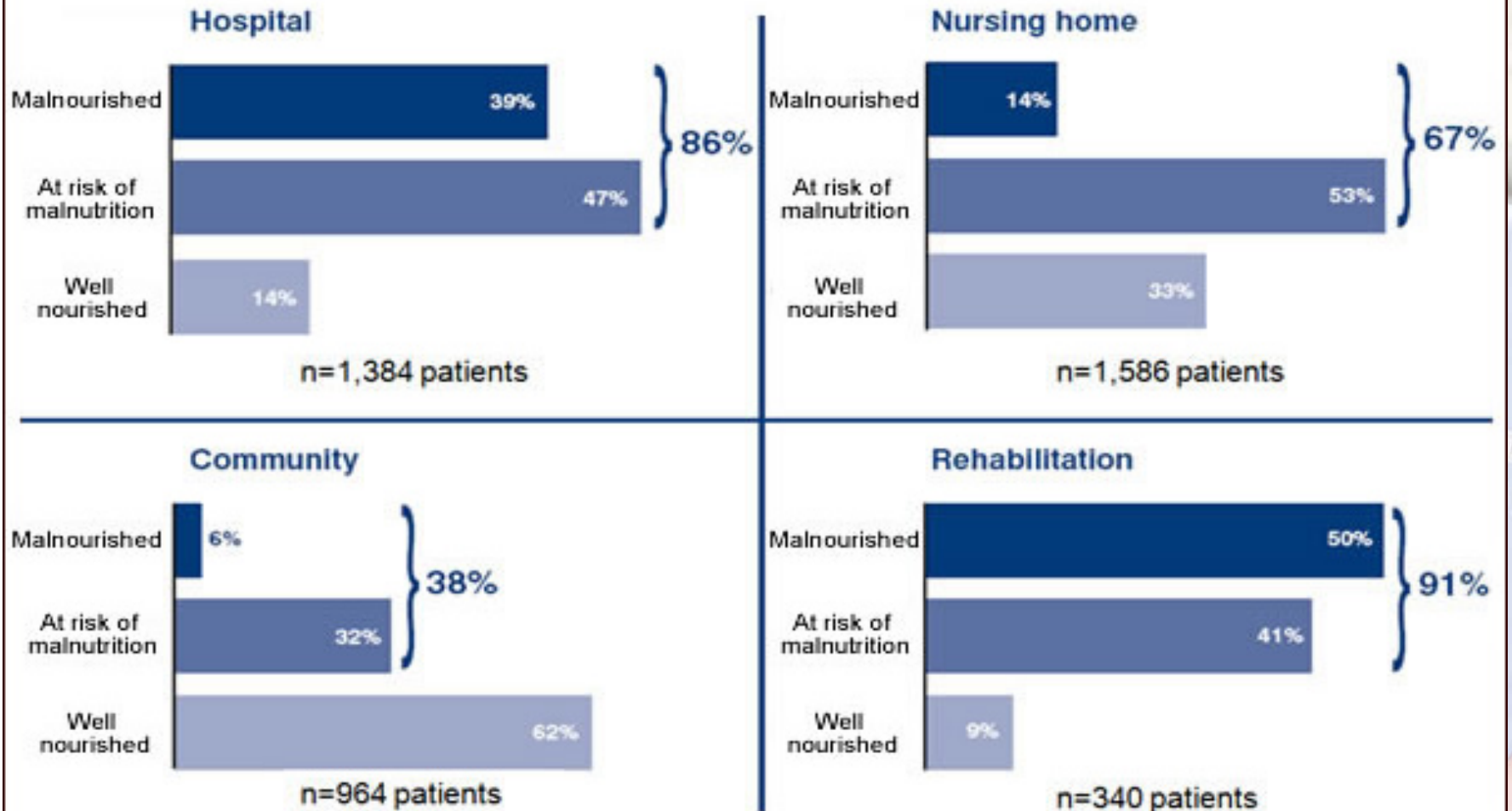
Malnutrition

- Early detection and interventions are key
- Malnutrition is a condition characterized by:
 - Overweight (20% more than desirable) with increased body fat
 - OR
 - Underweight (10% less than desirable) with losses in lean body and subcutaneous fat stores





Malnutrition Across Settings



Kaiser et al. JAGS 2010; 58:1734-1738

Malnutrition

- Eating is influenced by:
 - Oral-motor function
 - Appetite
 - State of awareness/mental state
 - Social norms
 - Religious beliefs
 - Financial situation





Malnutrition in Obesity

- May be protein and micro-nutrient deficient
- Overweight but undernourished
- Linked to high blood pressure, diabetes, heart disease, cancer, joint disease





Components of a complete nutrition assessment

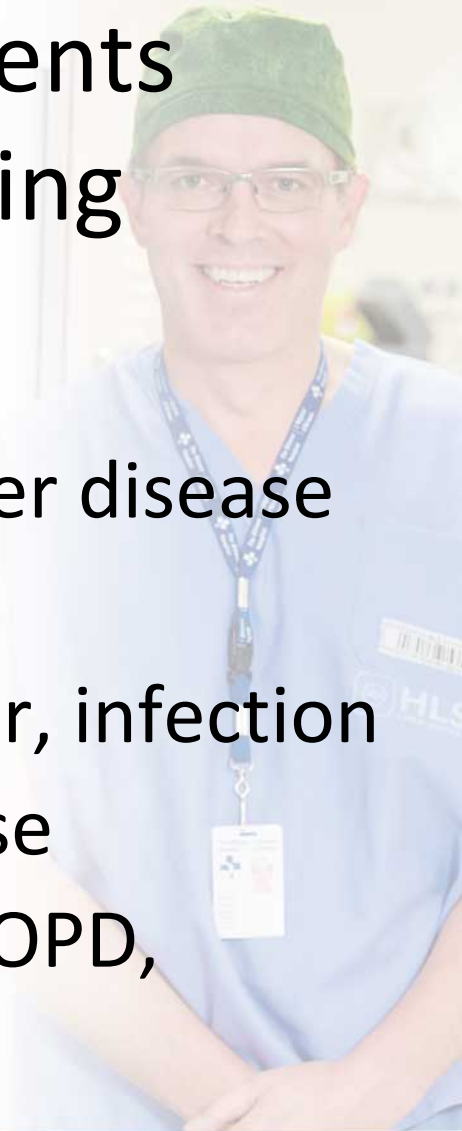
1. Medical and social history
2. Biochemical data
3. Anthropometrics
4. Physical examination
5. Dietary history
6. Estimation of energy, protein, and fluid requirements

Manual of Clinical Dietetics 6th edition American Dietetic Association Dietitians of Canada 2000



Identifying Priority Patients from Nutrition Screening

- Diabetes
- Protein-energy malnutrition
- Gastrointestinal: Crohn's disease, liver disease
- Cancer
- Catabolic states: burns, trauma, fever, infection
- Renal: acute or chronic kidney disease
- Other: alcoholism, dementia, CHF, COPD, pressure sores, obesity, dysphagia



Symptoms that may signal nutritional problems

- Loss of appetite / decrease in appetite
- Pain or discomfort when eating or swallowing
- Weight loss / gain
- Leg edema
- Change in bowel habits, diarrhea, constipation, blood in stool
- Slow healing wound / ulcer / sore





Drug-Nutrient Interactions

- Increasing number of drugs → leads to increased risk for nutrient interactions
- Drugs can affect absorption, metabolism or excretion of nutrients and can lead to nutritional deficiencies





Biochemical Parameters

- Albumin
- Hemoglobin, Ferritin, iron, vitamin B12
- Serum Folate
- Lipid profile
- Electrolytes, Creatinine



Anthropometrics

The following weight losses are considered severe and need further investigation:

- > 5% in 1 month
- > 7.5% in 3 months
- > 10% in 6 months



- Body Mass Index: $\frac{\text{weight (kg)}}{\text{height(m)}^2}$



Dietary History

- Dietary and nutrition assessment should be part of the medical history

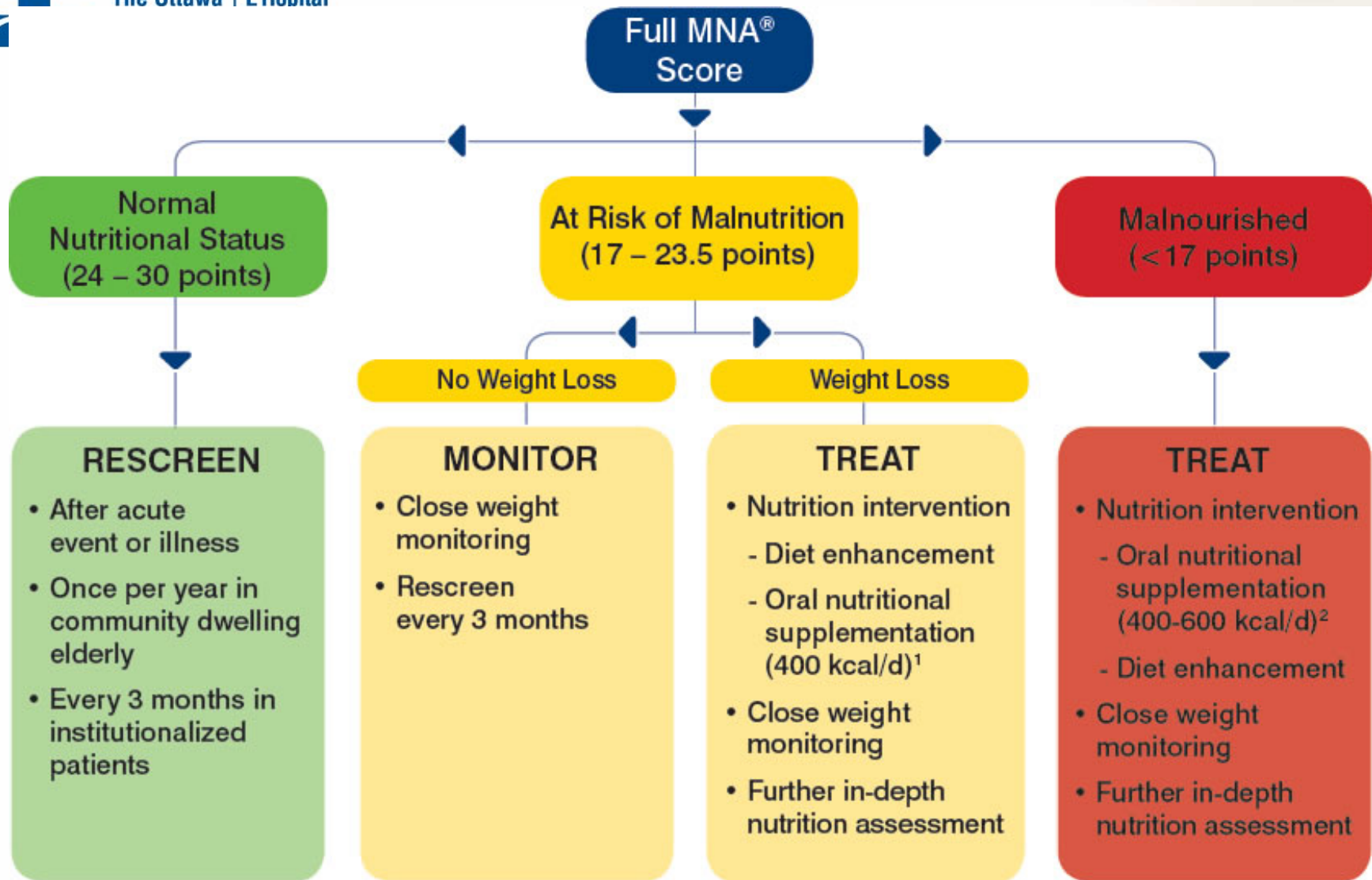


Dietary History

Nutritional intake is assessed by different methods

- Purpose is to identify a person's eating habits and to estimate their average daily nutrient intake.
 - 24 hour recall
 - 3-day food record
 - “typical day”





1. Milne AC, et al. *Cochrane Database Syst Rev.* 2009;2:CD003288
 2. Gariballa S, et al. *Am J Med.* 2006;119:693-699

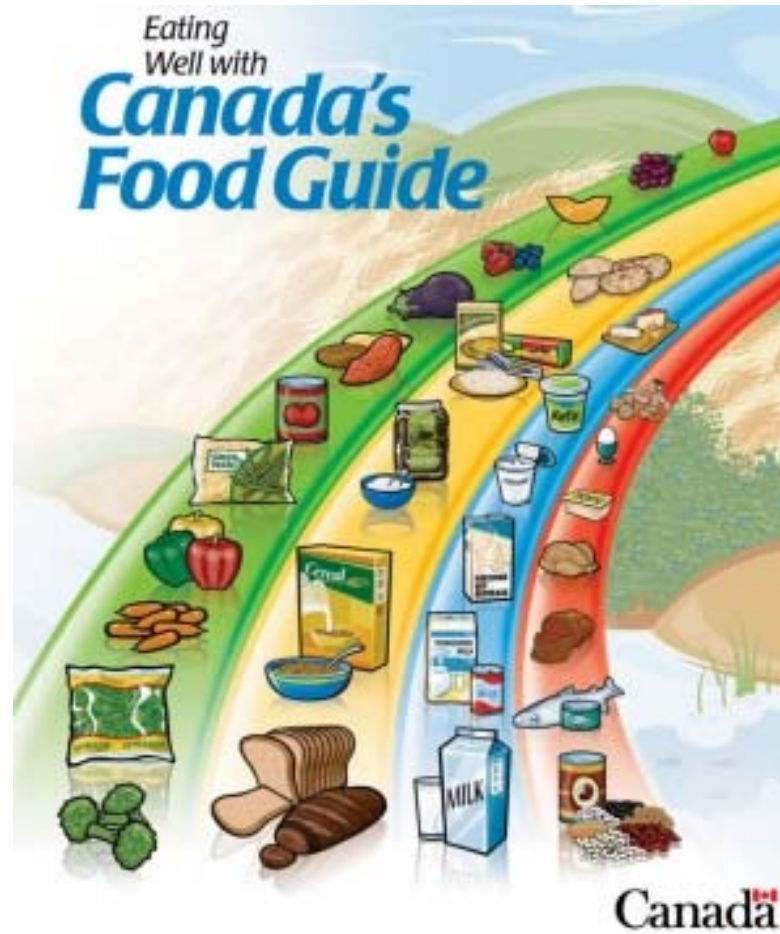
Recommendations for Elderly at Nutritional Risk

- A vitamin-mineral supplement may be beneficial but cannot replace good eating habits!
- Consider adding nutrition supplements between meals. Supplements should not be used as a meal replacement.
 - (Boost or Ensure PLUS, Resource 2.0, Carnation Breakfast Anytime, Boost Diabetic, Glucerna)





Canada's Food Guide





Acceptable Macronutrient Distribution Ranges:

Age Group	Carbohydrate	Protein	Fat
1-3 years	45-65%	5-20%	30-40%
4-18 years	45-65%	10-30%	25-35%
19 years and over	45-65%	10-35%	20-35%



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CASE DISCUSSIONS GOALS



Brainstorming – Nutritional Assessment

- What questions could you ask the following patients:
 - ✓ A patient with CHF
 - ✓ An elderly patient with weight loss
 - ✓ A patient with renal problems
 - ✓ A diabetic patient





Mrs. Suzanne

- Age 80
- Congestive Heart failure
- Has Peripheral edema
- She is on:
 - Furosemide 40 mg daily
 - Atorvastatin 80 mg daily



Dietary History

- What Dietary questions would you want to pose to Mrs. Suzanne?
- What recommendations would you make to Mrs. Suzanne?

Mrs. Judy

- Age 85
- Has lived alone since her husband died a year ago
- Appetite decreased in the past year
- HTN
- Tylenol for arthritis pain
- Enalapril 10mg twice daily





Mrs. Judy

- Weight: 45 kg
- Height: 162.56 cm
- Has a bad taste in her mouth



Mrs. Judy

What Dietary Questions would you pose to Mrs. Judy?

What recommendations would you make to Mrs. Judy?

Mr. Denis

- Age 82
- He has chronic renal failure
- Variable appetite
- He frequently has problems with hyperkalemia
- Drinks alcohol daily (2 to 3 beers)



Mr. Denis

What Dietary Questions would you pose to Mr. Denis?

What recommendations would you make to Mr. Denis?

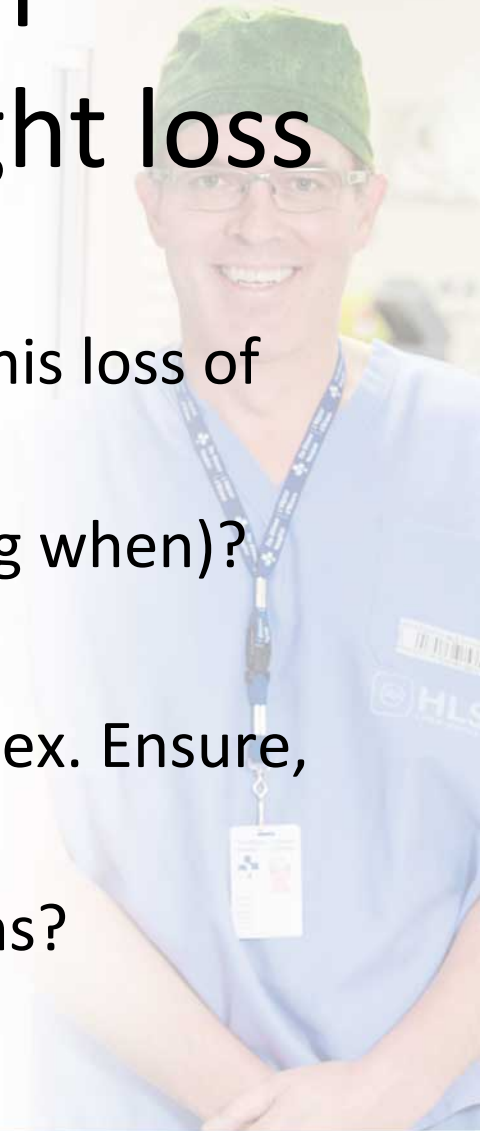
Questions to ask a patient with CHF

- ✓ Do you eat salty foods? Do you use salt in cooking? Do you use the salt shaker?
- ✓ Do you eat ready-made / convenience foods?
- ✓ Do you eat out at restaurants?
- ✓ What types of fluids do you drink (alcohol, milk, etc.)?



Questions to ask an elderly patient with weight loss

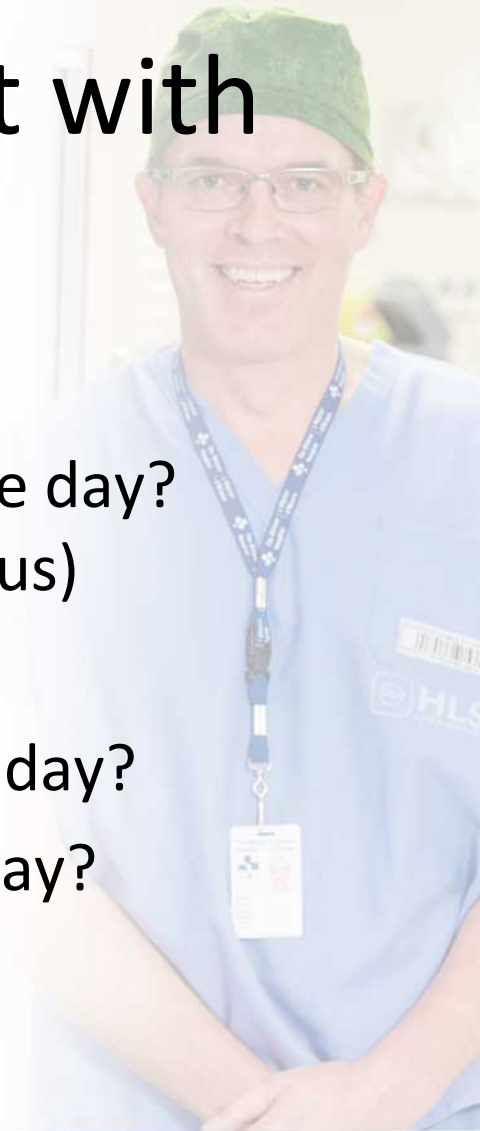
- ✓ When did you first lose your appetite?
- ✓ Can you remember what may have caused this loss of appetite?
- ✓ How much weight have you lost (and starting when)?
- ✓ Who prepares meals at home?
- ✓ Do you take oral therapeutic supplements? (ex. Ensure, Boost, Resource 2.0)
- ✓ Do you have any significant medical problems?
- ✓ Are You taking any medications?





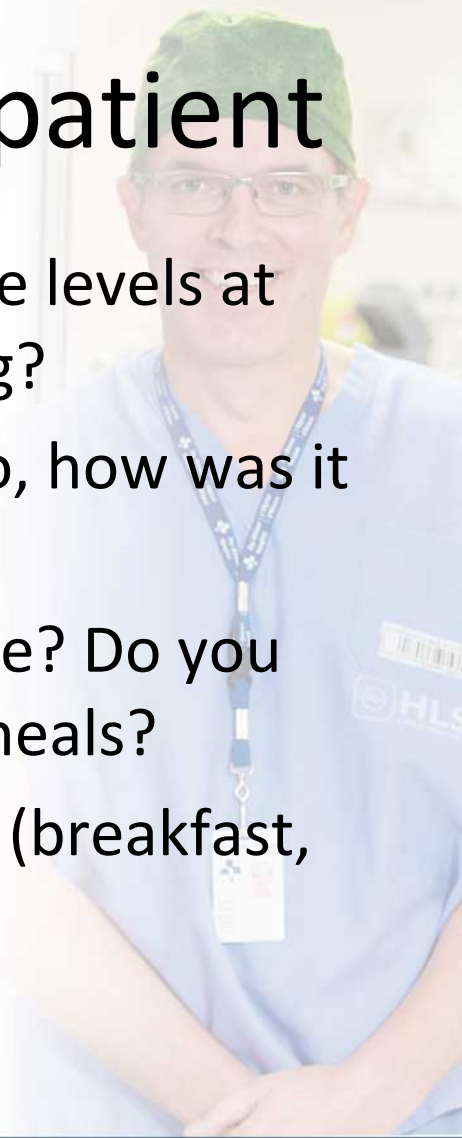
Questions to ask a patient with renal problems

- ✓ How is your appetite?
- ✓ What meals and snacks do you eat during the day? (emphasis on proteins, Na, K+ and phosphorus)
- ✓ What types of fluids do you drink during the day?
- ✓ How many cups of fluid do you drink every day?
- ✓ Do you drink alcohol?



Questions to ask a diabetic patient

- ✓ How often do you monitor your blood glucose levels at home? Can you give me your average reading?
- ✓ Have you ever had hypo/hyperglycemia? If so, how was it treated?
- ✓ How many meals/snacks do you have at home? Do you have scheduled meal times? Do you skip meals?
- ✓ Give me an example of what you eat in a day (breakfast, lunch, supper, snacks)
- ✓ Do you exercise?





Consulting a dietitian

- Unintentional or significant weight change
- Prolonged poor intake, EtOH abuse or malabsorption
- Patients requiring oral therapeutic supplements to optimize nutritional status
- Dietary management of chronic diseases: heart failure, liver, renal, etc.
- Dietary management of newly diagnosed diabetics or those with poor glycemic control

Conclusion

- Certain conditions can be managed with dietary changes
- Drug-nutrient interactions and nutrient-drug interactions should always be considered
- Weight status can not be used as a sole marker of risk for malnutrition

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Questions???

