Session 1 Primary Care Conference Chico Hot Springs
Questions on Reading Material - Please Complete before Class

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Friday 7:30 am to 8:45 am June 20, 2025 Greg Rice MD

1. You are in the exam room with an overweight 60-year-old male and his wife. He is here to check on his medications and his type 2 diabetes, hypertension, and history of heart failure with preserved ejection fraction. Your nurse had him fill out a brief questionnaire about his diet which shows he gets most of his calories from UPF and still eats grilled red meat or processed meat most days and loves his ice-cream. His weight, blood pressure, and A1c are all a little worse than the last visit 3 months ago. Which of the following questions would be most appropriate and not trigger lifestyle blaming?
   A. How did you do with increasing your daily walking since I saw you last?
   B. We have talked about cutting out the ice-cream in the evening. How is that going?
   C. Your A1c and blood pressure are a little worse. How are you doing with taking your pills and injections?
   D. Would you be interested in learning more about how food can improve your diabetes and blood pressure and help you have more energy?

2. Prehistoric humans have often been pictured hunting and eating wild game. Which statement is most likely the truth based on what we know today?
   A. Ancient humans hunted wild animals and that was the main source of their food. The markings on animal bones found at prehistoric human settlement sites proves this.
   B. By the shape and size of the prehistoric skulls, paleontologists hypothesized that human intelligence was so advanced, that it was very likely that plants sought out by our ancient ancestors made up the bulk of their diet.
   C. Isotope studies of 15,000-year-old teeth found that ancient humans likely ate plenty of plant food.
   D. Ancient man had the teeth to chew meat, had learned about fire to cook it, and had developed tools and weapons to hunt and harvest meat. It seems likely that meat was the main source of food for our remote ancestors.

3. Studies of tribal peoples of Papua New Guinea and the Bantu population in Africa in the mid 20th century were found not to have the typical western diseases of coronary disease, hypertension and diabetes at a time when these diseases were on the rise in the western world. Physicians who studied these populations found the following. Which of these statements is True? Mark all that apply.
   A. The native populations likely had very healthy microbiomes in their large intestines.
   B. The natives ate mostly minimally processed plant food.
   C. The natives' genetic makeup was significantly different than the western folks.
   D. It is likely that the western folks had a higher incidence of insulin resistance due to their diets triggering abnormal microbiomes.

4. From 1905 to 1990 doctors as well as the public became more and more concerned about so many adults dying of _____. Choose one.
   A. Colon Cancer
   B. Influenza
   C. Coronary Artery Disease
   D. Suicides and Mental illness

5. In the 1970s & 80s Nathan Pritikin's medical research (circle all that apply)
   A. showed that a diet mostly of whole grains, minimally processed vegetables, whole fruit, plain nuts and small amounts of fish, lean meats, and low-fat dairy will improve the health of patients with symptomatic heart disease.
   B. proved very little as the studies were too small and too poorly controlled
   C. showed that dietary treatment works better than medical and surgical treatments in many cases of symptomatic heart disease.
   D. was rejected by national medical organizations such as the National Heart, Lung, and Blood Institute (NHLBI), the American Diabetes Association and the America Heart Association.

6. When someone says a food has too many carbs in it, they are clearly saying it has too much sugar, starch and/or fiber in it.
   A. True
   B. False
   C. Who knows?

7. Digestion begins when the food you swallow gets into the stomach.
   A. True
   B. False

8. The saliva that mixes with your food as you chew does the following: Check all that apply.
   A. Makes it easier to swallow when it is mixed well with your food.
   B. Contains buffers, healing substances, and hormones that protect and heal the esophagus from the effects of stomach acid.
   C. Contains enzymes that begin the digestion of fats and oils in food.
   D. Is produced by three different types of salivary glands (parotid, submaxillary, and sublingual).

9. Which statements about Insulin Resistance are true?
    A. Insulin Resistance was finally discovered in 1997.
    B. Insulin's main function is to regulate blood sugars.
    C. When insulin binds its receptors, it signals the cell to carry out specific functions that are important to the health of the organ in which it is located.
    D. Surges of fructose and/or the action of LPS metabolites interfere with this signaling and cause the cell to misbehave.

10. Which of these statements are true about the cells that line your blood vessels?
    A. They are called endothelial cells.
    B. When they are not functioning properly, they allow LDL particles to pass into the wall of the artery and can lead to atherosclerosis, stenosis and even occlusion.
    C. Dysfunctional endothelial cells can increase the risk of DVT and/or pulmonary emboli.
    D. They are poor at sensing bacteria in the blood. The white cells in the blood stream take care of that.

11. Fructose is an important source of energy in our cells and is especially nutritious to the liver.
    A. True
    B. False

12. What are the two most common reasons for liver transplants in U.S. adults?
    A. Obesity
    B. Alcohol
    C. Hepatitis C or B
    D. Too much fat in the diet
    E. Too much Fructose

13. Which of the following increase the risk of getting a chronic disease? Circle all that apply.
    A. Olive oil and red wine vinegar
    B. Ranch dressing
    C. Croutons and shredded parmesan cheese
    D. Raw walnut pieces
    E. Wild-caught salmon
    F. Newman's Italian dressing

14. 21st century nutrition tells us that the best nutritional treatment for hypertension is (choose one)
    A. A low salt diet to reduce blood volume.
    B. The Atkins or paleo diet to lose weight.
    C. A diet with lots of minimally processed whole plant food and no UPF to reduce insulin resistance and improve endothelial cell function.
    D. Low-fat diet to reduce LDL.
    E. Vegan diet to get rid of the ill effects of red and processed meats.

15. Experiments show that, after a sweetened beverage is consumed such as Mountain Dew or Classic Coke, satiety goes up the first 30-60 minutes but then plummets after that. Which statements are likely true about what happens to satiety in this situation? Circle all that are true.
    A. The reward centers in the brain get a good jolt when you drink the beverage because it is one of those addictive type drinks. In 30-60 minutes the reward center loses its stimulation and no longer is satisfied and starts sending out cravings for more rewarding food or drink.
    B. GLP-1 that gets released when the sugar gets into the small intestine stimulates satiety in the brain via both the vagus nerve and through the circulation.
    C. Dopamine is the main neurotransmitter that increases when consuming UPF. It then stimulates the reward centers of the brain & gives us that good but short-lived feeling.
    D. One reason satiety falls off quickly is that the sugar is absorbed quickly. Once it is no longer inside the small intestine, there is no stimulation to the L cells that release GLP-1. Satiety drops and hunger returns.

16. A patient asks if its ok to get her daily fruit and fiber intake by drinking a 20 oz fruit smoothie with strawberries, bananas, blueberries, and oatmeal (Dole mixed berry smoothie) each morning. Considering what you have learned so far, which of the following would be the most accurate and helpful answer?
    A. It's better to pick a smoothie that does not mix bananas with berries as it reduces the phenol content.
    B. Good work! You're getting a good start on plant food with lots of fiber. The fiber helps your bowels be regular and there is a lot of good vitamins and minerals in the berries.
    C. Smoothies are made with high-speed blenders that break down the fiber matrix in the berries that hold the sugars inside them. The sugar is released too rapidly into your blood stream which can trigger a variety of health problems. I would suggest adding lots of whole fruit to some old fashion rolled oats instead. It is better to let your own digestive system break down the fiber in the berries and oatmeal rather than the blades of the blender.
    D. Combine this smoothie with an everything bagel with peanut butter and you have a very nutritious breakfast. You get lots of whole grains with the bagel and lot of protein with the peanut butter.

17. Lighting up our reward center with great tasting UPF has health consequences. Which of the following statements are true?
    A. The increase in mood that happens with stimulating the reward centers can be used to treat mood disorders.
    B. When UPF over-stimulates our reward centers it interferes with the normal satiety/hunger cycle.
    C. Studies show that foods that over-activate our reward centers lead to a small but significant positive caloric balance which can cause weight gain over time.
    D. Stimulation of the reward center increases cravings for our favorite foods. The cravings ensure that we will get adequate nourishment and not forget to eat.

18. Studies of people staying on GLP-1 analogs are showing some reduction in a variety of chronic illnesses. Which of the following statements are likely true regarding this reduction?
    A. The weight loss stimulates a healthier microbiome which reduces unhealthy metabolites such as LPS.
    B. Many long-term users of GLP-1 analogs lose their desire to eat UPF. Some say it tastes bad.
    C. Long-term users of GLP-1 analogs are often choosing whole fruit and other whole plant food over UPF because it tastes better.
    D. The improved blood sugars seen on long term users of GLP-1 analogs reverse insulin resistance.
    E. GLP-1 analogs directly restore the natural satiety-hunger cycle that many UPF users have lost.

19. Processed foods are often being promoted as having lots of fiber. Food companies add processed fiber to the mixture of ingredients in the food. Examples of these additives are inulin, polydextrose, wheat bran, soy fiber, cellulose, corn bran, and pea hull fiber. They are often found in granola bars, Ice cream, soups, protein bars, cereals, and cookies. Which of the following statements are true?
    A. Food containing artificial fibers listed above have been shown to reduce the incidence of common chronic diseases in long term studies.
    B. Even though these fiber additives are artificially made using chemical techniques, they are still very beneficial to our health.
    C. These products are used in UPF for a variety of reasons. Many of them contain important vitamins and minerals that improve one's health.
    D. Fiber in its natural state as part of the whole minimally processed plant food that we eat has been shown to reduce the incidence of many common chronic illnesses.

20. The bacteria in our large intestine produce metabolites when digesting substances in the colon. Which of the following result in healthy robust epithelial cells that line the inside of the colon?
    A. The breakdown of shed epithelial cells from the lining of our intestines.
    B. The breakdown of the fiber in whole plant foods such as rolled oats or tomatoes.
    C. The breakdown of gram-negative bacteria.
    D. The breakdown of undigested fats that make it to the colon.

21. 20th century cardiology made tremendous improvement in the treatment of atherosclerotic large vessel disease in our hearts and lower extremities. What areas of research were neglected in the second half of the 20th century that are now finally getting addressed in the 21st century? Please circle all that are addressing 21st century nutrition and its role in our health.
    A. The role of the American UPF diet in the development of atherosclerotic vascular disease.
    B. How bacteria act as intermediaries between our diets to our blood vessels.
    C. How diets rich in whole plant food prevent atherosclerosis.
    D. Treatment of vascular disease with dietary methods instead of medication or surgical methods.
    E. How our digestive system processes the food we eat, and how it plays a role in atherosclerosis.
    F. The harm caused by fructose containing UPF.

22. Microvascular dysfunction plays a role in chronic diseases of several organs. Which of the following statements are backed by scientific research?
    A. The arterioles and capillaries control regional blood flow in the brain. Dysfunction of their endothelial cells can trigger reduced cognition in young hypertensives and can trigger dementia symptoms in the elderly.
    B. People with claudication who have improved symptoms with exercise training do not show improved endothelial cell function.
    C. Poor endothelial cell function increases the risk of getting pre-eclampsia.
    D. False positive exercise tests (ischemic looking treadmill test with a normal heart cath) likely indicate significant coronary microvascular dysfunction.

23. It is much more likely than not that eating at least half of a person's calories in the form of minimally processed whole-plant food and taking in minimal amounts of UPF prevents pre-eclamapsia.
    A. True
    B. False