

Immunotherapy and gut health

**Nutrition guide for
people with cholangio or
hepatocellular carcinoma**

Nourish



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Nutrition guide for people with cholangio or hepatocellular carcinoma

Dear reader,

Food is an integral part of our lives and brings us together, nourishes us, and keeps us healthy and happy. Having cholangiocarcinoma and hepatocellular carcinoma affects how we eat.

Our family lost a beloved daughter and sister, Rebecca Holmes, to cholangiocarcinoma in June 2021. Rebecca experienced many challenges while trying to maintain a healthy weight. As a registered dietitian, she managed her own diet, but was aware that others did not have the same knowledge and resources available to them.

To support our fellow Canadians, and together with other motivated Canadians, we formed Cholangio-hepatocellular carcinoma Canada (CHCC) in 2023. Our goal is to extend and improve the quality of life of those affected by cholangiocarcinoma and hepatocellular carcinoma by raising awareness, providing information resources, and building patient support networks.

Because of Rebecca's passion for healthy eating, we wanted one of our first actions to be dietary support for patients. To that end, CHCC has partnered with five registered dietitians and NOURISH to create this guide with tips and recipes specific to you while you are undergoing immunotherapy treatment, a relatively new treatment option for cholangiocarcinoma and hepatocellular carcinoma.

These recipes are intended to help support your immune system while you complete your treatment and let you rediscover your love of food. They are easy to prepare, and delicious!

Rebecca would be happy to know of the nutrition support provided by our dietitians, a cause she would have eagerly contributed to herself.

Sincerely,
The family of Rebecca Holmes
Don, Brenda, David, Sheila and Teresa,
founders of CHCC



Introduction

This guide, written by registered dietitians (RDs) working in cancer centres across Canada, shows you how your diet can help support your health during your treatment with immunotherapy. This guide is intended for people with hepatocellular carcinoma (liver cancer) and cholangiocarcinoma (bile duct cancer). However, much of the advice in this handout can also be useful for people receiving immunotherapy for other types of cancer.

What and how you eat is important, and not only to make sure you get enough nutrients. What and how you eat affects the health of your gut, which is interconnected with your immune system. In fact, your gut, which is critical to good health, plays a major role in how your immune system works.

By making good nutrition an important part of your daily life, you are taking a great step towards a more active role in your treatment. Research shows that cancer-related weight loss, especially muscle mass loss, is associated with reduced physical functioning and health-related quality of life, poor tolerance to cancer treatment, as well as therapies, and reduced survival.¹⁻⁶

What should I eat? Do I need supplements to help my immune system? Many people search the internet for answers and get overwhelmed. This guide will answer some of the common questions we hear from people like you when receiving immunotherapy treatment.

Did you know?

The gut, or gastrointestinal system, has three important roles:

- digesting food
- absorbing nutrients; and
- eliminating waste from the body.

But the way your gut functions may also affect your energy level, mood, and the ability to fight infection. We know now that it is not only the food we eat that affects our gut health. Physical activity, alcohol, smoking, sleep, and stress can also have an influence on gut health.



How Immunotherapy Works

Think of the immune system as your body's own defence system. It is made up of organs, cells, and substances that help protect us against infections and diseases. It works by finding and destroying foreign intruders like allergens, viruses, and microbes, as well as damaged cells that can become cancerous. Our immune system is always on the lookout for a damaged or cancerous cell, that it then destroys, but sometimes, fast-dividing cancer cells escape the attention of our immune system.

Immunotherapy is a type of cancer treatment that uses our own immune system to find and destroy cancer cells more effectively. What makes immunotherapy different from chemotherapy?

Chemotherapy works **DIRECTLY**, attacking any fast-dividing cells such as cancerous cells but may also attack healthy cells like hair follicles.

Immunotherapy works **INDIRECTLY**, by helping our own immune system destroy cancer cells.

Breakfast Burrito 2 servings

INGREDIENTS

1 teaspoon olive oil	2 large eggs beaten
2 tablespoons onion minced	2 small flour tortilla
2 tablespoons red pepper diced	4 leaves Boston lettuce
1/8 teaspoon cayenne pepper	1 green onion sliced

PREPARATION

1. In a small non-stick frying pan, heat oil over medium heat.
2. Fry the onion and the peppers. Season with cayenne pepper.
3. Add the eggs and stir from time to time until the eggs are cooked, but still soft. Set aside.
4. Fill each tortilla with two leaves of lettuce and half of the egg mixture. Garnish with green onions, roll them close and serve.

Tip: Use whole wheat tortilla to increase fibre.

NUTRIENT ANALYSIS

Per Serving: 1 Burrito

Calories: 213Kcal

Protein: 9g

Carbohydrates: 21g

Fibre: 2g



What

You Can Do to Help Your Immune System

We hear about food or supplements that “Boost your immune system” all the time, but often these words are used just for marketing purposes. The immune system is, after all, a complex system with many interacting components.

A direct connection between lifestyle changes and improved immune response has yet to be proven by scientific evidence. But it is safe to say that healthy living strategies are our first line of defence because they have proven health benefits, and they will most likely also help the immune system.

So... what can you do to help your immune system? Here are three steps you can take to help your immune system functioning best. These steps will also help you in managing fatigue which is a common side effect of cancer and treatment that many people struggle with.

① KEEP MOVING

Regular physical activity contributes to overall good health and has been shown to help with cancer-related fatigue. People who exercise regularly tend to feel less tired, less depressed, and more energetic, and tend to sleep better. Aim for 150 minutes of moderate to vigorous exercise and two muscle-strengthening exercise sessions per week. Mind-body exercises like yoga, tai-chi, and qigong may also be helpful. If you have not exercised before check with your doctor that it is okay to start to exercise. Also, start with light activity like a daily walk.

② EAT A VARIETY OF FOODS

Eating a variety of foods each day ensures you get a wide range of nutrients to support your immune system. This is important because different nutrients play different roles in protecting your body.

③ GET ENOUGH SLEEP

The number of hours of sleep each person needs may vary. In general, getting at least 7 hours of good quality sleep each night supports your immune system. While you sleep, your immune system releases proteins that strengthen the body's virus defences. Not getting enough sleep can put a strain on your immune system.



FREQUENTLY ASKED QUESTIONS

1. Are liver cleanses recommended?

No. Liver cleanses or detoxes are based on the idea that specific foods or a diet can help remove harmful substances from your body. However, this is a misconception as your liver doesn't allow for harmful substances to accumulate. In fact, one of the roles of your liver is to remove toxins from your body. Not surprisingly, there is no scientific evidence that liver cleanses work. In fact, some of them might cause harm to your body.

2. Are there any foods that I need to avoid with liver or bile duct cancer?

There are no foods that you should not eat. Eating a variety of foods may maximize your chance of getting all the different nutrients you need (page 5). If you experience any side effects, a registered dietitian might help tweak your diet to meet your needs. There may be a few foods you should be careful about for a while until side effects subside.

3. Can I eat sugar while on immunotherapy?

While there are no specific studies looking at sugar intake and immunotherapy, it is generally recommended to eat healthy, well-balanced meals.⁷ Every cell in your body uses sugar. It's best to get sugar from whole grains and whole wheat carbohydrates such as whole wheat bread or pasta, rather than having foods high in simple sugars, such as candy, table sugar.

4. Can I drink alcohol while receiving cancer immunotherapy?

Alcohol should be limited or avoided while on immunotherapy.

Alcohol is broken down by the liver. Some immunotherapy treatments are also processed by the liver, so drinking alcohol might add more stress and work to the liver.

Did you know?

Your liver is so important to your nutrition:

One of the many functions of the liver is to break down food (carbohydrates, fat and protein) and convert it to the energy you need. The liver also functions in storing vitamins and minerals. If you have a liver condition, it may affect how you process and break down food. This means you may need to eat foods high in calories and protein to prevent malnutrition and weight loss. If you have fluid in your tummy (ascites), you may feel full quickly and be unable to finish a meal. Eating foods rich in protein and calories can help you maintain weight (page 16).

Eat a Variety of Foods

FILL ½ OF YOUR PLATE WITH BRIGHTLY COLOURED VEGETABLES AND FRUIT. Raw, cooked, frozen, or canned — mix it up!

INCLUDE VEGETABLE OILS like canola or olive oil and foods rich in plant fats, such as nuts, olives and avocados (in small amounts) when cooking or preparing meals.



FILL ¼ OF YOUR PLATE WITH GRAINS. Eat a variety of grains like barley, wild rice, oats and quinoa. Choose whole grain bread products and cereals as often as possible.

FILL ¼ OF YOUR PLATE WITH PROTEIN-RICH FOODS. Choose legumes (lentils, peas, beans), nuts, seeds, soy beverage or tofu more often. Include eggs and dairy products as well. When you choose animal-based protein, choose fish or poultry and limit red or processed meat.

CHOOSE FOOD OVER SUPPLEMENTS WHENEVER YOU CAN

The best way to get all the nutrients you need is through eating a variety of foods.

If you can't meet your nutritional needs through food alone, or if you have a deficiency in a certain nutrient, check with your healthcare provider about the use of supplements and whether it is right for you.

It is important to remember that nutrients in a supplement format do not have the same benefits as the nutrients we get from the foods we eat.

When you eat, the body absorbs a wide range of vitamins, minerals, amino acids, phytonutrients, and other compounds that work together to improve our health. When these nutrients are taken as a supplement, they may not protect our bodies the same way as nutrients from food do.





THE ROLE OF THE GUT IN THE IMMUNE SYSTEM

How does eating a variety of foods help the immune system? Well, picture the immune system as an army of soldiers that need food for energy.

The gut is the central pathway to the immune system. The gut is where the food we eat gets digested, absorbed, and converted into energy which, in turn is used by these “soldiers” to do their job.

Our digestive tract is also home to our gut microbiome. This microbiome refers to all the microbes that live in your intestines, including bacteria and viruses. All of these have an important role in how your body functions.

The organisms in the gut microbiome do things like help break down our food, regulate our weight, and help us fight off infections and influence the health of our other organs (including our digestive tract, heart, and brain). It uses some of the food we eat to perform all

these tasks. For example, we are not able to digest fiber in our diet, but our gut microbiome does this for us!

What we eat affects our microbiome, which in turn affects our immune system.

It is still unclear which characteristics of the gut microbiome are most effective in helping our immune system. However, we know that we can do the following to help our gut microbiome:

- Eat a well-balanced diet (page 5)
- Eat foods rich in fibre by choosing plant-based foods and whole grain foods often (page 7)
- Limit eating foods with artificial sweeteners

The Scoop on Fibre

There are two main types of fibre found in foods: **INSOLUBLE** and **SOLUBLE** fibre. Both fibres help keep our bowel movements regular.

Soluble fibre dissolves in water while turning into a thick gel. It can be especially helpful if you have diarrhea. Soluble fibre is also a source of nutrients for our gut microbiome.

ADD SOLUBLE FIBRE TO YOUR DIET

High soluble fibre foods are

FRUITS

apples, oranges, pears, apricots, nectarine, peach, banana, avocado



VEGETABLES

sweet potatoes, broccoli, garlic, asparagus, eggplants, okra



GRAIN PRODUCTS

oat bran, oatmeal, rye bread, barley, pasta, konjac noodles, dried beans, peas, lentils and soybeans, chia seeds, ground flax seeds, psyllium husk and powder



FIBRE AND HYDRATION WORK TOGETHER

Remember to drink plenty of fluids when you are eating fibre. This is because fibre draws water into your gut.

HOW TO STAY HYDRATED

- Aim for at least 6–8 cups (1.5–2L) of fluids per day.
- Water is the drink of choice when you are feeling well and eating enough.
- Don't like the taste of plain water? Try infused water!
- Having a hard time drinking enough? Have a reusable water bottle nearby as a reminder.

PREBIOTICS are components of food that we cannot digest. However, they provide food for our gut microbiota. By getting enough prebiotics in our diet, we can help our gut microbiota flourish to support our gut health. Food sources that are naturally rich in prebiotics include vegetables, fruits, legumes, nuts, and seeds.

PROBIOTICS, on the other hand, are live bacteria found naturally in certain foods, like yogurt, kefir, or miso paste.

As of now, probiotics supplements are not recommended in people with cancer or people with a weakened immune system. It is still not clear which strain and dose, if any at all, is safe and effective. Furthermore, it has been shown that they might be harmful in some cases and that it might interact with cancer treatment. Until more research is done, it is important that you discuss with your healthcare team if you are considering using probiotics.



Basmati Salad

4 servings

INGREDIENTS

- | | |
|---|--------------------------------|
| 1 can (540ml) chickpeas no salt added, rinsed and drained | ½ cup red onion, minced |
| ½ cup basmati rice dry | ¼ cup fresh coriander, chopped |
| 1 cup cucumber, peeled and cubed | 1 tablespoon olive oil |
| 1 cup celery, sliced | 1 tablespoon lime juice |
| 1 cup mandarins cut in small pieces, fresh or canned | 1 teaspoon lime zest |
| | ½ cup walnuts crushed |

PREPARATION

1. In a saucepan, cook the rice according to the instructions on the package. Let the rice cool in the uncovered pan.
2. While the rice is cooking, in a big bowl, combine the ingredients for the salad: chickpeas, cucumber, celery, mandarins, onion and coriander. Add the cooked rice.
3. In a small bowl, mix the dressing: olive oil, lime juice and zest. Pour the dressing over the salad. Add the walnuts and season with black pepper.
4. Refrigerate for 1 hour before serving.

NUTRIENT ANALYSIS Per Serving: ¼ of recipe

Calories: 358Kcal
Protein: 11g
Carbohydrates: 48g
Fibre: 8g

MANAGE SIDE EFFECTS EARLY

Side effects during treatment are different for everyone, and depend on the immunotherapy you receive, the type of cancer, its location, your health, and other factors.

Most side effects can be managed effectively if addressed early. Always tell your oncology team of any new symptoms. While some side effects (such as reaction to the injection site) are immediate, others take time to develop mainly because it takes time for the immunotherapy treatment to 'kick in' and start working.

Registered dietitians can help you with managing side effects from immunotherapy that impact your nutrition which are the focus of this guide.

Immunotherapy⁸ may influence your:

GUT

Diarrhea might lead to a nutrient deficiency or weight loss. In less common cases, immunotherapy might also cause colitis, which is inflammation of your colon.

ENDOCRINE SYSTEM

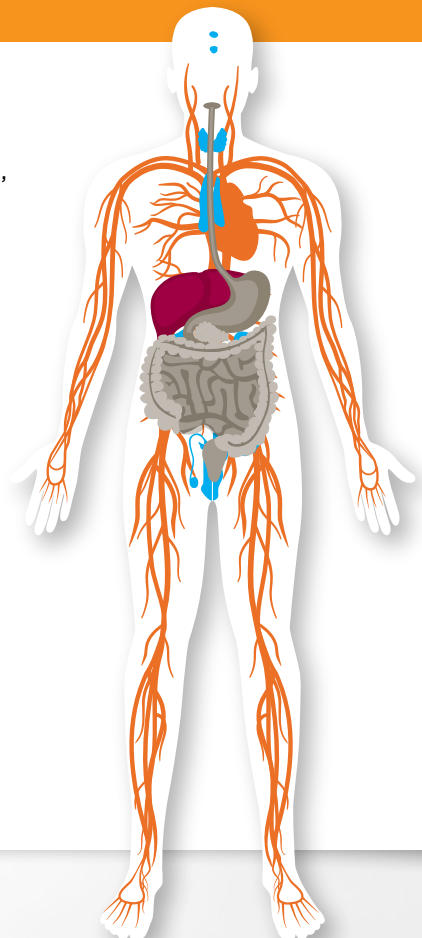
- The thyroid gland can become more active or less active, resulting in weight changes, constipation, diarrhea, and/or fatigue.
- The pituitary gland can become inflamed, which can cause dehydration, fatigue, appetite, or weight loss.

LIVER ENZYMES

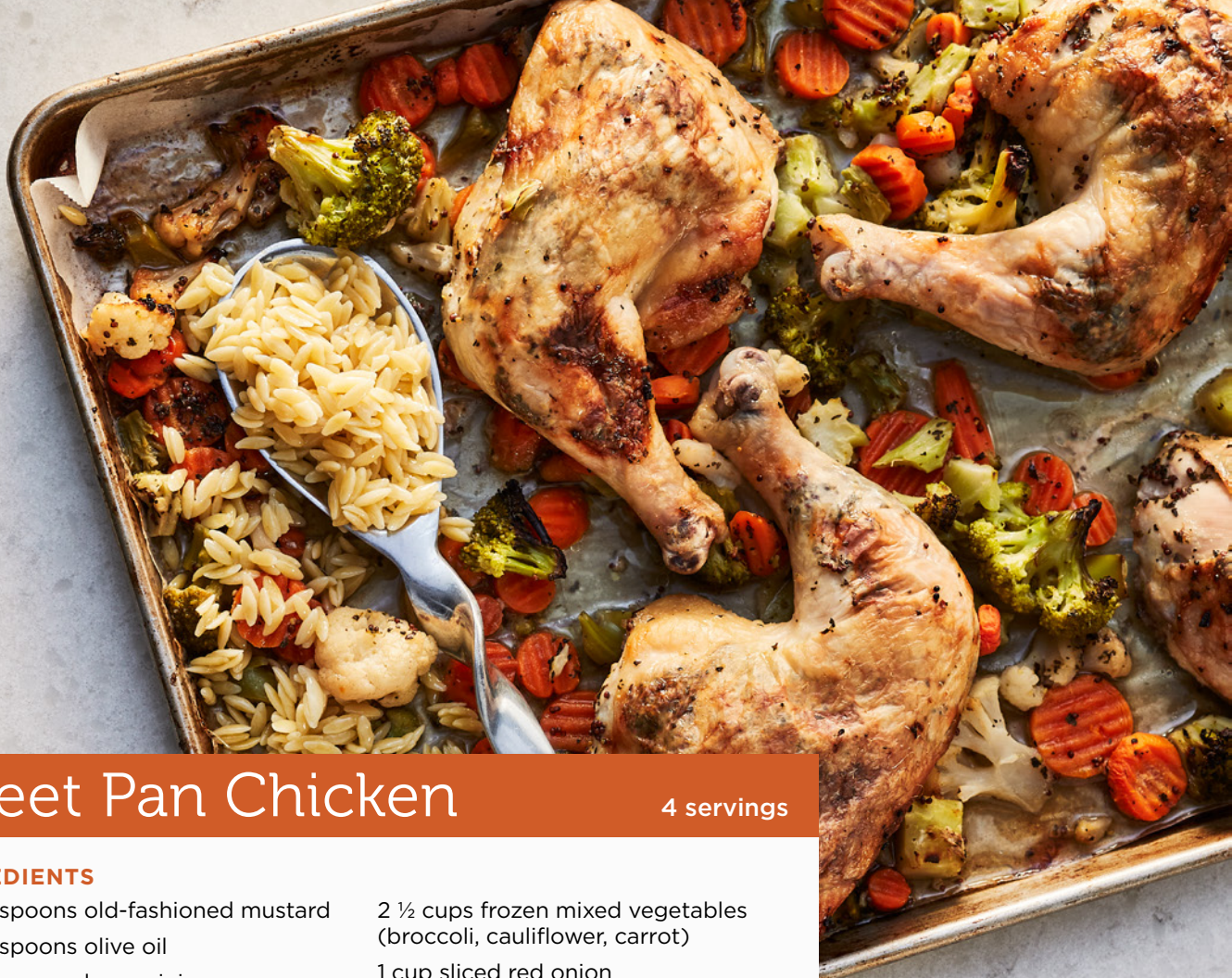
An increase in liver enzymes may lead to decreased appetite, nausea, diarrhea, bloating, and weight loss.

BLOOD SUGAR

Elevated blood sugar is usually managed with medication. It's important to continue eating carbohydrates as part of a well-balanced diet even if you have high blood sugars. Refer to page 5 for how to make a well-balanced meal.



Please note that this is not a complete list of side effects which may occur.



Sheet Pan Chicken

4 servings

INGREDIENTS

- | | |
|-------------------------------------|--|
| 2 tablespoons old-fashioned mustard | 2 ½ cups frozen mixed vegetables (broccoli, cauliflower, carrot) |
| 2 tablespoons olive oil | 1 cup sliced red onion |
| 2 tablespoons lemon juice | 1 cup orzo |
| 2 garlic cloves, chopped | 1 tablespoon olive oil |
| 1 teaspoon dried basil | 1 teaspoon lemon zest |
| 4 chicken legs (1 pound, skin-on) | black pepper to taste |

PREPARATION

1. Preheat oven to 400°F.
2. In a small bowl, combine mustard, olive oil, lemon juice, garlic, and basil.
3. Place the chicken legs on a baking sheet lined with parchment paper. Carefully detach and lift the skin off each chicken leg and distribute half of the mustard mixture under the skins.
4. Transfer the frozen vegetables and onion slices to a bowl. Add the remaining mustard mixture and toss the vegetables. Spread the vegetables on the baking sheet, filling the spaces between the chicken legs.
5. Bake in the oven for 45 minutes or until the chicken has lost its pink color and the internal temperature has reached 165°F.
6. In the meantime, cook orzo pasta according to the package instructions. Drain the orzo and transfer to a bowl. Mix with olive oil and lemon zest and serve with the chicken and vegetables. Add pepper to taste.

Tip: Replace orzo with whole wheat orzo, bulgur, or quinoa to increase fibre.

NUTRIENT ANALYSIS

Per Serving: ¼ of recipe

Calories: 492 Kcal
Protein: 37 g
Carbohydrates: 42 g
Fibre: 6 g

TIPS TO MANAGE DIARRHEA

When diarrhea is caused by cancer treatment, it is best managed with medications recommended or prescribed by your healthcare team.

Previously, the BRAT diet (a diet consisting of bananas, rice, apples and toast) was recommended to help with diarrhea. However, long-term use of this diet can cause nutrient deficiencies and weight loss. It is now recommended to follow a regular diet with some changes including avoiding foods that might worsen your diarrhea. If you are experiencing diarrhea, the following tips may help:



HOMEMADE ELECTROLYTE DRINK

Mix 360ml orange juice (no pulp)
+ 600ml water + ½ tsp salt

Drink 60ml (¼ cup) every two hours
until diarrhea stops.

- ✓ **CONSUME** well-tolerated foods in frequent, regular, small portions
- ✗ **AVOID** having large meals as they may trigger diarrhea
- ✓ **SIP SLOWLY** on fluids between meals. Stay hydrated and replenish electrolytes if needed.
- ✓ **CHOOSE** non-caffeinated beverages
- ✓ **CHOOSE** lactose free* beverages if it's better tolerated
- ✗ **AVOID** spicy foods
- ✗ **AVOID** greasy foods
- ✓ **CHOOSE** foods that provide soluble fibre, to help thicken your stool. (page 7)
- ✗ **AVOID** foods high in insoluble fiber such as wheat bran, whole grain breads and cereals, uncooked vegetables, and popcorn.

* During treatment, some individuals may develop lactose intolerance which can be a temporary inability to digest lactose, a natural sugar found in some milk products. This may worsen diarrhea. Try using lactose-free products or milk alternatives such as soy beverage for a few days to see if your diarrhea improves. Reintroduce lactose once diarrhea resolves.

Meal and Snack Ideas to Manage Diarrhea

MEALS

Egg salad sandwich
on white bread

Chicken noodle soup

Grilled chicken or fish
with white rice and
cooked carrots

Overnight oats

SNACKS

Cheese and
plain crackers

Fruits you can easily
peel (such as
bananas)

Rice pudding

Yogurt



Tuna Pasta Salad 4 servings

INGREDIENTS

- | | |
|---|---|
| 2 cups spiral pasta
(or other short pasta) | 1 garlic clove minced |
| 1 cup green beans cut
into 1-inch pieces | 1 can (170g) tuna
no salt added, drained |
| 4 tablespoons olive oil | 1 tablespoon lemon zest |
| 2 tablespoons mayonnaise | ¼ cup chopped fresh
basil |
| 2 tablespoons lemon juice | |

PREPARATION

1. Cook pasta according to instructions on package. Add the green beans to the pasta for the last 3 minutes of cooking. Drain pasta and beans and rinse with cold water to stop the cooking process. Set aside.
2. In a large bowl, prepare the dressing. Combine olive oil, mayonnaise, lemon juice, and garlic. Add pepper to taste.
3. Add the pasta and beans to the bowl with the dressing. Toss ingredients together. Add the tuna flakes, lemon zest, and basil. Gently toss and refrigerate for 2 hours before serving.

Tip: Use whole wheat pasta and add some chickpeas to increase fibre.

NUTRIENT ANALYSIS

Per Serving: ¼ of recipe

Calories: 396Kcal

Protein: 17g

Carbohydrates: 37g

Fibre: 2g



OVERNIGHT OATS GUIDE

Oats are a great source of soluble fibre.

1

Prepare **oatmeal base**: choose your preferred type of oats and milk or plant-based beverage.

COMBINE

$\frac{1}{3}$ cup oats
 $\frac{3}{4}$ cup milk
in a jar, stir, and close with a lid. Refrigerate for 2 hours or overnight.



2

Choose a **topping** to add some extra protein to your oatmeal:

- Greek yogurt or labneh
- Whey protein
- Cottage cheese



3

Add some **healthy fats** and additional flavour:

- Seeds (chia, ground flax)
- Soy, sunflower, or nut butter (almond, peanut, cashew)



4

Add a touch of **sweetness**:

- Maple syrup
- Honey
- Brown sugar
- Chocolate chips or cacao nibs
- Jam or jelly
- Lightly sweetened granola



5

Add some **fruit or vegetable** to enjoy and increase fibre content:

- Peeled, diced, or grated apple, pear, peach, carrot, banana, kiwi
- Pureed pumpkin, sweet potato



6

Add additional **spices** or flavourings as desired to complete your oatmeal:

- Ground spices (cinnamon, nutmeg, ginger, cardamon)
- Extracts (vanillas, almond, butter)
- Cocoa powder



TIPS TO MANAGE FATIGUE

Cancer-related fatigue is different from the regular fatigue everyone experiences from time to time. It is more severe, lasts longer, and can make it hard to get through your daily activities. Resting more or doing less does not make it go away. Here are some tips that may help:

- ✓ **Fuel up at regular intervals.**
Eating every few hours gives your body a constant supply of energy.
- ✓ **Stay hydrated**
- ✓ **Save your energy**
- ✓ **Support your immune system**

TIPS TO SAVE ENERGY

- ✓ **MAKE FOOD PREPARATION EASIER.** Make sure you have access to food that requires little to no preparation and don't be afraid to use your microwave.
- ✓ **SCHEDULE REST.** If you get tired, take a 15-to-30-minute break.
- ✓ **SET PRIORITIES AND BE PATIENT WITH YOURSELF.** You may not be as productive as you normally are and that's ok. Do important activities first or when you have the most energy, and delay the ones that can wait.
- ✓ **ASK FOR HELP AND LEARN TO SAY "NO".** There is no shame in asking others for help with tasks that drain your energy the most.
- ✓ **TRY ALTERNATIVE THERAPIES** which have shown to improve cancer related fatigue, such as qigong, tai-chi, and yoga.



EASY MEALS AND SNACKS

Nutritious meals that don't require cooking	Meals – ready in a few minutes	Snack ideas
Cottage cheese, fruit and a muffin	Boiled egg, slice of bread, vegetable juice and yogurt	Cereal with milk
Canned fish, crackers and raw vegetables	Soup with added milk, cheese, pita bread and dried fruit	Hummus and pita
Store-bought BBQ chicken with a vegetable and bread	Frozen meal, fruit and a glass of milk	Toast and nut butter
Sandwich with leftover or canned chicken and a smoothie	Pasta with store-bought sauce and grated cheese	Crackers and cheese
Nut butter sandwich and a smoothie		Fruit and nuts
		Milk and muffin
		Yogurt and granola
		Smoothie (fruit and yogurt)

TIPS TO MANAGE LOW APPETITE

When you have a low appetite, eating enough to maintain your weight and keep your strength up can be a challenge. Here are 5 tricks you can use to make this easier for you ►

1 DON'T WAIT TO BE HUNGRY

When you have a low appetite your body's signaling is off, and even though you might not feel hungry, your body still needs food to stay strong. Don't wait to feel hungry before you try to eat something. Setting a meal schedule or adding reminders in your phone can be helpful.

2 ADD IN LIGHT EXERCISE

Exercise before a meal can help stimulate appetite and help you eat more. Try something simple like a 10 minute walk before lunch to increase your appetite.

3 DRINK YOUR NUTRITION

Switching out low nutrient fluids like water for higher nutrient fluids can be an extremely effective way to increase your nutrition when you don't feel like eating. Examples of high-nutrient fluids include milk, soy beverage, pea beverage, juice, kefir, lassi, sports drinks and nutrition supplement drinks like Ensure™ or Boost™.

4 TRY HIGH-ENERGY SMOOTHIES

Smoothies can be an easy way to increase your nutrition when your appetite is low.

5 CHOOSE NUTRIENT-DENSE FOODS

Make sure all the foods you're choosing are rich in energy and protein. Check out page 16 for high protein, high calorie food ideas.



BUILDING THE RIGHT SNACK FOR YOU

A CHOOSE A CARBOHYDRATE

like toast, pita, cereal, rice crackers

B PICK ONE PROTEIN

like nut butter, plain hummus, Greek yogurt, cheese

C COMBINE THEM

to make a great snack to keep you satisfied



High Calorie, High Protein Foods

If you are finding it hard to maintain your weight or experiencing a low appetite, a high calorie and protein diet can help. At a minimum, it is recommended to eat enough calories to reduce the risk of losing weight.

High calorie foods are those that give your body lots of energy. Protein is a nutrient found in some foods which is important for healing and repairing tissues in your body, as well as keeping your immune system in good shape.

HIGH CALORIE FOODS

- ☐ Oils such as canola, olive oil and flax
- ☐ Butter or margarine
- ☐ Avocado
- ☐ Cream
- ☐ Jam, jellies, maple syrup and honey
- ☐ Canned coconut milk
- ☐ Sweetened condensed milk
- ☐ Dried fruit and coconut
- ☐ Olives
- ☐ Trail mix
- ☐ Granola
- ☐ Cream cheese, mayonnaise

HIGH PROTEIN FOODS

- ☐ Meat, poultry and fish
- ☐ Legumes
- ☐ Tofu and other soy products
- ☐ Eggs
- ☐ Dairy products including milk, cheese and yogurt
- ☐ Dairy alternatives such as soy and pea beverage
- ☐ Nuts and seeds
- ☐ Milk powder
- ☐ Evaporated milk
- ☐ Hard cheeses
- ☐ Liquid pasteurized eggs

Avocado Peach Smoothie

INGREDIENTS

- 4 frozen peaches
- 1 ½ cups milk or milk alternative
- 1 frozen banana
- ½ avocado
- ¼ tsp nutmeg

PREPARATION

1. Add everything to a blender and blend until smooth. Add more or less liquid as needed for desired smoothie thickness.
2. Add a scoop of protein powder or a nutrition supplement drink instead of milk, for added protein and calories.

Source : Ellicsr Kitchen

www.ellicsr.ca/en/clinics_programs/ellicsr_kitchen/Pages/beverages.aspx

NUTRIENT ANALYSIS Per Serving: ½ of recipe

Calories 260Kcal
Protein 8g
Carbohydrate 31g
Fibre 6g



Resources

[Cholangio-hepatocellular carcinoma Canada](#)

[ELLICSR Kitchen recipes](#)

[ELLICSR cooking videos](#)

[Recipes, search by side effect](#)

[Nourish: Advice from registered dietitians](#)

[InspireHealth Supportive Cancer Care
— free nutrition services](#)

[InspireHealth Supportive Cancer Care
— healthy recipes](#)

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This guide was made possible through an educational grant from a Canadian research-based pharmaceutical company

Endorsed by



CHOLANGIO-HEPATOCELLULAR CARCINOMA
CANADA

InspireHealth
Supportive Cancer Care

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Cowansville, Quebec, www.ebmed.ca

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This book is not a substitute for consulting with your physician, dietitian or other healthcare provider. You should seek medical supervision for all matters regarding your diet and health.



Nourish

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We thank the registered dietitians from Inspire Health Supportive Cancer Care, Vancouver, British Columbia, and **Felicia Newell, RD, MSc**, Colorectal Cancer Resource & Action Network (CCRAN), Toronto, Ontario, for reviewing this publication.