The IMPORTANCE OF MAINTAINING GOOD NUTRITIONAL STATUS TO PREVENT HEALTH COMPLICATIONS ASSOCIATED WITH MALNUTRITION
YOU ARE WHAT YOU EAT!

The body needs to be well nourished to function properly or all the nutrition provided will go to replenishing the body's depleted nutritional stores.

All of the food groups play a role in maintaining good health so eliminating any food group can put you in jeopardy of poor nutritional status.
When evaluating a patient’s nutritional needs, the first goal is to assess their current nutritional status:

- Current weight
- Ideal weight range
- Recent weight changes
- Body Mass Index (BMI)
- Abnormal blood levels
- Any problems with diarrhea or constipation
- Skin breakdown
- Difficulties with chewing or swallowing
- Diagnosis of GERD
- Typical eating and drinking habits
- Estimating their nutritional needs for calories, protein, and hydration
UNPLANNED WEIGHT LOSS

- Unplanned weight loss may be the best indicator of an undernourished body

- Reflects poor intake or changes in metabolism of food and nutrients

- You have to resolve this issue first before your nutrition efforts will contribute to overall good health
WHEN TO BE CONCERNED WITH WEIGHT LOSS?

- Significant weight loss:
  - > 2% in 1 week
  - > 5% in 1 month
  - > 7.5% in 3 months
  - > 10% in 6 months

- Current weight = 118 pounds
  - Weight last month = 130 pounds
  - \[
    \frac{118 \text{ pounds}}{130 \text{ pounds}} = 0.907
  \]
  - \[0.907 \times 100 = 90.7\%
  \]
  - \[100\% - 90.7\% = 9.3\% \text{ Weight Loss}\]
DETERMINING YOUR IDEAL BODY WEIGHT RANGE

MEN: Allow 106 pounds for the first 5 feet and add 6 pounds for every additional inch over 5 feet

- For every inch below 5 feet subtract 2 ½ pounds from 106 pounds

FEMALE: Allow 100 pounds for the first 5 feet and add 5 pounds for every additional inch over 5 feet

- For every inch below 5 feet subtract 2 ½ pounds from 100 pounds

Add and subtract 10% to determine IBW range
ESTIMATING IDEAL WEIGHT RANGE

❖ A man who is 5’8”
   106 pounds for 5’ and 48 pounds for 8”
   = 154 pounds +/- 10%
   Ideal Weight Range: 139 – 169 pounds

❖ A woman who is 5’2”
   100 pounds for 5’ and 10 pounds for 2”
   = 110 pounds +/- 10%
   Ideal Weight Range: 99 – 121 pounds
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BMI = Body Mass Index

- Measurement of weight in proportion to your height

- BMI = Weight (pounds) / Height (inches) / Height (inches) X 703

A woman is 5’4” tall and 120 pounds

- BMI = 120 lbs / 64 inches / 64 inches X 703 = 20.6 BMI
### BMI Chart

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What does your BMI mean?

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WHAT IS CAUSING THE WEIGHT LOSS.....

DECREASED APPETITE CAN BE CAUSED BY:

- History of Eating Poorly
- Depression and Anxiety
- Social Isolation
- Medication Interactions
- Chewing Problems
- Difficulty Swallowing
- GI Complications
MALNUTRITION CAUSES....

- Loss of Strength
- Depression
- Lethargy
- Immune Dysfunction
- Delayed Recovery from Illness
- Poor Wound Healing
- Pressure Ulcers
- Increased Chance of Hospital Admission
- Increased Mortality
DOWNWARD SPIRAL OF FAILURE TO THRIVE

Weight Loss
Depression
Social Withdrawal
Giving Up

Anorexia
Malnutrition
Cognitive Dysfunction
Isolation

DEATH
Abnormal blood levels

- The blood levels that I focus on consistently are albumin, pre-albumin and BUN/Cre ratio.

- Albumin – serum albumin test measure the amount of protein in the clear liquid portion of the blood. Albumin has a serum half-life of approximately 20 days.

- Pre-Albunin – the half-life of pre-albunin is 2-3 days, so much shorter than that of albumin, making it a more favorable marker of acute change.

- Elevated BUN/Cre ratio – The ratio of BUN to creatinine is usually between 10-20. An increased ratio may be due to a condition that causes a decrease in the flow of blood to the kidneys, such as CHF or dehydration.
Concerns with diarrhea

- Diarrhea can lead to malnutrition, poor absorption of vitamins and minerals, dehydration
- Diarrhea can be the result of infection, medications, food sensitivity, stress or emotional upset.
- Eat small amounts throughout the day.
- Keep activity to a minimum after eating.
- Try a water soluble fiber supplement to produce firmer stool, such as Metamucil, Citrucel or Benefiber.
- Drink plenty of fluids throughout the day, but avoid fluids at mealtime to prevent stimulating a bowel movement.
- Drink room temperature liquids.
- Avoid juices or dilute your juice.
- Try nonirritating foods: yogurt, rice, noodles, Farina, Cream of Wheat, ripe bananas, smooth peanut butter, white bread, boiled or baked skinless chicken, turkey, lean beef or fish
constipation

- Constipation can be very uncomfortable and greatly affect someone’s appetite.
- The goal is to have a soft bowel movement every 1-2 days.
- To help with regularity, try at least 64 ounces caffeine free fluids daily; slowly increase fiber intake by 3-5 grams per day only if fluid intake is sufficient; incorporate more physical activity; consider prune juice, pear juice, prunes, prune pudding, figs and dates; try warm beverages and/or a warm bath to stimulate bowel movements.
SkIN BREAKDOWN

- Nutrition plays a big role in wound healing. Without sufficient nutrition you aren’t going to heal the wound.

- Proper nutrition is an important part of wound healing. When the body is going through the healing process it requires extra calories, particularly in the form of protein to promote healing.

- Inadequate amounts of certain nutrients can aggravate the wound condition and contribute to delayed wound healing.

- The 4 main nutrient components of successful wound healing are:
  - Protein
  - Calories
  - Vitamin C
  - Zinc
HIGH PROTEIN INTERVENTIONS

MEAT AND MEAT SUBSTITUTES

Beef  Poultry  Fish  Eggs
Lamb  Pork  Shrimp  Tuna  Tofu
Peanut Butter  Nuts  Beans
Lentils  Veggie Burgers

DAIRY PRODUCTS

Milk  Cheese
Cottage Cheese
Yogurt  Milk Based Soup
Milk Pudding
Custard  Ice Cream

SUPPLEMENTS

Boost High Protein  Ensure High Protein
Dry Milk Powder  Carnation Instant Breakfast
Protein Powder (ProMod, ProPass, Beneprotein, ProStat)
Adding Protein to Your Diet

- Add grated cheese or melted cheese to baked potatoes, vegetables, soups, noodles, meat and fruit
- Use milk or half and half when cooking cereal, soup, instant cocoa and puddings
- Add hard boiled eggs to salads, sandwiches or eat as a snack
- Add leftover cooked meats to soups, casseroles, salads, beans and pasta
- Sprinkle seeds or nuts on your salad or desserts
- Spread peanut butter on toast, muffins, crackers, vegetables and fruit
- Add beans and peas to salads, soups, casseroles and vegetable dishes
- Add dry skim milk powder to milk, mashed potatoes, cream soups
- Add butter or margarine to potatoes, rice, pasta, soups, vegetables, sandwiches, cooked cereals, bread. Once it melts add more!!!
- Use regular mayonnaise on sandwiches, salads and in dips with vegetables. Add jam to bread, crackers, muffins, fruit and ice cream.
- Add honey to coffee, tea, hot or cold cereals and bread.
- Add whipping cream to pies, puddings, jello, pancakes, waffles, fruit and hot chocolate.
- Add sour cream to baked potatoes and vegetables.
- Add gravy to meats, poultry, potatoes, rice and hot open faced sandwiches.
- Add cream sauces to pasta, chicken, rice, seafood, cooked vegetables.
- Add cream cheese to bread, bagels, muffins, vegetables.
VITAMIN C

- Vitamin C is required for the growth and repair of tissues in all parts of your body. It is necessary to form collagen, an important protein used to make skin, scar tissue, tendons, ligaments, and blood vessels.

- Adequate vitamin C can also help to reduce the risk of infection and damage caused by free radicals.

- Good sources of vitamin C are: orange/orange juice, strawberries, cantaloupe, tomatoes/tomato juice, broccoli, grapefruit, watermelon, peppers, pineapple, tangerine, blueberries, grapes, apricots, raspberries, nectarines, peaches, sweet potatoes and spinach.

- Another option is to supplement with 500mg Vitamin C twice daily.
ZINC

- Zinc is an essential mineral that is found in almost every cell. Not only does it aid in wound healing but it works to fight off any infection.

- Even a small amount of zinc deficiency is bad for a wound because zinc is used in the formation of white blood cells which are used to fight infection.

- Good sources of zinc include: oysters, beef, pork, poultry, beans, nuts, whole grains, fortified breakfast cereals and dairy products.

- Supplement with 220mg zinc sulfate daily for 14 days
DIFFICULTIES WITH CHEWING OR SWALLOWING

- A concern with swallowing is best addressed by an SLP. So, I make sure a referral to an SLP is made if needed.

- Difficulties with chewing may be as simple as not wearing dentures during mealtime or needing dental treatment for decay, broken or cracked teeth, bleeding gums, sensitive teeth.

- The texture of the food can greatly improve oral intake if there are dental concerns or missing dentures.

- Observing individuals at mealtime is important to assess food texture needs and to make appropriate recommendations.
**TREATING GERD**

- Uncontrolled GERD can greatly affect a person's intake especially if they are intellectually and developmentally disabled as we can’t explain to them why they feel so awful after eating, which may result in a big decrease in their intake.

- Long term uncontrolled GERD can lead to irreversible damage to the esophagus.

- A reflux diet is intended to minimize reflux or gastric fluid into the esophagus and to eliminate foods that irritate the esophageal mucosa.
• TIPS FOR PREVENTING GERD

- Maintain an upright posture during and for 45-60 minutes after eating
- Avoid eating within 2-3 hours of lying down
- Avoid clothing or belts which are tight around the waste
- Stop smoking as it lowers esophageal sphincter pressure
- Limit caffeine
- Maintain a healthy body weight
- Avoid large meals
- Determine tolerance to chocolate, alcohol, carbonated beverages, citrus foods and juice, tomato products, high fat foods, coffee, mint, spearmint, peppermint, vinegar, chili, jalapeno peppers, and gaseous foods.
TYPICAL EATING OR DRINKING HABITS

- There are 2 different approaches I use to gather this information. Either asking them to review a “typical” 24 hour food and beverage intake or asking them how many servings they get from each of the food groups and how many ounces of fluid per day.

- You may need to provide assistance of what is a serving size and food examples of each food group.

- It is also important to identify the types of beverages a person is consuming.
Estimating their nutritional needs for calories, protein and hydration

- Keep in mind that these are equations, which is merely a starting point for estimating their needs. Everyone is different. Some gain weight on much less, while others are extremely under weight if they follow these recommended estimated needs.
  - Calories: 30 kcal / kg for weight maintenance
  - Protein: 1.0 grams/ kg
  - Hydration: 30 ml / kg
Summary of nutritional findings for tj

- TJ is 85th percentile weight versus stature on the CDC growth chart.
- TJ receives nutrition orally and via G-tube.
- Orally he gets a high calorie, puree diet with 2 ounces of baby food prunes every other day.
- Via the G-tube, TJ gets 6 ounces Pediasure with Fiber and 2 ounces Water 3 times daily and 10 ounces Pediasure with Fiber and 10 ounces water during the night.
Nutrition recommendations for tj

- TJ eats a balanced diet that represents all the food groups. He has a good intake of fluids.
- His BMI has increased by 3.8 in the past 11 months and he is between 5th – 10th percentile BMI for age currently.
- He is followed by a registered dietitian currently.
- Continue 3 ½ cans Pediasure with Fiber daily along with 3 meals orally to produce a continual weight gain.
- Start a calcium supplement of 500mg daily to ensure the estimated needs of 1300mg daily are met.
- Continue regular visits with TJ’s dietitian.