DIET IN SPECIFIC MEDICAL CONDITIONS

OSTEOPOROSIS

WHAT IS OSTEOPOROSIS?

Osteoporosis is a bone disease that occurs when the body loses too much bone, makes too little bone, or both. As a result, bones become weak and may break from a fall or, in serious cases, from
sneezing or minor bumps. Approximately 54 million Americans have osteoporosis or low bone mass.

Breaking a bone is a serious complication of osteoporosis, especially in older adults.
Osteoporotic bone breaks are most likely to occur in the hip, spine, or wrist, but other bones can break too. In addition to causing permanent pain, osteoporosis causes some people to lose height. When
osteoporosis affects vertebrae, or the spine's bones, it often leads to a stooped or hunched posture.

Maintaining strong bones requires a healthy diet. It's important to consume nutrient-rich foods to keep your bones healthy.
Eating a well-balanced diet with plenty of dairy, fish, fruits, and vegetables should provide enough of the nutrients needed to build and maintain strong bones. It's important to eat a variety of calcium-rich
foods every day because it is an essential building block for bones. Vitamin D helps the body absorb calcium, among other things, so it is also important for building and maintaining bone health.
Other nutrients in a healthy diet also help to maintain bone health throughout the lifespan. One of the most important aspects of building and maintaining strong bones is good nutrition.
From early childhood through our senior years, the nutrients consumed from a healthy diet, especially micronutrients like calcium and vitamin D, are essential for bone health.

FEMALES 50 AND YOUNGER	1,000 MG/DAY
FEMALES 51 AND OLDER	1,200 MG/DAY
MALES 70 AND YOUNGER	1,000 MG/DAY
MALES 71 AND OLDER	1,200 MG/DAY

CALCIUM-RICH FOODS

In addition to building bones and keeping them healthy, calcium enables blood to clot, muscles to contract, and the heart to beat. About 99% of the calcium in the human body is in the bones and teeth.
Fortunately, many foods are good sources of calcium (and other healthy nutrients).

Dairy products, such as milk, yogurt, and cheese are high in calcium. Certain green vegetables and other foods contain calcium in smaller amounts. Some juices, breakfast foods, soymilk, cereals, snacks, breads, and bottled water have added calcium.

Foods That Are Good for Your Bones
FOOD NUTRIENT

- Dairy products such as low-fat and non-fat milk, yogurt, and cheese Calcium. Some dairy products are fortified with Vitamin D.
- Fish Canned sardines and salmon (with bones) (Calcium.)
- Fatty varieties such as salmon, mackerel, tuna, and sardines (Vitamin D)
- Fruits and vegetables
- Collard greens, turnip greens, kale, okra, Chinese cabbage, dandelion greens, mustard greens, and broccoli. (Calcium)
- Spinach, beet greens, okra, tomato products, artichokes, plantains, potatoes, sweet potatoes, collard greens, prunes, and raisins. (Magnesium)
- Tomato products, prunes, raisins, potatoes, spinach, sweet potatoes, papaya, oranges, orange juice, bananas, and plantains. (Potassium)
- Red peppers, green peppers, oranges, grapefruits, broccoli, strawberries, brussels sprouts, papaya, and pineapples (Vitamin C)
- Prunes. Dark green leafy vegetables such as kale, collard greens, spinach, mustard greens, turnip greens, and Brussels sprouts. (Vitamin K)
- Fortified Foods
- Calcium and vitamin D are sometimes added to certain brands of juices, breakfast foods, soy
- milk, rice milk, cereals, snacks, and bread. Calcium, Vitamin D

Protein Intake

- Protein intake is also essential for bone health. Approximately 50% of bone volume and about a third of bone mass is composed of proteins. They are integrated into the organic matrix of bone as part of the collagen structure when mineralization occurs. Dietary proteins also affect the secretion and action of insulin-like growth factor I (IGF-I), an orthotropic hormone important for bone formation.
- The IGF-I hormone improves calcium and phosphorus absorption in the gut; it is involved in the synthesis of calcitriol, and it increases the rate of phosphate reabsorption from the kidney. An adequate amount of dietary protein is therefore required to maintain bone health.

Vitamin k

- Vitamin K is involved in bone matrix formation during mineralization. It acts as a cofactor for the microsomal γ-carboxylase, which facilitates the post-translational conversion of glutamyl to γ-carboxy glutamyl residues in osteocalcin, and it also influences other vitamin K-dependent proteins.

Vitamin C: -

- Vitamin C can improve bone health because of its antioxidant properties. It can suppress osteoclast activity. It also acts as a cofactor for osteoblast differentiation

and participates in collagen formation. Vitamin C is a marker of a healthy dietary pattern rich in fruit and vegetables.

<u>These drinks are in moderation.</u>

- Coffee/Tea
- Drinking more than three cups of coffee every day may interfere with calcium absorption and
- cause bone loss.
- Soft Drinks
- Some studies suggest that colas, but not other soft drinks, are associated with bone loss. While
- more research will help us to better understand the link between soft drinks and bone health,
- here is what we know:
- The carbonation in soft drinks does not cause any harm to the bone.
- The caffeine and phosphorous commonly found in colas may contribute to bone loss.
- Like calcium, phosphorous is a part of the bones. It is listed as an ingredient in colas, some
- other soft drinks, and processed foods as “phosphate” or “phosphoric acid.”
- Some experts say that Americans get too much phosphorous, while others believe that it is not
- a problem as long as people get enough calcium. Harm to the bone may be caused
- when people choose soft drinks over milk and calcium-fortified beverages

THESE ARE THE NUTRITIONAL IMPORTANT TO BE TAKEN CARE OF FOR THE PEOPLE WITH OSTEOPOROSIS.

DIET IN CANCER

Cancer is a disease in which some of the body’s cells grow uncontrollably and spread to other parts of the body.

Cancer can start almost anywhere in the human body, which is made up of trillions of cells. Normally, human cells grow and multiply (through a process called cell division) to form new cells as the body needs them. When cells grow old or become damaged, they die, and new cells take their place. Sometimes this orderly process breaks down, and abnormal or damaged cells grow and multiply when they shouldn’t. These cells may form tumors, which are lumps of tissue. Tumors can be cancerous or not cancerous (benign).

Nutrition is a process in which food is taken in and used by the body for growth, to keep the body healthy, and to replace tissue. Good nutrition is important for good health. A healthy diet includes foods and liquids that have important nutrients (vitamins, minerals, protein, carbohydrates, fat, and water) the body needs.

Nutrition problems are likely when tumors involve the head, neck, esophagus, stomach, intestines, pancreas, or liver.

The main nutrients to focus on during cancer treatment are protein, carbohydrates, fats, water, vitamins & minerals.
Protein needs often increase to support muscle strengthening and maintenance for resisting infections, recovering from illnesses, and repairing tissues.
Carbohydrate sources are essential, choosing whole grains and complex carbs over empty carbs and sweets promotes sustainable energy and nutrient-dense foods.
Fat sources of "healthy" mono- and polyunsaturated fats over "unhealthy" saturated and trans fats promote heart health and cholesterol management.
Water is vital, especially if experiencing vomiting or diarrhea, often increasing fluid needs beyond the standard 64 fluid ounces daily to maintain homeostasis and replenish cellular health. Fluid needs are not limited to water and may include soup, broth, milk, and gelatin.
Vitamin & mineral needs may also increase, especially if experiencing decreased appetite, making multivitamins or mineral supplements suitable alternatives for sources of the essential nutrients the body systems need to promote energy.

For many patients, the effects of cancer treatments make it hard to eat well. Cancer treatments that affect nutrition include:

Chemotherapy.
Hormone therapy.
Radiation therapy.
Surgery.
Immunotherapy.
Stem cell transplant.
Cancer and cancer treatments may affect taste, smell, appetite, and the ability to eat enough food or absorb the nutrients from food. This can cause malnutrition, which is a condition caused by a lack of key nutrients. Alcohol abuse and obesity may increase the risk of malnutrition.

Malnutrition can cause the patient to be weak, tired, and unable to fight infection or finish cancer treatment. As a result, malnutrition can decrease the patient's quality of life and become life-threatening. Malnutrition may be made worse if the cancer grows or spreads.

Eating the right amount of protein and calories is important for healing, fighting infection, and having enough energy.

A diet with a focus on plant-based foods along with regular exercise will help cancer patients keep a healthy body weight, maintain strength, and decrease side effects both during and after treatment.

Anorexia is the loss of appetite or desire to eat. It is a common symptom in patients with cancer. Anorexia may occur early in the disease or later if the cancer grows or spreads. Some patients already have anorexia when they are diagnosed with cancer. Most patients

who have advanced cancer will have anorexia. Anorexia is the most common cause of malnutrition in cancer patients.

Cachexia is a condition marked by weakness, weight loss, and fat and muscle loss. It is common in patients with tumors that affect eating and digestion. It can occur in cancer patients who are eating well but are not storing fat and muscle because of tumor growth.

THERE IS SYMPTOMATIC TREATMENT OF CANCER. THIS INCLUDES SYMPTOMS AND THEIR NUTRITIONAL MANAGEMENT THIS IS AS BELOW: -

Anorexia

- The following may help cancer patients who have anorexia (loss of appetite or desire to eat):
- Eat foods that are high in protein and calories. The following are high-protein food choices:
- Beans, Chicken, Fish, Meat.
- Yogurt.
- Eggs.
- Diet should include extra protein and calories in food, such as using protein-fortified milk.
- Eat high-protein foods first in your meal when your appetite is strongest.
- Sip only small amounts of liquids during meals.
- Drink milkshakes, smoothies, juices, or soups if you do not feel like eating solid foods.
- Eat foods that smell good.
- Try new foods and new recipes.
- Try blenderized drinks that are high in nutrients (check with your doctor or registered dietitian first).
- Eat small meals and healthy snacks often throughout the day.
- Eat larger meals when you feel well and are rested.
- Eat your largest meal when you feel hungriest, whether at breakfast, lunch, or dinner.
- Make and store small amounts of favorite foods so they are ready to eat when you are hungry.
- Be as active as possible so that you will have a good appetite.
- Brush your teeth and rinse your mouth to relieve symptoms and aftertaste.

Nausea

The following may help cancer patients control nausea:

- Patients should choose foods that appeal to them. They shouldn't force themselves to eat food that makes them feel sick.
- They should eat foods that are bland, soft, and easy-to-digest, rather than heavy meals.
- Eat dry foods such as crackers, bread sticks, or toast throughout the day.
- Eat foods that are easy on the stomach, such as white toast, plain yogurt, and clear broth.

- Eat dry toast or crackers before getting out of bed if have complained of nausea in the morning.
- Eat foods and drink liquids at room temperature (not too hot or too cold).
- Slowly sip liquids throughout the day.
- Suck on hard candies such as peppermints or lemon drops if their mouth has a bad taste.
- Stay away from food and drink with strong smells.
- Eat 5 or 6 small meals every day instead of 3 large meals.
- Sip on only small amounts of liquid during meals to avoid feeling full or bloated.
- Do not skip meals and snacks. An empty stomach may make your nausea worse.
- Rinse mouth before and after eating.
- Don't eat in a room that has cooking odors or that is very warm. Keep the living space at a comfortable temperature and well-ventilated.
- Sit up or lie with your head raised for one hour after eating.
- Plan the best times for you to eat and drink.

Vomiting

- The following may help cancer patients control vomiting:
- They should not eat or drink anything until the vomiting stops.
- Drink small amounts of clear liquids after vomiting stops.
- After they can drink clear liquids without vomiting, drink liquids such as strained soups, or milkshakes, that are easy on your stomach.
- Eat 5 or 6 small meals every day instead of 3 large meals.
- Sit upright and bend forward after vomiting.

Dry Mouth

- The following may help cancer patients with a dry mouth:
- They should eat foods that are easy to swallow.
- Moisten food with sauce, gravy, or salad dressing.
- Eat foods and drinks that are very sweet or tart, such as lemonade, to help make more saliva.
- Chew gum or suck on hard candy, ice pops, or ice chips.
- Sip water throughout the day.
- Do not drink any type of alcohol, beer, or wine.
- Do not eat foods that can hurt the mouth (such as spicy, sour, salty, hard, or crunchy foods).
- Keep lips moist with lip balm.
- Rinse mouth every 1 to 2 hours. Do not use mouthwash that contains alcohol.
- Do not use tobacco products and avoid secondhand smoke.
- Doctor or dentist may also prescribe using artificial saliva or similar products to coat, protect, and moisten your mouth and throat.

Mouth Sores

- The following can help patients who have mouth sores:
- They should eat soft foods that are easy to chew, such as milkshakes, scrambled eggs, and custards.

- Cook foods until soft and tender.
- Cut food into small pieces. Use a blender or food processor to make food smooth.
- Suck on ice chips to numb and soothe your mouth.
- Eat foods cold or at room temperature. Hot foods can hurt your mouth.
- Drink with a straw to move liquid past the painful parts of your mouth.
- Use a small spoon to help you take smaller bites, which are easier to chew.
- Stay away from the following:
- Citrus foods, such as oranges, lemons, and limes.
- Spicy foods.
- Tomatoes and ketchup.
- Salty foods.
- Raw vegetables.
- Sharp and crunchy foods.
- Drinks with alcohol.
- Do not use tobacco products.
- Check mouth each day for sores, white patches, or puffy and red areas.
- Rinse mouth 3 to 4 times a day. Mix ¼ teaspoon baking soda, ⅛ teaspoon salt, and 1 cup warm water for a mouth rinse. Do not use mouthwash that contains alcohol.
- Do not use toothpicks or other sharp objects.

Taste Changes

- The following may help cancer patients who have taste changes:
- They should eat poultry, fish, eggs, and cheese instead of red meat.
- Add spices and sauces to foods (marinate foods).
- Eat meat with something sweet, such as cranberry sauce, jelly, or applesauce.
- Try tart foods and drinks.
- Use sugar-free lemon drops, gum, or mints if there is a metallic or bitter taste in your mouth.
- Use plastic utensils and do not drink directly from metal containers if foods have a metallic taste.
- Try to eat favorite foods, if the patient is not nauseated. Try new foods when feeling your best.
- Find nonmeat, high-protein recipes in a vegetarian or Chinese cookbook.
- Chew food longer to allow more contact with taste buds, if food tastes dull but not unpleasant.
- Keep foods and drinks covered, drink through a straw, turn a kitchen fan on when cooking, or cook outdoors if smells bother you.
- Brush your teeth and take care of your mouth. Visit your dentist for checkups

Sore Throat and Trouble Swallowing

The following may help cancer patients who have a sore throat or trouble swallowing:

- Eat soft foods that are easy to chew and swallow, such as milkshakes, scrambled eggs, oatmeal, or other cooked cereals.
- Eat foods and drinks that are high in protein and calories.
- Moisten food with gravy, sauces, broth, or yogurt.

- Stay away from the following foods and drinks that can burn or scratch your throat:
- Hot foods and drinks.
- Spicy foods.
- Foods and juices that are high in acid.
- Sharp or crunchy foods.
- Drinks with alcohol.
- Cook foods until soft and tender.
- Cut food into small pieces. Use a blender or food processor to make food smooth.
- Drink with a straw.
- Eat 5 or 6 small meals every day instead of 3 large meals.
- Sit upright and bend your head slightly forward when you eat or drink, and stay upright for at least 30 minutes after eating.
- Do not use tobacco.

Lactose Intolerance

- The following may help patients who have symptoms of lactose intolerance:
- Use lactose-free or low-lactose milk products. Most grocery stores carry food (such as milk and ice cream) labeled "lactose-free" or "low lactose."
- Choose milk products that are low in lactose, like hard cheeses (such as cheddar) and yogurt.
- Try products made with soy or rice (such as soy and rice milk and frozen desserts). These products do not contain lactose.
- Avoid only dairy products that give you problems. Eat small portions of dairy products, such as milk, yogurt, or cheese, if you can.
- Try nondairy drinks and foods with calcium added.
- Eat calcium-rich vegetables, such as broccoli and greens.
- Take lactase tablets when eating or drinking dairy products. Lactase breaks down lactose so it is easier to digest.
- Prepare your low-lactose or lactose-free foods.

Weight Gain

- The following may help cancer patients prevent weight gain:
- Eat a lot of fruits and vegetables.
- Eat foods that are high in fiber, such as whole-grain breads, cereals, and pasta.
- Choose lean meats, such as lean beef, pork trimmed of fat, and poultry (such as chicken or turkey) without skin.
- Choose low-fat milk products.
- Eat less fat (eat only small amounts of butter, mayonnaise, desserts, and fried foods).
- Cook with low-fat methods, such as broiling, steaming, grilling, or roasting.
- Eat less salt.
- Eat foods that you enjoy so you feel satisfied.
- Eat only when hungry. Consider counseling or medicine if you eat because of stress, fear, or depression. If you eat because you are bored, find activities you enjoy.
- Eat smaller amounts of food at meals.
- Exercise daily.

THESE ARE SOME NUTRITIONAL ADVICE THAT A PATIENT WITH CANCER SHOULD FOLLOW TO MAINTAIN A GOOD HEALTH AND HAVE ENOUGH STRENGTH TO FIGHT AGAINST CANCER….

DIET IN OBESITY

Obesity is a complex health condition that is caused by an excessive amount of body fat. It is defined as a BMI (body mass index) of 30 or higher. BMI is a measure of body fat based on height and weight. Obesity has a variety of reasons, including:

- Genetics: Some people are genetically predisposed to obesity more than others. • Diet: Obesity can result from consuming too many calories, particularly from unhealthful meals such as processed foods, sugary drinks, and fast food.
- Physical exercise: Obesity can also be caused by insufficient physical activity.
- Medical conditions: Obesity is a risk factor for some medical diseases, including hypothyroidism and polycystic ovarian syndrome (PCOS).
- Medications: Some drugs, including some antidepressants and steroids, can make you gain weight.
- Socioeconomic factors: Obesity is more prevalent in those who are poor or have low levels of education.
- Obesity can have a lot of detrimental effects on one's health, such as Obesity is a significant risk factor for heart disease, the world's leading cause of death.
- Stroke: The second-leading cause of mortality globally and a major risk factor for stroke is obesity.
- Type 2 diabetes: Type 2 diabetes is a chronic disorder that alters how the body metabolizes sugar. Obesity is a significant risk factor for type 2 diabetes.
- Some cancers: Breast, colon, and endometrial cancers are among the cancers for which obesity is associated with a higher risk. Obesity is a significant risk factor for sleep apnea, a condition of sleep that can result in increased daytime sleepiness and other health issues.
- Arthritis: Obesity can put extra stress on joints, leading to arthritis.

Did you know that obesity can increase the risk of depression? It's important to prioritize maintaining a healthy weight for both physical and mental well-being.

Several things can be done to prevent obesity, including eating a healthy diet. The four main types of dietary plans used to treat overweight or obese people are as follows:

- ✓ 1. Diets low in calories (LCD)
- ✓ 2. A diet low in fat
- ✓ 3. The very low-calorie diet (VLCD),
- ✓ 4. The low-carbohydrate diet LCD

LCDs have a high carbohydrate content (55–60%), low-fat content (less than 30% of total calories), a high fiber content, and a low glycemic index. Alcohol and foods high in energy should be avoided. In 34 randomized trials, LCD was found to have 8% lower body weight

over a 3- to 12-month period.13 Patients who are overweight or obese frequently underestimate their caloric consumption. There are prepackaged or portion-controlled meals that provide the necessary number of calories to assist them in overcoming this. Drinks, nutrition bars, and prepared meals can all be used as replacement meals.

Fat-free diets

These diets limit daily fat consumption to 20–25% of total calorie intake. This amounts to 30-37 g of fat for a person eating 1500 calories per day, which can be calculated using the nutrition facts on food packaging. An alternative is for a nutritionist to give the person a specialized menu plan with less fat.

A diet low in carbohydrates

The amount of carbohydrates in the diet plays a significant role in determining short-term (less than two weeks) weight loss. Low carbohydrate (60-150 g of carbohydrate per day) and very low carbohydrate (60 g) diets are very common. When carbohydrate intake is restricted, glycogen is utilized. When the daily consumption of carbohydrates is less than 50 g, glycogenolysis will lead to ketosis, which will cause fluid loss. Many of the popular low-carbohydrate diets currently available (like the Atkins diet) only allow 20 g of carbohydrates per day while allowing unlimited amounts of fat and protein. According to a meta-analysis of five trials, weight reduction favoring a low-carbohydrate diet over a low-fat diet at six months is not sustained at twelve months. In those assigned to low-fat diets, triglycerides and high-density lipoprotein (HDL) cholesterol changed more favorably.

VLCD

VLCDs are diets that contain 200–800 kcal of energy per day. Diets with fewer than 200 kcal per day are starvation diets. Because of serious adverse events such as electrolyte imbalance, low blood pressure, and an increased risk of gallstones, VLCDs are not advised for general use. Its use must be under the supervision of licensed medical professionals. Globally, the prevalence of overweight and obesity is rising at an alarming rate and has epidemic proportions in virtually every nation. Obesity significantly increases the risk of cancer, metabolic, gastrointestinal, and cardiovascular illnesses. However, the development of morbid obesity can be stopped in the early phases of weight gain, when a person is overweight, without the need for drugs, or endoscopic, or surgical operations.

DIET IN DIABETES

Diabetes has an impact on how your body converts food into energy.Type 1 and type 2 diabetes are the two primary subtypes.

Type 1 diabetes is an autoimmune condition in which the body attacks the insulin-producing cells in the pancreas. A hormone calledinsulin aids in the body's utilization of glucose as fuel. Insulin injections must be given daily to people with type 1 diabetes to control their blood sugar levels.

Type 2 diabetes has an impact on how your body uses insulin. The body either doesn't produce enough insulin or doesn't utilize it as well as it should in patients with type 2 diabetes. The level of glucosein the blood may rise as a result of this. With lifestyle modifications including weight loss, eating a balanced diet, and regular exercise,

type 2 diabetes is frequently avoidable.

An essential component of treating diabetes is eating a balanced diet. No one diabetes diet works for everyone, but some general recommendations can assist you in developing a meal plan that is effective for you.

Here are some recommendations for eating well while managingdiabetes.

Make a point of choosing low-carbohydrate foods. The bloodstream converts carbohydrates into glucose, so it's critical to select foods
with a low glycemic index (GI). A food's GI value indicates how quickly it boosts blood sugar levels. Low-GI foods take longer todigest and gradually release sugar into the system.

Include fresh produce and fruits in your diet. Fruits and vegetables are high in fiber, vitamins, and minerals while being low in calories and fat. The anti-diabetic properties of oranges are due to hesperidin and naringin, two bioflavonoid antioxidants. They are also awonderful source of low-GI carbs. spinach, lettuce, kale, cabbage, carrots, broccoli, oranges, grapefruits, and lemons

- Choose whole grains over refined grains. Fiber from whole
  grains is beneficial for controlling blood sugar levels. Because the fiber in refined grains has been removed, they digest morequickly and may raise the level of glucose in the blood.
- Brown rice, whole grain bread, whole grain pasta, sorghum,millet, and oats
  are some examples of whole grains.
- Include low-saturated-fat protein in your diet. After eating, thiscan help you feel satisfied and full. Lean protein is found in foods including chicken, fish, beans, and tofu.
- Select healthy fats. Avocados, almonds, and olive oil are all sources of healthy fats that can help lower cholesterol andprevent heart disease.
- Limit sugary beverages. Sugary beverages including soda, juice,and sports drinks can significantly increase blood sugar levels. Drink water, unsweetened tea, or coffee in its place.
- Pay attention to your portion sizes. To maintain stable levels ofglucose in the blood throughout the day, it's critical to eat
  frequent meals and snacks. But it's also crucial to pay attentionto your portion sizes. Too much food consumed at once can raise blood sugar levels.

The following foods should be avoided by diabetics:

- Sweetened foods and beverages. These foods have thepotential to raise
  blood sugar levels.
- Processed food. Foods that have been processed frequentlyhave a lot of salt, sugar, and saturated fats

- Rice, pasta, and white bread. These foods include significant amounts of refined carbohydrates, which can increase bloodglucose levels.
- Dairy products with full-fat. Saturated fat, which is prevalent in full-fat dairy products and may increase cholesterol levels.
- Red meat. Red meat has a lot of saturated fat and can make you have higher cholesterol.

Working with a registered dietician to develop a food plan that suits your specific requirements is crucial if you have diabetes. A dieticiancan guide you in making healthy food selections and can show you how to control your blood glucose levels through nutrition.