

Mould – hidden beneath the tip of the “allergy” iceberg

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Part I

- **General information about moulds, their occurrence in nature and in human and animal habitation.**
 - **Moulds as inhaled and ingested allergens**
 - **Significance of moulds and their enzymes in industry**
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1. Moulds – definition and classification in the fungi system

As regards moulds, the definition still applies as given by Delitzsch (1943, and quoted by Roth, Fran and Kormann in 1990). According to this, moulds must have the following characteristics:

- Their habitat is the soil or concentrated nutrient solutions (there are no specific aquatic fungi as such).
- They can live as saprophytes i.e. they obtain their nutrients from dead organic substances which they break down.
- They form a typical mycelium. In this respect they are different from yeasts, which form loose cell groups but no real mycelial component.
- They mainly multiply through asexual spores (sporangiospores or conidia).
- If they form any reproductive organs at all, then these are very small.

Some types of mould can alternate between a saprophytic and a parasitic lifestyle, i.e. they live both on dead and living organisms.

In terms of medical mycology, fungi, irrespective of their scientific classification, are subdivided according to the DHS system into:

- dermatophytes
- yeasts
- moulds

There are approximately 25,000 known types of mould.

They inhabit nearly every substrate (food, earth, plants, clothing, living rooms and cellars, wallpaper, blinds, carpets, paper, wood and leather among other things) and under favourable conditions (temperatures of well below zero up to 60 degrees centigrade, hydrogen ion concentrations ranging from pH 3 to pH 9, presence of mainly organic carbon compounds as a source of nutrition) can multiply rapidly.

They are subdivided into two major groups – the indoor and outdoor moulds.

Indoor moulds occur predominantly in interiors for example on damp areas on walls, in bathrooms, kitchens – particularly in fruit baskets, vegetable trays in fridges, in bread bins, organic waste, in potted plants, where these are located on windowsills above radiators, on window panes, especially on roof windows with wooden frames once condensation has run away.

The outdoor types live outside in the open. Their spores are released if weather conditions are favourable (warm, moist, foggy) and are spread by air streams. The occurrence of spores is seasonal and is limited to spring, summer and autumn. A large proportion of spores live at this time as parasites on higher plants or break down their waste as a saprophyte. Organic waste collection bins too are a breeding ground

for moulds because they offer ample plant waste sitting literally "in a heap".

Moulds as inhaled allergens

When tackling treatment-resistant pollinosis we often see allergies to the spores of one or several moulds. These fungi spores, not the fungi themselves, are in fact the actual allergy carriers. Some moulds can release 1 million spores per m³ into the air – many times greater than the pollen content present in aerial plankton.

For most moulds, unlike pollens, there are no known definite geographical correlations or any typical vegetation zones. The same type of fungus may be found worldwide from Alaska to the Brazilian rainforest.

Only a few fungi such as *Aspergillus oryzae* are restricted to particular regions.

Let's take a look first of all at the outdoor types of mould: When walking or running across moist ground in forests or through piles of leaves or when raking up leaves or making use of compost heaps or similar activities, large clouds of spores can be stirred up and these can trigger massive symptoms in allergic people. So if you are taking a medical history which points you in this direction, you should always consider a mould allergy (predominantly *Fusaria* and *Chaetomium globosum*).

In very dry weather and especially at midday (as with grass pollens), the spores of other types of moulds such as *Alternaria* and *Cladosporium* are released. They occur on wilted plants and grains. Other moulds (the *Ustilaginales*, *Botrytis cinerea* and *Helminthosporium halodes* group) also predominantly appear in cereal crops and produce what is called 'fire blight' because they produce spots similar to burns. They can cause allergic reactions in people both from their spores and from the contaminated cereal. This is however much less so than in the previously mentioned types.

Penicillium spores may also be found in air – interestingly far more frequently in towns than in the country.

Aspergillus is a mould that belongs to what are known as the ubiquitous moulds, which basically means that they can be found everywhere in principle. This always makes finding their origin and sources somewhat difficult.

Indoor moulds as inhaled allergens

Stresses from indoor moulds produce symptoms throughout the whole year as a rule – but they do vary depending on the level of contact with the fungal spore/spores. Fungal spores which occur in livestock buildings only usually trigger allergies if these buildings are visited or from wearing items of clothing or shoes which have collected the spores. In all cases where allergy symptoms, predominantly asthma, are clearly related to time spent in livestock buildings, it is imperative to have samples taken of the livestock building dust, if possible from a large number of joints and cracks where it will have accumulated over many years, and have these samples brought to you. A similar procedure should be carried out in cases of contact with animals infected by spores. In cases of allergy to animal fur you should therefore always consider carrying out a mould diagnostic test.

In this case test in particular the *Mucor* group of fungi, but also bear in mind *Pullaria pullulans*, *Rhizopus nigricans* and *Neurospora sitophila*.

The *Penicillium* types count among the most common and important indoor fungi. They are predominantly found in refrigerators and bread baskets or drawers.

Indoor *Aspergilli* also occur on food, especially if it is tainted with *Aspergillus flavus*, which form the dreaded aflatoxins which are carcinogenic.

Some types of mould live unnoticed in house dust where they form a symbiotic relationship with dust mites. *Aspergillus repens* for instance lives on human scales of skin and prepares this as food for a type of dust mite (syn. skin mite, *Dermatophagoides* sp.). The fungi too are devoured by the mites. Evidence of fungi has been found in the digestive tract of mites. From here they get into the mite faeces, which contain potent mite allergens. Therefore with every dust mite allergy, consideration must be given to a mould stress and have this verified (see Part II).

Many mould allergens can be part of "domestic dust extract". Moulds prefer growth in upholstered suites, flower pots, behind wardrobes, rugs, under carpets and in new buildings that are still drying out or on old floors and in rooms with wood panelling. Wall and ceiling cladding, and especially suspended ceilings in old buildings are more or less ideal mould reservoirs. Covers, e.g. for cable conduits or lamp holders provide the link to these fungus chambers. We have increased relative humidity through ever improving insulation in houses and in so doing we have created ideal conditions for mould growth. In terms of creating ambient conditions where moulds will thrive, it is not just the macro climate that is significant, but also the micro climates which we ourselves create e.g. wet rooms, shower and bathrooms, laundry and drying cellars.

Air conditioning units are not to be underestimated as a source of exposure for sufferers of allergies to mould. Even if air filters are changed as required, this offers no guarantee for the prevention of the gradual growth of fungi in air shafts. The fungi present in outside air accumulate in the filters, germinate here and grow through the filters. They sporulate again on the inner side and so reach the next filter level until finally they reach the ventilated rooms. This has been proven in tests. "Air traps" provide information on whether moulds are present and, if so, which ones are present in the

ambient air of an office, for example. I have often given these to patients when I wanted to test them for mould stress. If a test is positive it is always important to look for the source of exposure because if possible this should be eliminated in order to avoid future contamination.

It is very easy for very small allergens to pass through the filter system. They are transported as air molecules directly into rooms in the air coming from the air conditioning unit. These are above all *Penicillium* sp. and *Aspergillus* sp. and *Cladosporium* sp. allergens. Air humidifiers and air purification units are similar breeding grounds.

The use of wet vacuum cleaners is recommended for dust mite allergies where house dust is sucked directly (without a bag) into a water holder, which is emptied and cleaned immediately after the hoovering process. The same machine can also be used for air purification; the ambient air is suctioned in on one side, cleaned with water and the cleaned air flows out again on the other side.

A healthy indoor climate should meet the following conditions:

1. an evenly-distributed air temperature of 19–21 degrees C
2. a similar surface temperature of the walls
3. an air speed of 0.15–0.25 m/s
4. a relative air humidity of 40–70% (in winter 40–50%)
5. air that is free or low in harmful substances

In practice these conditions are seldom met. Moulds like growing on wooden window frames and can develop allergenic properties here. This is true of *Alternaria* sp., *Cladosporium* sp. and *Aureobasidium* sp. High air humidity levels also develop in slept-in beds – relative humidity increases from 60–80% and even hours after beds have been vacated the air remains virtually fully saturated with water vapour.

Moulds as ingested allergens

Moulds can occur as contaminants on food and cause serious allergic reactions. When treating urticaria in particular stresses from moulds should always be considered. Food that is contaminated because of poor storage is particularly affected; bread, pastries of any kind, compots, jams, fresh cheese, vegetable-based spreads, mushroom pate etc. Aflatoxin and mycotoxin may grow here and this can have real toxic effects quite apart from any possible allergic reactions.

In principle any food, whether from the garden, from large agricultural holdings or from the greenhouse, can be affected by mould and such contamination is not always visible to the naked eye.

Even after testing for any possible wheat allergy, special testing should be done for stress caused by blight on cereals. It is not uncommon for this form of underlying stress to be the cause of a wheat allergy.

Moulds can grow on cereal grain even before harvesting. This occurs in particular with the fungi from the *Aspergillus flavus* genus in warmer climate zones – in the temperate zones it is *Fusaria* that need particular attention. Oats, wheat and maize are affected in particular. Both genera are known to form toxins. Pets can suffer severe poisoning if fed foodstuffs containing fusaria toxins.

The second largest group besides field fungi are storage fungi. This group includes in particular the *Aspergillus* and *Penicillium* fungi. Penicillin was in fact first extracted by famous scientist Alexander Fleming from moulds of the same name. A course of penicillin can therefore bring about an allergy to Penicillin or sensitisation.

In principle any mould can affect any food stuff if conditions are right. There is no classification system for assigning a certain fungus to a certain type of food. Also, the range of mould contamination is subject

to time-related and regional variations. Tomatoes from different growing areas for example have different types of fungi depending on the season.

The importance of moulds in food production as starter cultures and industrial use of mould enzymes

A broad range of 'new' products (incl. yoghurt, butter milk, cheese, wine, Sekt, beer, bread, soya sauce, etc.) are produced from the metabolic activity of certain micro-organism cultures in foodstuffs such as milk, grapes, cereals, soya beans, etc. by a process of microbial maturation (fermentation). The food produced in this way is 'upgraded' in terms of its nutritional properties and taste and its shelf life is also improved dramatically.

In earlier times such fermentation processes took place with the help of naturally occurring micro-organisms in the environment without man necessarily being aware of it and without his influence. Today optimally chosen and adapted pure and high-performance cultures are used under controlled conditions. The former regional differences in the traditionally fermented substrates and the micro-organisms used no longer apply. More and more enzymes are being manufactured industrially – the enzyme industry is a growth industry "par excellence".

Gene technology is producing numerous new options for influencing enzyme properties and their areas of application and with it new sources of allergens too.

The main use of mould enzymes is for the clarification of fruit juices, e.g. in almost all clear apple juices, and in numerous cosmetics, detergents and textiles. Keritinases are used for instance in depilatory products, hyaluronidases act as a "permeating agent" to accelerate the penetration of cosmetic substances into the skin.

Mould enzymes and their use in food production

Enzyme	Enzyme-producing mould	Areas of application in the food industry
Alpha-amylase	Aspergillus oryzae Aspergillus niger	Brewing industry (beer making), distillery industry (malt substitute), manufacture of pastry products: malt flour substitute, addition to light flours low in enzymes, reduction of sugar content in recipes, acceleration of biochemical processes, stronger, more even browning of crusts, large volumes of bakery products, shortening of the fermentation process
Beta-amylase Cellulase	Aspergillus oryzae Penicillium species Rhizopus species Aspergillus species	Maltose syrup production from starch Brewing industry (beer making), soya protein production, additive to instant foods and quick cook products. Producing aroma from agarics, starch production, animal feed additive, manufacture of hard baked products (biscuits) instant coffee powder, fruit juices (enzymatic peel, e.g. oranges)
Glucoamylase	Aspergillus oryzae, Aspergillus niger, Rhizopus species	Extraction of maltose in the brewing industry, glucose production, beer for diabetics
Glucose oxidase	Aspergillus niger, Penicillium species	Processing protein, colorant and flavour stabiliser (e.g. in mayonnaise and fruit juices), dried egg products, wine manufacture, additional packaging for hard cheese to prevent surface discolouration, removal of oxygen from preserves and dry powdered foods
Invertase	Saccharomyces species	Jams and confectionery production (especially marzipan and persipan). Soft-centred chocolates, addition of liqueur to prevent sugaring, artificial honey, ice cream and instant baking mixtures
Catalase	Aspergillus, Penicillium species	Removal of H ₂ O ₂ from milk, food and textiles after sterilisation and UV irradiation
Lipase	Aspergillus niger, Rhizopus species	Glycerine production, improvement in aromas in ice cream, cheese, margarine and chocolate
Naringinase	Aspergillus niger	Debittering of citrus juices
Pectinase	Aspergillus niger	Removal of pectin, clarification of fruit juice, production of citrus oil, manufacture of fruit nectar gel, vegetable marrow concentrates, colour stabilisers in fruit juices, mashing prior to wine fermentation, coffee bean fermentation

Enzyme	Enzyme-producing mould	Areas of application in the food industry
Protease	Aspergillus, Mucor, Saccharomyces species	Soya protein hydrolysis, meat "improvement", pre mortem and post mortem beef maturation, fish marinades, herring processing, cold smoking of fish, fish skinning, quick cook legumes, cheese manufacture, Quark, prevention of trub in beer, flour improvers and non-perishable baked goods.
Renninase	Mucor species	Rennet addition during cheese production
Ribonuclease	Penicillium species	Flavour enhancers
Aroma-forming enzymes	Aspergillus species	Putting aroma back into dried spices, fruit and vegetables.

In particular metabolites from the Penicillium species (including certain proteases) are added to teeth cleaning products, toothpastes and mouthwashes to split protein residues in food and to supplement active ingredients in preparations for the removal of dental plaque and calculus and also as a prophylaxis against decay.

Two of the most important users of microbial proteases are the laundry and cleaning industries. Proteases catalyse the breakdown of contaminants containing protein. Producers of stable enzymes which are heat resistant and which are not inhibited by other detergent ingredients, are Bacillus licheniformis, Bacillus subtilis and the Fusarium and Aspergillus species.

In the case of contact eczema and other allergic conditions caused by using detergents, it is not only the chemical additives which are suspect as triggering substances but also mould allergens according to the enzyme suppliers.

The textile, leather and hide industry also uses microbial products in a variety of ways for instance as mould enzymes to bleach jeans.

Medicinal products

Mould allergens can be present both as the active ingredient but also as an additive in individual preparations. A range of antibiotics are direct metabolites of moulds – and taking these can trigger allergic reactions, so in the first instance an allergy to the active ingredient should be given consideration.

It is different with medicinal products – predominantly drugs for the gastrointestinal tract, which contain enzyme additives, flavour correctors or adjuvants such as stabilisers and expanding agents. As a rule these adjuvants are not declared and very often are part of the formulation components, which are closely guarded. As in the case of foods prepared with enzymes, it applies that if people with a particular sensitisation to a particular product take medicaments containing these enzymes, an allergic reaction can occur.

In principle all medicines can contain mould enzymes, because they are used to create certain galenic properties and the same applies to cortisone preparations antiallergics and antihistamines.

The moulds whose enzymes are used the most are Aspergillus oryzae, Aspergillus niger, Penicillium notatum, Penicillium commune and Rhizopus sp., which we know

from their use in the production of food as the most important enzyme suppliers (e.g. citric acid isolated from *Asp. niger* or uricase from *Asp. flavus* acting to lower the level of uric acid).

It is only rarely that the moulds which are enzyme suppliers of these products are named by pharmaceutical companies in the package inserts or in scientific information.

For the uninitiated, the realm of pharmaceutical product manufacture remains completely untapped when it comes to moulds and their use in certain stages in a synthesising process within a long chain of synthesis. A short summary only can be given below as an overview.

The *Sporobolomyces*, *Saccharomyces*, *Penicillium* and *Fusarium* species are used for the synthesis of vitamins (in particular B12), ergosterol, riboflavin, L-ascorbic acid and b-carotene (provitamin A). Ephedrine is added to different antihistamines where normally the *Saccharomyces cerevisiae* mould would be used for its manufacture.

A number of the adrenocortical, androgen and oestrogen hormones which are available are manufactured using reduction and oxidation-controlling mould enzymes.

Exogenous allergic alveolitis

Exogenous allergic alveolitis is an immunological inflammatory response, which in the majority of cases is triggered by mould antigens. Essential characteristics of the course of the illness are:

- Symptoms occur at the earliest 3 hours after contact with the antigen, so not an immediate reaction.
- Typical clinical symptoms are fever, cough, dyspnoea and cyanosis.
- Leukocytosis in the acute stage, evidence of specific precipitins against the suspect antigens.

The illness is more prevalent among people in the country than those living in towns

because of the possibility of intimate contact with the corresponding antigens, (stables, mouldy hay etc.) Furthermore some professions are particularly at risk because of handling mildewy material:

- Silo workers, millers, bakers (mildewy cereal)
- Mushroom pickers (mould in the compost, increased content of spores in the air at the workplace)
- Lumberjacks, sawmill workers, paper manufacturers, carpenters (mouldy wood)
- Farmers (especially those in animal husbandry and involved in the preparation of animals for human consumption), gardeners (hay, straw etc.)
- Sugar cane workers (mouldy bagasse)
- Cheese washers, cork workers, malt workers (mould on cheese – particularly ripening flora such as *Penicillium casei* and *Penicillium glaucum* – cork and malt)
- Workers in large offices and other air-conditioned spaces (moulds from the filters of the air-conditioning systems)
- Waste disposal industry

The most frequent antigens come from *Aspergillus* sp., *Penicillium* sp., *Sporobolomyces* sp. and *Thermoactinomyces*.

If exogenous allergic alveolitis is recognised early enough, a full recovery is possible after a period of abstinence. Since alveoli and terminal bronchioles are normally affected, the clinical picture can be confused with bronchitis. In acute phases the treatment of choice in conventional medicine is the administration of corticoids, in particular to prevent fibrotic changes in lung tissue.

Here test technology using EAV (Voll's electroacupuncture method), Tensor or kinesiology is needed in order to be able to test for specific stresses and then treat them using BRT. Traditional diagnostics using the

skin for “positive skin reactions” or by provocation tests of the nasal, inhalative or oral kind in which an “acute sensitisation” indicates a stress, in my view is very irksome for the patient, often imprecise and unnecessary.

Nevertheless the results of such studies are of interest to us too.

Epidemiology studies in the years 1984 and 1986 from various allergy clinics working in different fields showed a confirmed mould sensitisation in 30.8% of 15,450 allergic patients – compared with a pollen figure of 11.0%, almost one third less. Animal dander 2.6%, drugs 12.0%, additives 21.6%.

Part II

- **Practical procedure in patients with suspected mould stresses**
- **Case history – Testing – Diagnosis – Therapy**

Case history

The medical history gives us the first pointers to possible allergen carrier groups (pollen, animal dander, nutrition and moulds among others).

“In the case of mould allergies, the case history is of great importance in making a diagnosis: The main problem in diagnosing a suspected fungal sensitisation is firstly obtaining evidence of such sensitisation from the patient’s medical history and, secondly, providing evidence of the current allergen, often more by luck than judgement.”
(Dr P. Schumacher, see Literature).

Nowadays we have a considerable advantage with our test equipment and the excellent CTT viruses/fungi test kits from Regumed, plus the wonderful moulds test kit from Dr. Schumacher, because with these tools we can easily test and specify fungi systematically, as we shall see below.

The first thing I want to hear from my patients is why they have come to see me.

The following symptoms provide the first pointers to a possible allergy / hidden stress from mould:

Eyes: Reddening, itching, streaming eyes, burning, sensitivity to light, conjunctivitis, swelling of the lids.

Respiratory system: A runny cold with heavy formation of fluid, blocked nose, swollen

mucous membranes, attacks of sneezing, itching, continuous cold symptoms, swelling in the respiratory tract, cough, shortage of breath, asthmatic attacks, breathlessness and wheezing.

Skin: Urticaria (nettle rash), with the formation of hives, severe pruritis, angio-oedema, angioneurotic oedema (Quincke’s oedema), eczema and neurodermatitis

Gastrointestinal tract: Nausea, vomiting, diarrhoea and gastritis.

General reactions: Pain in the joints, also rheumatic symptoms, fever, migraines, depression, ongoing tiredness, disturbed concentration, circulatory collapse, even anaphylactic shock.

Then, how long the described symptoms have persisted, and when they mostly occur.

An allergy patient once told me that his problems mainly occurred in wet weather or on dry, windy days immediately after hot and humid weather or frequently in the spring and autumn lasting into the period when the first frosts occur (this is because the plants killed by the frost rot down providing moulds with a good breeding ground), and this then gives me a major clue to test for mould stresses. In turn there are spores which are almost only ever present in summer and are found in aeroplankton particularly during dry weather. These are the cladosporium and alternaria, which are mainly released at

midday. If my patient's main symptoms coincide with these times and weather conditions then I know exactly what I need to test for.

Where? Where and when symptoms occur:

- staying in damp or timber framed or air-conditioned rooms
- in woods, parks, stables or cellars
- after drinking small amounts of alcohol (beer, wine, in particular better quality wines), after drinking ready-to-drink fruit juices (enzyme treatment), tea (especially from tea bags), vinegar, fruit and vegetables, but also from various drugs (especially gastrointestinal therapeutics with added enzymes).

We should also ask the patient whether a change of location or holiday brought improvement or a deterioration, whether conditions at the resort, such as air-conditioning systems in hotels, old mould-infested mattresses, apartments, caravans, etc. need to be considered too.

At the same time as sensitisation to an inhaled allergen, patients may also develop a nutritional sensitisation. Therefore seasonal symptom clusters can become blurred or conversely, perennial nutritive sensitisations are not obvious if there is a marked increase in inhalational symptoms linked to a particular season.

You may also see combinations of symptoms such as inhalation-triggered bronchial asthma with related seasonal rhythms and simultaneously a perennial, nutritionally induced migraine or neurodermatitis, which can be reactivated by eating or drinking food and drinks containing the corresponding mould allergens.

Summary: The descriptions patients give us are the first diagnostic clues and we should pay close attention to what they say. If there is any suspicion **always** test for moulds.

Testing

Procedure for bioresonance testing.

If I suspect a stress from mould, this is how I proceed in practical terms:

1. I test all terminal points using EAV (Voll's electroacupuncture method). In this way I get an indication of the state of my patient's regulatory system (test with the tensor and the 5-element test kit – kinesiologically test the organ zones with your hand on the organ or also use the 5-element test kit as an aid).

2. I am particularly interested in the elimination organs, above all the state of the liver meridian, then the kidney meridian, and finally, with the relevant symptoms in these areas, the intestines and skin test value. (Of course as always if you see values deviating from the norm you also have to test for heavy metals, scars and other stresses.)

3. Now first of all I take the Schumacher test kit "Moulds" and "Inhalation allergens". (See Illustrations in the appendix: Test kit Inhalation Allergens according to Dr P. Schumacher, CTT test kit Viruses/fungi.)

▶ First of all I test all mixed ampoules (using EAV on the lung meridian if there are symptoms similar to hay fever present, otherwise predominantly on the liver meridian, since fungus toxins predominantly stress the liver). Since 1998 Dr Schumacher has included all mould antigens in alphabetic order in the "Inhalation allergens" test kit, irrespective of whether stress from the corresponding fungus genus is predominantly inhalation-related or acts more on the digestive tract as ingested allergens – therefore test also the liver and the intestines.

▶ I then set aside the mixed ampoules that have been detected and do additional tests on the fungal mixtures from the Regumed CCT test kit. Then I search for the corresponding individual ampoules. For this purpose it is also always recommended that you have the book "Test sets according to Dr P Schumacher" to hand. It is easy to look

up here which individual ampoules are hiding behind the respective mixture. Since the names of the fungi are very specific and in my experience take a long time to memorise and assign them by heart, the book is very worthwhile. This is also because under the fungi names the occurrence of each respective fungus is clarified and likewise the weather conditions triggering their main release of allergens. The individual ampoules are also tested energetically and the ones which test positive are set aside once again.

Now make a note of everything you have found.

Therapy

In general treatments for moulds never take place during the first treatment.

First treatment

The first treatment serves to regulate the body's own regulatory system.

The usual organ programs are applied here. I prefer to use the "old" programs according to Sissi Karz.

For example:

Prog. 430 liver
Prog. 480 kidney
Prog. 560 intestine
Prog. 290 small intestine
Prog. 210 lung
Prog. 911 nervous system
Prog. 401 cardiovascular system
Prog. 580 spleen/pancreas
Prog. 911 stomach, nervous
Prog. 371 gallbladder
Prog. 390 bladder

Moreover people who have a BICOM optima device can run the organ ampoules from the 5-element test kit in channel 2 or add restorative complexes from the "substance complexes". Also "goodies" for instance for older patients "fortifier for the elderly female/male", possibly also the DMI therapy in order to provide additional support with the 'building up' DMI therapy when treating severely weakened organs.

Follow-up treatments

Sequence

1. All organs/meridian systems, which are in an "excess energy" state i.e. where we find irritation of the system and an acute inflammatory process taking place. Using EAV it is quite simple: test all organ systems whose terminal points are too high, i.e. well above 60, and treat these first. According to the principle: Where there is too much, I take it away and transport it to where there is too little (cf. our taxes).

2. All organs/meridian systems which are in "energy deficit", i.e. in a chronic and degenerative condition receive energy brought to them in the form of electromagnetic waves/bioresonance. In other words, all organ systems testing under 40 are strengthened using the above-named programs and previously tested amplification settings.

I always test out amplification and by and large I accept the programs just as they are and in my experience have found this approach to be very beneficial.

The electrode position is best arranged to correspond to the "old layout", i.e. without magnetic mat and with the flexible electrode directly on the organs to be treated.

If necessary drops or chips filled with the information can be given to the patient to take with them.

3. Treat the main interference fields "heavy metals" and "scars" (e.g. Prog. 191 + Prog. 910)

(Refer here to papers which include the terms "heavy metals/~stresses" in the RTI volumes: RTI 8a/111, 10/34, 12/6, 13/5+19, 14/90, 15/6+131+133, and "Scars/~symptoms, ~elimination" in the following RTI volumes: RTI D-II/107, M-I/68, D-II/108, 13/5+77.)
(Key: volume/page number(s))

4. Testing out suitable natural medicines for use at home or when travelling.

5. Give the patient something to drink.

In the winter months we always brew teas – mostly a mixture of various herbs. The “Energy tea” from Alnatura is particularly popular – or alternatively, there is always a pot of “elimination water” ready. This simple step is more important than I had previously thought, because it is as if the oscillations need precisely this fluid in order to gain the best possible access to the cells to release their full effect.

6. Prepare patients mentally for the forthcoming mould elimination.

As soon as their regulatory systems are balanced and the eliminating organs are fully open, we can removed the stress, but not before. It is as if we want to throw away the rubbish, but first need to ensure that all bins are emptied so that none of them overflows possibly causing more damage. This little comparison makes sense to the patient and they are prepared to wait for the right time and make further appointments for treatment, if necessary putting up with any symptoms which usually subside somewhat after regulation therapy.

7. Instruct the patient to look for sources of exposure at home, in stables, on animals, plants, house dust etc. and if need be use **cotton buds** to take samples of different materials and bag and label these in parchment paper and bring them to the next therapy session.

Dr Schumacher in his book *Biophysical Diagnosis and Treatment of Allergies*, revised 2012, describes accurately how to proceed in practice in order to find out where the mould spores relevant to the patient could have come from. Here, patients are asked to take swabs from all the suspect locations where fungi appear, e.g. damp walls, places where condensation develops or water is used in any form. “Without water there is no fungus” is a statement made by the well-known mould expert Krempl-Lamprecht. She means here the indoor fungi.

The vegetable compartment in the fridge and the bread bin deserve special attention, also the waste bin and any storage cellars – if the patient has any.

In any case you should ask about any air-conditioning units. Dr Schumacher writes about several asthma patients he knows who had severe asthma symptoms when on luxury holidays in tropical regions with air-conditioned hotel rooms, and on cruises in air-conditioned ship’s cabins or whenever they went on long haul flights. It would be difficult in such cases, however, to obtain samples with cotton buds.

Cold air nebulisers and air humidifiers should though be looked at very carefully. I recommend here a swab from the reservoir and the outlet nozzle of any air humidifier. This is exactly how moulds were transported to which one of my child patients developed an allergy.

The swabs should be rubbed over all suspicious areas of the living area with firm strokes, then put into paper bags, labelled and brought into the practice. In addition where applicable also the removable nozzle of the air humidifier or (in the case of a farmer who came to me for treatment) the air filter of the air purification system from the stable. (Here animals may need to be treated too?)

Using the “Swab for patient” allergy test you can use Dr Schumacher’s method to determine which samples contain allergens for a particular patient. In my experience particular attention should be paid to the inside of the WC and to the waste pipe from the WC. With the help of an identification test using the test “Sample against mould test tube” from the test set, it is possible to also identify the specific fungus species.

My follow-up treatments

At the follow-up treatment, after about 2 weeks, during which period the patient should have taken the drops and natural remedies and where necessary have worn the chip(s), the regulatory system is retested.

If it is in balance, i.e. all EAV values in the range between 40 and 60 and ideally around 50, then elimination of the fungus can be commenced. (Alternatively: tensor test with the help of the 5-element test set or the kinesiological muscle test in relation to the organs.)

If there is no balance, therapy is continued on the organ systems, if necessary with the corresponding low-deep frequency programs from the BICOM optima, including program 3063.0 liver detoxication, program 3078.0 renal function and program 3028.0 intestine.

This is followed by:

Mould treatments

Prog. 191 Ai or program 944, program 999 Ai or program 998 with the individual ampoules or one mixture. If these are not available, one mixed ampoule in the input cup. If the same swabs are available as detected during the identification test, these can be included in therapy, i.e. placed in the input cup / honeycomb.¹ The patient is only connected at the output with the bullet electrodes in their hand. Always test for the required amplification. Here it is recommended to also test the therapy time, 30 minutes for program no. 191 is always too long. With children 3 minutes is often enough and for adults approximately 5 minutes.

In the case of severe stresses which have lasted a long time, the additional preparation of drops is also recommended. 5–10 drops should be taken 1–3x daily

¹ I very much like using the honeycomb here, since the ampoules have a greater contact area and two input cables.

over a period of 2–4 weeks (always test out each case individually).

I always give priority to treating moulds over all other allergies.

In less severe cases immediately after mould treatment you will see a less marked needle deflection even in the case of allergens which previously tested positive. This shows a direct relationship between the cause of the mould stresses and these allergies.

The allergies are just "the tip of the iceberg", visible from the outside.

Even just a few weeks after mould elimination and preferably the simultaneous removal of the sources, the allergic symptoms disappear gradually and also the allergies behind them, some even without special treatment.

With all allergies, the fungi ampoules from the basic test set should always be tested too. These give us general information as to whether a possible stress from candida is the cause of the allergy or a mould stress or possibly both in combination, which is very often the case.

Since fungi tend to colonise whenever the natural intestinal milieu is disturbed and the intestinal flora have insufficient physiological intestinal bacteria and/or the pH value is too low, i.e. the milieu is too acidic, then it may be concluded that precisely this type of disturbance is present.

Successful therapy is always likely if the intestinal flora are regenerated and likewise the mucous membranes which are often open to attack and penetrated by alien substances thereby opening the door to allergies. This phenomenon of "permeable mucous membranes" is also called "leaky gut syndrome".

In practical terms this means for us:

1. Use the pink regeneration ampoules from the CTT viruses/fungi test kit, i.e. strengthen intestinal defences and eliminate aflatoxins, endotoxins, fumitoxins and if necessary mycotoxins.

2. To strengthen organs further, or even to begin with run the corresponding organ ampoules from the 5-element test set at the same time in channel 2.
3. Use intestine cleansing capsules and then intestinal flora regeneration preparations (initially lactobacilla acidophilus); in my experience the Escherichia coli bacteria often initially irritate the already irritated mucous membranes.
4. Medicinal mushrooms have proven to be outstanding in the follow-up treatment of pathological fungal diseases, especially Hericium for building up degenerated mucous membrane and Reishi for regeneration of the liver, otherwise, depending on concomitant complaints, choose the corresponding medicinal mushrooms (a separate topic!).
5. Proceed with other special treatments from the manual to tackle other specific complaints from which the patient may still be suffering, for example in the joints, spine or migraines, etc.

Part III

PATIENT CASE REPORTS

Case 1 M. H., male, 39 years old, office worker

Case history: Came to me because of frequent flatulence and recurring diarrhoea – whether these could be triggered by an allergy?

Test results: according to EAV LI 40, SI 40 with indicator drop, LV 40, SP 30, KI 80(!)

Findings: A severe stress from amalgam was detected which had caused overstimulation of the kidney and liver stress.

Diagnosis after allergy test:

- Allergy to milk protein
- Egg yolk
- Citrus fruit
- Almonds and hazelnuts
- Fungicides and pesticides. (He told me that his parents' house had been located immediately adjoining a field and it was at this time that his hay fever symptoms had started. I also then tested for an overreaction to grasses 2 and 3, meadow grasses, general and mugwort plus ragweed.)
- Cherries and sugar

Testing for moulds revealed a stress from Chaetonium globosum and Fusarium solani.

Treatment course

1st Treatment: Prog. 480 kidney, Prog. 430 liver, Prog. 560 intestine (+ Test for natural remedies for at home).

2nd Treatment (2 weeks later): All previously treated organs according to EAV testing were in balance, i.e. the values were within the normal range.

Only the small intestine was still weakened. Prog. 290.8 SI + Prog. 191 Ai 10-fold as elimination of the aforementioned moulds.

At the third session the patient stated that he had had more problems for a few days after the last treatment. The liver actually tested as stressed (EAV value 30) and I explained to the patient that this was an initial response to the elimination of the moulds and would die down once the body was gradually freed of these and that this could last several weeks after elimination, though symptoms usually stopped at the most after one to two weeks.

3rd Treatment (2 weeks later): Prog. 430, Prog. 560, Prog. 998 to treat acute grass allergy (grasses 2+3).

4th Treatment (1 month later): The patient was feeling very much better now. In addition to bioresonance therapy he also took Chlorella Algen for the amalgam stress and as preparation for removal of the amalgam fillings by a dentist. He also took

Myrrhinil-Intest for the diarrhoea and to heal the irritated intestinal mucous membrane.

5th Treatment (3 weeks later): Prog. 461 St, Prog. 998 for cow's milk, Prog. 191 for the meadow grasses ampoule and freshly gathered grasses (10-fold amplification is often very suitable as follow-up therapy for an allergy).

At the following session the patient no longer had any allergic symptoms – overall the patient was feeling much better and only rarely suffered from flatulence and had had no diarrhoea for a long time.

6th Treatment (2 weeks later):

As preparation for the elimination of pesticides and fungicides I chose a kidney strengthening program, because the kidney value was the one deviating the most from 50.

Prog. 480, Prog. 191 against pesticides and fungicides, Prog. 910 scar treatment on the umbilicus and on the inguinal hernia scar. The follow-up test on cow's milk showed no further allergic stress.

On 30.5 the patient returned to my practice again with allergy symptoms again. The elimination of the pesticides and fungicides had stressed the liver. The kidney had remained stable – probably because of the scar treatment. I treated the liver again with my favourite program 430 and carried out grass destressing again using Prog. 944.

Result

I chose this patient because his underlying stress was caused by moulds which had probably been there a long time and had taken its toll on the liver and kidneys during this time. Then in addition there were the stresses from pesticides and fungicides until finally allergies developed. The body was overstretched in its ability to compensate especially because there was still a weakening scar along the liver meridian and therefore the kidney, as the second major eliminating organ, was overburdened (initial EAV value of 80). You can see very well from this example that, faced with the

task of eliminating severe underlying stresses, the eliminating organs can be overwhelmed and brought "to their knees" and how important it is to remain "on the ball" and treat them at least twice a week or better still weekly with BRT, possibly even by giving drops or magnets, even biological and herbal remedies as a supportive measure. Once the amalgam fillings are removed and the amalgam eliminated, the intestinal flora regenerates and any additional candida stresses are broken down. In my experience with many other patients, even the grass allergies disappear completely and never reappear. To date we have been able to alleviate, which is always better than taking antihistamines continuously.

Case 2 U.K., female 60 years old, took early retirement after working for years in an office

History/findings: I had been treating this patient over many years for back and joint trouble even before I practised bioresonance therapy, i.e. more than 20 years ago when she was my father's patient, Dr Kurt Becker, orthopaedic specialist and I looked after her in my capacity as a physiotherapist. Back in 2002 I made my first records about bioresonance therapy. The EAV test of the Staufen Pharma nosodes highlighted many different stresses: Coxsackie B1 – B3, Cholecystitis, infection Lymph D6, adenoviruses D6, tonsillitis polyarthritis D5. In addition there were chemical-medical stresses as well as chlortetracycline. She reacted with resonance to different fungi including Geotrichum cand., Aspergillus niger D5, Monila alb. D5, parasites and ascarids D5. At the time I gave priority to strengthening the liver and eliminated the ascarids and the aspergillus. The patient did not return for a period of time. In 2000 she took retirement because of her numerous symptoms and sometimes took high doses of Valoron to treat a severe one-sided headache, which could increase to a migraine-type headache. She also suffered from a medically-diagnosed fibromyalgia,

numerous joint pains and more recently from sensory disturbances (dysaesthesia) primarily in the feet which was diagnosed by a neurologist as polyneuropathy. She brought records with her (unlike my allergy patients who mostly come to me without records), I usually receive detailed records from my orthopaedic-neurology patients of previous tests/examinations. On 16.12.2011 the patient returned to my clinic. She complained about burning and tingling in her arms down to her waist and sensory disturbances in her feet (Talangs I-III), left better than right. She had been drinking birch leaf and restharrow tea, she had also been taking nettle, dandelion and milk thistle. She no longer drank alcohol or ate pork. In fact, she regularly used Sanct Bernhard natural remedy products and was now very health conscious as regards her diet. She had already been taking a Vitamin B12 complex.

Test results: The EAV test showed the following picture of her regulatory system:

- ▶ Ne 65, Ly 60, liver 45, gallbladder 30, kidney 30, SI 40 with indicator drop, SP under 20, St under 40

Diagnosis: Polyneuropathy, fibromyalgia

Course of treatment

1st Treatment: Prog. 911 NS, Prog. 930 Ly – here I tested for streptococci and Coxsackie B1 stress and firstly treat the coxsackie viruses.

2nd Treatment (3 weeks later):

The patient reported that her hand had swollen. I prescribed her Solidago kidney drops and enzymes and carry out SP therapy, Prog. 580.3. Then after the basic therapy, Prog. 191 for streptococci and testing of Araniforce for the joints and pain in the joints.

3rd Treatment (3 weeks later):

Prog. 911 NS – the burning had reduced from the stomach downwards and also her feet were hurting less. In addition I prescribed her splayfoot pads to take the pressure away from the arch of the foot. Prog. 10109 nerve-calming and Prog. 970

toxin elimination. Subsequently the SP, liver and kidney values were very good. Then came intestinal clean-up. (Intestinal clean-up capsules 4–6 weeks, then build up with intestinal symbionts), intestinal and mucous membrane programs with BRT).

Result: By 9th March the patient was already feeling much better. She had more or less no symptoms now. I treated her again for SP and intestine (Prog. 580, Prog. 560 + Prog. 562.0). She was still unable to tolerate pineapple.

Then I saw her again in my Yoga classes and whilst she was unable to participate in all the exercises, she could do most of them. The tingling was gone, the sensory disturbances likewise and she wanted to write up her history for me. However when I asked her 2 weeks later, she was evasive. I think it might have caused problems as regards her pension if it emerged she had been healed.

Case 3 J. W., female, 31 years old, Office / Bank clerk

Patient data: She came to me with the concrete question of whether I treated allergies according to Dr Rummel. I said I did. During the course of treatment however I deviated from that regime because I hit upon moulds and absolutely wanted to treat this first. It emerged that after treating the moulds, the numerous usual follow-up treatments according to Dr Rummel of cow's milk, wheat and Candida alb, were no longer necessary. However the patient could be treated satisfactorily with cow's milk, wheat and Candida therapy after a strict abstinence in each case of 6 weeks. (The abstinence period was not difficult, since she had already done this "diet" for several months because of previous very severe symptoms.)

Case history: According to the patient's own information she had suffered since about 2008 with increasing gastro-intestinal problems and various food intolerances and allergies had been detected medically. The patient received a list of all the foods

she should avoid from now on and frankly I asked her what she had eaten during all this time? She could only eat buckwheat and millet as cereals, she could drink no cow's milk or soya, also no nuts, so neither almond drink nor oat milk were alternatives – she always had to precook meals each day because she could never go out to eat.

Test results

- ▶ EAV diagnosis showed an irritated nervous system, severe intestinal irritation and a stress on the kidneys.
- ▶ There were post-vaccinal stresses to A+B, TBE and Tuberculosis (there was also an allergy to cat fur, which often goes hand in hand with this).
- ▶ Stresses from moulds: *Aspergillus niger* and *A. versicolor* stress from blight on cereals and mould mix 2, and of this especially *Mucor mucedo*.
- ▶ There was also a stress from streptococci and staphylococci.

Diagnosis: a central cow's milk and gluten intolerance, allergy to nuts, soya and other foods.

Course of treatment

1st Treatment: Prog. 911 NS, Prog. 560 intestine, Prog. 480 kidney, (natural remedies for at home).

2nd Treatment (3 weeks later): Prog. 911, Prog. 430 liver detoxication, Prog. 191 elimination of *Aspergillus*.

3rd Treatment and each subsequent therapy after one week:

Prog. 290.8 SI + Prog. 998 for blight from cereals, Prog. 191 for wheat allergy, with wheat in the input. Subsequently the latter no longer tested high, neither did Gliadin.

At the following session the patient reported that immediately after elimination she had stomach ache but that this had increasingly died down after 1–2 days and now she was feeling well. With the exception of the small intestine value which was slightly lowered, all EAV values were balanced.

4th Treatment: Prog. 290.8 SI + Prog. 191 for *Mucor mucedo*, Prog. 911 for a stressed nervous system (severe stress at work).

5th Treatment:

Prog. 191 for staphylococci and streptococci and Prog. 998 for cow's milk allergy.

6th Treatment: Prog. 480 kidney, Prog. 998 for *Candida alb.*, Prog. 560 intestine.

7th Treatment: Prog. 998 for hazelnuts.

Retest: Milk, wheat and *Candida* showed normal stable values. Prog. 580 SP and, for an acute occurrence, another elimination of meadow grasses.

The patient felt much better from treatment to treatment and she was pleased to be able to eat everything in moderation. I explained to her that it would be better to avoid white sugar on a permanent basis, to prevent abnormal colonisation of microflora in the intestine and only to take cow's milk and wheat in small quantities, because after successful allergy treatment these foods are also relatively difficult to digest (Hildegard von Bingen always preferred spelt because it was easier to digest).

Additional medication prescribed by the doctor: SymbioLact® Comp., anti-inflammatory drops from Cosmochema, alkala and prior to elimination also Citrokehl and Sanuvis. I had asked her to stop this after we had started with fungus elimination.

Result: Today the patient reports that she is feeling very much better months after treatment, is gradually able to eat normally, and only about once a month gets stomach ache still, which she is still unable to attribute to anything but often occurs after a lot of stress.

Case 4 S. C. female, aged 14, schoolgirl

History/findings: She came accompanied by her mother (who later on also received treatment) because of acute allergies (mid March). The mother too had recurring allergies (they both meant a pollinosis or symptoms of this). For three years the family had kept a bearded dragon – a kind of lizard. I listened very carefully, for I had previously come across persistent allergy symptoms in two girls from one family who kept bearded dragons in the children's room and I had only managed to treat these allergies by removing the lizards to the attic and treating the symptoms of allergy produced by the faeces and severe mould stresses.

Test results: EAV testing showed a raised liver value and stress from mould – as expected. Specifying (the mould) brought me to *Cladosporium herbarum*, *Alternaria tenuis*, *Pullularia pullulans* and *Neurospora sitophila*.

Diagnosis: Pollinosis, mould stresses and overreaction to sugar.

Course of treatment

1st Treatment: Prog. 430 liver, Prog. 998 against sugar, fructose and lactose, Prog. 191 against early flowering plants (acute). Tomatoes were poorly tolerated, and moulds like these very much, something we need to look out for.

2nd Treatment (6 weeks later because of intervening school holidays):
Prog. 430, Prog. 191 for moulds,
Prog. 998 for birch and willow.

Result: Thereafter the acute allergy symptoms disappeared and I didn't see the young girl again until January one year later. This time it was house dust that was causing her problems. After the basic program, treatment of the kidneys, and liver, Prog. 998 for house dust. In addition we discussed intestinal symbiosis control using diet. Something which for an adolescent is not an easy subject. Mid-

January I treated again for birch (allergy) as there were mild recurring symptoms.

Since then the patient has been free of symptoms (6 months). Following their treatment for the lizard faeces allergy and elimination of the relevant moulds, combined with regulatory therapy, the other two girls were completely free from symptoms and this has remained the case for more than a year.

Case 5 S. C. female, aged 46, photographer

Patient data: S.C.'s mother also with initials S.C., came mid-March of last year to me for therapy.

History/findings: The patient came in mid-March last year for treatment because of an allergy to dogs with the wish to once again have a dog in the family. In addition she also had a range of other allergies including to early flowering plants, pomaceous fruits, house dust mites and "all furry animals". Not exactly ideal for owning your own dog. As a baby she had not been breastfed, which in my experience always leaves a predisposition to allergies. The barrier function of the mucous membranes is missing and this can lead to numerous stresses, and can only be regenerated to some extent with difficulty. It is particularly bad when in childhood or adolescence an amalgam stress is also added to this, or immunisations and medications and/or hormonal stresses as well as various infections.

At the present time she is able to eat fruit however, her skin is good after she had attended the Vitalklinik skin clinic in Alzenau and had undergone an intestinal clean-up with "tablets" and freshly slaughtered beef.

Course of treatment

1st Treatment: Prog. 560 intestine, Prog. 998 for tested moulds, Prog. 191 for sugar

At the next session the LI and SI values were in the normal range (exactly 50). Only the LU still deviated markedly at 65 from the

desired value. Then the patient told me also she had occasional asthma attacks.

2nd Treatment (6 weeks later, see above):
Prog. 210 LU + Prog. 998 for the patient's house dust allergy and Prog. 191 for Tuberculinum.

Since the day of this elimination the patient has no longer used an asthma spray and her skin continues to look good (at the time of this presentation, so for more than a year now).

3rd Treatment: Prog. 430 liver, Prog. 998 for brushed out dog fur (and scales of skin), Prog. 580 SP.

4th Treatment (together with her daughter mid-January):
Prog. 998 for birch, alder and hazel.

In addition to therapy, the following were also given: liver complex drops from the company Natur Vital, an intestinal cleansing complex from the same company and finally Myrrhinil intest and enzymes.

Result: The patient reappeared some time later with her second daughter and told me beaming that they were now the proud owners of a Continental Bulldog.

P.S.: Three days ago the patient returned after exactly one year and reported that now she had also been for bioresonance with her bull dog and that only this had helped with its symptoms.

Literature

Dr Peter Schumacher: **Biophysical Diagnosis and Treatment of Allergies and Dr Peter Schumacher's test sets**

W. Mücke and Ch. Lemmen: **Schimmelpilze [Moulds]**

Ulla Kinon: **Mykosen, die (un)heimliche Krankheit [Mycosis the (un)canny disease]**

Dr. Karl Feistle, Schata u. Jorde: **Allergische Erkrankungen durch Schimmelpilze [Allergic diseases caused by moulds]**

Dr. Bodo Köhler: **Bioresonanztherapie [Bioresonance therapy]**

Appendix

Test Set Inhalation Allergens

after Dr. med. P. Schumacher
(Pollen allergy see Pollen Test Set)

Animals

Budgerigar
Camel hair
Canary
Cat
Cattle
Chicken feathers
Dog
Duck feathers
Goat
Goose feathers
Gold hamster
Guinea pig
Hare
Horse (hair)
Lama (hair)
Mouse
Parrot feathers
Pigeon feathers
Sheep's wool
Rabbit
Rat

Natural inhalation Allergens

Cocoa
Cotton
Flax
Kapok
Raw silk
Sisal

Synthetic inhalation Allergens

Acrylic fibres
Barbie doll hair
Happy Pony hair
Toy Polyester
Synthetic pillow filler

Mould fungus Mixed antigens

Mould fungus Mix I
Altemaria tenius
Chaetonium globosum
Cladosporium fulvum
Cladosporium herbarum
Fusarium sp.

Mould fungus Mix II
Mucor mucedo
Neurospora sitophila
Pullularia pullulans
Rhizopus nigricans

Mould fungus Mix III
Penicillium brevicompactum
Penicillium expansum
Penicillium notatum

Cereal blight Mix
Botrytis cinerea
Helminthosporium halodes
Ustilago hordei
Ustilago tritici

Aspergillus Mix
Aspergillus candidus
Aspergillus clavatus
Aspergillus flavus
Aspergillus fumigatus
Aspergillus niger
Aspergillus nidulans
Aspergillus ochraceus
Aspergillus restrictus
Aspergillus terreus
Aspergillus versicolor

Cladosporium Mix
Cladosporium cladosporoides
Cladosporium elatum
Cladosporium fulvum
Cladosporium herbarum

Mucor Mix
Mucor circinnelloides
Mucor pusilius
Mucor mucedo
Mucor racemosus
Mucor spinosus

Mould fungus (alphabetical order)

Alternaria tenius
Aspergillus clavatus
Aspergillus flavus
Aspergillus fumigatus
Aspergillus niger
Aspergillus oryzae
Aspergillus repens
Aspergillus versicolor
Aurobasidium pullulans
Botrytis cinerea
Chaetomium globosum
Cladosporium cladosporoides
Cladosporium fulvum
Cladosporium herbarum
Curvularia lunata
Epicoccum purpurescens
Fusarium culmorum
Fusarium moliniforme
Fusarium solani
Geotrichum candidum
Helminthosporium halodes
Mucor mucedo
Neurospora sitophila
Penicillium brevicompactum
Penicillium commune
Penicillium expansum
Penicillium notatum
Penicillium roqueforti
Phoma betae
Phoma herbarum
Pullularia pullulans
Rhizopus nigricans
Saccharomyces cerevisiae
Serpula lacrimans
Sporobolomyces roseus
Sporothrix Schenkii
Trichothecium dependens
Ustilago

Mites

Acarus siro
Dermatophagoides farinae
Dermatophagoides pteronysinus
(House dust mite)
Glyciphagus destructor
Tyrophagus putrescentia

Test Kit Viruses / Fungi

(only suitable for test purposes)

Adeno Virus (VF 001)	Gamma Herpes Vir. (Epstein-Barr-V) (VF 011)	Retro Viridae (VF 021)	Anti Virus (VF 028)	Coccidiosis Mix (VF 037)	Rhizopus Mix (VF 047)
Alpha Herpes Viruses (Herpes simplex) (VF 002)	Hepadna Viruses (VF 012)	Rhabdo Viridae (VF 022)	Interferon (VF 056)	Cryptococci Mix (VF 038)	Stachybotrys Mix (VF 048)
Lassa Virus (VF 003)	Herpes Viruses (VF 013)	Toga Viridae (VF 023)	Absidia Mix (VF 029)	Endomycetales Mix (VF 039)	Streptomyces Mix (VF 049)
Beta Herpes Viruses (Zylo- megalle Viruses) (VF 004)	Orthomyxo Viridae (VF 014)	Varicella Zoster Virus (VF 024)	Alternaria Mix (VF 030)	Fusarium Mix (VF 040)	Trichophytosis Mix (VF 050)
Bunyaviridae (VF 005)	Papava Viridae (VF 015)	Viruses I (VF 025)	Ascomycetes Mix (VF 031)	Dermatomycosis Mix I (VF 041)	Mould Mix (VF 057)
Calici Viruses (VF 006)	Paramyxo Viridae (VF 016)	Viruses II (VF 026)	Aspergillus Mix (VF 032)	Dermatomycosis Mix II (VF 042)	Elimination of Aflatoxin (VF 051)
Corona Viruses (VF 007)	Parvo Viridae (VF 017)	Viruses III (VF 027)	Blastomyceete Mix (VF 033)	Madurella Mix (VF 043)	Strengthening Intestinal Defence (VF 052)
Coxsacki Viruses (VF 008)	Picornia Viridae (VF 018)	Amyloid Beta (VF 058)	Botryomycosis Mix (VF 034)	Microspore Mix (VF 044)	Elimination of Endotoxin (VF 053)
Filo Viridae (VF 009)	Pox Viridae (VF 019)	HPV strains (VF 059)	Candida Mix (VF 035)	Mucor Mix (VF 045)	Elimination of Fumitoxin (VF 054)
Flavi Viruses (VF 010)	Reo Viridae (VF 020)	Borna Viruses (VF 060)	Cladosporiosis Mix (VF 036)	Penicillinum Mix (VF 046)	Elimination of Mycotoxin (VF 055)

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