

Foods for strong immunity



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The immune system

Our immune system is truly remarkable. Within just a minute it has the ability to produce a million specific antibodies and to recognise and disarm a billion different harmful invaders. Mucous membranes, bone marrow, the spleen, thymus and lymph system, all play a very important role. But with 80% of the immune system located in the gut, research shows beneficial bacteria populating the microbiome play a critical role in a healthy immune system.

A healthy gut wall is packed full of immune cells poised to protect the body if needs be. Disruption of the bacterial balance that forms a layer on the gut wall compromises the immune system. Less immune cells are produced, fewer nutrients needed to support the body's entire immune system are absorbed and partially digested food and toxins move through the damaged wall adding to the workload of an already compromised immune system. The foods we choose to eat greatly impacts the health of the gut microbiome and the ability of the immune system to function well. The healthier your immune system the greater your ability to fight off illness

Key immunity nutrients

We need a whole range of nutrients for the immune system to function efficiently but a number of vitamins A, B₆, B₁₂, folate, C, D & E and minerals zinc, copper, selenium and iron have key roles.

Vitamin A is critical in the development of the immune system and in maintaining the gut mucosal barrier. Preformed vitamin A is found in **oily fish, eggs & butter**.

The carotenoids alpha carotene & beta carotene are converted in the body to vitamin A and found in foods like **sweet potato, carrots and kale**.

Vitamin B₆ deficiency is associated with lower immune function and higher susceptibility to viral infection. Good sources include **cauliflower, cabbage, spinach**.

Vitamin B₁₂ is necessary for producing a sufficient number of red blood cells to carry oxygen around the body, ensuring the immune system gets the oxygen it needs. **B₁₂** is found in foods of **animal origin**. A **supplement** is needed if you eat a plant based diet.

Folate contributes to normal blood formation and the normal function of the immune system. good sources include **lentils, cauliflower, Brussel sprouts**.

Vitamin C is involved in defending against invading pathogens. It improves the integrity of mucous membranes, as well as being antibacterial and antiviral. It cannot be stored so needed every day. Found in **broccoli, kale, blackcurrants**.

Vitamin D modulates immune response. Deficiency in vitamin D is associated with increased susceptibility to infection. Good sources include **eggs from pastured chickens, shiitake and sun!**

Vitamin E assists with t cell production, an important white blood cell that plays a central role in immune response. Found in **sunflower seeds, hemp-seeds, green leafy vegetables**.

Zinc has wide ranging actions on the immune system and is directly antiviral.

Oats, peanuts, mung beans, pumpkin seeds are all good sources of zinc.

Copper has a key role in the development of immune cells.
Found in **shiitake, sesame seeds & walnuts**.

Selenium is an essential trace element for regulating immune function.
Found in **wholegrain barley & rice, mushrooms**

Iron supports the growth of immune cells. Low levels of iron impairs immunity.
Found in **lentils, cacao, hemp-seeds & Swiss chard**.

Five top immunity foods

A diet rich in a variety of seasonal vegetables & fruits, legumes, nuts, seeds, unrefined grains and lacto fermented foods, low in processed and chemically adulterated foods can enhance your immune system and protect you from a range of serious illnesses and diseases. The following are top immunity foods.

Garlic

Garlic has been used as food and medicine since ancient times. It is one of the most well-known foods to enhance your immune system and fight against infections

Garlic is loaded with nutrients and phytochemicals which protect against a wide range of bacterial, fungal, and viral infections.

Many strains of TB are now resistant to antibiotics but garlic can be, and is, used both as a prophylactic and as a treatment for this disease. ①

Onion

Onions contain numerous nutrients & phyto-chemicals that benefit your immune system. ②

Onions, as well as leeks and shallots, are packed with sulphur containing compounds and as well as the flavonoid quercetin confer anti-bacterial benefits. Onions are rich in prebiotic carbohydrates that provide food for beneficial bacteria in the gut, helping to support a healthy microbiome and immune system.



Hemp seeds

Hemp seeds are an excellent source of omega 3 and research shows that consuming these fatty acid omega-3s can strengthen the immune cells. ③ Omega-3 plays a key role in supporting macrophages -a type of white blood cell which helps your body eliminate pathogens. ④

In addition hemp seeds provide good quality protein and a range of vitamins and minerals essential for a strong immune stem including B vitamins, zinc, iron and copper. Hemp seeds also contain dietary fiber which promotes gut health.

Shiitake

Shiitake, one of the most studied mushrooms, has significant food and medicinal benefits.

Shiitake contain lentinan which greatly enhances the immune system. ⑤ Shiitake have been shown to increase resistance against infections from bacteria, fungi, parasites, and viruses ⑥. In addition shiitake are an excellent source of immune-supporting minerals, vitamins & essential amino acids.

Green leafy vegetables

Eating a diet full of green leafy vegetables, packed full nutrients, offers a myriad of health benefits. Leafy green vegetables like kale, pak choi spinach, nettles and rocket are packed with phytonutrients required for the optimal functioning of your immune system. They have been shown to play a critical role in regulating the immune system by providing important chemical signals that encourage immune cells in the gut to function properly. ⑦

Recipes

Roast onions

serves 4

8 medium onions - peeled
teaspoon peppercorns
4 bay leaves
1/2 teaspoon chilli flakes
4 tablespoons miso
2 tablespoons maple syrup
splash of ume plum vinegar

Bring a pan of water to the boil. Add the peppercorns and bay leaves. Add the onions and simmer gently for 20 minutes.

Heat oven to 200C/gas 6.

Lift the onions out of the pan and place in a roasting tin or casserole so that they fit snugly together in a single layer. Mix together chilli flakes, miso, maple syrup and vinegar and pour over the onions.

Bake in the preheated oven for about 40 minutes (basting from time to time) until soft and lightly caramelised.

Wild garlic soup

serves 6

6 handfuls of wild garlic + a few flowers
2 large potatoes, diced
1 large onion, diced
1 tablespoon olive oil
1.5 litres vegetable stock
black pepper & salt

Gently cook the onion and potatoes in the olive oil for 5 minutes. Add the stock and simmer gently for 15 minutes or until the potatoes are tender. Blanch the garlic leaves for 30 seconds in boiling water. Strain (reserve the liquid for stock) and refresh in cold water. Add the garlic to the soup then whiz everything in a food processor. Season, divide between 6 bowls and top with the reserved flowers.

Beetroot, garlic & chestnut salad

serves 4

1 head roasted garlic
8 cooked & peeled chestnuts
1 dessertspoon olive oil
2 tablespoons balsamic vinegar
1 teaspoon finely chopped thyme
4 medium cooked beetroot
1 fennel bulb
4 handfuls salad leaves
extra olive oil
black pepper.

Squeeze the soft flesh from the garlic cloves.

Cut the chestnuts in half & gently cook them in the olive oil for a minute. Add the balsamic and reduce until lightly glazed. Stir in the thyme and garlic. Set aside.

Cut the fennel in half and then into wafer thin slices.

Cut the beetroot into wedges.

Divide the salad leaves between 4 bowls. Pile on the fennel, then the beetroot and finely the chestnuts. Top each salad with a little oil and a twist of black pepper.

Warm kale salad with shiitake mushrooms

serves 4

4 large handfuls of kale hard stalk removed and shredded
1/2lb shiitake mushrooms
2 sticks of celery cut into matchsticks
2 carrots cut into matchsticks
1 tsp finely chopped thyme
1" piece of ginger finely grated
1 small chilli finely chopped
1 tablespoon tamari
olive oil

Place the kale in a large pan with 2 tablespoon of olive oil and 2 tablespoon of water. Stir well and cook for about three minutes until wilted. Add the tamari, increase the heat and cook until the liquid has evaporated, stir in the thyme, ginger and chilli.

Cook the shiitake in 1 tablespoon of olive oil over a medium heat until softened and beginning to crisp. Add the shiitake, celery and carrots to the kale mixture. Season with salt & pepper. Divide between 4 bowls and serve.

Baked eggs with nettles & shiitake

serves 4

4 handfuls nettle tops (top 5 leaves)

110g shiitake mushrooms

1 tablespoon olive oil

salt and black pepper

1 tablespoon snipped chives

1 tablespoon chopped parsley

2 tablespoons fine breadcrumbs

50g butter

4 large eggs

4 individual ramekin dishes

Oven 180°C/350°F/gas 5.

Bring a pan of water to the boil. Pick over and wash the nettles. Tip into the water. Cook for 1 minute. Strain through a colander placed over a bowl then plunge the nettles into cold water. Save the cooking water to drink as a nourishing tea. Drain the nettles from the cold water. Squeeze out any excess water, chop and set aside.

Thickly slice the mushrooms and cook in the oil until the edges are beginning to crisp. Stir in the nettles and season with salt and pepper. Butter the ramekin dishes well and divide the mixture between them, making a slight well in the centre. Break an egg into each well. Melt the remaining butter and stir in the breadcrumbs and herbs, cover the eggs with this mixture.

Place the dishes in a shallow baking tray. Pour in enough hot water to come two thirds of the way up the sides of the dishes. Bake for 12 minutes or until the eggs are lightly set.

Hemp seed pesto

150 g shelled hemp seeds
2 cloves of garlic chopped
1 tsp salt
¼ tsp freshly ground black pepper
2 large handfuls basil leaves
200ml hemp oil

Place the hemp, garlic, salt, pepper, basil and half the hemp oil in a blender and pulse a few times. Slowly add enough oil to mix to a soft paste. Store in a clean jar topped with a little oil for up to 2 weeks in the fridge. Delicious with seasonal salad leaves or wilted kale.

Blueberry - hemp smoothie

150g frozen blueberries
2 tablespoons shelled hemp
1 tablespoon walnut oil
1 ½ teaspoons raw cacao powder
handful of spinach

Blend all together in a processor adding enough water to make it smooth & creamy. Pour into a glass and drink at once.

Summer protect and energise super blend juice -

serves 1

2 tomatoes
½ cucumber
½ red pepper seeds removed
2 big handfuls green leaves, spinach, chard, watercress, lettuce
1 beetroot – peeled
thick slice of lemon
6 basil leaves

Prepare the vegetables to fit the juicer. Juice and serve.

Sauerkraut with wild garlic

1k white cabbage

20g sea salt

2 handfuls of wild garlic

Finely slice the cabbage & place in a large bowl.

Add the salt & massage until the juice starts to flow.

Roughly chop the wild garlic.

Place about 2” of cabbage into a wide mouthed glass jar and press firmly down.

Add a small layer of wild garlic.

Repeat until you reach the top of the jar leaving an inch of space at the top.

Ensure the cabbage is covered with brine. Add a little water if necessary.

Weigh the cabbage down & loosely cover with a cloth.

Let the jar sit at room temperature.

Check the cabbage stays submerged.

After a week, taste the cabbage and see if it’s the right flavour for you.

If not leave longer up to another 2 to 3 weeks.

Once its ready, fasten with a lid & store in a cool dry place.

When you start eating the cabbage keep in the fridge.

Optimal human health comes from eating nutrient dense foods produced and processed in ways that maximise both the quality and quantity of nutrition.

Ecological health is integral to human health. Food grown using nature based, regenerative farming practices, manage sustainably the complex interactions between water, energy and food, thus protecting and enhancing the environment whilst producing nutritious food.

- buy organic food whenever you can
- eat seasonally
- source your food as locally as possible
- join a box scheme
- grow your own (garden, allotment or community garden)
- support food & farming campaigning organisations

References

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4090836/>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7919894/>
3. <https://pubmed.ncbi.nlm.nih.gov/26001374/>
4. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6834330/>
5. <https://pubmed.ncbi.nlm.nih.gov/24236998/>
6. www.sciencedaily.com/releases/2011/10/111013121509.htm

Daphne Lambert is an eco-nutritionist focusing on the interactions between agriculture, ecology and human nutrition.

Greencuisine Trust works to bring about a transformation in the way we eat. Through practical food experiences the Trust highlights the connections between our well-being, natural resources, the environment, and our planet.



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