Nutritional Assessment and Screening

1. Why is it important to conduct nutrition screenings in any setting?

    The purpose of a nutritional screen is to quickly identify individuals who are malnourished or at nutritional risk. Quick!, Unskilled person can do.

2. What are the differences between a nutrition screening and a full nutrition assessment?

    Nutritional screening is the process of identifying characteristics known to be associated with nutritional problems. Quick, unskilled person can do. Goal of screening is to identify individuals who are at nutritional risk or who are likely to become at nutritional risk, as well as to identify those who need further assessment and the best source for that assessment. Nutritional assesment is a comprehensive approach, completed by an RD, for defining nutritional status using medical, social, nutritional, and medical histories, physical examination, anthropometric measurements and lab data. Nutritional assessment involves interpretation of data from the nutritional screen and incorporates additional information. Goals of nutritional assessment are (1) to identify individuals who require aggressive nutritional support, (2) to restore or maintain an individual's nutritional status, (3) to identify appropriate MNTs and (4) to monitor the efficiency of these therapies.

3. What are the different parts of a full nutrition assessment?

    (1) Medical, social, medication and nutritional histories
    (2) Physical examination
    (3) Anthropometric data
    (4) Lab data

4. What values in an assessment are cause for concern about nutritional status and overall health risk.

    High Risk:
    BMI < 19
    Burns > 20% BSA
    NPO/liq >= 5 days
    acute renal failure, AIDS, GI cancers/diseases, eating disorders, tube feeding, FTT

    Mod Risk
    Reqpiratory failure/distress/COPD w/BMI < 19
    Burns < 20% BSA
    LOS >= 10 days
    some cancers, hepatitis, pancreatitis, colostomy, CVA, OB.

5. How to do calculations needed in nutritional care?

convert wt in lbs. to kg;

1 kg = 2.2 lbs.   Ex. convert 130 lbs to kg: 130 lb/2.2 kg/lb = 59 kg.

convert ht in inches to cm
1 in = 2.54 cm.   Ex. 5'6" = 66"   66" x 2.54 = 167.6 cm

determine a type of DBW using the "Hamwi formula or rule of thumb" (no
adjustment for frame size)

Men: 106 lbs for first 5' + 6 lbs for every " over 5 ' (- if under 5')
Women: 100 lbs for first 5' + 5 lbs for every " over 5 ' (- if under 5 ')

% kcal from fat

Suppose 2000 kcal diet and diet order for 40% fat:
2000 x .40 = 800
800/9 = 88 g. fat

%DBW

Act. wt. / DBW   x 100

%UBW

Act. wt. / UBW   x 100

% of wt change

wt. gained/lost / UBW   x 100

6. How to calculate TLC and interpret the results. (Total Lymphocyte Count)

Data from a CBC form:
TLC = WBC x % lymph
Ex. 29.7 x 10^3 Ex.   29.7   x   .274 = 774
        2,9700   x   .04   =   1188
        WBC   Lymph%   TLC

< 800	cells/mm^3	severe depletion
800 - 1199	cells/mm^3	moderate
1200 - 1800	cells/mm^3	mild
2000	cells/mm^3	normal

7. How to determine protein/energy nutritional status. (Also use of IDC Status #s)

   TDE = REE x AF or IF

   AF   1.05 - 1.2   confined to bed.
          1.3 - 1.45   out of bed
          1.2   pre-operative activity

   IF   1.0 - 1.2   stable COPD
          1.0 - 1.2   HIV
          1.25   minor surgery (gallbladder surgery, etc.)
          1.2 - 1.32   skeletal trauma
          1.3   major sepsis (bad infection)
          1.25 - 1.58   severe thermal burn

8. What are the 4 main areas of nutrition assessment and data you would collect for each main area?

   1. medical, social, medication, and nutritional histories
        medical: chief complaint, present/past illness, current health, allergies,
             past/recent surgeries, family hx of disease
        social: sychosocial aspects, review of problems from patient's
             perspective, alcohol/drug use, mental deterioration,
             constipation/incontinence, effects of prescription and OTC drugs,
             physical disabilities, ability to purchase own food, living or
             eating alone, physical/mental handicaps, smoking, drug/alcohol
             addiction, confusion, poverty.
        medication: prescription & OTC & herbs taken, food/drug interactions.
        nutritional and diet history: diet hx (nutrient intake analysis, daily food
             record/diary, retrospective data, 24 hr. recall, anorexia, ageusia, dysgeusia,
             anosmia, excess alcohol intake, poor-fitting dentures, fad dieting,
             chewing/swallowing problems, freq. meals away from home, adverse
             food/drug interactions, culturall/religious restrictions of diet, inability to
             eat for more than 7 to 10 days, IV fluid therapy for more than 5 days, taste
             changes, feeding dependence, denture problems, changes in taste/smell,
             poor food havits, food fads, inadeq. knowledge of nutrition.
   2. physical examination

   3. anthropometric data
        Physical measurements related to standards.
        Ht., wt., head circumference, skinfold thicknesses, AMA, BMI.
   4. lab data
        Tests for nutrients and nutrient-related substances include serum, plasma,
        erythrocytes, leukocytes, other tissues, urine, feces.
        Abnormal serum albumin, transferrin, or lipid levels (i.e., cholesterol, HDL, LDL)
        or abnormal triglyceride values, abnormal phosphouus, hemoglobin, hematocrit,

iron values, abnormal blood urea nitrogen, creatine, electrolyte levels, abnormal fasting blood glucose levels.

RISK Warning Signs

D   **disease**
E   **eating poorly**
T   **tooth loss/mouth pain**
E   **economic hardship**
R   **reduced social contact**
M   **multiple medicines**
I   **involuntary wt. loss/gain**
N   **needs assistance in self-care**
E   **elder years > 80**

9. How to determine a pt's fluid needs.

   adult: 1   ml/kcal consumed   OR   25-40 ml/kg body wt.
   infant: 1.5 ml/kcal consumed

10. How to interpret plasma osmolality numbers and hydration status in general.

    <u>Normal osmolality of plasma</u>:
    Adult: 275-295 mOsm/kg   280-330 gen. acceptable and not of clinical concern.
    Children: 270-385 mOsm/kg
    Variations from normal are usually the result of changes in serum sodium conc.
    If there is an increase in mOsm/kg = dehydrated or more solute than fluid.

    <u>Indicators of hydration status</u>
    Weigh pt freq; daily meas of I/O of formula and water, recorded separately!
    If pt suddenly gains or loses wt, a disturbance in hydration status s/b investigated.
    Indicators of dehydration include:
          hypernatremia
          azotemia
          hyperchloridemia
          hyperglycemia
          elevated hematocrit
          increased levels of blood cells

    Dehydrated pt will show evidence of:
          dry mucous membrane
          poor turgor
          decreased blood volume w/low blood pressure

11. How to interpret AMA if given the percentile the AMA is in for a given sex and

age.

AMA (bone-free arm muscle area) is a good indicator of lean body mass and, thus an individual's skeletal protein reserves. Valuable for evaluation of poissible protein-energy malnutrition as a result of chronic illness, stress, multi-surgeries or inadequate diet. It is an indicator of somatic protein. Guidelines for interpreting AMA:

< 5 %ile   = wasted, no muscle stores
5th to <15%ile   = below average
> 85 to <95th   = above average
> 95th   = high muscle (i.e., lifting weights)