**SIGNS OF POOR NUTRITION**

Foods contain nutrients, the nourishing substances that give your body materials and information it needs to function well. Missing out on important nutrients can have a detrimental effect on metabolic processes occurring in your body. In contrast, getting too much food or food that gives your body wrong signals, such as processed foods, can make you overweight and undernourished at the same time. Furthermore, high consumption of unhealthy foods raises your risk of developing diseases such as diabetes, heart disease and arthritis.

**Fragile Immune System**

Poor nutrition can cause deficiencies in certain micronutrients that help boost your immunity and insufficient intake of macronutrients and energy. Such nutrient deficiencies can turn off immune responses. Because of the impaired immune system, you are more likely to develop infection and illness, which together can aggravate states of malnutrition by decreasing nutrient absorption, encouraging nutrient loss and changing the metabolism of your body.

**Wildly Swinging Blood Sugar Levels**

Eating a diet that falls short of vital nutrients can upset the mechanisms that manage your sugar levels, leading to hypoglycemia or hyperglycemia. Hypoglycemia means low blood sugar, whereas hyperglycemia signifies high blood sugar. Lack of nutritious foods and skipping meals can result in hypoglycemia. You may experience hypoglycemic symptoms such as headache, excessive sweating, dizziness, depression, fatigue and blurred vision. On the other hand, eating too much food can cause hyperglycemia. Symptoms of hyperglycemia include excessive thirst, high blood glucose, frequent urination and high sugar levels in the urine.

**Unwanted Fat**

Obesity is not something that happens overnight -- it develops slowly from poor dietary and lifestyle choices. According to the Harvard School of Public Health, studies in teen and adults showed that regular consumption of fast foods leads to weight gain and obesity. Similarly, evidence suggests that foods such as sugar-sweetened beverages and refined grains multiply the risk of weight gain, obesity and diabetes. The Harvard School of Public Health further says that incorporating whole grains, fruits and vegetables into your diet can help maintain a stable weight. This is because their fiber content slows digestion and helps keep hunger at bay.

**Deteriorating Mental Health**

According to an article in the April-June 2008 issue of “Indian Journal of Psychiatry,” diets of people suffering from mental disorders -- depression, obsessive-compulsive disorder, schizophrenia and bipolar disorder -- lack critical nutrients such as vitamins, minerals and omega-3 fatty acids. The study further states that making poor food choices might contribute to depression, which is characterized by depressed mood, loss of appetite and increased sadness and anxiety. Deficiencies in neurotransmitters -- brain chemicals that transit information from one neuron to another -- such as gamma-aminobutyric acid, noradrenaline, dopamine and serotonin can lead to depression. People with mental illness usually suffer from deficiencies in common nutrients such as B vitamins, minerals, amino acids and omega-3 fatty acids. These nutrients are precursors to neurotransmitters. Thus, An unhealthy diet can play a role in depression. It can affect many different mental tasks and make you lose interest in things you used to enjoy. You also might feel disoriented and have memory loss

**Feeling Tired**

If you lack energy all the time, it can be a sign that you don’t get enough of certain nutrients, like iron. Too little of that mineral can lead to anemia -- when you don’t have enough red blood cells to pump oxygen and nutrients to parts of your body.

Fatigue also can be a symptom of some health conditions, like heart disease or a thyroid problem.

**Brittle, Dry Hair**

Nutrients like iron, folate, and vitamin C are important for your hair. If you don’t get enough of these through your diet, you might notice some unhealthy changes in it. Your skin also might be thin and pale.

But other health conditions, like a problem with your thyroid, can affect your hair and skin, too.

**Ridged or Spoon-Shaped Nails**

Poor nutrition can cause several changes in your nails. Like your hair, your nails can get thin and brittle, but there can be other signs as well. One is nails that curve like a spoon, especially on your index finger or third finger. That can mean you’re low on iron. Your nails also may be ridged or start to come apart from the nail bed. In addition to issues with iron, nail problems can be caused by low levels of protein, calcium, or vitamins A, B6, C, and D.

**Dental Problems**

Your mouth is one of the first places signs of poor nutrition can show up. A lack of vitamin C can cause the bleeding, irritated gums of gingivitis (gum disease). In severe cases, you could even lose your teeth.

If you have dentures or missing or loose teeth, that can change your food choices. Poor nutrition then becomes a double-edged sword: If your mouth hurts and you have issues with your teeth, it’s even harder to eat healthy foods. And that makes it harder to keep your teeth healthy.

**Change in Bowel Habits**

Constipation can happen if you don’t get enough fiber, found in whole grains, fruits, and vegetables.

**Easy Bruising and Slow Healing**

If you bruise easily, especially if there isn’t an obvious reason for it (like falling or bumping into something), your diet might be playing a part. Specifically, you may be lacking in protein, vitamin C, or vitamin K, all of which are needed to heal wounds. Vitamin C helps tissue to repair itself, and vitamin K is important for blood clotting.

**SIow Immune Response**

Without the right nutrition, your immune system might not be as strong as it needs to be to fight illness. Some of the most important nutrients for a strong immune system are protein and zinc, along with vitamins A, C, and E.

|  |  |
| --- | --- |
| **Deficiency Symptoms and Signs** | |
| **Symptom or Sign** | **Possible Nutritional Deficiency** |
| **General Symptoms and Appearance** | |
| Fatigue | Protein-energy, iron, magnesium, potassium, vitamins B1, B12 and other B vitamins and vitamin C |
| Loss of appetite | Zinc |
| Pica eating non-nutritive substances | General malnutrition and possibly iron, calcium, zinc, vitamins B1 – thiamine, B3 – niacin, C and D |
| Loss of taste | Zinc |
| Cold intolerance | Iron |
| Pale appearance due to anaemia | Iron, folate and vitamin B12 |
| Carotenoderma – yellow discolouration of the skin noticeable on the face and trunk | Protein-energy and zinc |
| Diffuse hyperpigmentation | Protein-energy |
| Muscle wasting e.g. clothes appear too big, loss of limb musculature | Protein-energy |
| Loss of height and excessive curvature of the spine | Calcium and vitamin D |
| **Skin** | |
| Itchy skin – pruritus | Iron |
| Dry skin | Essential Fatty Acids or multiple nutritional deficiencies |
| Red scaly skin in light-exposed areas | Vitamin B3 |
| Excessive bruising | Vitamin C |
| Haemorrhage or redness around hair follicles | Vitamin C |
| Bleeding into a joint or other unusual bleeding | Vitamin C |
| Plugging of hair follicles with keratin or coiled hairs | Vitamin C |
| Fine downy hair on torso – lanugo | Protein-energy. Typical of Persistent anorexia nervosa |
| **Mouth** | |
| Sore tongue | Iron, vitamin B12, B2, B3 and possibly other B vitamins |
| Cracking and peeling of skin on the lips | Vitamin B2 – riboflavin |
| Cracking at the corners of the mouth | Iron, vitamin B2 – riboflavin possibly other B vitamins |
| Recurrent mouth ulcers | Iron, vitamin B12, folate and possibly other B vitamins |
| Enlarged veins under the tongue with micro-haemorrhages | Vitamin C |
| Smooth, shinny and sore tongue: atrophic glossitis | Iron, vitamin B12 and folate |
| **Head, Face and Neck** | |
| Scalp hair loss | Iron |
| Dandruff | Essential fatty acids and biotin |
| Redness at the sides of the nose | Vitamin B2 –riboflavin, vitamin B6 and zinc |
| Redness or cracking at the outer angle of the eyes | Vitamins B2 or B6 |
| Goitre | Iodine deficiency is likely if goitre is present in > 20% of population – endemic goitre |
| **Hands and Nails** | |
| Nails - brittle or flaking | Ironand possibly essential fatty acids |
| Nails - upturned or spoon-shaped nails | Iron |
| Carotenoderma – yellow discolouration of the skin noticeable on the palms | Protein-energy and zinc |
| **Musculo-skeletal** | |
| Muscle pains and cramps | Magnesium, potassium, sodium, vitamin B1 and vitamin D if there is hypocalcaemia |
| Calf muscle pain after minimal exercise | Vitamin B1 – thiamine |
| Excessive calf muscle tenderness | Vitamin B1- thiamine |
| Walking with a waddling gait | Vitamin D and resultant myopathy |
| Difficulty getting up from a low chair or climbing the stairs or weakness of shoulder muscles | Vitamin D and resultant myopathy |
| Bowed legs | Vitamin D - rickets in childhood |
| Twitching of facial muscles when tapping on the facial nerve in front of the ear: Chvostek’s sign | Calcium and vitamin D if hypocalcaemia or severe magnesium deficiency |
| **Eyes** | |
| Poor night vision | Zinc, vitamin A and possibly vitamin B2 - riboflavin |
| Conjunctival dryness | Vitamin A |
| **Gastrointestinal** | |
| Diarrhoea | Vitamin B3 |
| Constipation | Dehydration, fibre, potassium, magnesium and folate |
| **Neurological** | |
| Restless legs | Iron or folate |
| Burning feet syndrome | Vitamin B2 –riboflavin |
| Loss of balance when standing upright with feet together and the eyes closed: Romberg’s test | Vitamin B12 and possibly vitamin B3 |
| Loss of vibration sensation in the lower limbs | Vitamin B12 and possibly vitamin B3 |
| Peripheral neuropathy – numbness, tingling, disordered sensation, pain and or weakness in the hands or feet | Vitamins B1, B12 and possibly B3, B6 and folate and very rarely copper (following gastrointestinal surgery or excess zinc ingestion). Relative lack of essential fatty acids. |
| Unsteady movement or walking (cerebellar ataxia) | Vitamin B1, vitamin E and Coenzyme Q10 |
| **Mental State** | |
| Depression | Vitamins C, B1, B3, B6, B12, folate, biotin and possibly the essential fatty acids |
| Irritability | Folate |
| Poor concentration | Iron, vitamins B1, B12, folate and possibly essential fatty acids |
| **Cardio-vascular** | |
| Heart failure | Vitamin B1 – thiamin and any deficiency causing anaemia |
| Palpitations | Potassium and magnesium and any deficiency causing anaemia |

**SIGNS OF GOOD NUTRITION**

Nutrition is an essential aspect of a healthy lifestyle and the importance of getting it right cannot be overstated – let’s start by going into the benefits of having a nutritious diet.

### How good nutrition boosts your health

#### • [Weight management](https://www.activehealth.sg/read/nutrition/nutrition-and-weight-loss)

A lot of us mistakenly associate weight-loss with fad diets, but eating a nutritious diet is really the best way to go about [maintaining a healthy weight](https://www.mailman.columbia.edu/public-health-now/news/obesity-kills-more-americans-previously-thought) and at the same time attaining the necessary nutrients for healthy body function. Swapping unhealthy junk food and snacks out for nutritious food is the first step to keeping your weight within a healthy range relative to your body composition, without the need to jump on the fad-diet bandwagon.

#### • [Protecting you from chronic diseases](https://www.activehealth.sg/read/physical-activity/physical-activity-and-disease-prevention)

Many chronic diseases such as type-2 diabetes and heart disease are caused by poor nutrition and obesity. With [1 in 9 Singaporeans](https://www.channelnewsasia.com/news/topics/nd2017/national-day-rally-1-in-9-singaporeans-has-diabetes-problem-very-9140176) suffering from diabetes, the emphasis on good nutrition is higher than ever. Taking a preventive approach with a whole food-based nutrition plan also reduces the risk of developing other related diseases such as kidney failure.

#### • Strengthening your immune system

Our immune system requires essential vitamins and minerals in order to function optimally. Eating a wholesome and varied diet ensures your immune system functions at peak performance and guards against illnesses and immunodeficiency problems.

#### • Delaying the onset of ageing

Certain types of food such as tomatoes and berries can increase vigour and improve cognitive performance, all the while protecting your body against the effects of ageing.

#### • [Supporting your mental well-being](https://www.activehealth.sg/read/nutrition/nutrition-and-productivity)

Eating the right foods can actually make you happier – nutrients such as iron and omega-3 fatty acids found in protein-rich food can boost your mood. This contributes to better overall mental well-being and protects you against mental health issues.

So, how does one build a sensible nutrition plan then? Healthy eating is all about eating balanced proportions of nutrient-rich foods from the various food groups, as well as adopting several healthy eating habits.

### How to achieve good nutrition in your diet

Each food group provides different nutrients and benefits, so eating a balanced diet that includes foods from all five groups is essential. These are the different food groups that you should keep in mind.

#### 1. Whole grains

Whole grain foods such as brown rice and bread are forms of carbohydrates, specifically unrefined carbohydrates. They provide you with energy, healthy fibre, vitamins, minerals and antioxidants, and aid with digestion. For people who are diagnosed coeliacs or those with non-coeliac gluten sensitivity, it's important that you include other carbohydrate alternatives to ensure that your abstinence from wheat doesn't cost you in terms of essential nutrients.

“Gluten-free carbohydrate alternatives include rice products, buckwheat (technically a pseudocereal), quinoa and starchy vegetables (e.g. sweet potato, yam, pumpkin, corn),” says Ang Sin Hwee, Associate Sport Dietitian at Singapore Sport Institute. “As following a gluten-free diet may lead you to unknowingly cut out certain nutrients, it is recommended that you seek help from a registered dietitian.”

#### 2. Fruits and vegetables

Various forms of produce are the rich sources of vitamins and minerals that help regulate body functions and protect it against chronic diseases. To get the most nutrients out of your fruits and vegetables, eat them whole – for example, eat whole fruits instead of having them juiced.

#### 3. Protein

Protein is the primary nutrient responsible for building and repairing muscle tissue in the body. Animal meat is the most common source of protein, but there are also several plant-based options to choose from such as nuts and legumes. Individuals on plant-based diets should ensure that eat the right combination of plant protein to ensure that their dietary needs are adequately met.

#### 4. Dairy

Dairy products are rich in important nutrients like calcium, potassium, phosphorus, vitamins A,D and B12. Foods like milk, yogurt and cheese are great examples of dairy which can be found in practically every grocer stores.

#### 5. Fat and sugar

Dietary fat (such as the kind you get from fish and olive oil) is essential for good health as they regulate cholesterol levels in your body while promoting healthy cell function. Monounsaturated, polyunsaturated and saturated fat all play a role in this aspect of good health. On the other hand, the additional fat you often find in fried food should be minimised as they are largely polyunsaturated fat derived from processed vegetable oils such as soybean and rapeseed.

Due to their low threshold for oxidisation, over consumption of polyunsaturated fat can lead to inflammatory conditions and the formation of free radicals. Artificial trans fat are also a strict “no-no”. Sugar should also be limited – while the natural sugars present in fruits and whole grains are healthy, the refined sort you get with cakes and snacks can affect your weight and lead to metabolic diseases if consumed in excess.

Apart from eating foods from the above-mentioned food groups, there are three other healthy eating habits to maintain in order to keep your nutrition plan on point.

#### • Keep portion sizes regulated

Managing portion sizes is all about ensuring that you are getting the right amounts of nutrients and calories from your food. Over-eating or under-eating deprives you of nutrients and can affect your weight, so always regulate your meal portions. When buying food, check out the serving sizes on the nutrition labels to see what amounts to a regular serving and how much it provides in terms of nutrients.

#### • Prioritise [fresh food](https://www.activehealth.sg/read/nutrition/10-healthy-foods-to-include-in-your-diet)

Fresh, whole foods are the ones you will derive maximum nutritional benefits from. Always go for foods in their purest, unprocessed form such as fresh fruits, vegetables and meat when possible. If you go with processed alternatives, pick those that have undergone simple changes such as dehydration and flash freezing to minimise nutrient-loss. Also, keep an eye on the ingredients list to ensure that you're consuming as little additives with your food as possible.

#### • Practice healthier seasoning habits

Consider tempering your salt intake with other herbs and spices to add a new dimension of flavour to your food. For example, basil, garlic, paprika and cayenne can turn an ordinary chicken breast dish into a gastronomical delight! Salt is the most common food seasoning used in cooking, but too much sodium can lead to high blood pressure and hypertension, particularly with those who are already susceptible to said conditions.

Maintaining a nutritious eating plan is simple enough; evaluating whether it's nutritious enough can be straightforward as well. Just look out for five simple enough indicators of whether you are getting enough from your food.

### Indicators of a nutritious diet

#### 1. Body composition

A well-structured nutrition plan should allow an individual to maintain a healthy physique within acceptable body fat levels (18-24% for men and 25-31% for women). This also means that it should support metabolic health through a number of means, such as promoting healthy hormone function, insulin sensitivity and physical recovery.

#### 2. Healthy cholesterol levels and blood pressure

Monitoring your cholesterol levels and blood pressure is crucial because having a healthy weight doesn't discount the possibility of issues in these areas. While dietary cholesterol doesn't have as much effect on blood cholesterol levels as we once thought, it can still be influenced by your overall dietary fat intake. On the other end, excessive sodium intake can lead to hyper-extension, of which one of the symptoms happens to be elevated blood pressure levels.

#### 3. Healthy skin and hair

The condition of your skin and hair are good indicators of the quality of your nutrition. If you are getting enough nutrients, your skin should be firm, supple and of a rich hue rather than flaking and pale. Your hair should be smooth and strong rather than dry and brittle; unexplained hair loss is often a sign of malnutrition.

#### 4. Sleep and energy levels

Getting the right amount of nutrients and calories will help you stay energised due to its ability to promote restful sleep. If you find yourself feeling sluggish, It could be a sign of either a distinct lack of calories and/or nutrients, driving your body into “starvation mode” which hampers its restorative capabilities.

#### 5. Regular bowel movements

Your bowel movements reflect whether you are getting sufficient fibre from your diet, so if you find yourself being constipated, load up on more fruits and vegetables to get your digestive system going.

While these five indicators of a nutritious diet may give your a decent idea on how to go about achieving your nutrition goals, there's no real need to go about it by your lonesome. Getting the help of a certified nutritionist can help improve your odds of success while avoiding the common pitfalls.