For women diagnosed with ovarian cancer, maintaining a nutritious diet is essential to support treatment and recovery. Certain dietary strategies can also help reduce cancer risk, though evidence on food-based prevention is still evolving. Here's a breakdown of key dietary recommendations based on research:

## Foods to Include During Treatment and Recovery:

- 1. Antioxidant-rich fruits and vegetables: Blueberries, broccoli, peppers, and spinach provide essential vitamins and reduce oxidative stress, which may help during recovery.
- 2. Lignans and whole foods: Flaxseeds, pumpkin seeds, and whole grains (like oats and barley) may support hormonal balance and weight management.
- 3. Minimally processed soy foods: Options like edamame, tofu, and tempeh contain compounds that could slow cancer progression, though more studies are needed to confirm these effects.
- 4. High-iron and folate foods: Lean meats, beans, and dark leafy greens combat anemia, a common side effect during chemotherapy.
- 5. Hydration and vitamin D-rich foods: Staying hydrated is vital. Fish, fortified cereals, and egg yolks help with vitamin D levels, which are linked to better immunity and bone health.

### Foods to Avoid:

- 1. Processed and fried foods: Limiting items with acrylamide, such as potato chips and processed cereals, is advised since they may raise cancer risk.
- 2. Red and processed meats: Reducing intake of these foods may be beneficial, as they are linked with increased cancer risks.
- 3. Sugary and refined carbs: Avoiding excess sugar helps prevent weight gain and maintains stable blood sugar levels during corticosteroid treatment.

### Age-Related Prevention Guidelines:

- Young adults (20s–40s): Focus on nutrient-dense foods, like fruits, vegetables, and whole grains, to maintain a healthy weight.
- Midlife (40s–60s): Include more calcium and vitamin D-rich foods to prevent bone loss and focus on fibre for hormonal balance.
- Seniors (60+): Emphasize foods with anti-inflammatory properties (e.g., fatty fish, berries) and those supporting heart health.

Additional Tips for Managing Side Effects:

-Neutropenic diet: If undergoing chemotherapy, avoid raw or undercooked foods (like sushi or deli meats) to reduce infection risks.

Small, frequent meals: Help manage nausea and loss of appetite by eating smaller portions more often throughout the day

These dietary recommendations are designed to improve quality of life during treatment and reduce the risk of future complications. However, it's always advisable to consult a nutritionist or oncologist for personalized dietary advice.

Best Foods For Ovarian Cancer Prevention

# 1. Cruciferous vegetables

Examples: Cauliflower, cabbage, broccoli, brussels sprouts, kale

A recent *Nutrition and Cancer* study found that cruciferous vegetables are thought to lower women's ovarian cancer risk. "Cruciferous veggies offer cancer-preventing nutrients in general—fruits and vegetables like these that are high in phytonutrients help to build and repair damaged cells," explains Jill Bice, MS, RD, a nutritionist at the University of Chicago Medicine's Comprehensive Cancer Center. Consuming cruciferous veggies may also help to maintain a healthy weight: one of the few ovarian cancer risk factors, according to the American Cancer Society.

But just to reiterate, there's no such thing as miracle food when it comes to cancer prevention. "The healthiest diet, including for reducing risk of cancer, is one that is rich in colorful fruits and vegetables—at least four to five servings a day—which includes, but is not limited to cruciferous vegetables," adds Shannon MacLaughlan David, MD, MS, Director of the Division of Gynecologic Oncology at the University of Illinois at Chicago College of Medicine. "This diet should be balanced by lean proteins and healthy fats, like the omega-3s in fish, and olive oil, which is rich in beneficial phenols, phytosterols, and monounsaturated free fatty acids."

Speaking of omega-3s, a recent *Gynecologic Oncology* study done on human cells found that one omega-3 fatty acid found only in fish, DHA, inhibits ovarian cancer growth. More research and clinical trials still need to be d

one to determine whether this translates from a lab setting to ovarian cancer patients.

### 2. Foods containing selenium

Examples: Tuna, shrimp, Brazil nuts, turkey, eggs, baked beans

Research published in <u>BMC Cancer</u> suggests that foods that contain the mineral selenium could potentially decrease ovarian cancer risk. This makes sense because

it acts as an antioxidant in the body, reducing levels of cell-damaging free radicals. It can be found in high protein foods—lean meats, fish, beans, and certain nuts.

# 3. Foods containing lignans

Examples: Flaxseeds, pumpkin seeds, beans, berries, and whole grains like rye, oats, and barley

Older research published in <u>The Journal of Nutrition</u> has suggested that lignans, polyphenols found in plant foods, could be beneficial hormonally to women in preventing ovarian cancer. While the research is inconclusive, a diet high in whole foods—and especially plants—is key. "Lignans are important because they have <u>omega-3 fatty acids</u>, which can help in cancer prevention, and <u>fiber</u>, which can help in weight maintenance," says Bice.

# 4. Minimally-processed soy foods

Examples: Edamame, tempeh, miso, and tofu

Amy Shapiro, MS, RD, CDN, nutritionist at <u>Daily Harvest</u> shares that some forms of soy, like soybean oil, can be found in highly-processed foods and can lead to increase risks of cancer, <u>population studies in Asia show</u> that minimally-processed soy foods may slow ovarian cancer cell growth. <u>Epidemiological and experimental studies</u> have found that an active compound found in soy foods, genistein, may act as a chemopreventive or therapeutic agent against ovarian cancer. But while clinical trials are now being performed to identify the role of genistein as an anticancer agent, there is currently not enough evidence of its link to ovarian cancer prevention. Shapiro clarifies that the healthiest forms of soy are <u>Organic, Non-GMO</u> foods like edamame or tempeh.

### 5. Antioxidant-rich fruits and vegetables

Examples: Apples, broccoli, blueberries, strawberries, peppers

It's no secret that any foods containing antioxidants can be cancer-fighting superfoods. "Eating plants, in a wide variety of colors, is the best way to get antioxidants like flavonoids," says Shapiro. "Eating a diet rich in fruits and vegetables (up to 10 servings a day—and fill at least half your plate with veggies!) can help to fight cancers and illnesses thanks to their antioxidants, vitamins, and minerals," she adds.

Note that while <u>observational human studies</u> have yielded mixed results in connecting antioxidant supplementation to a reduced risk of cancer, so far, <u>research</u> that has specifically looked at ovarian cancer prevention has not found enough evidence to support that antioxidant consumption reduced risk of ovarian cancer.

Foods You Should Avoid On An Ovarian Cancer Diet

### 1. Limit: foods with dietary acrylamide

Examples: Potato chips, French fries, certain processed cereals and snacks

Dietary acrylamide is a chemical by-product of cooking certain starches at high temperatures. It's found in heavily processed and fried foods. Multiple sources, including the International Agency for Research on Cancer, have deemed dietary acrylamide to be a "probable carcinogen" (a 2007 and 2010 study linked it to a possible higher risk of ovarian cancer, but this has not been proven with further research). The American Cancer Society explains that the FDA recommends the food industry to reduce the amount of acrylamide in foods, but there is no official regulation. These foods that tend to contain acrylamide, though, probably aren't included in a balanced, heavily-plant-based, cancer-preventing diet. "If you're following a healthy diet as described above, you're already minimizing foods that are high in starchy carbs and animal fats, which are pro-inflammatory foods," Dr. MacLaughlan David says.

## 2. Limit: animal products

Examples: Beef, processed meats like salami, butter

<u>Older studies</u> have suggested that animal products, in general, should be limited when it comes to ovarian cancer prevention, and this may still ring true, within reason. "A more plant-based diet is what's recommended to lower cancer risk—this doesn't mean that you have to go vegetarian or vegan completely, though," Bice says, although it is a good <u>reason to go vegan</u>. "Red meats and processed meats are linked to cancers such as colorectal cancer, so it's better to choose fish, and lean meats like turkey and chicken." she adds.

## 3. Limit: sugar

Examples: Candy, soda, cookies, bottled drinks, and yogurts with added sugars Scientists are still studying the exact risk factors associated with sugary foods and beverages and ovarian cancer, as shown by a <u>BMC Cancer</u> study, but it's definite that these processed foods should not be part of an <u>anti-inflammatory</u>, cancer-fighting diet. "I would recommend staying away from foods that cause inflammation and the big one here is sugar. Limit the amount of packaged foods you eat and shop the perimeter of the store," Shapiro suggests.

#### 2. Limit: alcohol intake

Examples: Hard liquor, beer, sugary mixed drinks

While one glass of wine could be a source of heart-healthy, cancer-fighting antioxidants like polyphenols, a *Journal of Cardiovascular Disease Research* study show, much more than that on a daily basis isn't good for cancer prevention in general. "The AICR (American Institute for Cancer Research) states that any alcohol increases risk of cancers, but if you're going to have it, the safe serving size for women is one drink, which is five ounces of table wine per day," Bice says.

#### 3. Limit: saturated and trans fats

Examples: Processed, sugary snacks, processed meats, margarine

A study that appeared in the journal *Oncotarget* connected high dietary fat intake to ovarian cancer. Specifically, the worst fats to consume are saturated fats and trans fats. These fats are most commonly found in foods that are heavily processed or fried—which don't coincide with a healthy, mostly plant-based diet.

The bottom line: What goes along with a balanced diet is healthy lifestyle choices. "Maintaining a healthy weight (which also means exercise!) improves health and reduces risks of all sorts of diseases, including cancer, and including ovarian cancer," Dr. MacLaughlan David says.

#### **Nutrition for Ovarian Cancer**

### Overview

Everyone feels their best when they consistently eat a healthy, balanced diet. For people with <u>ovarian cancer</u>, good nutrition can help you recover from treatment, reduce treatment side effects, support bone health, maintain a healthy weight, and avoid developing complications such as infections, diabetes, and heart disease. Knowing which foods to avoid can help prevent drug interactions and foodborne illness.

Some popular diets may contain toxic levels of some nutrients or dangerously low levels of others. Always consult your doctor before adding dietary supplements or making significant changes to your diet.

For nutrition guidance specific to your condition and treatments, ask your doctor for a referral to a registered dietitian or nutritionist.

What does it involve? For the most part, a nutritious diet for someone with ovarian cancer is not very different from a healthy diet for other people. In general, focus your diet on fresh vegetables and fruit, whole grains, legumes, fish, low-fat dairy products, lean meats, and sources of healthy unsaturated fats such as nuts and olive oil. Always use food safety practices. Wash all produce, check meat for the correct cooking temperature using a meat thermometer, and do not consume expired products.

While undergoing and recovering from ovarian cancer treatments such as chemotherapy, your immune system will be suppressed. Most people develop neutropenia, or low counts of white blood cells called neutrophils. During this time, your body is unable to fight off bacteria and other pathogens that may not affect healthy people. Some doctors recommend a neutropenic diet that limits exposure to any potentially harmful foods. A neutropenic diet usually means avoiding sushi, undercooked meat and fish, soft cheeses, raw eggs, cold cuts, and cured meats. Doctors disagree on the effectiveness of the neutropenic diet in preventing foodborne illness during cancer treatment.

Some ovarian cancer treatments can cause weight gain, while others can cause nausea, mouth sores, changes in taste, and loss of appetite that leads to weight loss.

If you are concerned about weight gain, ask your doctor about safe ways to control your weight. If you are concerned about weight loss, try drinking high-calorie beverages such as juices or smoothies, increasing your intake of healthy fats such as avocados and nuts, or adding cream or gravy to meals. Frequent small meals throughout the day may be easier to eat than fewer, larger meals.

If your treatment regimen includes corticosteroids, you may develop high blood sugar that can contribute to weight gain and mood swings or lead to the development of diabetes. Reducing your intake of carbohydrates, such as fruit juices, sweets, white rice, white bread, and other baked goods, may help prevent blood sugar spikes, mood fluctuations, and diabetes.

If you develop anemia (low levels of red blood cells), eating foods high in iron and folate may help. Iron occurs naturally in lean meats, dried fruits, legumes such as beans and peas, and dark green leafy vegetables. Folate – also known as folic acid – is present in meat, eggs, dairy products, nuts, legumes, and dark green leafy vegetables. Cereals and other grain-based foods are often fortified with iron and folate during processing. Check labels to be certain.

Healthy levels of vitamin D are vital to bone health and may help fight cancer. Vitamin D is found in egg yolks, cheese, beef liver, and many types of fish including salmon, mackerel, and some canned tuna and sardines. Vitamin D is also added to milk, many cereals, and other products such as soy milk and orange juice. Check labels to make sure products contain vitamin D.

Ovarian cancer treatments and their side effects can increase the risk for dehydration, which contributes to dry mouth, headaches, nausea, constipation, and dizziness. Rather than drinking large amounts a few times a day, try sipping your favorite noncaffeinated beverages throughout the day. Popsicles, gelatin desserts, and frozen cubes of juice are good ways to increase hydration when drinking is difficult.

Alcohol and caffeine can worsen the side effects of some ovarian cancer treatments, lessen treatment effectiveness, and cause dehydration. Moderate your intake of beverages containing caffeine and alcohol, and discuss specific limits with your doctor.

If you have trouble with nausea, eating bland foods and adding ginger or peppermint may help. Avoid spicy, intensely sweet, or strong-smelling foods to limit nausea. Foods served cold may have less smell. Dry crackers or plain toast can help settle the stomach.

Ask your doctor if you're concerned that you may not be getting enough of certain nutrients. Your doctor may want to test your nutrient levels before recommending an effective nutritional supplement.

Intended outcomes Eating a nutritious diet can help you feel your best, improve overall health, and ease recovery from ovarian cancer treatments. A healthy diet can support strong bones and

normal weight. A nutritious diet can also help reduce medication side effects and lower your risk for serious complications.

#### Constraints

Side effects of some ovarian cancer medications, which can include nausea, upset stomach, mouth sores, changes in how food tastes, fatigue, and dizziness, may make it difficult to eat regular meals or focus on a healthy diet.

Fatigue, weakness, depression, or physical disabilities may make it more difficult to find the energy to prepare fresh, healthy meals. Cooking large batches of food and freezing several portions for future meals can help conserve energy.

Depending on where you live, it may be harder to get to a grocery store with a good selection of produce and other nutritious foods.