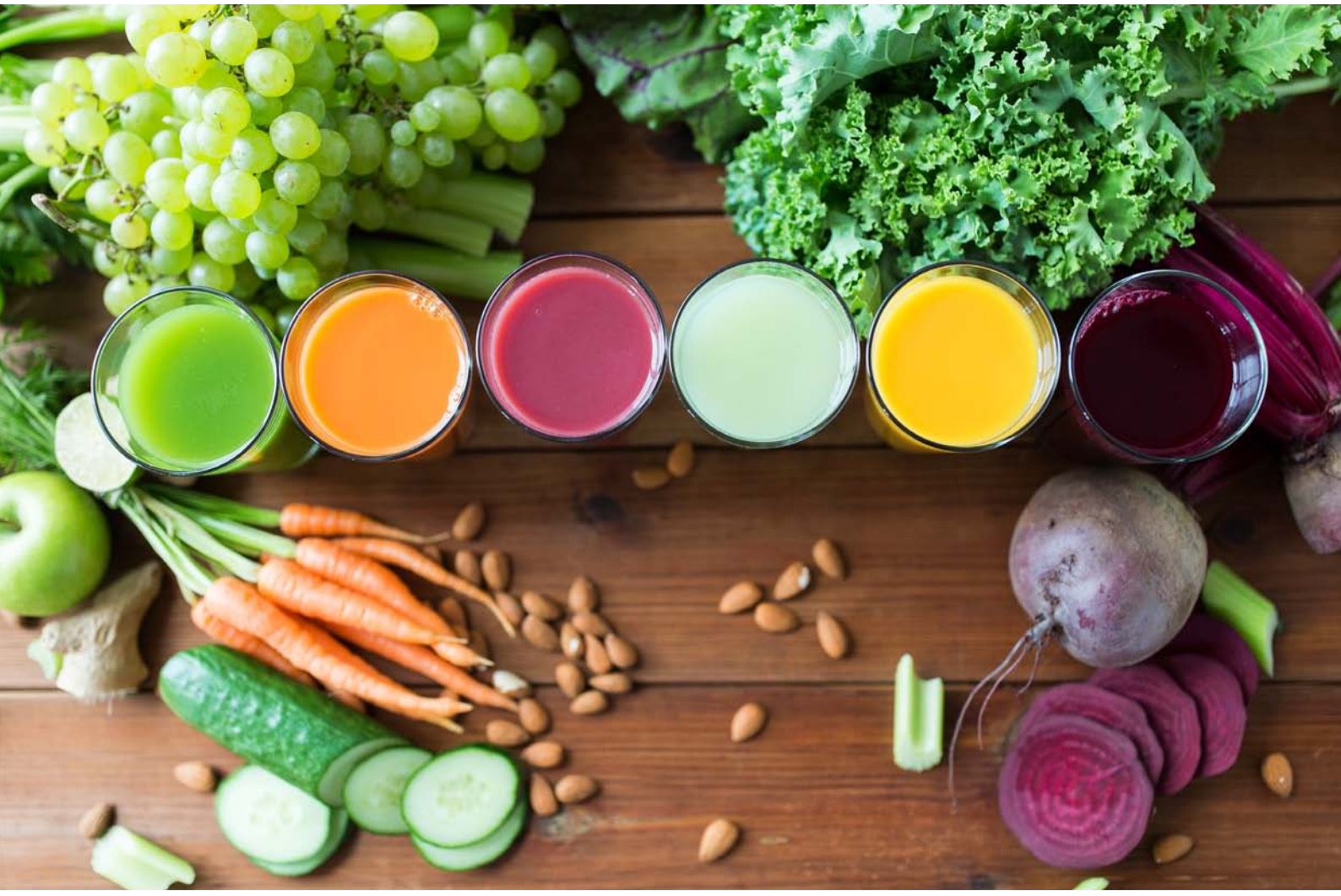
Health & Aesthetics

Dr. Dominik Nischwitz

Food Design according to Dr. Dominik Nischwitz

The basis for your health.



Diets: we hear that people are “on a diet” or intending to lose weight in the near future, usually in time for the summer. The issue of whether the plan is actually healthy appears to be completely incidental. The main objective is to drop the kilos and to look good naked!

Nobody seems interested any more in the origins of the word “diet” and in particular the related concepts. The Greek word “Diaeta” means “subsistence”, or “way of life”. If you look at the origin of the word and its meaning, you will find terms such as “light diet” or simply “healthy lifestyle and eating habits”. These days, the word “diet” in German only ever has negative associations, and is always used in the context of counting calories, going without, being hungry and the so-called yo-yo effect – with all of this taking place over a short, intense and very stressful period with the aim of losing the excess pounds.

There are now countless types of diets: the Brigitte Diet, Weight-Watchers, Metabolic Balance, Atkins and “just eat half”. There’s a diet based on your blood group or genotyping, the Atkins Diet, the Carbohydrate Addict´s Diet, Fat Flush, the GO-Diet, Metabolic Balance, Neanderthin, Paleo, Protein Power, Scarsdale, the Schwarzbein Principle, the Somersizing Diet, South Beach, Sugar Busters, and the Zone Diet. Or perhaps you’d prefer a low-fat,

low-carb diet combined with high protein? Who could possibly stay on top of all that?!

Fortunately, the current trend is going in the right direction: comprehensive nutritional concepts have returned to the foreground. I'm referring to a "new health awareness" here. As well as the classic vegetarian diet, there is now also the Paleo stone-age diet, the vegan diet and even the Pegan diet. The term "gluten-free" is widely known and is frequently stated on food packaging. More people prefer a healthy "lifestyle" to short-term bursts of extreme dieting.

Increasing numbers of people are willing to invest in their bodies and their energy management. As Hippocrates said over 2000 years ago: "Let food be thy medicine and medicine be thy food". Nutrition should form the basis of all additional treatments. Unfortunately, medical students at university learn very little if anything about nutrition (no more than one hour in six years of study). The majority of western diseases, however, are civilisation diseases, in which nutrition plays a central role.

The nutrition design that I have created uses nutrition in its pure form as a basis for all biomechanical processes within the body; or in other words, as medicine for healing purposes, with the aim of promoting health and performance in the long term. On the one hand, so-called "superfoods" play an important – positive – role here, with food intolerances and toxins exerting a negative influence on the other hand.

The nutritional concept does away with dietary errors and false myths, and breaks the complex issue of nutrition down to the absolute basics, so that anyone can easily create a personalised nutrition design. This advice is intended to help you develop your own personal nutrition design for ideal health and performance. The aim is to integrate long-term changes in your nutrition and lifestyle within your everyday life to ensure that you receive the right nutrients and that your body is healthy, balanced and performing well. And what's more, there's none of the tedious calorie counting and the associated stress of a weight-loss diet! It's all about building a healthy body. The ultimate objective is to make the body, spirit and soul as healthy as possible.

A healthy body performs well and looks good. Over time, excess body fat will be lost automatically as the metabolism is put back on track, and bodily functions such as reconstruction, detoxification and excretion return to full swing. Nutritional deficiencies are balanced out and cells start to regenerate. Bones, muscles, skin, hair and nails become more stable: within a year, the entire body will have been completely re-configured, and thanks to the new lifestyle, will be healthier, more efficient and even slimmer and more attractive. You can see it as the perfect life insurance.

And none of it involves counting calories.

Calories

A calorie is a physical unit that is also referred to as a “calorific value”. It indicates the specific energy that is released by a particular food as it is metabolised in the body. However, this kind of energy balance neglects to consider biochemistry.
A simple illustrative example shows why the calorie model is essentially outdated in terms of nutrition: a bottle of Coca Cola has exactly the same number of calories as a handful of almonds. The calories in the cola are found exclusively in the sugar contained in the drink, while the calories in the portion of almonds consist of healthy fats, long-chain carbohydrates and a small amount of protein and fibre.

While the blood sugar level will shoot up within minutes of drinking the Coke and lead to a spike in the release of insulin, the nutrients in the portion of almonds will be released slowly and steadily over a longer period of time. The blood sugar level remains practically constant. The number of calories is the same, but there are huge differences in the effect of the food or drink on the metabolism and therefore on the body’s performance and hunger pangs.

A glass of Coca Cola has exactly the same number of calories as a handful of almonds.

The body processes refined foods or refined products containing a lot of simple sugars combined with bad fats, flavour enhancers and possibly chemical sweeteners in a completely different way to natural nutrition. Out in the wild, pizza doesn’t grow on trees: so this combination of fats and carbohydrates is unnatural. Our metabolisms and innate instincts in particular are manipulated, bypassing our bodies’ sense of satiation.

But if we consistently eat high-quality natural products, our appetite and sense of satiation will become self-regulated. It would be rare to have a craving for eggs and eat 12 of them one after the other. But two pizzas, three scoops of ice cream and a Coke are not at all unusual. This provides an inkling of the problem.

Besides biochemical composition, the quality of what we eat is also crucial. Ultimately, we end up eating whatever our food has been fed. Nutrition can be seen as an investment in our energy management system and our health. Where our food comes from, how it is grown and how good the soil is are all very important aspects. Conventional cultivation and farming methods use chemicals such as fertiliser, antibiotics or hormones to increase the maximum yield from a harvest or to rear livestock more quickly. In a worst-case scenario, even the genetics are modified, merely to produce larger and higher-yielding products. All of this information is stored in our food.

Today we are seeing a clear trend – in some parts of the world at least – toward healthy and humane husbandry, ideally by local producers. There is an increasing focus on food transparency with documentation of its origins and cultivation and what preservatives are used. The name I give to the interest in these issues is the “new health awareness”. One indicator is the introduction of certificates and seals that provide consumers with orientation. They include the German “Bio” label – with all of the associated advantages and disadvantages. The “Bio” label is emblazoned on almost every food, even cigarettes. It seems that “bio” is the new “sexy”. Organic food shops are sprouting up all over the place. But the BIO label doesn’t actually tell us very much about a food at all. The Demeter, Naturland and Bioland labels have a better reputation, and do actually stand for sustainable agriculture without the use of any hazardous fertilisers such as glyphosate (Roundup) or similar products, and also indicate that no genetically engineered foodstuffs have been used in a product.
It is always important to attach particular importance to humane husbandry when buying meat products. Beef should be completely grass-fed; in contrast, feeding the animals “organic” grain has no benefits whatsoever. It is worth asking your local butcher whether they can obtain meat in this quality (which usually be easy).

The following sections will address a few basics in order to simplify the issue of nutrition:

The macronutrients

Protein

The word “protein” comes from the Greek “proteos”, meaning “the first one” and “the most important one”. Proteins play a key role in the human body and are involved in numerous functions. They are the most important raw material in the growth and repair of cells (hair, skin, muscle, nerve etc.) and in the body’s detoxification and excretory functions. The amino acids that proteins contain are constituents of every enzyme and therefore essential to the metabolism.
A conventional diet will usually mean a deficiency in protein and therefore amino acids. Protein sources in the diet should be emphasised, especially when it is needed more, such as after an operation or during a detox phase. There are 4 calories in one gram of protein.

Here is a list of good protein sources:

Plant based protein

Chlorella: *This freshwater algae is a real superfood and contains over 60g of protein per 100g, including a complete amino acid profile.*

Grains: *Quinoa, or the corn of the Incas, contains a complete amino acid profile, making it equivalent to animal products.*

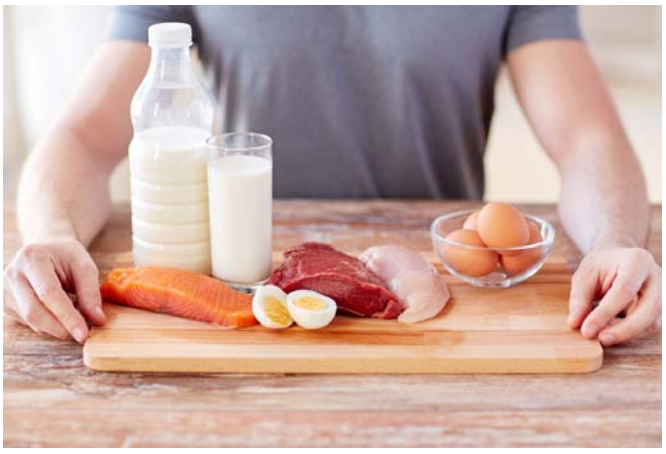
Nuts: *all unsalted nut varieties: Almonds, Brazil nuts, walnuts, cashew nuts, hazelnuts, macadamia nuts, pecans, pistachios and pine nuts. Not to be consumed by people with known nut allergies.* ***Please note:*** *Peanuts are not in fact nuts, but legumes, and are a common allergen.*

Seeds: *Pumpkin, sesame, hemp and sunflower seeds.*

Soya: *Fermented products such as miso, natto or tempeh (non-GMO).*

Legumes: *Peas, beans and lentils. Relatively rich in amino acids but do not usually have a complete profile. Ideal for vegans.* ***Caution:*** *Common allergen.*

Protein shakes: *There are now a few good protein shake products on the market, usually based on rice and/or pea protein (recommended: SUNWARRIOR Classic Protein®).*



Animal protein

Beef: *In general, red meat has a poor reputation. The problem is how the animals are kept. Grass-fed cattle is one of the best sources of anti-inflammatory omega 3 fatty acids and high-quality protein, and counts as one of the superfoods. Factory-farmed cattle, however, are fed a diet of wheat, corn and concentrated feed, which leads to the attractive marbling effect desired by consumers. Unfortunately it also turns the beef into a huge inflammatory product. Leaner variants (<18% fat content) should be favoured.*

Eggs: *Highest biological availability of amino acids. The egg yolk contains important phospholipids, which are essential for the formation of nerve sheaths. Egg yolk should ideally be consumed in liquid state. Always buy organic!.*

Fish: *Also has a poor reputation, and many people simply do not like it. However, good-quality fish contains healthy protein and a lot of omega-3 fatty acids. More toxins accumulate in the fatty tissue (heavy metal issue) of larger fish (tuna, swordfish).*
The recommended species of fish is salmon especially (wild Alaskan salmon), cod, mahi-mahi, trout and small fish such as sardines and mackerel. Tuna should only be consumed in moderation (large fish).

Lamb: *Leg, loin, fillet or cutlet. Lean cuts should be favoured.*

Pork: *Lean cuts such as fillet or meat from Iberian pigs.*

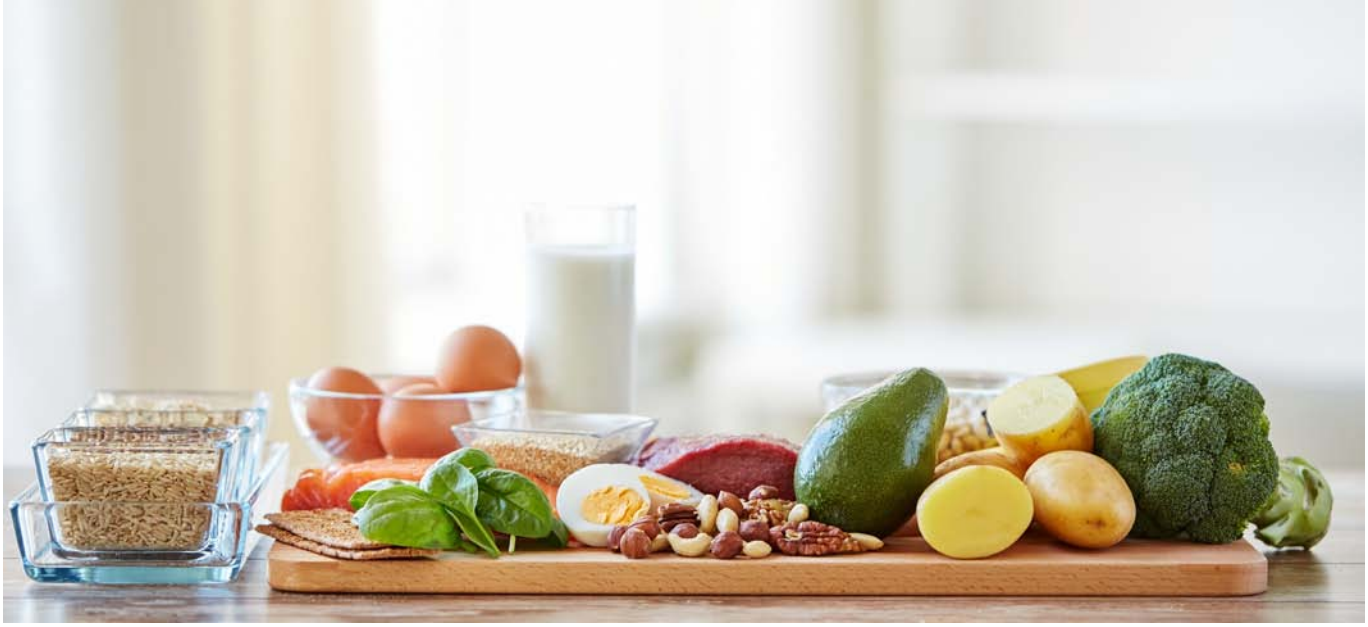
Poultry: *Chicken, turkey, duck, goose. It is essential to make sure that the poultry is reared without any hormones or antibiotics. Or even better – buy organic!*

Seafood: *Shrimp, prawn, crab, lobster, scallops, mussels, oysters, octopus, squid etc.*

Veal: *Cutlet, fillet, leg etc.*

Dairy products: *Cottage cheese, cheese, quark, Greek yoghurt, skyr, etc. are only mentioned here for the sake of completeness. The problem with dairy products (see below).*

Whey protein: *Whey protein from grass-fed cattle, or preferably goat whey protein, is highly recommended (for athletes). (Recommended: PROTERO Weide Whey).*



Carbohydrate

For years, this is the macronutrient that has received the most press. Barely a day goes by without coming across the term “carbs”, often in a negative context. “Low-carb diets” are a clear trend and the diet of choice for many celebrities.
First of all, carbohydrates provide energy. The term “carbs” refers to both long and short-chain carbohydrates. So this ranges from conventional household sugar and white flour through to brown rice and sweet potatoes. Carbohydrates deliver 4 calories per gram.

So how do the sources of carbohydrates differ? Once again, it’s a question of biochemistry: The storage hormone insulin is responsible for reducing the blood sugar level. Short-chain carbohydrates are metabolised much faster than their long-chain counterparts, and therefore increase the blood sugar level much faster. Larger amounts of insulin are then secreted to bring the blood sugar level back down again. Blood sugar levels fluctuate significantly as a result. This produces hunger pangs, and the vicious circle starts over again.

The release of larger quantities of insulin on a regular basis and over a long period of time leads to insulin resistance – the cells no longer respond to the insulin stimulus – and even to diabetes, heart disease and accelerated ageing. The persistent insulin stimulus also causes increased inflammation and physical stress. The stress hormone cortisol is released if the blood sugar level falls too sharply, in order to bring the blood sugar back to its optimal level. It makes itself known by an increased accumulation of fat in the stomach and hip area, known as a “pot belly” or “love handles”. So excessive body fat around the midsection is also a sign of huge inflammation within the body.

The aim of any permanent nutrition plan should therefore be to keep blood sugar levels constant. Long-chain carbohydrates can help in this regard, as they first need to be broken down into their individual constituents and are therefore digested more slowly. The more fibre the carbohydrate contains, the longer this process will take.The increase in blood sugar level will therefore be less pronounced. A food’s glycaemic index indicates the extent to which it will increase the blood sugar level in the body. Foods with a high proportion of simple sugars or foods that are quickly converted to sugar are referred to as highly glycaemic. It follows, therefore, that a “low-glycaemic” diet is beneficial. (Unfortunately, a food’s glycaemic index (Glyx) rarely corresponds to a normal portion size, so the “glycaemic load” (GL) is more useful in selecting suitable foods. More information on the indices can be found at: https://jumk.de/glyx/)

Excess carbohydrates are converted in the liver and are stored as fat, so carbohydrates don’t actually work for everyone. In more concrete terms: the more body fat a person is carrying, the less sensitive their cells will be to insulin stimuli, and the less storage space there will be for sugar molecules. In a healthy body, sugar is stored as glycogen inside the muscle tissue. If these stores are full or if a person has a low level of musculature, the sugar will simply be stored as fatty tissue for use in times of hunger.

So a person who has accumulated too much body fat in the midsection should therefore try to avoid carbohydrates and focus on protein, vegetables and healthy fats until the excess body fat has melted away and the metabolism is functioning correctly again. Classic paleo or “low-carb, high-fat” diets are the clear preference here.

Fruit

Fruit is generally seen as a healthy choice; rightly so, as it is rich in vitamins and antioxidants. As well as glucose, it also primarily contains fructose, the fruit sugar. While this kind of sugar is metabolised without insulin, there is only a very small store for fructose in the liver. If this store is full, then fructose will be converted into triglycerides and will also be stored as excess fat. For healthy people, one to two portions of fruit in the “low-glycaemic” category (e.g. berries) is ideal, while people with health problems such as diabetes or insulin resistance should avoid fruit and focus more on vegetables and fibre.

As a rule of thumb: a person with excessive body fat in the mid-section should avoid carbohydrates and fruit for a time until their metabolism has returned to normal. The following formula applies to weight reduction: Vegetables + protein + healthy fats = healthy and lean.

Fat

Fat was almost demonised, especially in the 1990s. Unfortunately this myth persists even today. However, fat doesn't actually necessarily make you "fat", and the whole low-fat hype has led to huge misunderstandings, with many people suffering from metabolic problems as a result.
The incidence of diabetes and heart conditions is higher than ever before. This is due to the excessive consumption of carbohydrates and "low-fat products", although the low consumption of healthy fats has also contributed.

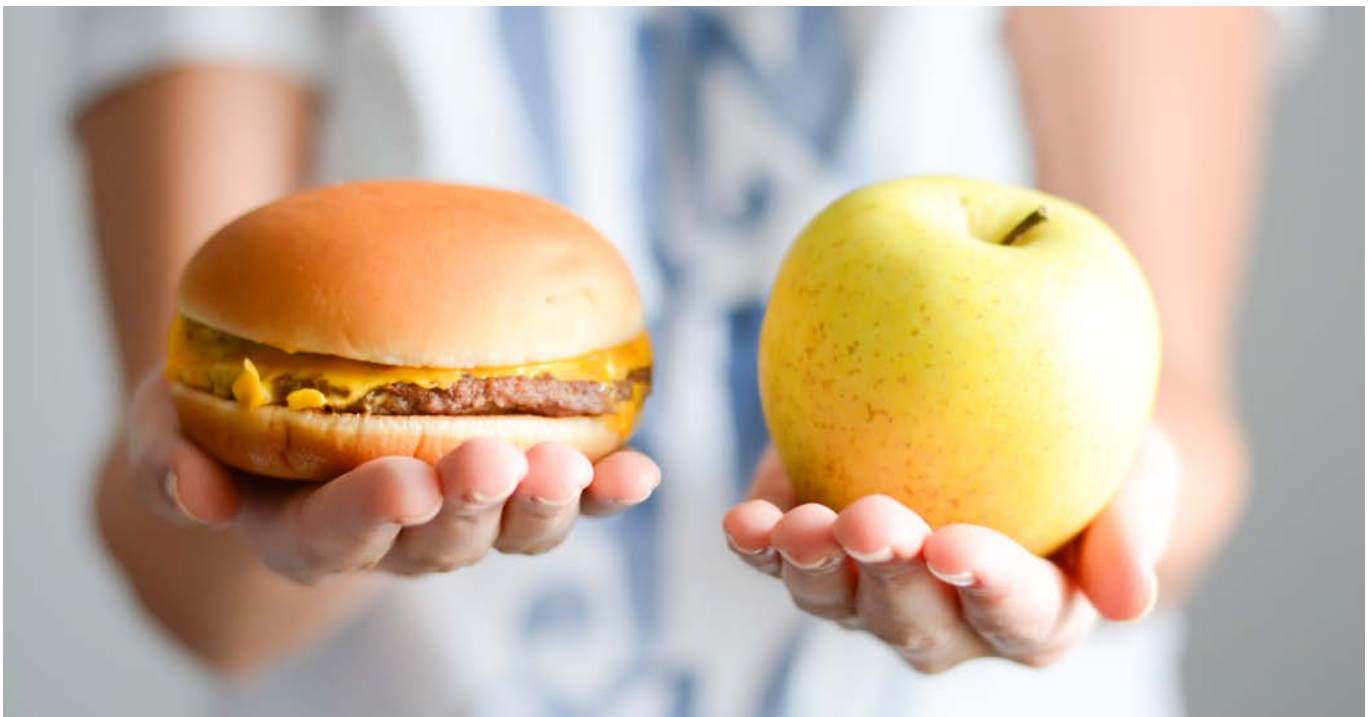
In general, people believe that saturated fats are bad and have a negative impact on cholesterol levels. But this is not true. Cholesterol is a building block for all sex hormones such as oestrogen and testosterone. There are many different types of fats, with an extremely wide range of different health benefits. So it is a fallacy to believe that all saturated fats are bad. 60 years ago, the per-capita consumption of butter and lard was almost three times the amount it is today!
These fats come in good forms as well, including coconut oil, egg yolk or butter. Fatty acids are the building blocks of all fats, whether in solid or liquid form (oil). They are key to the growth and preservation of all healthy cells, an essential part of all cell membranes, and an important provider of energy. They provide nine calories per gram, so twice the energy of carbohydrates or proteins.

Besides saturated fats, there are also monounsaturated and polyunsaturated fatty acids. Monounsaturated fats are found in foods such as olive oil and nuts. They are not heat-stable and should never be used for frying. Generally speaking, they are very good in salad dressings and to sauté vegetables at low heat. They are very healthy in general, and are of particular value to the heart and blood vessels. Heat-stable fats such as butter (lard), ghee or coconut oil should be used for frying.
There are different types of monounsaturated fatty acids, the omega-3 and omega-6 fatty acids. Omega-6 fatty acids are found mainly in all cheap vegetable oils (canola oil, sunflower oil, safflower oil etc.) and have predominantly inflammatory effects on the body.

Compared to 1850, our western diet contains significantly more omega-6 fatty acids than omega-3 fatty acids. But omega-3 fatty acids are the ultimate anti-inflammatories. There are three different omega-3 fatty acids, only one of which is classed as essential as it cannot be produced by the body itself: alpha-linolenic acid (ALA). This acid is mainly found in linseed oil or linseeds. By definition, the other two omega-3 fats EPA and DHA are not essential, as the body can produce them from ALA, although this conversion takes nine very complex and ineffective biochemical steps. It is therefore important to include these particularly valuable fatty acids directly in the diet. They can be found in fish, and in particular in wild Alaskan salmon. Eeicosapentaenoic acid (EPA) is the anti-inflammatory component in fish oil, while docosahexaenoic acid (DHA) is mainly responsible for cognitive abilities.

Our brains are made up almost exclusively of fat; mainly the fatty acid DHA. So it would be accurate to describe fish as brain food. There is a theory that the human brain was only able to develop properly once people started to eat fish, i.e. when people settled in coastal areas. Pregnant women and growing children have an increased need for DHA. The same is true of anyone who needs to maintain high levels of concentration. As omega-3 fatty acids make cell membranes smoother and therefore more permeable for the transport of toxins out of the cells, and also have a strong anti-inflammatory effect, they should be a key feature of any detoxification or regeneration plan. They are also the natural equivalents of blood-thinners like aspirin (but without the side effects), and increase serotonin in the brain, which influences our sense of well-being. They improve the insulin sensitivity of the body's cells and therefore the body's sugar metabolism, and have a positive impact on blood pressure.

Fats should always be stored in a cool and dark place, as they are very reactive substances, particularly to sun and oxygen. They can also go rancid quite quickly, so it is important to buy only the best possible quality. The best sources are organic supermarkets (in Germany: Alnatura, Basic, Denns etc.) or the local farmers market.



Vegetables

Vegetables contain important vitamins, minerals and secondary plant substances. As vegetables contain a lot of fiber, they are digested more slowly, and – strictly speaking – they contain fewer calories than the amount the body needs to digest them. Fibre slows down the uptake of sugar and helps to reduce cholesterol. Vegetables contain barely any calories, need to be chewed for longer and generally keep people full for longer. The indigestible proportion of the fibre helps to clean the intestines and is the number one slimming aid. Green vegetables in particular, such as broccoli, kale and other types of cabbage, contain substances that improve the body's endogenous ability to detox. Green vegetables, whether eaten raw, steamed or sautéed, in a salad or in a smoothie, definitely belong to superfood category, and should feature several times on every day's menu. Ideally, vegetables should account for at least 50% of daily nutrition.

Every person has their own nutritional design, but if one generalisation is true, it's that everyone can benefit from eating more fruit and vegetables (of the best possible quality, as always!).

Food intolerances

In all of the nutrient categories listed so far, there are both superfoods and absolute "no-gos" – the food toxins. Simply put, this means that food can be both medicine and poison to our bodies. The human immune system is essentially there to aggressively fend off bacteria, fungus, viruses, parasites and other microorganisms. In today's world, however, it has to navigate an extremely wide range of different tasks and dangers, which can send it off-kilter. It simply gets confused and starts to attack everything. Food intolerances play a key role here. The body does not necessarily distinguish between foreign proteins, such as gluten from wheat products or casein from milk products, and other foreign products such as viruses or bacteria. Depending on how aggressive a person's immune system is, this can lead to real problems that usually go undetected.
As people's standard forms of nutrition consist mainly of white flour, milk and sugar, it is not surprising that this has an impact on their health. So-called gluten intolerance is the reason behind the current "gluten-free" trend. But many people simply assume that they are affected, and almost none of my patients have a properly diagnosed intolerance.

Gluten

Gluten is a protein found in wheat; it makes dough rise when baking. From a medical perspective, is is a strongly pro-inflammatory protein. It is mainly made up of two protein fractions, namely gliadins and glutenins. Patients with coeliac disease must completely avoid gluten, as failing to do significantly increases the risk of colorectal cancer later on in life. But what about those patients who don't have coeliac disease but still have a strong immune response to gluten that remains undetected in this case? In order to reduce or bypass the body's over-reactive response to gluten, these patients should essentially aim to follow a gluten-free diet.

Gluten, and above all the gliadin fraction, as well as other substances contained in cereals, destroy the intact mucous membrane in the gastrointestinal tract. Nutrients will not be absorbed ideally if this mucous membrane is no longer intact. This is known as "Leaky Gut Syndrome". We need healthy intestinal villi to guarantee maximum uptake of nutrition elements. We are otherwise at risk of suffering vitamin, minerals and trace element deficiency.

On the other hand, a healthy gastrointestinal mucous membrane also acts as the body's barrier against unwanted intruders from the outside. The gastrointestinal tract has its very own immune system (GALT). Micro-fissures between the cells allow the absorption of microorganisms as well as large amounts of undigested food. This opens the door to allergies and autoimmune diseases such as Hashimoto's thyroiditis or MS.

The consumption of gluten will also lead to permanent inflammation of the body. As soon as antibodies have formed to fight off a particular virus or a foreign protein such as gluten or casein, the dose will no longer matter. Even the smallest amounts will be attacked, triggering the entire domino effect of an inflammation.

The chronic increase in insulin levels will also lead to further inflammation within the body. Pro-inflammatory cytokines also increase the body's stress response. The body starts to produce more stress hormone, known as cortisol. An elevated cortisol level leads to increased permeability of the intestinal mucosa, which in turn stimulates the immune system to release more inflammatory neurotransmitters (pro-inflammatory cytokines). And so the vicious cycle begins.

Dairy products

Dairy products are another possible source of food intolerance. In addition to causing classic lactose intolerance which usually leads to flatulence, dairy products also contain a large number of other substances that can upset the human immune system. Dairy products contain casein. It is a protein similar to gluten that provokes an allergic reaction in many patients. "Allergic" in this sense does not mean an immediate response with a rash and tingling and itching all over the body, but rather a long-term antibody-mediated immune response. The body therefore forms antibodies to casein or gluten in exactly the same was as bacteria or viruses, triggering an immune response every time the proteins are consumed. We are all familiar with the typical cytokine-mediated immune response: tiredness, lethargy and sensitivity to cold right, or even fever and shivering in extreme cases. Even in less severe cases you will no longer feel as fit you could be on a daily basis, as your body is spending the whole time fighting off foreign bodies.

Cow`s milk products approved for consumption are also homogenised and pasteurised. This means that they are completely denatured by heat and chemicals, and bear almost no resemblance to the milk that comes straight from the cow. Taken directly from the cow, milk will go sour quite quickly, unlike its denatured supermarket counterpart which is made to last forever. Raw milk has very little in common with conventional milk products, and is actually tolerated by significantly more people. Unfortunately though, statutory regulations mean it is now practically impossible to obtain raw milk. And what's more, dairy cows are usually injected with hormones 24 hours a day, seven days a week so that they can provide a constant stream of milk. They are fed a diet of corn and concentrated feed, live in extremely cramped conditions in a barn, and are given large doses of antibiotics. These cows are a whole world away from the image of the cow in the meadow, munching fresh grass every day and enjoying a relaxed life. The whole thing resembles more of a prison, and is hugely stressful for the animals. The milk is full of antibiotics and steroid, growth and stress hormones, combined with gluten from the wheat feed and pesticides from the cheap and conventionally fertilised feed, and in the end, it is heated to extremely high temperatures and completely chemically modified. Sometimes another batch of chemicals is added in order to attach a "lactose-free" label. What this produces has nothing in common with real milk and verges more on a kind of Frankenstein experiment.

"No adult animal drinks milk, and definitely not that of another animal!" There's a lot of truth in this. After all, cows produce mother's milk for their calves. It contains all of the important substances necessary for the calf to flourish, such as growth factors and hormones. As babies, we also receive milk from our mothers. But this has a completely different make-up to milk from a cow. As mothers usually stop breastfeeding after around 18 months, there is no natural reason to switch to the milk produced by another animal.

To avoid demonising dairy products completely, though, it should be pointed out that some of them do play an important role in our nutrition: one example is butter. Butter is actually classed as a superfood if it comes from grass-fed cows that live exclusively on pasture land. In addition to healthy fats that the body needs for the formation of healthy (nerve) cell membranes and hormones, butter contains butyric acid, an important nutrient for our good intestinal bacteria.

Nowadays, there is a long list of alternative products that can be used instead of conventional dairy products. For some patients, sheep's milk or goat's milk products may work better, or alternatively the original raw milk (certified), if available. If you are looking for alternatives that are free from animal products, however, you can find a list in the "Food intolerances and toxins" table on page 12. With these products too, it is important to ensure that they have been organically produced, that they do not contain any pesticides (fertiliser etc.) and that they have not been genetically modified. Soya milk and its derivatives are not good alternatives, as 99 percent of soya is genetically modified, and it also contains plant oestrogens (phytoestrogens) that the human body can really do without. Please treat these products with caution!

Sugar

Pure household sugar is known as an anti-nutrient. In addition to its strong impact on the blood sugar level and the resulting insulin problem, the body also needs valuable micronutrients (vitamins, minerals, trace elements, antioxidants) to metabolise sugar. Increased sugar consumption leads to diabetes and other metabolic disorders, as well as to so-called AGEs – advanced glycation end-products. This ultimately means that the body's cells caramelise, stick to one another and stop functioning, causing the cells to age and degenerate more quickly (i.e. proteins, fats or nucleic acids react with carbohydrates without any enzyme involvement). AGEs therefore are therefore key to the emergence of numerous chronic diseases.

Trans fats

Margarine and similar products: natural vegetable fat only ever exists in liquid form, so solid vegetable fat such as margarine is produced by means of a hardening process. A synonym for trans fat would therefore be "hydrogenated or partially hydrogenated oils". Heating vegetable fat to a high temperature always creates trans-fatty acids. So we should steer clear of fried foods (chips, crisps), most refined products and sweet treats (doughnuts, chocolate bars and Nutella, etc.)! Trans fats have no actual purpose within the body, and they have already been banned in some states in the USA or at least need to be stated on food labels due to their carcinogenic effect.

Flavour enhancers

Flavour enhancers such as monosodium glutamate or yeast extract are categorised as toxins, and should be avoided at all costs.

Sweeteners

Sodium cyclamate, saccharin, aspartame etc. should be completely avoided. They are purely chemical, so it is not possible to assess their impact on the body. Aspartame in particular is suspected of being carcinogenic. It is found in almost all diet beverages and in sugar-free chewing gum or sweets.

Refined products (including gluten-free/lactose-free)

Food with a barcode and more than five ingredients should be avoided as a rule. Refined products tend to contain a lot of sugar, flavour enhancers, trans fats and chemical substances. If you can't read or understand the terms that are used in the ingredients list, it's best to steer clear. The same applies to gluten-free and lactose-free refined products.

Food supplements

Regardless of a person's diet, it is now almost impossible to get all the necessary nutrients from today's food. One of the main reasons is the poor soil quality. Over-cultivation has decreased soil quality to a minimum, and this alone means that our soil now contains far fewer vitamins, minerals and trace elements than would be necessary. Unfortunately, the same applies to organic food, which is also grown in low-quality soil.

Food supplements should certainly not be viewed as medicine, rather as "food straight from the package", and so as a supplement to a balanced and well designed diet. They rectify recent nutrient deficiencies and allow the body to function to its full potential. In contrast, using food supplements to balance out a poor diet would be an incorrect approach as they would be being used only as a form of compensation.
The problem here is that food supplements, like food itself, are not controlled, meaning that quality is of the utmost importance. Food supplements should be hypoallergenic. But this in itself is tricky, as the majority of conventional available supplements contain fillers such as magnesium stearate or silicon dioxide, colourings such as the dangerous titanium oxide or anti-caking agents, and sometimes even plastics to make them resistant to stomach acid. And all of this in a capsule shell made from porcine gelatine.

Taking all of this into account, it's worth considering whether these products actually have any health benefits, or if they might actually be harmful. It's no surprise that the poor image associated with food supplements has persisted!

But good things may come nonetheless from using food supplements that are free from these completely unnecessary and sometimes toxic additives, or that even have capsule shells made of vegetable products. This group is known as hypoallergenic food supplements.

In the western world, we are generally deficient in a few important vitamins and minerals. Lifestyle factors such as stress, poor eating habits, alcohol and medication consumption and smoking all play an important role here. In response, the body has an unphysiological requirement for more vitamins, minerals and trace elements to compensate for all of these factors. Living north of the 32nd parallel (so north of Morocco or Los Angeles) will also mean a sunlight deficiency and therefore a vitamin D3 deficiency.

Vitamin D3 is actually a hormone rather than a vitamin. It is formed in the skin during exposure to sunlight. And that's where the problem lies: we've always been told to avoid the sun as its rays can cause cancer, and that we need to apply a suitably powerful sunscreen if we do have to spend time in the sun. But even sun protection factor 8 will reduce vitamin D3 production in the skin by approximately 95%. So vitamin D3 will not be produced, even if we spend time in the sun. As always, the amount of this vitamin that we require is crucial, and it varies from person to person. Someone with dark skin needs 6-30 times more sunlight than someone with light skin, as they have a kind of "integrated sun protection". In addition, it's important to get as much of your body's surface in the sun as possible in order to stimulate maximum vitamin D3 production. But who actually manages to do this every day when the sun is out, and what happens in the winter months when there's no sun at all? The vitamin D level falls. The average level in Germany or the USA is 30-60ng/ml, which is very low and by no means ideal. I believe that many people exist in a chronic hibernation mode. The body is therefore not able to regenerate, repair or rebuild, and the only functions that are still performed are the absolute basic functions that are critical to survival: approximately 99% of all people who live in northern latitudes suffer from undetected vitamin D3 deficiencies. The recommendations are continuously adjusted upward as well. The daily recommended intake of vitamin D3 was 600 IU a few years ago, but now it has been increased to 2000 IU. In my experience, the actual maintenance amount should be around 5000 IU a day.

Vitamin D3 is crucial for almost every process within the body; in recent years, it has been established that every cell in the body has receptors for vitamin D3. It helps the immune system to improve auto-regulation, and so can be seen as a kind of "brake mechanism" for the over-reactivity of today's immune systems. It also contributes to curing all kinds of colds, flu infections or allergies involving the immune system. Vitamin D3 is the deciding factor for healthy bone and tooth mineralisation, and is therefore essential in any perioperative food supplement plan (in BHP® by Dr. Nischwitz). Numerous studies have shown that a deficiency in vitamin D3 can lead to problems in bone and tooth development, problems in the gastrointestinal tract and neurological problems such as MS, ADS, or depression and schizophrenia, even cancer.

The aim of a supplement should be to achieve a vitamin D3 value in the upper part of the average range, or above-average depending on the specific problem. A high dose of vitamin D3 is therefore appropriate at the start of treatment, and should be monitored and reduced over time based on blood levels (25-0H-D3). High dosages of vitamin D3 should only be given under medical supervision, and never without the important cofactors. Nutrients always work in the body as a team, i.e. in synergy (unlike medication, which usually floods or blocks certain areas). You might compare it to a football team: a team consisting entirely of strikers would not be able to win a single game. If vitamin D3 is the striker, then vitamin K2 is the goalkeeper and zinc and magnesium are the wingers: it's therefore essential that all of the players work together, and it's a good idea to have a few substitutes on the bench as well.

So vitamin K2, and above all the MK-7 version, must always be taken in combination with a vitamin D3 supplement. This will practically guarantee ideal bone regeneration and development. Taking these supplements activates osteoblasts (cells responsible for bone formation) and deactivates osteoclasts (cells responsible for breaking down bone), and hence enables targeted bone and tooth regeneration. A variety of enzymes that are crucial to bone mineralisation are activated as well.

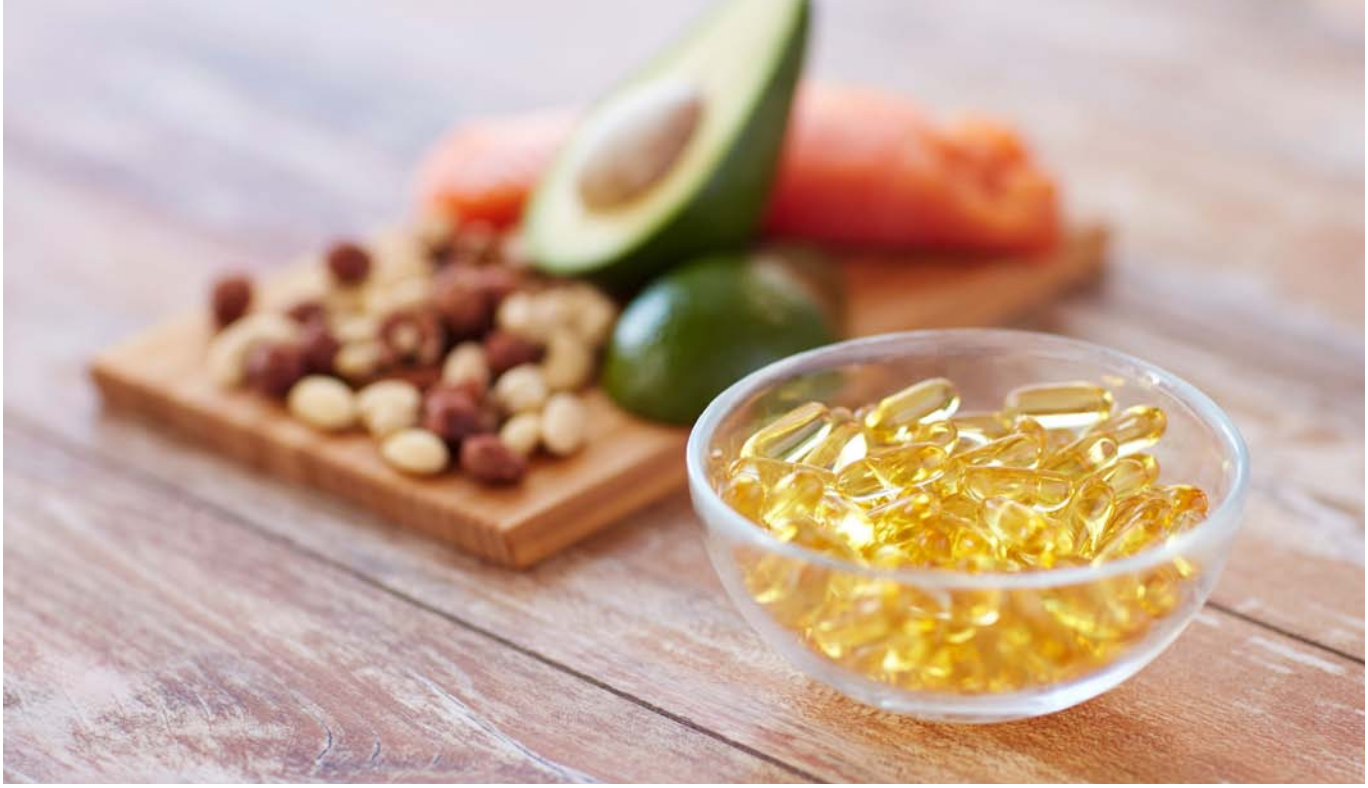
The following will briefly address other important food supplements, as they are usually lacking in modern diets, are only present in low amounts, or because we have developed an increased need for them.

Magnesium

Magnesium deficiency is very common. Magnesium is involved in over 300 metabolic processes. It has certainly earned its reputation as the perfect relaxation mineral, and it alleviates headaches, migraines, muscle tension and cramp. Together with vitamin D3, vitamin K2 and zinc, magnesium plays a crucial role in bone metabolism and tissue formation. It is also involved in almost all detoxification processes, and is responsible for the physiological cardiac rhythm. Magnesium is a cofactor in blood sugar regulation, and improves the sensitivity of the body's cells to insulin. As the body needs it in large quantities when under stress, magnesium is the anti-stress mineral, and hugely reduces our perception of stress. Its relaxing properties can also improve sleep quality.

Zinc

Zinc is another of the most frequent nutrient deficiencies, and like its friend magnesium it is involved as a cofactor in over 300 different metabolic processes in the body. Zinc improves wound healing and is therefore a common component of wound ointments, and should be part of every post-operative nutrition plan. Skin problems such as eczema, dry skin, general wound healing disorders and acne will all benefit from zinc supplements. The same applies to our mucous membranes. Zinc should always be considered as an option if there are signs of infection such as bleeding gums or intestinal mucosal inflammations like ulcerative colitis or Chron's disease.



Together with vitamin D3, vitamin K2 and magnesium, zinc plays a key role in bone metabolism and is also involved as a cofactor in the detoxification cycle, and should always be taken as a supplement in periods of more intense detoxification. Just like magnesium, zinc makes an important contribution to the body's sugar levels and also improves the insulin sensitivity of the body's cells. Zinc is also well-known for its immunomodulative properties. Similar to vitamin D3, it can be seen as a "brake mechanism" and improves auto-regulation of the immune system. Zinc also stimulates the growth of white blood cells and is involved in the production of the thymus hormone thymulin.

It is involved in the production of sex hormones, and verifiably increases testosterone and therefore libido. It also blocks aromatase, an enzyme that converts testosterone into oestrogen and that is crucial for men in particular. Zinc can also raise the sperm count and therefore fertility.

Vitamin C

Everyone is familiar with vitamin C as the real supervitamin. If you have a cold, you need vitamin C. It can even be found in the supermarket in the form of pure ascorbic acid. Because this form of the vitamin is very acidic and incompatible with the teeth and the stomach lining, I recommend taking a buffered version. The Ester-C® version is best for absorption by the body, but pure sodium ascorbate, a mineral salt of ascorbic acid, can also be recommended as a buffered version in powdered form.

The mistaken belief that oranges contain a lot of vitamin C still persists, and some orange juice companies use it in their advertising. However, vitamin C can mostly be found in its natural form in beetroot or rosehips. Orange juice is really just fizzy pop to ease adult consciences, quite simply a sugary drink.
The recommended daily dose of vitamin C is calculated to prevent scurvy, the awful sailor's disease that causes those inflicted to lose all their teeth (because vitamin C is involved in the formation of collagen, the skin's structural protein). It is indispensable in tissue formation, and should be taken immediately in the event of any wound healing disorder or if signs of infection appear, such as bleeding gums. Of course, vitamin C plays a key role in strengthening the immune system. It has an anti-bacterial and anti-viral effect and is one of the main antioxidants in the body.
Free radicals trigger a constant process of endogenous oxidation, and antioxidants help by trapping these radicals. Oxidation takes place if you leave an apple core exposed to the fresh air. The apple turns brown very quickly. This is also what happens to the cells in our bodies that are particularly susceptible to this type of damage.

Vitamin C is known as the anti-stress vitamin, and is crucial in the production and regeneration of adrenal gland hormones and neurotransmitters such as cortisol or adrenaline.
Unfortunately, humans, monkeys and guinea pigs do not have an enzyme in the liver that allows them to produce their own vitamin C from a form of sugar. We have lost this ability over the course of evolution. So we will always require more vitamin C in our everyday lives. While a rat can produce up to 40 grams of vitamin C in a stress situation and can therefore recover very quickly, we humans are no longer able to do this. We have an increased requirement for vitamin C when we are ill or stressed, when we play sport, after an operation or if we smoke. Just one cigarette uses up the basic daily requirement of vitamin C. So what happens if a person smokes 20 cigarettes a day, is very stressed and is possibly ill as well? I'm sure you can guess.

The daily vitamin C requirement is regulated by bowel tolerance. Excess vitamin C is simply excreted in bowel movements. I recommend a basic dose of two to three grams of vitamin C a day, ideally using the ideal compatibility of Ester-C® or another buffered vitamin C variant.

As well as the oral intake of nutrients, selected doctors or naturopathic doctors also offer intravenous intravenous nutrients to compensate for any deficiencies faster and more radically. This type of vitamin cocktail is recommended before an operation in particular, but also as a preventative measure.

Food intolerances and food toxins

Ingredients		Alternatives	
Dairy products			
		Plant based protein:	**Animal protein:**
- *Yoghurt* - *Milk* - *Greek yoghurt* - *Cheese*		- *Coconut milk* - *Almond milk* - *Rice milk* - *Hazelnut milk* - *Macadamia milk*	- *Goat milk* - *Sheep milk*
Sugar			
Ingredients:	**Contained in:**		
- *High-fructose corn sirup* - *Fructose*	• *Dried fruit* • *Spread* • *Agave syrup* • *Milk chocolate* • *Juices and sugar containing soda drinks*	- *Honey* - *Dark chocolate >70%* - *Ice cream (cream based)*	
Artifical sweeteners			
Ingredients:	**Contained in:**		
- *Acesulfam K (E950)* - *Aspartame (E951)* - *Cyclamate (E952)* - *Saccharin (E954)* - *Sucralose (E955)*	• *Light products (soda etc.)* • *Chewing gum* • *Candy* • *Beverage* • *Diet products*	- *Xylitol* - *Erythritol* - *Stevia*	
Stimulants			
- *Glutamate* - *Aspartame* - *Nicotine* - *Caffeine*		- *Coffee 1-2 cups/day*	
Flavour enhancers			
Ingredients:	**Contained in:**		
- *Glutamate* - *Yeast extract*	• *Soy sauce* • *Processed foods*	- *Glutenfree soy sauce (Tamari)*	
Trans fats			
Ingredients:	**Contained in:**		
- *Hydrogenated vegetable oils/fats*	• *Margarine* • *Fried foods* • *Chips* • *Nutella*	*No alternatives!*	
Miscellaneous			
- *Known allergies* - *Processed foods* - *Soy products*		*No alternatives!*	

Alcohol: Alcohol: dose dependent. Consume in limited quantities . A glas of red wine might be beneficial.

Gluten

Gluten-free Grains, Flours, and Starches	**Gluten-containing** Grains, Flours, and Starches
- *Amaranth*	- *Barley*
- *Arrowroot*	- *Bulgar (bulgur)*
- *Bean flours (garbanzo, fava, romano)*	- *Cereal binding*
- *Buckwheat*	- *Chapati flour (atta)*
- *Corn*	- *Couscous*
- *Fava beans*	- *Durum*
- *Flax seed*	- *Emmer*
- *Garbanzo beans (chickpeas)*	- *Einkorn*
- *Garfava flour (garbanzo + fava bean)*	- *Farina*
- *Hominy*	- *Farro*
- *Mesquite flour*	- *Fu*
- *Millet*	- *Gluten, gluten flour*
- *Montina flour*	- *Graham flour*
- *Nut flour and nut meals*	- *Kamut*
- *Oats (uncontaminated with gluten)*	- *Malt (malt extract, flavoring, syrup, vinegar)*
- *Pea flour*	- *Matzoh meal*
- *Potato flour or potato starch*	- *Oats (most commercial brands of oats, oat bran, oat syrup)*
- *Quinoa*	- *Orzo*
- *Rice, all forms*	- *Rye*
- *Rice bran*	- *Seitan (“wheat meat”)*
- *Sago*	- *Semolina*
- *Sorghum flour*	- *Spelt*
- *Soy flour*	- *Textured vegetable protein (typically contains)*
- *Tapioca (manioc, cassava, yucca)*	- *Triticale*
	- *Wheat (bran, germ, starch)*

Superfoods

Protein	Good sources of carbohydrates	Healthy fats	Fruits	Vegetables
Lean meats: - *Beef (pasture raised/ grass fed)* - *Lamb* - *Calf* - *Wild game* **Poultry:** - *Chicken* - *Turkey* **Eggs** - *all variations possible* **Fish & seafood :** - *Oysters* - *Trout* - *Cod* - *Salmon (Alaska)* - *Mackerel* - *Octopus* - *Sardines* - *Shrimps* - *Zander* **Plant based:** - *Quinoa* - *Chlorella* - *Beans & lentils*	- *Amaranth* - *Basmati rice* - *Brown rice* - *Buckwheat* - *Gari* - *Glutenfree grains* - *Millet* - *Pumpkin* - *Cassava* - *Quinoa* - *Black rice* - *Sweet potatoes* - *Yams* - *Vegetables*	- *Avocado* - *Butter (grassfed cows)* - *Egg yolk* - *Ghee* - *Hemp seed oil* - *Coconut milk* - *Coconut oil* - *Laxseed oil* - *Nut oils (i.E. Walnut oil)* - *Olive oil (cold pressed)* - *Omega-3 fish oils* **Seeds:** - *Hemp seeds* - *Umpkin seeds* - *Sunflower seeds* - *Sesame seeds* **Nuts:** - *Cashews* - *Hazelnuts* - *Macadamia nuts* - *Almonds* - *Brazil nuts* - *Pecan nuts* - *Pine nuts* - *Pistachio* - *Walnuts* - *Nut butter*	- *Pineapple* - *Apple* - *Apricot* - *Banana* - *Blue berries* - *Strawberries* - *Grapefruit* - *Raspberries* - *Honey melon* - *Cherries* - *Kiwi fruit* - *Tangerine* - *Mango* - *Melon* - *Nectarine* - *Orange* - *Peach* - *Plum* - *Grapes* …	- *Artichoke* - *Eggplant* - *Cauliflower* - *Broccoli* - *Fennel* - *Kale* - *Cucumber* - *Carots* - *Cabbage* - *Leek* - *Swiss chard* - *Peppers* - *Parsnip* - *Mushrooms* - *Brussel sprouts* - *Beetroot* - *Lettuce* - *Sauerkraut* - *Asparagus* - *Spinach* - *Tomatoe* - *Zucchini* - *Onion* …
Portion size: ● 1-2 palms	**Portion size:** ● 1 palm *Options:* ◯ 1 portion/day ◯ possible with every meal ◯ Boot camp - weeks without carbohydrates at all	**Portion size:** ● hand full ● 1-2 tablespoons (Oil) ● 2-3 teaspoons (Nut butter) ● 2-3 teaspoons (Coconut oil) **Fry:** Ghee / Coconut oil / Butter	**Portion size:** ◯ 2 pieces maximum/day ◯ no fruits at all	**Portion size:** ● unlimited ● Green smoothies are a great choice

In all food categories it is necessary to buy premium quality: this is extremely important if you consume meats, poultry, eggs and fish. If possible buy local, grass fed or pasture raised and avoid all conventional products as they contain hormones, antibiotics and other possible harmful substances. Beef should always be grass fed. Go for hormone and antibiotic free poultry. You should be able to find that quality at your local organic supermarket (i.e. whole foods, trader joe´s) or farmers market. Fish is discussed controversial but it still made the category of the superfoods, because of its easily digested protein and it contains healthy omega-3 fatty acids. The latter is a very important nutrient for our cells and for the development of our brain. To avoid the heavy metal problem only buy small fish like sardines and mackerels. Big fish like tuna and swordfish should be eaten in limited quantities and is best to be avoided. Salmon is very rich in the anti-inflammatory omega-3 fatty acids - the best option is wild caught salmon.

Notes:

Health & Aesthetics

Center for Biological Dentistry
Andreas Nischwitz Msc, Dr. Dominik Nischwitz

Heerweg 26, 72070 Tübingen
Phone + 49 7071 97 59 77
Fax + 49 7071 97 59 79
Mail info@dnaesthetics.de
Web dnaesthetics.de