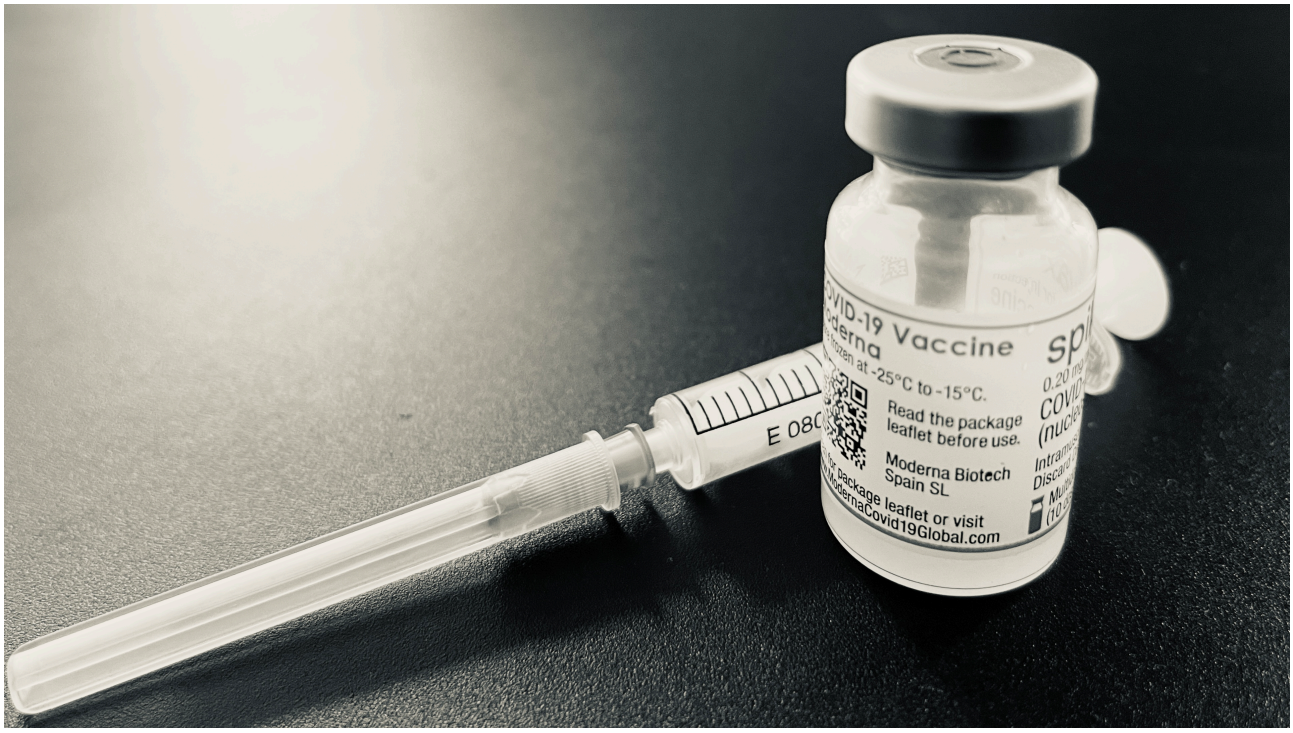

Post-Vac Orientation Guide

Consequences of Genetic Immunization Trials (GIT) - a Guide for the General Practitioner

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(Version June 25, 2025)

Based on a workshop on April 14, 2023 in Sigmaringen/Germany with

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The remarks on the immune system and the immune pathomechanisms in respiratory tract infections are taken from the paper "Gene-based Vaccination — Quo Vadis?" by Dr. Sucharit Bhakdi, Dr. Karina Reiss, and Dr. Michael Palmer, which we were allowed to use by kind permission of the authors.[1]

The guide became necessary because the side effects and long-term effects of the novel injections administered more than 190 million times in Germany to prevent Covid-19 infections (till end of March 2023) are ignored or downplayed by the official authorities and especially by the government agencies.

This guide is based on the assessment of the level of knowledge available at the time of the revision. The editorial team strives to constantly update and supplement the guide.

1 Bhakdi S. et al. (2022) Gene-based Vaccination - Quo Vadis? Global Research

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Preface

What do we know about the medical processes to which the population has been exposed for a pretended protection against a pandemic? What knowledge-based recommendations are justifiable if further damage shall be prevented and existing suffering reduced? These and other questions are of great concern to many who have experienced with horror the irresponsible violation of essential political, scientific, and medical rules originally designed to protect our health, our freedom and our peaceful coexistence. On April 14, 2023, a multidisciplinary group of physicians therefore met on the invitation of Dr. Hans-Michael Hackenberg, MD to discuss ways, that could help to alleviate the need.

Since the beginning of 2021, billions of people have been coerced to undergo repeated genetic interventions in tissues and organs of their bodies. Modifications, that were until then not permissible for healthy people.
The justification for those genetic immunization trials (GIT) was a long planned fear campaign, supported by politics and the mass media. The threat was said to be a new coronavirus variant. This SARS-CoV-2 had been furnished with dangerous sequences in a gain of function lab in Wuhan. Even though such laboratory weapons are evolutionarily self-limiting in nature, the fear of them was immediately spread with universally enforced and misleading PCR tests. All those who took part in this campaign have made great profit from it. They were able to take advantage of an almost unanimous political support and a lack of professional or journalistic criticism.
As a result of brutal isolation and mistreatment, old and weakened people died in care homes and intensive care units in the spring and fall of 2020, providing the images that were designed to frighten us. We all remember those alarming pictures, staged in Wuhan, Bergamo, New York or Madrid. Most of those victims in 2020 did not die as a result of a new artificial virus. Its blueprint merely existed in silico, serving as a template for an artificial RNA which, when transferred into the cells of those injected, produced dangerous spike proteins. With such genetic interventions, the fearmongers pretended to immunize the population quickly and over and over again.

The politically inflated and media-fueled pandemic panic had served as a pretext for pharmaceutical investors and institutionally corrupted authorities to push aside all previously relevant safety rules for handling new biomedical strategies. The labels "emergency" and "vaccine" are still misused to justify medical sloppiness with names like "Operation WarpSpeed" or "telescoped" approval procedures. Manufacturers and government agencies are taking into account serious damage and fatalities to an unimaginable extent, without so far showing any change of strategy, precaution or regrets.

Even worse, it is becoming apparent that perpetrators in science, medicine, media and politics have made plans to be able to continue and supplement their anti-human projects for as long as possible. Thus the WHO delivered a series of new ICDs as a tool, with which disease patterns such as "Post-Covid "or "Long-Covid" were opened as new business fields for the compliant medical business. According to these new ICDs, "covid" is a disease of any patient who tested positive in a PCR test or who had typical symptoms (?) after contact with someone who had tested positive. Since the test after genetic immunization trials (GIT) is positive in fact more often than in the non-injected, more and more of the diverse and severe GIT side effects are now being accounted for and hidden as post or long covid. Also a large number of medical research moneymakers apparently think they are on the right track here and are constantly developing new business ideas. In doing so, they systematically avoid the obviously necessary differential diagnosis including GIT side effects. They behave like the devil, who avoids the holy water.

This was exactly what we wanted to change, when we met in Sigmaringen. We were especially glad, that someone like Prof. Arne Burkhardt was participating, who had shown with scientifically precise methodology how to distinguish between pathological tissue changes caused by real coronaviruses and the presently much more frequently observed toxic effects of genetically induced artificial spike proteins.

You will find here a synopsis in which – along with eight other physicians – also the medical biologist Prof. Ulrike Kämmerer has participated by zoom.
After numerous further dialogues and international contacts, Hans-Michael Hackenberg MD, assisted by regionally cooperating colleagues, has taken on the task of formulating a manual from our collected research and discussion results, which can also be understood by laypersons. Like any scientifically

developed knowledge, this must not be regarded as a final result, but rather as a status report that awaits contradiction, supplementation and comments on its content, in order to serve as diagnostic and therapeutic guidance for the many affected people and their medical caregivers.

Prof. Dr. Arne Burkhardt will always remain present in our work - despite his death, which was very painful for all of us.

Wolfgang Wodarg

1 Basics for Vaccinations

The administration of an "artificially" attenuated infectious agent is intended to trigger a defensive reaction in a healthy living organism in order to ensure later immunity against the pathogen. This is the basic idea of vaccination. The "ideal" vaccination in some way mimics the natural infection.[2] However, since introduction of foreign substances into the body is never completely risk-free, a prerequisite for the vaccination process is that the pathogen carries a high risk of morbidity and mortality, i.e. that it is dangerous. Furthermore, vaccination should ensure robust immunological protection against severe disease. Several traditional vaccinations such as smallpox, tetanus, diphtheria and poliomyelitis, met this requirement.
However, the most common viral diseases affect the respiratory tract and the gastrointestinal tract. These diseases are usually not associated with high mortality rates. Viremia with consequential damage to internal organs is also rare.
In addition, due to the ubiquity of these infections, there is a high level of background immunity in the population, which usually refers to entire groups of viruses due to cross-immunities. There is no real need for vaccines against such diseases.

1.1 Immunity to Respiratory Viruses: Systemic Versus Mucosal Immunity

Infection with respiratory viruses primarily challenges the immune barrier of the respiratory mucous membranes. This system is located in and under the mucous membranes of our respiratory tract and works independently of the immune cells that protect our internal organs.
Thus, there is a functional separation between mucosal and systemic immunity. This can be seen, among other, in the type of antibodies produced by plasma cells located directly under the mucous membranes. These antibodies – *secretory immunoglobulin A (sIgA)* – are released via the mucous membranes on their surface. They act directly on site against viruses that can be transmitted through the air (e.g. aerosols). In this way, they can often directly prevent these viruses from binding to the cells in the mucous membranes and infecting them. The same degree of protection also applies to the digestive tract.

In the bloodstream in contrast, *IgG* and *circulating IgA* are the most important antibodies. They cannot prevent viruses from entering cells lining the respiratory tract or intestines. They only can counteract the spread of these viruses after entering the bloodstream.

Vaccines injected into the muscle – i.e. the inside of the body's tissue – only induce *IgG* and *circulating IgA*, but **not** *secretory IgA*. This is crucial. The antibodies induced by such vaccines therefore cannot effectively protect respiratory cells from infection by airborne viruses.[3] This finding is neither controversial nor new. Already 30 years ago, McGhee et al.[4] drew the following conclusion:

"It is surprising that despite our current level of understanding of the common mucosal immune system, almost all current vaccines are given to humans by the parenteral route [i.e. by injection]. Systemic immunization is essentially ineffective for induction of mucosal immune responses. Since the majority of infectious microorganisms are encountered through mucosal surface areas, it is logical to consider the induction of protective antibodies and T cell responses in mucosal tissues."

A Middle East Respiratory Syndrome (MERS) study has confirmed the failure of intramuscular injection to induce secretory IgA.[5] MERS, like COVID-19, is caused by a coronavirus. The experimental vaccine

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[2] *Also in terms of evolutionary mechanisms, that is, genome changes or viral gene insertion into the genome*

[3] *Kurono, Y. (2021) The mucosal immune system of the upper respiratory tract and recent progress in mucosal vaccines. Auris nasus larynx (preprint)*

[4] *McGhee, J.R. et al. (1992) The mucosal immune system: from fundamental concepts to vaccine development. Vaccine 10:75-88*

[5] *Kim, M.H. et al. (2019) Superior immune responses induced by intranasal immunization with recombinant adenovirus-based vaccine expressing full-length spike protein of Middle East respiratory syndrome coronavirus. PLoS One 14:e0220196*

used in the study, like all major vaccines currently used against COVID-19, was gene-based. Another study has also shown that the mod-mRNA COVID vaccines do not stimulate significant production of secretory IgA.[6] For this simple reason, such injections are not expected to inhibit respiratory infection. In fact, the complete failure of vaccines to prevent SARS-CoV-2 infection is now well documented.[7,8]

However, secretory IgA antibodies in the mucous membranes of healthy people can only block infections with respiratory viruses to a limited extent. A wall of protective antibodies can only fend off a "small attack", while greater viral load will overcome this barrier. Thus, infections with airborne viruses occur again and again in our life. The use of intranasal vaccines to stimulate sIgA production would not really change this fact, even if it would actually elicit stronger mucosal immune responses than intramuscular injection.[4,9]

1.2 Role of T-lymphocytes

T-lymphocytes are crucial for controlling respiratory infections and indeed, this extends to viral infections in general. Attention is now turned to these cells, whereby the discussion can initially be focused on the function of cytotoxic T-lymphocytes (CTL).

Whenever a cell produces a specific protein, it will generate multiple copies of it. A few of these copies will be broken down, on purpose, into small fragments (peptides); these are then transported to the surface of the cell, together with a specific carrier molecule named MHC 1 (Major Histocompatibility Complex 1). There, the fragments become amenable for interaction with and recognition by CTL. Different fragments will be recognized by lymphocytes belonging to different “clones”; all cells of a given T-cell clone will carry the same T-cell receptors and recognize the same protein fragments, but cells belonging to different clones will differ in their antigen specificity. A T-cell which does manage to find and bind its cognate protein fragment will thereby be activated to eject deadly toxic substances onto and into the targeted cells.

If the protein whose fragments had attracted and activated those CTL was encoded by a virus, then the result will be the destruction of the virus-infected cell, which is useful and necessary for eradicating a viral infection. However, note that the process of protein fragmentation and presentation is completely general – it is not limited to viral or other “non-self” proteins, but rather applies to the body’s own “self” proteins as well. It is therefore vital to prevent the activation of CTL that recognize these “self” protein-derived fragments. How is this accomplished?

Envisage the interaction between presented protein fragment and its “receptor” on the T-cell as one between lock and key. There are myriad different keys (fragments) fitting into myriad different locks (T-cell receptors). It is known that the truly incredible diversity of locks arises already during fetal development. How does this happen? Are locks molded in response to the fragments (keys) as these appear during development? Then, since the fetus is not usually exposed to any viral infections, CTL would be equipped with receptors exclusively recognizing “self” protein fragments; but these self-reactive CTL clones could hardly serve a useful purpose. If, on the other hand, the diversity of locks should arise haphazardly and by chance, without requirement for any instructing template (key), then billions of lymphocytes that recognize “non-self” – extraneous agents, including virus proteins – should be generated alongside those that recognize “self.”

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[6] *Meyer-Arndt, L. et al. (2022) Cutting Edge: Serum but Not Mucosal Antibody Responses Are Associated with Pre-Existing SARS- CoV-2 Spike Cross-Reactive CD4+T Cells following BNT162b2 Vaccination in the Elderly. Immunol. 208:1001-1005*

[7] *Chau, N.V.V. et al. (2021) Transmission of SARS-CoV-2 Delta Variant Among Vaccinated Healthcare Workers, Vietnam*

[8] *Singanayagam, A. et al. (2021) Community transmission and viral load kinetics of the SARS-CoV-2 delta (B.1.617.2) variant in vaccinated and unvaccinated individuals in the UK: a prospective, longitudinal, cohort study. Lancet Infect. Dis. (preprint)*

[9] *Du, L. et al. (2008) Intranasal vaccination of recombinant adeno-associated virus encoding receptor-binding domain of severe acute respiratory syndrome coronavirus (SARS-CoV) spike protein induces strong mucosal immune responses and provides long-term protection against SARS-CoV infection. Immunol. 180:948-56*

Intriguingly, the latter is today known to be the case.[10] Wondrously, lymphocytes recognizing “self” are silenced or held in check throughout life, preventing them from attacking healthy body cells. Mishaps occasionally occur that can lead to autoimmune disease. Come T-cells out of cover that are reactive against liver proteins, come autoimmune hepatitis. Come T-cells out of cover that are reactive against the pancreatic islets, come autoimmune diabetes.

But on the other hand, immune cells reactive against essentially all non-self proteins and present at birth are ready to act whenever a challenge is issued. It is for this very reason that conventional vaccinations can successfully be performed already in early infancy. And when a Coronavirus comes around, up rises the anti-Corona CTL team. When flu comes around, up rises the anti-flu team, etc. Each bout of training strengthens the team, enabling the opponent to be more rapidly constrained and infections terminated with increasing effectiveness.
But is such acquired immunity not voided and evaded by ever new virus “variants of concern”? Not so. Here, one must note that a protein will generate many fragments that are recognized by many different CTL clones. The proteins encoded by a virus mutant may generate one or a few differing fragments, but the majority of other fragments will remain the same. For this reason, CTL-based cross-reactivity and cross-protection exists between all members of a given virus family. In connection with COVID-19 specifically, it has been noted that previously infected persons may indeed sometimes contract another infection with a new variant, but such reinfections are almost never serious.[11,12] This is just as we should have expected; the narrative that emergence of virus mutations must be countered by development of customized vaccines has thus been fundamentally flawed right from the start.

1.3 B-lymphocytes, Antibodies

The activation of T lymphocytes – but in this case of T helper cells and not of CTL – is also coupled with the activation of B lymphocytes. Specialized antigen-presenting cells, dendritic cells, macrophages, take up antigens, fragment them and present the fragments with the help of Major Histocompatibility Complex 2 (MHC2). These MHC2 molecules selectively interact with T helper cells and activate special B lymphocytes, the plasma cells for antibody production.
A newly activated plasma cell initially produces a specific class of antibodies called immunoglobulin M (IgM). After a few weeks, however, another class of antibodies predominates, usually IgG or IgA. This **antibody class change** can be evaluated diagnostically: If mainly IgM-Antibodies are detected, the reaction that takes place must be "new". If primarily IgG or IgA-Antibodies are present, the reaction has been going on for some time, and it may also be a secondary or memory reaction to an antigen with which the immune system had already come into contact before.

The natural infection causes the production of antibodies against various surface antigens (epitopes) of the virus, whereas the modified vaccine mRNA is only targeted at one epitope, the spike. Many people therefore have cross-reactive antibodies (IgG) against SARS-CoV-2 due to previous contact with a virus from the SARS family and for this reason also usually show only mild courses of the disease.[13]

While the CTLs recognize fragments of proteins presented on the cell surface, antibodies bind to the intact proteins (epitopes) themselves. Bound antibodies then cause the activation of another important arm of the immune system, the complement system. Complement activation triggers a variety of inflammatory events. In addition, the complement system itself attacks the cell, on the surface of which activation occurs, leading to its destruction.[14]

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[10] *Rechavi, E., Somech, R. (2017) Survival of the fetus: fetal B and T cell receptor repertoire development. Immunopathol. 39:577-583*

[11] *Dhar, M.S. et al. (2021) Genomic characterization and epidemiology of an emerging SARS-CoV-2 variant in Delhi, India. Science 374:995-999*

[12] *Altarawneh, H. et al. (2022) Protection afforded by prior infection against SARS-CoV-2 reinfection with the Omicron variant. medRxiv (preprint)*

[13] *M. Dugas et al. (2021) Less severe course of COVID-19 is associated with elevated levels of antibodies against seasonal human coronaviruses OC43 and HKU1 (HCoV OC43, HCoV HKU1). Int. J. Infect. Dis. 105, 304–306. pmid: 33636357.*

[14] *M. Palmer et al. (2023) mRNA Vaccine Toxicity D4CE.org, https://doctors4covidethics.org/wp-content/uploads/2023/08/mRNA-toxicity-August15b.pdf*

It was shown that people who received repeated doses of vaccine, and in some cases also became infected with SARS-CoV-2, largely failed to make special antibody-producing cells called *long-lived plasma cells (LLPCs)*. These LLPCs are responsible for lasting immunity against some other viruses and are located primarily in the bone marrow. For some viruses, vaccination or infection creates LLPCs that can survive for decades and continuously produce "neutralizing antibodies" that can prevent new infections. This is not the case with SARS-CoV-2.

LLPCs develop after "naive" B cells encounter a virus or part of it, such as the spike protein. As they mature, B cells produce more refined antibodies that bind better to the invader. After the initial infection, memory B cells continue to patrol the blood, and some of them differentiate into plasma cells. Some of these cells migrate to the bone marrow and produce antibodies from there over the long term.

B cells carry Y-shaped receptors that bind to viral surface proteins when they recognize a pathogen. If both branches of the Y bind to the same pathogen proteins, they trigger a phenomenon called "cross-linking," which stimulates B cells to transform into LLPCs. However, electron micrographs of SARS-CoV-2 show that the spikes in SARS-CoV-2 are approximately 25 nanometers apart—too far apart for a single B cell receptor to easily bind to two at once, leading to cross-linking of the B cells and the development of LLPCs. This could be the reason why the immune response to SARS-CoV-2 subsides relatively quickly. Spike protein or its fragments are presented on mod-mRNA-induced cells also. Immunologists suspect that here, too, the epitopes are too far apart.[15]

Antibodies play a crucial role in secondary infections and in viruses that can evade the action of cytotoxic T cells. Cytotoxic T cells are effective in primary infections and in viruses that induce antibody-dependent enhancement (ADE).
ADE: If an antibody-bound virus particle is ingested by a cell, it may not be destroyed. Instead, it multiplies in this immune cell. In this case, the antibodies promote the replication of the virus and aggravate the disease up to a cytokine storm, e.g. in *Dengue fever*, but it can also occur with SARS-CoV-2.

2 Genetic Immunization Trials (GIT)

The immunization trials against SARS-CoV-2 are not carried out with common antigens. Rather, nucleic acids are introduced into human cells by lipid nanoparticles or transgenic vectors. The mRNA particles contained therein, artificially stabilized with methyl pseudouridine (modified mRNA, mod-mRNA)[16], do not themselves trigger an immune reaction. They only contain the nucleic acid blueprint for a protein, but not the antigen-acting spike proteins. Therefore, these particles are absorbed by our cells regardless of existing immunity. They are virtually invisible to our immune system. In the cells, they induce protein production and only after spike production has occurred, the immune system reacts, classifying the entire cell as foreign and begins to destroy it.

Compared to previous vaccinations, the genetic immunization trials for the prevention of COVID-19 were largely bypassing necessary tests for efficacy and side effects and use experimental new technologies. However, similar experiments had already led to dangerous side effects in previous animal studies.

In fact, mRNA injection is not a vaccination, but a genetic intervention with the introduction of artificially modified nucleic acids into human cells. Neither the route of infection nor the type of antigen contacts bear any resemblance to a natural viral infection. For this reason, such interventions are questionable and highly risky.

Normal vaccines have development times of 8 to 10 years. In contrast, RNA-containing injections were developed in a greatly shortened rush procedure. In 2020, the legislator repealed many of the long-

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[15] *Cohen J. (2024) Why does COVID-19 vaccine protection quickly wane? Science. 2024 Oct 18;386(6719):255-256. doi: 10.1126/science.adt9019. Epub 2024 Oct 17. PMID: 39418356.*

[16] *Karikó, K. et al. (2008) Incorporation of pseudouridine into mRNA yields superior nonimmunogenic vector with increased translational capacity and biological stability. Mol. Ther. 16 (2008), 1833-40. pmid: 18797453. doi: 10.1038/mt.2008.200*

standing laws and regulations on drug safety for these substances and, for example, issued in Germany the MedBVSV[17]. In this way, measures for quality assurance, liability rules, labeling requirements and shelf life periods could be circumvented. These processes are unique in Europe.

2.1 Definition Post-Vac / Post-VAC

The term "Post-Vac" refers to non-specific secondary diseases that have been observed in temporal relation to a genetic immunization trial (GIT). Unlike traditional vaccinations, significantly more people developed a wide range of diseases immediately or some time later after the mRNA injections, some of which were fatal. Common symptoms include chronic fatigue syndrome, diffuse pain syndromes, neurological dysfunction, autoimmune reactions, thrombosis and heart problems, especially myocarditis, endocarditis or pericarditis. In some cases, the symptoms are similar to those of so-called Long-haul COVID[18] or Post-COVID[19].

The commonly used term "Post-Vac" in connection with the gene injection is also used here, but is inappropriate because this is not a vaccination. Rather, it is a matter of genetic interventions in the classical sense, applied for the first time to predominantly healthy people, which have been recommended and in some cases ordered by the health authorities. Preclinical studies were largely absent, and the extensive safety measures otherwise required for comparable gene therapy interventions were circumvented. This had been made legally possible by misleadingly labeling the introduction of nucleic acids into human cells for the prevention of infectious diseases as an exception as early as 2009 as a "vaccination".[20] We avoid this trivializing equation between the introduction of nucleic acids and conventional vaccination procedures and therefore prefer to use the terms "Post-VAC or Post-VAC syndrome" or "harm caused by mod-mRNA injection".

Assessment errors due to obscuring determination of immunization status
Effects of mod-mRNA injections that occur within the first two weeks after administration are generally not attributed to the injection.[21] Thus, acute reactions such as anaphylaxis, but also myocarditis, cardiac arrhythmias, thrombosis, stroke, even fatal outcomes of such complications, are simply omitted. The rate of severe side effects, which often occur in the first few weeks after the injections, is therefore statistically incorrectly assigned. Such acute illnesses are incorrectly counted as cases of illness in unvaccinated[22], although recent studies have shown that fatal side effects often occurred within the first two weeks.[23]

In addition, in our health care system, long-term effects that occur later after the mod-mRNA injection but are related in time are only reported in some cases, because the reporting process to the Paul Ehrlich Institute is time-consuming and the doctors are not rewarded according to the time spent.

2.2 Prevalence of Post-VAC

By April 2023, the Paul-Ehrlich-Institute had recorded 54,879 suspected cases of serious side effects of the mod-mRNA injections in the sense of Post-Vac or Post-VAC. For the first half of 2024 (January 1 to June 30), the PEI has published further data, but detailed figures on serious side effects during this

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[17] https://www.gesetze-im-internet.de/medbvsv/

[18] Complaints last longer than 4 weeks; USA: longer than 12 weeks, thus corresponding to our post COVID

[19] Impairments last longer than 12 weeks

[20] Federal Law Gazette (2009), Part I No. 43, published on 22.07.2009, page 1991

[21] COVID-19-Protective Measures-Exception Ordinance - SchAusnahmV §2, Paragraph 3a

[22] Fenton, N, Neil, M (2022) Flawed covid definitions, data and modeling, https://wherearethenumbers.substack.com/p/flawed-covid-definitions-data-and.

[23] Hulscher, N. et al. (2023) A Systematic Review of Autopsy Findings in Deaths after COVID-19 Vaccination (preprint, withdrawn); https://web.archive.org/web/20230706021406/https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4496137

period are not reported separately.

In the Long-haul COVID Outpatient Clinic in Marburg, the symptoms that occur in this way are defined as Post-COVID after vaccination.[24] This definition is factually incorrect even if the symptomatology is similar. "Long-haul COVID" or "Post-COVID" would be the result of a viral infection, whereas Post-Vac or "Post-VAC" would be the result of a mod-mRNA injection.
While spike proteins in SARS-CoV-2 infection act primarily in connection with whole viruses, i.e. primarily in the respiratory tract[25], in Post-VAC syndrome the complete spike protein is the result of the body's own production induced in the body's cells. This spike protein leads to different pathomechanisms than the natural virus spike protein, especially it refers to all accessible body cells. See Chapter 4.
Therefore, the subsequent courses of the disease are also different entities, which presumably also need to be treated differently. Due to this differentiation, Long-haul or Post-COVID without GIT in contrast to symptomatology after GIT, prospective studies are to be promoted.
In the meantime, the sequences of SARS-CoV-2, originally described in Wuhan, have been analyzed in more detail and clearly show high-risk coding that does not occur in nature, i.e. that it is produced by genetic manipulation (Gain of Function – GoF, bioweapons research):

- The mod mRNA used for mass application was based on the Wuhan sequences
- Prion-like sequences have been identified by several authors, which can lead to protein misfolding and thus to pathogenic protein deposits, for example, in the brain, other nervous tissues, and the heart.[26]
- The SARS-CoV-2 virus contains a furin cleavage site for which a patent exists and whose natural origin is very unlikely. The consequence of the furin cleavage site is increased infectivity.[27]
- In addition, a sequence was detected that is otherwise used by HIV pathogens to enter the T lymphocytes.[28]
- In the Spike derived from the original sequence, two proline mutations are found, which lead to a stabilization of the prefusion state.[29,30]
- The genetic modification of the mRNA used for the injections by means of methyl-pseudo-uridine prevents their rapid degradation by intracellular enzymes and thus significantly prolongs the spike protein synthesis in the infected cells (hence: modified mRNA, mod-mRNA).
- In human liver cells, the incorporation (transcription) of mod-mRNA into the genetic material (DNA) was observed in vitro.[31]

The actual numbers of people affected by Post-Vac are likely to be significantly higher than those reported in the media. Critical authors assume an order of magnitude of up to 10% of the number of people treated with mod-mRNA.

3 Key Lessons Learned from the "Pandemic”

The initial justification for mod-mRNA injection was based on the claim that SARS-CoV-2 was a completely new virus against which we humans had no defense mechanisms. However, it is disputed

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[24] Interview with the head of the outpatient clinic, published on 18.01.2023, https://www.rechtsdepesche.de/post-vac-ist-wie-long-covid/

[25] although the cleaveable S1 subunit is likely to cause its own problems both in the hippocampus and at the ACE2 receptors

[26] Perez, J.-C., Moret-Chalmin, C., Montagnier, L. (2023) Towards the emergence of a new form of the neurodegenerative Creutzfeldt- Jakob disease: Twenty six cases of CJD declared a few days after a COVID-19 "vaccine" Jab " doi: 10.5281/zenodo.7540331

[27] Follis KE et al. (2006) Furin cleavage of the SARS coronavirus spike glycoprotein enhances cell-cell fusion but does not affect virion entry. doi: 10.1016/j.virol.2006.02.003. epub 2006 Mar 7. PMID: 16519916; PMCID: PMC7111780.

[28] Perez, J.-C., Montagnier, L. (2020) HIV MAN-MANIPULATED CORONAVIRUS GENOME EVOLUTION TRENDS. DOI: 10.5281/zenodo.3975589

[29] https://ec.europa.eu/health/documents/community-register/2021/20210106150833/anx_150833_de.pdf

[30] Ching-Lin, H. et al. (2020) Structure-based design of prefusion-stabilized SARS-CoV-2 spikes, doi: 10.1101/2020.05.30.125484. Preprint

[31] Zhang, L. et al. (2021) Reverse-transcribed SARS-CoV-2 RNA can integrate into the genome of cultured human cells and can be expressed in patient-derived tissues, doi: 10.1073/pnas.2105968118

what spread the GoF-mutated Wuhan variant had, whose dangerously modified spike protein served the drug companies as an antigen model for SARS-CoV-2 prevention.
Viruses modified for pathogenicity in this way in the laboratory have little chance of becoming evolutionary in the wild, but limit themselves again and again during outbreaks by eliminating their hosts. In addition, it was assumed that, as a result of the β-Coronavirus infections that have been occurring sporadically during the cold season for many years, cross-immunity must have been present, which was ultimately confirmed.

The non-specific PCR tests for β-Coronaviruses, which are also used en masse in the healthy population and are inconclusive in terms of infection, disease or even contagiousness, had to lead to masses of false positive values and thus to an overestimation of an epidemic event due to their predominantly low prevalence.

The **Corman-Drosten test** uses primer probes that amplify specific sections of the SARS-CoV-2 genome. It typically targets conserved regions of the virus, particularly the *E gene (envelope protein)*, which can also be found in other beta-coronaviruses (this is often used as a general screening test), and the *RdRP gene (RNA-dependent RNA polymerase)*, which is more specific for SARS-CoV-2. Other variants of the test target the *N gene (nucleocapsid protein)* or the *S gene (spike protein)*. Combining these target sequences increases specificity for SARS-CoV-2, especially when multiple genes are tested in parallel. In the early stages of the pandemic, a multiplex approach with multiple genes was commonly used to maximize specificity and robustness. With reportedly increasing experience and variant certainty, detection of the E gene was eventually considered sufficient to "reliably" detect SARS-CoV-2. However, the E gene is not specific to SARS-CoV-2, but is also present in other coronaviruses, particularly some *sarbecoviruses* (e.g., SARS-CoV-1). This increased the risk of false-positive results due to cross-reactions, especially with SARS-like viruses. This risk was accepted because it allowed the positive numbers to be artificially inflated. Overall, it remains unclear whether the presumably genetically modified so-called COVID-19 alpha B.1.1.7 variant actually spread worldwide, or whether the test only detected other existing variants that were already present locally.

When no spread of acute respiratory diseases could be detected during the mass testing, it was propagated that SARS-CoV-2 was a virus that caused vascular diseases. At the same time, in 2020 / 2021, older people in particular became victims of stressful therapy attempts with drugs such as remdesivir, overdosed hydroxychloroquine, morphine, midazolam and of non-indicated intensive care treatment and mechanical ventilation.

With the help of media fear and panic campaigns, a life-threatening disease scenario was created, which in turn served as a justification for nonsensical hygiene measures, lockdowns and the allegedly necessary, widespread use of genetic engineering drugs.
The majority of the population followed this fear propaganda, and a large part of the medical profession in practices and clinics also participated, encouraged by financial incentives.
It became increasingly clear to the public that a corona infection with the pathogens, which had changed several times in the meantime, did not correspond to the propagated danger. However, various serious or long-lasting health disorders were always attributed to a SARS-CoV-2 infection when a PCR test was positive, or when someone with flu symptoms had contact with a PCR test-positive person.

Special ICD codes for COVID-19 have been created by the WHO. Since then, the diagnoses "Long-haul COVID" or "Post-Covid" or "Multi-system Inflammatory Syndrome" listed have been billed in Germany for corresponding billing figures and lump sums per case. These are extremely vague diagnoses that leave a lot of subjective room for attributions.
In SARS-CoV-2 viremia, the toxic reactions are mainly due to the spike protein of the virus. These are exactly those parts of the viruses that are to be presented by cells in the body after mod-mRNA injection. Therefore, a differential diagnostic clarification of these two sources of disease is absolutely necessary. This differentiation is also essential for further diagnostics, for counselling and for possible therapeutic measures, if necessary also for legal claims for compensation. Currently, differentiation is possible primarily by histological detection of spike by immuno-histochemical methods and simultaneous determination of virus capsid antigen in biopsy material or post mortem or by detection of spike and / or virus capsid antigen in the blood. Some laboratories offer appropriate serum / plasma tests, and cytological tests may also be suitable for this purpose.

4 Pathomechanisms of Genetic Immunization Trials

Information from BioNTech:
After administration by intramuscular injection, the BNT162b2 mRNA enters the cytosol of the cells without penetrating the nucleus or integrating into the host genome. In the cytosol, the BNT162b2 mRNA is translated from ribosomes into the non-infectious spike protein. The intracellular spike protein is processed by the host's proteasome and taken up by the molecules of the main histocompatibility complex (MHC) I and MHC II. These migrate to the cell membrane and present the processed spike protein to the immune system. This triggers a specific, T-cell-mediated immune response that targets the virus and the infected cells.
The preferred location (of the injection) is the deltoid muscle of the upper arm. …The vaccine must not be injected intravascularly, subcutaneously or intradermally.

Proponents of gene-based vaccines assume that the active ingredients merely mimic what happens in actual viral infections. It is claimed that the expression of the foreign protein is short-lived and is mainly limited to the site of the intramuscular injection. Cell damage is also limited and serious side effects are therefore not to be expected. This view is incorrect.
The claim that LNP-packaged mod-mRNA remains at the injection site is now commonly known as an obvious falsehood. These "vaccines" spread rapidly from the injection site through the lymph nodes and into the bloodstream.[32]

Long-lasting expression in organs and tissues at a distance from the injection site has been repeated documented using a number of analytical techniques.[33,34,35] Since the "vaccine particles" can penetrate all nucleated cells, their uptake inevitably occurs rapidly in cells of the lymph nodes, in endothelial cells lining the walls of blood vessels or the heart, and in cells of any tissue they reach, including cells of the central nervous system, as the encapsulated mod-mRNA passes the blood-brain barrier.
This fact distinguishes the "mRNA vaccination" from naturally occurring infections. Very few infectious agents systematically target lymphocytes or endothelial cells. The latter include dangerous viruses that cause hemorrhagic fever and also bacteria that cause life-threatening infections, such as typhoid fever and Rocky Mountain spotted fever.

According to BioNTech, distribution was observed primarily in the liver, adrenal glands, spleen, and ovaries within 48 hours of injection of the mod-mRNA, with the highest concentrations occurring 8 - 48 hours after administration. However, the mod-mRNA in lymph node germinal centers could still be detected 60 days after the injection. According to the latest findings, there is also a distribution via exosomes formed in the cells.[36]

The mod-mRNA vaccine particles trigger self-destructive processes in the lymphatic organs and in the blood vessels throughout the body. The immense dangers of self-attacks within the immunological control network have been demonstrated.[37] These include reactivation of dormant infections (e.g., herpes simplex, shingles, EBV, CMV, borreliosis, tuberculosis, parasites – VAIDS 4.2.10), reduced

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[32] *Anonymous (2020) SARS-CoV-2 mRNA Vaccine (BNT162, PF-07302048) 2.6.4 Summary statement of the pharmacokinetic study [English translation].*

[33] *Bansal, S. et al. (2021) Cutting Edge: Circulating Exosomes with COVID Spike Protein Are Induced by BNT162b2 (Pfizer-BioNTech) Vaccination prior to Development of Antibodies: A Novel Mechanism for Immune Activation by mRNA Vaccines. Immunol. 207:2405-2410*

[34] *Röltgen, K. et al. (2022) Immune imprinting, breadth of variant recognition and germinal center response in human SARS-CoV-2 infection and vaccination. Cell (preprint)*

[35] *Yamamoto, M. et al. (2022) Persistent varicella zoster virus infection following mRNA COVID-19 vaccination was associated with the presence of encoded spike protein in the lesion. Cutan. Immunol. Allergy (preprint)*

[36] *Sennef, S, et al. (2022) Innate immune suppression by SARS-CoV-2 mRNA vaccinations: the role of G-quadruplexes, exosomes, and MicroRNAs, (see Chapter 7 Exosomes and MicroRNAs therein). doi: 10.1016/j.fct.2022.113008*

[37] *Anonymous (2021) Shots and Shingles: What Do They Tell Us?*

ability to control new infections, and activation or reactivation of neoplasms.[38] See also 4.2.11
At the same time, a concerted immune attack against the vascular walls is carried out whenever and wherever the endothelial cells are transfected. In the case of SARS-CoV-2, spike protein-specific cytotoxic T cells are known to be widely distributed in the blood of healthy individuals. This may be due to previous infection with this virus, but alternatively to immunological cross-reactivity with other, related Coronaviruses.[39],[40]

With the appearance of specific antibodies, the attack on cells carrying the foreign proteins is multiplied and amplified by the action of complement and phagocytes. Endothelial damage leads to the formation of blood clots and corresponding circulatory disorders. In the central nervous system and in the heart, ischemic cell death has irreversible consequences.

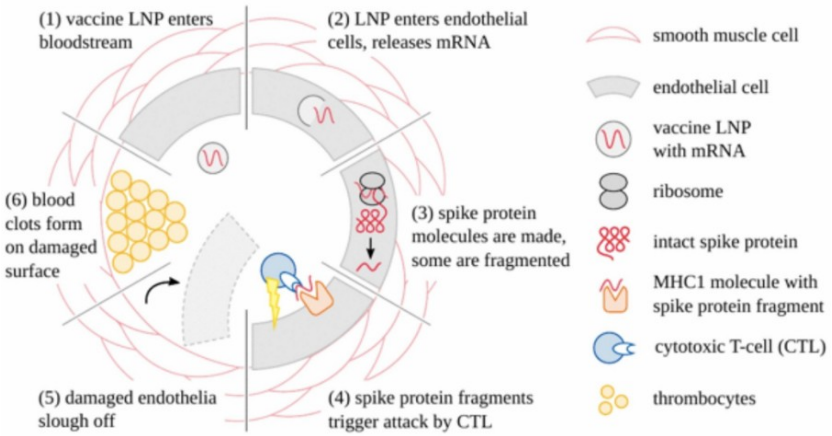

Figure 1: How COVID-19 mRNA vaccines damage blood vessels and cause clotting. After the vaccine lipid nanoparticles have entered the circulation, they are taken up by the endothelial cells, and the mRNA is released. The spike protein is then expressed; some molecules are fragmented and presented on the cell surface by a special carrier protein (MHC1). This causes the endothelial cells to be attacked by cytotoxic T-cells. Destroyed endothelial cells slough off, facilitating leakage of vaccine particles into the adjacent tissues. This also exposes the deeper layers of the vessel wall to the blood, which triggers thrombocyte aggregation and blood clotting.[41]

According to the manufacturers, the mod-mRNA should preferably be administered in the deltoid muscle. In case of improper administration, for example, if the substance is accidentally injected intravascularly, which can easily happen without aspiration, the mod-mRNA is rapidly distributed directly through the blood in the body. This is a particular risk in muscular athletic young people. It is estimated that up to 5% of intramuscular injections may end up intravascularly. This may account for many of the sudden cases of cardiac arrhythmias due to endocarditis / myocarditis up to fatal outcomes ("Died suddenly").[42,43]

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[38] *Krüger, U. (2022) COVID vaccination and turbo cancer: pathological evidence.*

[39] *Grifoni, A. et al. (2020) Targets of T Cell Responses to SARS-CoV-2 Coronavirus in Humans with COVID-19 Disease and Unexposed Individuals. Cell 181:1489-1501.e15*

[40] *Nelde, A. et al. (2020) SARS-CoV-2-derived peptides define heterologous and COVID-19-induced T cell recognition. Nature Immunology (preprint)*

[41] *Bhakdi S. et al. (2022) Gene-based Vaccination - Quo Vadis? Global Research*

[42] *https://airtable.com/shrbaT4x8LG8EbvVG/tbl7xKsSUIOPAa7Mx*

[43] *https://goodsciencing.com/covid/athletes-suffer-cardiac-arrest-die-after-covid-shot/*

4.1 General Pathomechanisms

4.1.1 Danger from Gene-based Immunization Trials

The production of foreign antigens by our own body cells inevitably provokes inflammatory and cell-destroying processes. In the case of viral infections, this makes sense, as it leads to the elimination of infected cells. Most viruses target a limited range of tissues due to their receptor specificity, and most tissues can regenerate, allowing wounds to heal subsequently. The LNP-coated mod-mRNA, on the other hand, can be taken up in all presenting cells, as already mentioned.

A majority of people treated with mod-mRNA do not appear to get sick directly from the injection. This may be due to the composition of the injection solution of individual batches. Analyses of the ingredients by various working groups confirm this.[44,45]
Incompatibilities or side effects could be due to genetic polymorphisms. The injection technique, cannula length and preparation of the so called “vaccine” could also play a role in tolerability. However, several studies suggest that only 4 - 5 % of all batches are responsible for 70 - 80 % of severe side effects, i.e. that the side effects are primarily caused by the varying ingredients of the individual batches.[46]

It is now known from in vitro studies that mod-mRNA can be transcribed into DNA and even incorporated into the cell genome.[47] Studies in spring 2023 also showed that mod-mRNA batches contained varying amounts of DNA contamination in the form of plasmids. The plasmids from the manufacturing process, some linear, some circular, contain the blueprint for the spike code and other protein codes. Circular plasmids can self-replicate not only in bacteria or yeast cells, but also in human cells. It was shown that in individual batches up to 35% of the nucleic acid material originated from such DNA plasmid contaminations.[48,49] This may explain the long-lasting spike production resulting from individual batches and its consequences. In some cases, spike protein could still be detected in the vascular endothelium 15 months after vaccination, as well as the S1 subunit in the brain.

According to a study published in January 2024, the injection of modified mRNA can cause a ribosomal shift in the RNA code reading frame (frameshift). As a result, cells can produce "wrong" proteins that can trigger unintended immune responses. According to the authors, this happens in 25-30% of people who have received mod-mRNA.[50]

4.1.2 Toxic Effects of Lipid Nanoparticles (LNP).

Unprotected mRNA, even if stabilized with N1-methyl-pseudouridine as in the case of mod-mRNA, would degrade relatively quickly in the body, possibly before it could achieve a specific effect. To prevent this, the mod-mRNA is packaged in LNPs. The LNPs, which are approximately 100 nm in size, consist of a cationic lipid that complexes the anionic mRNA. In addition, two auxiliary lipids, mostly cholesterol and polyethylene glycol (PEG), are present to stabilize the particles. The nanostructures are intended to protect the active ingredient and improve cell membrane permeability.

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[44] *Schmeling, M. et al. (2023) Batch-dependent safety of the BNT162b2 mRNA COVID-19 vaccine. doi: 10.1111/eci.13998*

[45] *Vibeke Manniche et al. (2024) Reports of Batch-Dependent Suspected Adverse Events of the BNT162b2 mRNA COVID-19 Vaccine: Comparison of Results from Denmark and Sweden, Medicina 2024, 60(8), 1343;*

[46] *How Bad is My Batch, https://knollfrank.github.io/HowBadIsMyBatch/HowBadIsMyBatch.html*

[47] *Aldén, M. et al. (2022) Intracellular Reverse Transcription of Pfizer BioNTech COVID-19 mRNA Vaccine BNT162b2 In Vitro in Human Liver Cell Line. Curr. Issues Mol. Biol. 2022; 44(3):1115-1126. https://doi.org/10.3390/cimb44030073*

[48] *McKernan, K. (2023) Deep sequencing of the Moderna and Pfizer bivalent vaccines identifies contamination of expression vectors designed for plasmid amplification in bacteria.*

[49] *McKernan, K. (2023) Pfizer and Moderna bivalent vaccines contain 20-35% expression vector and are transformation competent in E.coli.*

[50] *Mulroney, T.E.. et al. (2024) N1-methylpseudouridylation of mRNA causes +1 ribosomal frameshifting. Nature **625**, 189–194 (2024). https://doi.org/10.1038/s41586-023-06800-3*

For the mRNA vaccines BNT162b and mRNA-1273, ALC-0315 [[(4 hydroxybutyl)azandiyl]di(hexane-6,1-diyl) bis(2-hexyldecanoate))] and lipid H (SM-102) (9-heptadecanyl 8-{(2-hydroxyethyl)[6-oxo-6-(undecyloxy)hexyl]amino}octanoate), are used as cationic lipids.

LNPs can cross the brain barrier, are accumulated in the liver and can induce programmed cell death (apoptosis). LNPs can cause DNA fragmentation. In cell cultures, this effect could be suppressed by the addition of a reducing agent (N-acetylcysteine), suggesting that it is mediated by reactive oxygen species (ROS). Induction of ROS or free radicals by cationic lipids has been confirmed in several studies and thus carries the risk of DNA damage. This can lead to complete cell death.[51]

4.1.3 Toxic effect of the spike protein and damage to the ACE2 receptor

The spike protein itself is toxic in various ways. In addition to the damage to the vascular endothelia as part of the immune reactions that take place as a result of endogenous spike production, the spike protein also appears to directly damage the endothelial cells and in particular the ACE2 receptor. It was also shown that spike protein activates intracellular signals to degrade ACE2 mRNA. This impairs the ACE2-dependent signaling pathway and thus the homeostasis of the renin-angiotensin system.[52]

The spike protein fragment S1 can be cleaved off from the spike protein presented on the cell surface and enter the bloodstream. It binds and inhibits angiotensin-converting enzyme 2 (ACE2), which in turn reduces the substrate of ACE2, angiotensin-1(1-7), which has a vasodilatory and anti-inflammatory effect. As a result, the vasoconstrictive and blood pressure-increasing antagonist angiotensin II predominates, which also activates macrophages, which in turn release abundant exosomes and can thus trigger inflammatory reactions. It is therefore the interaction between SARS-CoV-2 or the vaccine-induced spike fragment S1 and the angiotensin-converting enzyme 2 (ACE2) receptors that causes an imbalance between angiotensin II and angiotensin-1(1-7).[53,54]

Other angiotensinase genes such as *prolylcarboxypeptidase* (PRCP) and *prolyloligopeptidase* (POP) can limit the harmful effects of the interaction between ACE2 and the spike protein. In the course of cardiovascular disease, ACE2 activity tends to decrease, while POP/PRCP activity increases. Increased activity of POP/PRCP has been found to be typical for older people with comorbidities or previous cardiovascular events, but not for younger people. The side effects of the "COVID-19 vaccination" associated with the dominance of angiotensin-II are therefore generally more common in younger and healthy individuals.[51]

The spike protein also has a fusogenic effect[55], i.e. it can cause cell fusions and also directly activate the platelets, thus triggering coagulation processes. Intracellular spike protein also inhibits DNA repair.

In the case of post-vac damage, the focus is primarily on the spike protein. In addition to its direct toxicity, the spike protein can trigger a variety of autoimmune processes due to amino acid sequences that are homologous to amino acid sequences of several endogenous proteins (molecular mimicry). This means that antibodies formed against the spike protein can also turn against the body's own proteins. However, this is not enough to explain all post-vac damage.

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[51] Ndeupen, S. et al. (2021) The mRNA-LNP platform's lipid nanoparticle component used in preclinical vaccine studies is highly inflammatory. iScience 24:103479

[52] Gao X et al.(2022) Spike-mediated ACE2 down-regulation was involved in the pathogenesis of SARS-CoV-2 infection. J Infect. 2022 Oct;85(4):418-427. doi: 10.1016/j.jinf.2022.06.030. Epub 2022 Jul 3. PMID: 35793758; PMCID: PMC9250808.

53 Angeli, F. et al. (2022) COVID-19, vaccines and deficiency of ACE2 and other angiotensinases. Closing the loop on the "Spike effect". Eur. J. Intern. Med. 103:23-28. doi: 10.1016/j.ejim.2022.06.015

[54] Bellavite, P. et al. (2023) Immune Response and Molecular Mechanisms of Cardiovascular Adverse Effects of Spike Proteins from SARS-CoV-2 and mRNA Vaccines.

[55] Lazebnik, Y. (2021) Cell fusion as a link between the SARS-CoV-2 spike protein, COVID-19 complications, and vaccine side effects. Oncotarget. 2021 Dec 7;12(25):2476-2488. doi: 10.18632/oncotarget.28088. PMID: 34917266; PMCID: PMC8664391.

Another mechanism could be the direct influence of the injected mod-mRNA on RNA-interference mechanisms in the cells. In the process, miRNAs could be formed, which can, for example, have an oncogenic effect, can eliminate tumor suppressor genes, or can interrupt translation processes that are necessary for the maintenance of metabolic processes.[56]

The processes that take place are complex, but were not sufficiently taken into account in the context of the approval of the mod RNA vaccines. It can be assumed that these processes play an important role in the development of turbo cancer, but are also involved in the development of autoimmune diseases.[57]

4.1.4 Toxic Effect of Antibodies Directed Against Spike Protein

The spike protein presented on the cell surface triggers an immune cascade that leads to the destruction of the affected cells by the cytotoxic T cells. Histologically, this is known as "endotheliitis", i.e. inflammation of the cells lining the blood vessels. As a result of the destruction of the endothelial glycocalyx, the vessel walls become permeable, blood fluid can enter the vessel wall (aneurysm formation) and perivascular edema develops. The cells detach from the vessel wall. Coagulation processes begin in the affected areas, which lead to the formation of thrombi. See also Figure 1.

Antibodies are known to act against an antigen. These antigens often consist of special aminoacid sequences. Occasionally, antibodies can also be directed against very similar sequences and thus cause a variety of damage in the sense of an autoimmune reaction. This is called molecular mimicry. See also 4.2.4.

This is probably the explanation for the multiple autoimmune reactions that can occur after mod-mRNA injection, such as glomerulonephritis triggered by anti-neutrophilic cytoplasmic antibodies (ANCA)[58] or post-vaccinal autoimmune encephalitis.[59]

A paper published in the winter of 2024 shows a connection between the general aging process and high antibody levels in the tissues.[60] This correlates with Arne Burkhardt's finding that after the injection of mod-mRNA, some people experience a disorder in the area of elastic fibers in the blood vessels, but also in the skin. See also 4.2.10

4.1.5 Shedding of mRNA, Spike, Lipid Nanoparticles, Exosomes

Mod-mRNA could be detected in breast milk within 48 h after injection.[61] Whether this form of shedding causes damage to the infant is currently not certain. However, the EU's Periodic Safety Update Reports (1-3) mention several serious sequelae in breastfed infants.[62] Due to indirect exposure, these events have not been statistically evaluated. There is a lack of knowledge about long-term consequences. It

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[56] *Peng, Y. et al. (2016) The role of MicroRNAs in human cancer. Sig Transduct Target Ther **1**, 15004 (2016). https://doi.org/10.1038/sigtrans.2015.4*

[57] S. Mueller, *Challenges and Opportunities of mRNA Vaccines Against SARS-CoV-2*, *https://doi.org/10.1007/978-3-031-18903-6_4*

[58] *Thammathiwat T. et al. (2023) ANCA Associated Glomerulonephritis Following SARS-CoV-2 Vaccination: A Case Series and Systematic Review. Vaccines (Basel). 2023 May 15;11(5):983. doi: 10.3390/vaccines11050983. PMID: 37243087; PMCID: PMC10223042.*

[59] *Mansour K. et al. (2023) Seronegative acute encephalitis following COVID-19 vaccines: a case series of an overlooked diagnosis with literature review. Eur J Clin Pharmacol. 2023 Jul;79(7):975-987. doi: 10.1007/s00228-023-03510-7. epub 2023 May 26. PMID: 37231308; PMCID: PMC10212735.*

[60] *Shuai Ma et al. (2024) Spatial transcriptomic landscape unveils immunoglobin-associated senescence as a hallmark of aging, Cell, Volume 187, Issue 24, 7025 - 7044.e34*

[61] *Hanna N. et al. (2022) Detection of Messenger RNA COVID-19 Vaccines in Human Breast Milk. JAMA Pediatr. 2022;176(12):1268– 1270. doi:10.1001/jamapediatrics.2022.3581*

[62] *https://tkp.at/wp-content/uploads/2023/01/1.PSUR_orginial.pdf, https://tkp.at/wp-content/uploads/2023/03/3.PSUR-1.pdf*

was normally assumed that the mod-mRNA is destroyed during the digestive process in the infant. However, subpopulations of "activated" exosomes with altered membrane lipids can withstand very low gastric pH with mixed digestive enzymes, allowing LNP mRNA to actually enter the infant's body cells.[63]

The mod mRNA acts on a variety of body cells. With the spike production and presentation of the spike, the apoptosis of the affected cells is initiated. In this state, the cells release exosomes at an increased rate, which can contain mod mRNA, spike and its fragments, other cellular substances such as miRNAs, and also prions.64 These exosomes could pass on prion proteins, even misfolded ones, from cell to cell. The spike protein itself has prionogenic properties. As part of the ongoing apoptosis, there is thus the possibility that misfolded prions spread along the nerve pathways throughout the body and also into the brain. See also 4.2.4

In the shedding discussion, one must ask, where can the particles go? In the area of the epidermis and mucous membranes, foreign proteins, including spike proteins, are likely to be recognized and eliminated by the immune system. Free RNA is sooner or later destroyed by local RNAses and otherwise cannot simply penetrate the cell wall. Lipid nanoparticles with mRNA can be absorbed into the cells and trigger local spike production. Transmission into the blood can only take place by transfusion.[65]

4.1.6 IgG4

People who were given two or more injections of the mod-mRNA were found to have abnormally high levels of IgG4. This was the result of research conducted in May 2023. It has been reported that HIV, malaria and pertussis vaccines also induce above-normal IgG4 synthesis. IgG4 antibodies are considered "non-inflammatory antibodies" but can lead to suppression of T cells and interferon, impairing, for example, the ability to keep cancer at bay – a possible explanation for the occurrence of "turbo cancer".
In total, there are three crucial factors that determine IgG4 antibody formation:

- antigen concentration too high,
- repeated vaccination
- type of vaccine used

Initially, it was thought that an increase in IgG4 levels could play a protective role by preventing over-activation of the immune system, similar to successful allergen-specific immunotherapy by inhibiting IgE-induced effects (desensitization). However, the new findings suggest that the reported increase in IgG4 levels detected after repeated vaccination with the mod-mRNA vaccines is unlikely to be a protective mechanism. Rather, it appears to be an immune tolerance mechanism to the spike protein. This could promote unhindered SARS-CoV2 infection and replication by suppressing natural antiviral responses, which would be a possible explanation for the more frequent occurrence of COVID and other infections in mod-mRNA patients.
Increased IgG4 synthesis due to repeated mod-mRNA vaccinations with high antigen concentrations can thus cause autoimmune diseases (autoimmune myocarditis) and promote cancer growth in susceptible individuals.[66]

4.2 Special Pathomechanisms

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[63] *Askenase, P.W. (2022) Exosome Carrier Effects; Resistance to Digestion in Phagolysosomes May Assist Transfers to Targeted Cells; II Transfers of miRNAs Are Better Analyzed via Systems Approach as They Do Not Fit Conventional Reductionist Stoichiometric Concepts. Int J Mol Sci. 2022 May 31;23(11):6192. doi: 10.3390/ijms23116192. PMID: 35682875; PMCID: PMC9181154.*

[64] *Kakarla, R. et al. (2020) Apoptotic cell-derived exosomes: messages from dying cells. Exp Mol Med **52**, 1–6 (2020). https://doi.org/10.1038/s12276-019-0362-8*

[65] *Banoun, H. (2022) Current state of knowledge on the excretion of mRNA and spike produced by anti-COVID-19 mRNA vaccines; possibility of contamination of the entourage of those vaccinated by these products. Infect Dis Res. 2022;3(4):22. doi: 10.53388/ IDR20221125022.*

[66] *Uversky V.N. et al. (2023) IgG4 Antibodies Induced by Repeated Vaccination May Generate Immune Tolerance to the SARS-CoV-2 Spike Protein. Vaccines (Basel). 2023 May 17;11(5):991. doi: 10.3390/vaccines11050991. PMID: 37243095; PMCID: PMC10222767.*

4.2.1 Endothelitis and Lymphocytic Infiltration

The effects described in "4 Pathomechanisms" lead to characteristic and vaccine-mediated pathologies:
Vaccine-induced expression of spike protein in endothelial cells inevitably results in vasculitis. Investigations by the pathologist Prof. Dr. med. Arne Burkhardt (Reutlingen) have made this clear.

A case report of a 76-year-old man who died three weeks after receiving his third COVID-19 vaccination presents additional data.[67] Histopathological analyses of the brain led to evidence of multifocal vasculitis and necrotizing encephalitis. In the heart, vasculitis of small vessels and lymphocytic myocarditis were detected. Spike protein has been detected in the inflammatory foci of both the brain and the heart, especially in the endothelial cells of small blood vessels. Corresponding control experiments confirmed that the observed spike protein expression was indeed caused by the mod-mRNA injections that the patient had received, and not by an undiagnosed infection with the virus itself.
Multi-organ vasculitis with predominant small vessel involvement is now becoming a common topic underlying adverse events after COVID-19 vaccination. Impairments of the capillary vessels with thrombus formation in the brain and heart are observed again and again.[55,68] The observed clinical picture in small and very small vessels is new and is considered by the authors to be characteristic of the effect of gene-based vaccines.
Especially in vaccinated patients after recovery from real SARS-CoV-2 infections, fulminant reactions are to be expected. Such patients have high levels of circulating IgG antibodies against the spike protein.[69] As a result, a complement attack on the cells transfected with the vaccine can be immediate and massive.
A case report of sudden death caused by myocarditis after the first vaccination with direct evidence of complement activation in the heart illustrates this.[70]

The histological examination of various tissues from patients who died after vaccination showed an almost uniform picture: lymphocytic reactions in the myocardium, epicardium and pericardium, but also in the brain and other organs in the sense of "lymphocytic predominance". In addition, pronounced damage to the large vessels, texture disorders in the vessel wall, loss of elastic fibers, aortic dissections with aneurysm formation, dissections of smaller arteries also in the brain were impressive. *SCAD* (spontaneous coronary dissection as a non-atherosclerotic rupture of the coronary vessel wall) should also be considered under this aspect. At least there are isolated case reports of SCAD after mRNA vaccination (e.g., with BNT162b2 or mRNA-1273). Almost regularly, detachments of the endothelial cells of the vessels appear, also in the examination material of biopsies.
The cause can only be an immune reaction against spike-presenting cells in the sense of an autoimmune reaction, especially since the spike protein could be visualized immuno-histochemically and could be detected in almost all vascular endothelia, whereas capsid antigen (as an indication of SARS-CoV2 infection) was not detectable.[71,72]

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[67] *Mörz, M. (2022) A Case Report: Multifocal Necrotizing Encephalitis and Myocarditis after BNT162b2 mRNA Vaccination against Covid-19. Vaccines 10:2022060308.*

[68] *Prof. Dr. med. Arne Burkhardt, pathologist, Reutlingen, Germany, personal communication*

[69] *Killingley, B. et al. (2022) Safety, tolerability and viral kinetics during SARS-CoV-2 human challenge in young adults. Med. (preprint)*

[70] *Choi, S. et al. (2021) Myocarditis-induced sudden death after BNT162b2 mRNA COVID-19 vaccination in Korea: case report focusing on histopathological findings. Korean Med Sci. 36:e286*

[71] *Prof. Dr. med. Arne Burkhardt, pathologist, Reutlingen, Germany, personal communication*

[72] *Palmer, M., Bhakdi S. (2022) / Doctors for COVID Ethics Vascular and organ damage induced by mRNA vaccines: irrefutable proof of causality.*

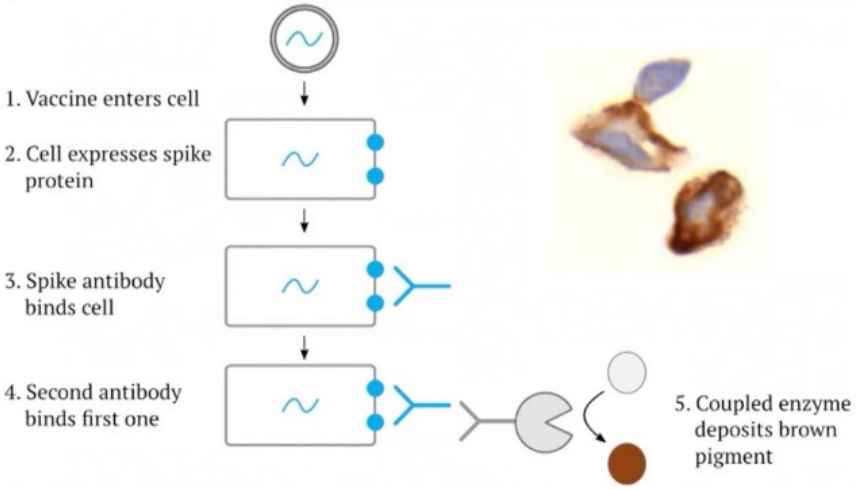

Figure 2: Immuno-histochemistry can visualize the spike protein in single cells.

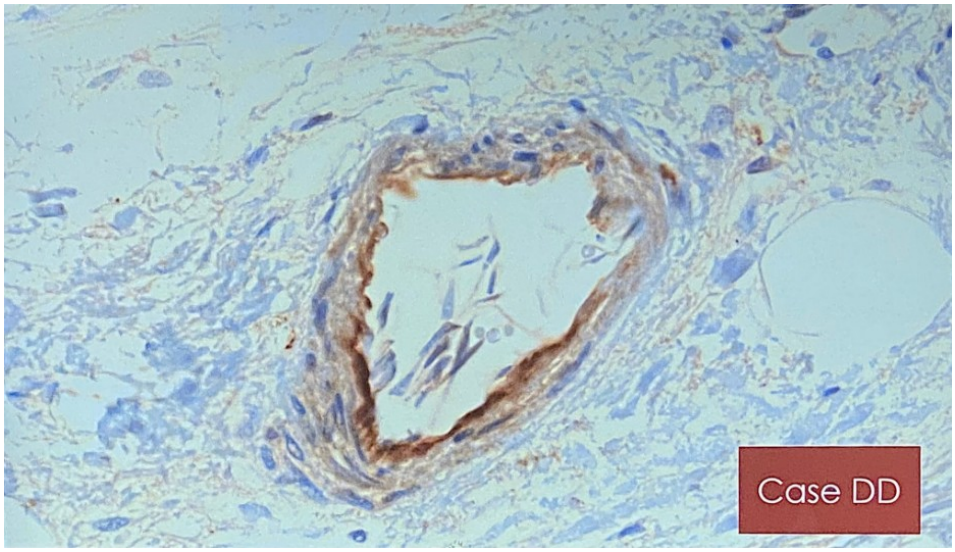

Figure 3: Spike protein (brown) in the endothelial cells of an incised vessel with detached endothelial cells, immuno-histochemically stained (courtesy of Prof. Arne Burkhardt).

Thus, antigen expression in endothelium of blood vessels causes the destruction of the vessel walls. As a result of endothelial damage, microcirculatory disorders occur. Reduced blood flow causes organ damage and, in the area of the peripheral nerves or nerve plexuses, variable pain symptoms and symptoms such as polyneuropathy result.
The pathomechanism of Raynaud's symptoms, which occur in some patients, is currently unclear. Further investigations will have to show whether cold agglutinins (IgM autoantibodies) or cryoglobulins play a role here.

As pathologist Ryan Cole was able to show, an accumulation of the spike protein can also occur in the adrenal glands. This affects both the adrenal medulla and the cortex. Dysfunction of the adrenal glands could explain part of the post-vac symptoms, such as disorders of blood pressure regulation (postural orthostatic tachycardia syndrome). In addition, the overall hormone regulation can be negatively influenced (CFS/ME).

4.2.2 Myocarditis, Endocarditis, Pericarditis

In Germany, there are usually about 3,500 cases of severe myocarditis per year, with about 150 deaths. The main cause is likely to be viral infections. The incidence is estimated to be between

1/10,000 and 1/100,000.
Just as the endothelia of the blood vessels can be damaged by spike production, damage can also occur to the endothelium of the endocardium, which can then also affect the myocardium, for example, via exosomal mechanisms. In the wake of mod-mRNA administration, up to 1:5000 cases of myocarditis occurred in people under 60 years of age, depending on the study. According to a study from Hong Kong, the number in vaccinated adolescents was as high as 1:3000.[73] In contrast, there was no increased incidence of pericarditis or myocarditis in adult patients who had recovered from COVID-19 infection.[74]
The correlations with an accidental intravascular injection in muscular and acute cardiac incidents have already been shown above (4 Pathomechanisms). Cardiac arrhythmias play an important prognostic role, especially in the acute phase.

Remarkably, significantly elevated levels of the full-length spike protein were detected in the plasma of individuals with myocarditis after mod-mRNA injection. This was not bound to antibodies, while no free spike was detected in asymptomatic vaccinated controls.75 See also 4.1.1
Equally noteworthy is the fact that even asymptomatic individuals show pathological changes in the myocardium after mRNA injection, e.g., myocardial fluorine-18 (18F)-fluorodeoxyglucose (FDG) uptake on positron emission tomography (PET/CT) images is increased in asymptomatic patients vaccinated against SARS-CoV-2 compared to unvaccinated patients, suggesting latent myocardial damage.[76]

Myocarditis, regardless of its cause, can never be considered harmless and does not have a favorable prognosis per se. The long-term effects depend on the degree of destruction of the myocardium. The heart muscle tissue is not regenerable. Even minor damage usually means a lifelong impairment of cardiac function.

4.2.3 Misfolding of Proteins, Prion Mechanism, Amyloidosis

In 2022, studies by Luc Montagnier, Jean Claude Perez and others were able to demonstrate a prion mechanism in a total of 26 patients after RNA injections.[77]

The question arises whether the increased formation of amyloid plaques, as demonstrated in individual histological studies, should be interpreted in the same sense. Many data suggest a molecular mechanism for the possible amyloid-genesis of the SARS-CoV-2-S protein in humans, which is facilitated by endoproteolysis, for example by neutrophil elastase.[78,79]

In terms of clinical picture, there are similarities with the so-called transthyretin amyloidosis, an acquired ATTR amyloidosis, occurring mainly in the elderly (senile systemic amyloidosis), with cardiac arrhythmias, exercise dyspnea and polyneuropathic symptoms. Transthyretin is a transport protein for thyroxine among others. In case of misfolding it is deposited in tissues like myocardium and nervous system.

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[73] Chua G.T. at al. (2022) Epidemiology of Acute Myocarditis/Pericarditis in Hong Kong Adolescents Following Comirnaty Vaccination, Clinical Infectious Diseases, Volume 75, Issue 4, 15 August 2022, Pages 673-681, https://doi.org/10.1093/cid/ciab989

[74] Tuvali O et al. (2022) The Incidence of Myocarditis and Pericarditis in Post COVID-19 Unvaccinated Patients—A Large Population-Based Study. Journal of Clinical Medicine. 2022; 11(8):2219. https://doi.org/10.3390/jcm11082219

[75] Yonker L.M. et al. (2023) Circulating Spike Protein Detected in Post-COVID-19 mRNA Vaccine Myocarditis, Circulation, 2023 Mar 14;147(11):867-876. doi: 10.1161/CIRCULATIONAHA.122.061025.

[76] Takehiro Nakahara et al. (2023) Assessment of Myocardial 18F-FDG Uptake at PET/CT in Asymptomatic SARS-CoV-2–vaccinated and Non vaccinated Patients, Radiology 308:3

[77] Perez, J.-C., Moret-Chalmin, C., Montagnier, L. (2023) Towards the emergence of a new form of the neurodegenerative Creutzfeldt- Jakob disease: Twenty six cases of CJD declared a few days after a COVID-19 "vaccine" Jab " doi: 10.5281/zenodo.7540331

[78] Nyström, S., Hammarström P. (2022) Amyloidogenesis of SARS-CoV-2 spike protein Journal of the American Chemical Society 2022 144 (20), 8945-8950 DOI: 10.1021/jacs.2c03925.

[79] Arne Burkhardt, Walter Lang, Norbert Schwarz, (2023) tredition, ISBN 978-3-347-96255-2, Vom Stachel im Fleisch - Wie das Corona-„Impf"-Spikeprotein Schaden anrichtet

In connection with a drug advertised by Pfizer (Tafamidis, annual therapy costs of 320,000 € for 61 mg daily!), this form of amyloidosis has been increasingly discussed since spring 2023, especially since it has now also been detected in younger patients. There is some evidence to suggest that this is an attempt to disguise mod-mRNA-related amyloidosis while creating a market for an overpriced drug.

It is very likely that vaccine-induced spike protein can induce misfolding or alteration of endogenous proteins, such as α-synuclein (Parkinson's), Aβ- and tau-prions (Alzheimer's), and tau-prions (frontotemporal lobar degeneration, FTLD). In the development of chronic fatigue syndrome (ME/CFS), such relationships should at least be discussed. See also 6.2.1.5.

Another pathomechanism could also be conceived as a cause:[80]
There is an amino acid sequence in the spike protein (1273 amino acids) that is very similar to an amino acid sequence in the C-terminal domain of prion proteins. Thus, it would be possible that it is not the spike protein that causes misfolding of prion proteins, but that the antibodies formed against the spike destroy the prion proteins as a result of molecular mimicry. The destroyed non-functional proteins would then be deposited as amyloid plaques.

The antibody hypothesis of *S. Seneff* could indeed link Long-haul COVID and Post-Vac: Antibodies against the artificially modified spike are also produced in COVID, which would enable the same mimicry mechanism as in Post-Vac to destroy prion proteins.

Some studies do indeed establish a link between SARS-CoV-2 infection and Alzheimer disease, or decline in brain performance, and refer in part to spike protein. However, endogenous spike protein production after mod-mRNA injection was completely ignored.[81]
An October 2024 South Korean study ultimately showed an increased incidence of mild cognitive impairment (MCI) and Alzheimer's disease (AD) in mod-mRNA-treated individuals, within three months of "vaccination". The mod mRNA group had a significantly higher incidence of AD and MCI compared to the untreated group. No significant association with vascular dementia or Parkinson's disease has been found.[82]

4.2.4 Psychological Effects

The overall social background that brought individuals to the "Corona vaccination" in 2021 and 2022 was a very special one and not comparable to other social or medical events of recent decades. Basically, there were three large groups: People who were very afraid of the Corona virus or a Corona infection, people who went to the "vaccination" out of generally demanded "solidarity" and thirdly, people who had the mod-mRNA injection more or less voluntarily for professional and / or private ("I want to travel") reasons. In addition, there are mixed images of these groups. Now, if physical symptoms occurred after the mod-mRNA injection, they can be processed differently. Depending on the underlying personality, the existing defense mechanisms as well as pre-existing psychological burdens, coping will take place differently.
In addition, there is the overall social situation, which was and still is strongly characterized by fear and stress as well as the defense mechanisms of repression to denial, displacement, projection and dissociation. In particular, due to the more or less usual denial of possible "vaccination side effects" by most doctors, but also in the big media as well as by many people in their private lives, an affected person is subject to an extreme psychological stress situation. He has to cope with the actual physical symptoms, for which there is often no adequate medical therapy, as well as with the completely alienated reaction from his environment. Inner and outer perception do not match. This corresponds to the greatest psychological stress, an independent trauma.
It can be assumed that the entirety of corona restrictions trigger pre- or post-traumatic stress disorder

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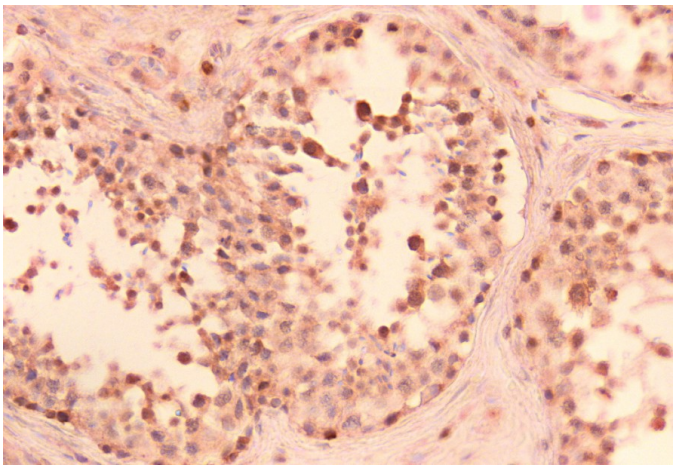
[80] *Stephanie Seneff, Senior Research Scientist at the Computer Science and Artificial Intelligence Laboratory at MIT, Cambridge, USA.*

[81] *Ceban F. at al. (2022) Fatigue and cognitive impairment in post-COVID-19 syndrome: A systematic review and meta-analysis. Brain Behav Immun. 2022 Mar;101:93-135. doi: 10.1016/j.bbi.2021.12.020. Epub 2021 Dec 29. PMID: 34973396; PMCID: PMC8715665.*

[82] *Roh JH et al., (2024) A potential association between COVID-19 vaccination and development of Alzheimer's disease. QJM. 2024 Oct 1;117(10):709-716. doi: 10.1093/qjmed/hcae103. PMID: 38806183.*



(PTSD), which, together with the spike protein after mod mRNA injection, impairs hippocampal neurogenesis.[83] This has an impact on the so-called "index neurons" and on our autobiographical memory, which explains a number of psychological symptoms up to the development of dementia.[84] Indeed this mixture results in a variety of possible stress reactions, as they are well known in psychoneuroimmunology. Existing psychological stresses such as depression or anxiety disorders can intensify or recur, but the physical symptoms can also be intensified or shifted. In addition to the persistent stress situation, an intensification and chronification is to be expected. Cognitive dissonance, like "your symptom has nothing to do with the vaccination", makes psychological processing much more difficult. How these entanglements will affect classical psychosomatic processes in the long term cannot be foreseen at the moment.

The pathomechanism of an ME/CFS syndrome has also not yet been clarified in this sense, see chapter 6.2.1.6.

4.2.5 Induction of Hepatitis by Vector Vaccines with Adenoviruses as Vectors.

Adeno-associated virus 2 (AAV2) is now considered to be the cause of the initially unclear, sometimes life-threatening hepatitis in young children. AAV is a non-enveloped virus that can be easily manipulated to deliver RNA or DNA to target cells and plays an important role as a vector virus in vector vaccines (Astra-Zeneca, Johnson & Johnson, Janssen). These viruses are actually not capable of replication and need another adenovirus to replicate. However, it cannot be ruled out that AAV2 changes in the body through contact with other adenoviruses, which could then transmit these viruses.[85,86,87]
No study on this topic questioned whether parents / siblings of the affected infants and toddlers had been treated with an appropriate "vaccine".

4.2.6 Influence on Spermatogenesis with Decrease of Sperm Count

Histological examination of testicular tissue after death in temporal relation to mRNA injection showed marked changes in sperm production, presumably due to spike-induced autoimmune reactions in the epithelia of the testicular tubules and the Leydig and Sertoli cells of the testicle and / or endotheliitis of the supplying vessels. A decline in fertility can be assumed. Individual patients reported erectile

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[83] The other site of cerebral neurogenesis is the subventricular zone, an area adjacent to the cerebral ventricles

[84] Michael Nehls (2023), Das indoktrinierte Gehirn

[85] Ho, A, et al. (2023) Adeno-associated virus 2 infection in children with non-A-E hepatitis. Nature (2023). https://doi.org/10.1038/s41586-023-05948-2 617, 555-563.

[86] Naso, M.F. et al. (2017) Adeno-Associated Virus (AAV) as a Vector for Gene Therapy BioDrugs 2017; 31(4): 317-334 doi: 10.1007/s40259-017-0234-5

[87] Radukic, M.T. et al. (2021) Nucleic Acid Sequence Composition of the Oxford - AstraZeneca Vaccine ChAdOx1 nCoV-19 (AZD1222, Vaxzevria) https://doi.org/10.21203/rs.3.rs-799338/v1 (preprint).

dysfunction and decreased libido.

Disruption of the hypothalamic-pituitary-gonadotropin axis by vascular effects or deposition of pathogenic proteins may also be a pathomechanism.[88]

Figure 4: Spike detection (brown) in the testis of a deceased 29-year-old 134 days after the 2nd mRNA injection. Almost no sperm are detectable (courtesy of Prof. Arne Burkhardt).

4.2.7 Increased Accumulation of mod-mRNA in the Ovaries.

Pfizer and BioNTech pointed out an accumulation of mod-mRNA in the ovaries very early. A relatively large number of women complain of menstrual cycle disorders and increased menstrual bleeding or postmenopausal bleeding and decline in libido after mod-mRNA injection. A study from Sweden from May 2023 confirms this.[89] Clarifying investigations in Germany are still pending.

Although the placental permeability of mod-mRNA has not yet been reliably demonstrated, the Periodic Safety Update Reports (1-3) of the EU describe developmental disorders of the embryo / fetus, increased miscarriages, also increased stillbirths.[90] Throughout Europe, there is a significant decline in the birth rate, especially in Germany.[91]
A study from March 2025 showed that both mRNA and inactivated COVID-19 vaccines can impair ovarian reserve in rats, primarily through accelerated follicle loss and changes in apoptotic processes during folliculogenesis.[92] Whether this occurs similarly in humans needs to be clarified in further studies.

4.2.8 Spike-induced immune thrombotic thrombocytopenia (VITT)

Endothelial damage induces coagulation processes with thrombi formation. The spike protein can also activate platelets itself, triggering not only intravascular coagulation processes, but also immune thrombocytopenia (ITP). It is also referred to as vaccine-induced thrombotic thrombocytopenia (VITT) and thrombosis-with-thrombocytopenia syndrome (TTS).
This immunothrombotic thrombocytopenia has been observed especially after administration of the Johnson and Astra-Zeneca vector vaccines. With the two mod mRNA injection solutions from Moderna and BioNTech, respectively, the risk appears to be lower, but cannot be ruled out. This can be seen, among other things, in the fact that the D-dimers in the blood are also increased in many mod mRNA vaccinated people.
Venous or arterial thrombosis may occur, especially in unusual locations, including cerebral sinus vein thrombosis (CSVT)/splanchnic thrombosis, and mild to severe thrombocytopenia. Marked

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[88] Gat, I. et al. (2022) Covid-19 vaccination BNT162b2 temporarily impairs semen concentration and total motile count among semen donors. Andrology. 2022 Sep;10(6):1016-1022. doi: 10.1111/andr.13209.

[89] Ljung R. et al. (2023) Association between SARS-CoV-2 vaccination and healthcare contacts for menstrual disturbance and bleeding in women before and after menopause: nationwide, register-based cohort study BMJ 2023; 381 :e074778 doi:10.1136/bmj-2023-074778

[90] https://tkp.at/wp-content/uploads/2023/03/3.PSUR-1.pdf

[91] Kuhbandner, C., Reitzner, M. (2023) "Estimation of Excess Mortality in Germany During 2020-2022." Cureus 15(5): e39371. DOI 10.7759/cureus.39371

92 Karaman, E.. et al. (2025) Impact of mRNA and Inactivated COVID-19 Vaccines on Ovarian Reserve. Vaccines 2025, 13, 345. https://doi.org/10.3390/vaccines13040345

thrombocytopenia and intracranial hemorrhage were associated with high mortality.[93]

The clinical picture is very similar to heparin-induced thrombocytopenia type II (HIT2), in which a complex of heparin and platelet factor 4 (CXCL4), i.e. disease-causing factor, is considered. Some people develop antibodies against this complex, which lead to the clumping of platelets and the formation of thrombosis, while at the same time consuming the platelets.

4.2.9 Loss of Elastic Fibers in the Vessel Walls and in the Skin

The elastic fibers are formed by embryonic or juvenile fibroblasts and by smooth muscle cells. They are found in large numbers in the skin, elastic cartilage, vascular walls, lung tissue and vocal cords.
During histological processing of tissue samples including biopsy cases of Post-Vac victims, in some cases the pathologists found a destruction of elastic fibers in arterial walls like in the aorta (with aneurysm formation), but also in the skin. The pathomechanism is unclear, explains some of the vascular problems on the one hand, and on the other hand confirms the suspicion that mod-mRNA injection leads to premature aging of the skin.[94] There might be antibodies involved through molecular mimicry, or it could be an interaction with other harmful substances in the body, such as glyphosate.[95]

4.2.10 VAIDS - Vaccine Acquired Immune Deficiency Syndrome

Some authors now speak of a Vaccine Acquired Immune Deficiency Syndrome - VAIDS. They assume that as a result of mod-mRNA administration, a permanent overload of the immune system occurs with loss of function of the killer cells, decrease and functional exhaustion of T helper cells and cytotoxic T cells and shutdown of the interferon system. As a result of a disruption of the repair mechanism of the T-cell DNA, these cells are functionally weakened, resulting in a general immunodeficiency with susceptibility to infectious diseases and tumor growth. In this sense, the reactivation of dormant viral or bacterial infections such as herpes zoster, cytomegalovirus, Epstein-Barr virus, Coxsackie virus, Lyme disease and other germs is to be understood (4 Pathomechanisms), as well as the development of turbo cancer (4.2.11).
Even germs that are purely facultatively pathogenic for humans can be activated in this way and cause diseases.
Since 2022, there has also been an increasing number of case reports of giant cell arteritis in the specialist media, even without a typically increased erythrocyte sedimentation rate or with only slightly increased CRP.[96] This suggests a general link to rheumatological diseases.
Since the beginning of 2022, case reports of autoimmune diseases, including new onset or recurrence of psoriasis, lichen planus, eczematous dermatitis, morbilliform eruptions, and some other dermatoses, have been accumulating in connection with mod-mRNA injection.[97,98,99]
In this context, it is worth noting the autoantibodies that occur in the wake of mod-mRNA injection, which are often dramatically increased in serum, for example, ANA, ANCA, TPO, TRAK, GPCR-AK and others.

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[93] Zhang S. et al. (2020) SARS-CoV-2 binds platelet ACE2 to enhance thrombosis in COVID-19. J Hematol Oncol 13, 120 (2020). https://doi.org/10.1186/s13045-020-00954-7

[94] Prof. Dr. med. Arne Burkhardt, pathologist, Reutlingen, Germany, personal communication

[95] Stephanie Seneff (2021) Toxic Legacy, How the Weedkiller Glyphosate is Destroying our Health and the Environment

[96] Xia C, Edwards R, Omidvar B. (2022) A Case of Giant Cell Arteritis With a Normal Erythrocyte Sedimentation Rate (ESR) Post ChAdOx1 nCoV-19 Vaccination. Cureus. 2022 May 27;14(5):e25388. doi: 10.7759/cureus.25388. PMID: 35774715; PMCID: PMC9236663.

[97] Aryanian, Z. et al. (2022) Morphea in two patients after being infected to and being vaccinated against SARS-CoV-2 infection. Authorea. March 14, 2022. clin case rep. 2022 Apr 18;10(4):e05667. doi: 10.1002/ccr3.5667

[98] Alhammad N. et al. (2022) Morbilliform Eruption After Administration of Second Dose of Oxford/AstraZeneca Vaccine. Cureus 14(5): e24649. doi:10.7759/cureus.24649.

[99] Gambichler, T. et al. (2021) Cutaneous findings following COVID-19 vaccination: review of world literature and own experience. J Eur Acad Dermatol Venereol. 2022 Feb;36(2):172-180. doi: 10.1111/jdv.17744. epub 2021 Nov 2. PMID: 34661927; PMCID: PMC8656409.

4.2.11 Reactivation of Dormant Cancer, Turbo-Cancer

Down-regulation of TL receptors and of P53 tumor suppressor genes as a result of mod-mRNA injection may accelerate carcinogenesis. In particular, there seems to be an increased reactivation of dormant cancers, sometimes with dramatic progressions. This is now referred to as *turbo cancer*.

BRCA1 (BReast CAncer 1) and BRCA2, are other tumor suppressor genes which play an important role in the repair of DNA double-strand breaks. In normal cells, these genes help make proteins that repair damaged DNA. Mutated versions of these genes can lead to abnormal cell growth, which can lead to breast cancer, among other organs. These two genes also seem to be impaired in their function by the action of the spike proteins and the induced antibodies. The pathologist Ute Krüger, Stockholm has dealt with this topic in particular and has recognized dramatic correlations.[100,101]

A case report documented the development of B-cell lymphoblastic lymphoma after intravenous BNT162b2 mRNA booster in a BALB/c mouse (a lab-grown albino strain of the house mouse) and referred to the urgent need for further investigations.[102]
In a 2021 in vitro study from India, it was shown that human cells exposed to plasmids containing the genetic code for the spike protein release exosomes containing the spike protein along with certain specific microRNA signaling molecules. These are then taken up by microglia in the brain. The result is neurological damage and impaired immune function. MicroRNAs are short RNA sequences that act as regulatory agents and control the expression levels of many proteins. The study from India identified two specific microRNAs packed with the spike proteins in the exosomes: miRNA-148a and miRNA-590. MicroRNA-148a is overrepresented in the context of glioblastoma, the most aggressive type of brain tumor. miRNA-590 is also over-expressed in glioma cells and has been shown to be particularly abundant in glioma tissues that are resistant to radiotherapy.[103]

At this point, it should also be noted that the lockdowns and restrictions 2020 - 2022 have prevented many patients from seeing a doctor or clinic if they have symptoms. It is likely that early stages of malignancies could not be diagnosed, stages where therapeutic prospects are much better than later stages. It is clear that this will be noticeable later.[104]

4.2.12 Inflammatory diseases of the musculoskeletal system

Almost all post-vac patients complain of pain in the musculoskeletal system, although clinical examinations reveal few usable findings. Young, athletic people are particularly affected.
A new study shows a link between mod mRNA injection and subsequent inflammatory diseases of the musculoskeletal system.105 Thereafter, within 12 weeks of mod mRNA injection, incidences of plantar fasciitis, rotator cuff syndrome, adhesive capsulitis, herniated disc, spondylosis, bursitis, Achilles tendonitis, and De Quervain tendosynovitis increased significantly in "vaccinated" compared to the unvaccinated group. The pathogenesis is not discussed in detail in the study. As with almost all post-vac symptoms, either direct spike effects, immune or autoimmune reactions, or vascular mechanisms are likely to be responsible. See also 6.2.1.7

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[100] https://doctors4covidethics.org/covid-vaccination-and-turbo-cancer-pathological-evidence/

[101] https://tkp.at/2023/03/15/vaers-daten-belegen-turbokrebs-6-metastasen-und-uebersicht/

[102] Eens S, et al. (2023) B-cell lymphoblastic lymphoma following intravenous BNT162b2 mRNA booster in a BALB/c mouse: A case report. Front Oncol. 2023 May 1;13:1158124. doi: 10.3389/fonc.2023.1158124. PMID: 37197431; PMCID: PMC10183601.

[103] Mishra, R., Banerjea A.C. (2021) SARS-CoV-2 spike targets USP33-IRF9 axis via exosomal miR-148a to activate human microglia. Front Immunol. 2021 Apr 14;12:656700. doi: 10.3389/fimmu.2021.656700. PMID: 33936086; PMCID: PMC8079643.

[104] https://tkp.at/2023/04/28/krebsbombe-durch-lockdowns-schlimmer-als-covid/

[105] Young Hwan Park et al., (2023) Correlation between COVID-19 vaccination and inflammatory musculoskeletal disorders, medRxiv preprint doi: https://doi.org/10.1101/2023.11.14.23298544; (preprint)

4.2.13 Neurological damage

Guillain-Barré Syndrome (GBS)
COVID-19 itself and the mod-mRNA injection have been associated with GBS and MFS. During the pandemic restrictions in 2020, there was a slight decline in the incidence of GBS, presumably due to limited diagnostics, although SARS-CoV-2 and other viruses (Herpes viruses, Zika virus, Hepatitis E) are known to be associated with it.
However, with the start of the COVID vaccination campaign, an increasing number of GBS and MFS cases were reported. The WHO database, for example, records a 270% increase in Guillain-Barré syndrome worldwide within one year of the start of COVID vaccination, across all subgroups.

Pathology shows demyelination due to an autoimmune reaction against the myelin sheaths of peripheral nerves (primarily Schwann cells) with symmetric, ascending muscle weakness, reduced reflexes, and sensory deficits, particularly in acute inflammatory demyelinating polyradiculoneuropathy (AIDP). With adequate treatment, the prognosis is usually good.
Selective damage to motor axons by antibodies against gangliosides (e.g., GM1, GD1a) is referred to as acute motor axonal neuropathy (AMAN), which results in motor paralysis and often has a severe course. Combined axonal damage of motor and sensory nerves (AMSAN) shows severe motor and sensory deficits in cases of axonal damage with low remyelination capacity.

Miller Fisher Syndrome (MFS)
Miller Fisher Syndrome is a rare variant of GBS and is characterized by eye muscle paralysis, areflexia, and severe coordination disorders. It is typically triggered by anti-GQ1b autoantibodies in the serum. These antibodies can occur following the mod-mRNA vaccination, but also after other vaccinations and viral infections.
There is an epitope homology, meaning that antibodies against the SPIKE produced in the body's cells after vaccination also act on other endogenous substances such as GQ1b, a complex glycolipid (ganglioside) found in the cell membrane of nerve cells (especially peripheral nerves) and playing a role in signal transmission between nerve cells. Complete remission usually occurs spontaneously within 4 to 6 weeks. Occasionally, mild relics may remain (most likely impaired motor coordination, which can then be eliminated with training).

Transverse Myelitis (TM)
Transverse myelitis is an inflammatory disease of the spinal cord characterized by damage or destruction of the myelin sheath and sometimes of the axons themselves. These lesions can lead to a variety of neuropathies with diverse dysfunctions of peripheral nerves, manifesting as sensory, motor, and autonomic symptoms.
The disease can occur post-infectiously following various viral and bacterial infections, but also post-vaccinally following mod-mRNA injections, influenza, and hepatitis vaccinations.

Chronic fatigue, ME/CFS (see also 6.2.1.6)
It is now assumed that a variety of pathogens can trigger post-infectious symptoms that are similar to or equivalent to ME/CFS. These include both viral and bacterial pathogens such as Epstein-Barr virus, Coxiella Burnetti (Q fever), Ebola virus, SARS-CoV-1, SARS-CoV-2, influenza, Giardia and Borrelia. What is new is the connection with the mod-mRNA administration as part of the so-called COVID vaccination.

At present, we can only speculate about the pathomechanisms involved. Suspected are multisystemic inflammatory processes as a result of the body's own spike protein formation, autoimmune reactions, immune system malfunctions and even the deposition of misfolded proteins in the central nervous system and in the periphery of the body, triggered by the spike protein formed in the body, the antibodies formed against it and/or the lipid nanoparticles used.
Immunological dysfunctions are likely, but have not been regularly detected to date. Slightly increased titers of antinuclear antibodies, reductions in immunoglobulin subclasses, malfunctions in mitogen-mediated lymphocyte proliferation, reductions in the activity of natural killer cells, disturbances in cytokine production and changes in T cell metabolism have occasionally been found. None of these results have been consistent so far and none of these changes can be applied to all CFS patients.

The impairment of the so-called **glymphatic system**, a cleaning system in the CNS that is mainly

active during sleep and flushes out metabolic waste products and amyloid via the cerebrospinal fluid, is likely to be of particular importance in ME/CFS.[106, 107] It is a paravascular system and is directly linked to vascular function. Since CFS patients usually sleep very badly despite the fatigue, it is likely that their disposal of metabolic waste products in the brain is impaired, among other things.

During histological examination of brain tissue from post-vaccine deceased persons, Prof. Arne Burkhardt was able to detect increased amyloid deposits in the CNS in addition to the endotheliitis-related vascular damage. He assumed that central nervous dysfunctions are triggered by both perfusion disorders and amyloid deposits.

A study from April 2025 shows that there is an organic correlate for central nervous system disorders associated with long- or post-COVID, which is attributed to the virus's spike protein. Using various imaging techniques, it was shown that the affected group exhibited significant volume reductions in the superior cerebellar peduncle (SCP), along with impaired white matter integrity in the middle cerebellar peduncle (MCP). The neuro-imaging findings correlated with the clinical picture of motor coordination disorders, proprioceptive deficits, and autonomic instability. Further volume loss in the dorsal raphe (DR) and the midbrain reticular formation indicates a disruption of pain modulation and the sleep-wake rhythm, which is consistent with the symptoms reported by patients.[108]
The vaccine-induced spike is once again completely ignored, yet the result is very revealing.

Small Fiber Neuropathy (SFN)
It is a disease that affects the small, thinly myelinated or unmyelinated nerve fibers. These nerve fibers are responsible for the perception of pain and temperature as well as for autonomic functions. The causes of SFN are varied and can be divided into three main categories: acquired causes, genetic causes and idiopathic (unknown) causes.

The main causes are diabetes mellitus and other glucose metabolism disorders, autoimmune diseases, infections, intoxications, vitamin deficiencies (B12, B1, B6, E), chronic kidney diseases and medications, as well as mutations in the SCN9A gene (this gene encodes sodium channels that are involved in pain processing). The cause often remains unknown.

What is new is the connection with mod-mRNA injection, whereby the pathophysiology can best be explained by epitope homologies to the spike protein (molecular mimicry) and microperfusion disorders.

4.2.14 Kidney Diseases

There are reports of new onset or worsening of glomerular disease following COVID-19 "vaccinations". According to the available literature, the most common forms of COVID-19 vaccine-associated glomerular disease are IgA nephropathy (IgAN) or minimal change disease (MCD). Other diseases such as membranous nephropathy, antineutrophil cytoplasmic antibody-associated vasculitis, antiglomerular basement membrane disease, and IgG4 kidney disease have also been described.[109,110]

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[106] Sprecher KE et al. (2017) Poor sleep is associated with CSF biomarkers of amyloid pathology in cognitively normal adults. Neurology. 2017 Aug 1;89(5):445-453. doi: 10.1212/WNL.0000000000004171. Epub 2017 Jul 5. PMID: 28679595; PMCID: PMC5539733.

[107] Plog BA et al. (2018) The Glymphatic System in Central Nervous System Health and Disease: Past, Present, and Future. Annu Rev Pathol. 2018 Jan 24;13:379-394. doi: 10.1146/annurev-pathol-051217-111018. PMID: 29195051; PMCID: PMC5803388.

108 Ziaja Peter Christof et al. (2025) Brainstem Reduction and Deformation in the 4th Ventricle Cerebellar Peduncles in Long COVID Patients: Insights into Neuroinflammatory Sequelae and "Broken Bridge Syndrome", doi: https://doi.org/10.1101/2025.04.08.25325108 Preview

[109] Zohreh Jadali (2023) Renal Complications Following COVID-19 Vaccination, Urology Journal/Vol 20 No. 4/ July-August 2023/ pp. 281-282. DOI:10.22037/uj.v18i.7086

110 Nobuhisa Morimoto et al. (2023) Rapidly progressive IgA nephropathy with membranoproliferative glomerulonephritis-like lesions in an elderly man following the third dose of an mRNA COVID-19 vaccine: a case report, Morimoto et al. BMC Nephrology (2023) 24:108 https://doi.org/10.1186/s12882-023-03169-3

Acute interstitial nephritis (AIN) has been described several times following mod-mRNA injection.[111,112] This should be considered in cases of corresponding symptoms, pain, inflammatory markers, elevated serum creatinine, etc. The patients mentioned in the case reports generally responded well to cortisone.

In some cases, renal function remained impaired. At least one case of severe renal failure has been described, with an increase in serum creatinine levels up to 16.29 mg/dL, followed by hemodialysis. In this case, renal function remained unchanged after steroid administration. In another case, rhabdomyolysis with renal dysfunction occurred following the booster dose. As of November 2021, 386 cases of COVID-19 vaccine-related rhabdomyolysis had been reported to the Vaccine Adverse Event Reporting System (VAERS).[113] A connection with concomitant statin use cannot be ruled out.

5 Diagnostics for Suspected Post-VAC

Diagnosis of post-vac is particularly challenging in view of the wide variation in symptoms.

5.1 Anamnesis

In addition to the usual basic medical history, it is important to determine the exact time of the mod-mRNA injections, including the batch number, the time of onset of the symptoms and whether and, if so, which therapeutic measures have already been initiated. On the basis of the batch number, it can then be checked on relevant websites whether the batch used was one in which side effects occurred frequently.[114] Some batches had a 3000-fold higher risk of side effects.

The psychological anamnesis is also important, whether there were previous depressive disorders or dissociative disorders. The social anamnesis can provide decisive insight into the extent to which the corona measures such as lockdowns, losses in the social environment, problems at work could have played a role in the symptoms. For example, a *nocebo effect* in those affected who have undergone vaccination under relative compulsion should be considered.

The anamnesis of pain is of great importance, as pain is the highest level of suffering for the patients. It is medically and legally irresponsible if the anamnesis does not ask about the so-called "vaccinations", their batch numbers and the time interval between the injections and the symptoms that have occurred, and if these data are not accurately documented.

5.2 Physical Examination

In addition to the standard examinations such as blood pressure measurement, auscultation, visual inspection of skin and lymph nodes, the cardiac examination with ECG, if necessary with exercise and, in the case of unclear findings, echocardiography is part of the program. A chest X-ray may also be useful. It is important to have a neurological status, reflex status and clarification of whether sensory or motor dysfunctions are present. A repetition of the examination at intervals of several weeks is indicated to document changes.

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[111] Czerlau C, et al. (2021) Acute interstitial nephritis after messenger RNA-based vaccination. Clin Kidney J 15:174–176. https:// doi. org/ 10. 1093/ ckj/ sfab1 80

[112] Choi JH et al. (2022) Two adolescent cases of acute tubulointerstitial nephritis after second dose of COVID-19 mRNA vaccine. Hum Vaccin Immunother 18:2059308. https:// doi. org/ 10.1080/ 21645 515. 2022. 20593 08

[113] Kendra Unger et. al., (2022) A Possible Case of COVID-19 Booster Vaccine–Associated Rhabdomyolysis and Acute Kidney Injury, Journal of Pharmacy Technology 2022, Vol. 38(4) 247 –250,

[114] How Bad is My Batch, https://knollfrank.github.io/HowBadIsMyBatch/HowBadIsMyBatch.html

5.3 Laboratory Tests

Standard laboratory tests are initially sufficient for a general overview: BSR or CRP, complete blood count, liver enzymes, Blood sugar, albumin, creatinine, coagulation status and urine test strips for protein.

5.3.1 Symptom Related Laboratory Tests

Depending on the symptomatology, further laboratory tests should be performed:

- D-dimers as a biomarker for fibrinolysis in intravascular coagulation and hyper-fibrinolysis
- Electrolytes: Na, K, Ca in case of cardiac arrhythmias and/or suspected disorders of the acid-base balance
- Creatine kinase (CK) in muscular complaints, suspicion of myocardial infarction
- hs-troponin for suspected endocarditis, myocarditis or pericarditis
- LDH for suspected myocardial infarction or pulmonary embolism, differentiation of possible jaundice, suspected haemolytic anaemia and for the diagnosis of organ damage (quantitative isoenzyme determination)
- Serum electrophoresis – to determine the proportions of the different proteins (protein fractions)
- Anti-glomerular basement membrane antibody for suspected autoimmune glomerulonephritis
- Thyroid levels in case of suspected autoimmune thyroiditis / Graves' disease, e.g. in connection with the use of the Johnson&Johnson vector vaccine
- Pancreatic amylase and lipase in case of suspected pancreatic involvement
- Rheumatism factors, anti-nuclear antibodies, anti-nuclear factors in case of suspected rheumatic disease or autoimmune mechanisms
- Antiphospholipid antibodies (APA) for suspected autoimmune diseases, rheumatic diseases, phlebitis, pericarditis
- Vitamin status in case of clinically justified suspicion of deficiency symptoms

5.3.2 Special Laboratory Tests

If the suspicion of damage after mod-mRNA administration is confirmed, it should be clarified whether spike protein is still actively present in the body. It would make sense to determine the spike antigen in the plasma / serum, in addition to the virus nucleocapsid antigen in the plasma / serum. In July 2023, such tests are still at the experimental stage and are currently only offered by a few laboratories, for example by the *MMD laboratory in Magdeburg*.[115]

The much more complex biopsy with spike-AG / nucleocapsid-AG with immuno-histological staining, on the other hand, is already established but is only performed by a few pathologists in Germany (for example, Dr. med. Michael Mörz, Dresden and *INMODIA, Institute for Molecular Diagnostics of the MWGFD*[116]). See also Figure 2
In the absence of spike detection, it can be assumed that there is no mod-mRNA-related damage. If spike-AG is detected alone, this suggests a consequence of mod-mRNA injection, and if spike-AG plus capsid-AG is detected, a SARS-CoV-2 infection would also be conceivable as a cause.
A paper published in August 2023 shows the possibility of establishing a unique signature in mod-mRNA damaged individuals in peripheral blood based on the "double proline peptide" in the spike protein. In 50% of the subjects who received a mod-mRNA injection, the "double-proline" peptide could be detected up to 187 days after injection, but in none of the 20 control patients. The methodology is in

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[115] MMD GmbH & Co. KG | AT ZENITH II | Brenneckestraße 20 | 39118 Magdeburg | E-mail: labor@mmd-web.de | Website: www.mmd-web.de – +49 391 5353797 – Request order form by phone

116 https://inmodia.de/en/, +4985120425681

the pilot stage and seems promising.[117]

In the context of the investigation of CFS/ME after mod mRNA injection, the determination of angiotensin II type 1 receptor antibodies, alpha-2B adrenergic receptor antibodies and IL-6 seems to be useful.[118] See also 6.2.1.6
A rough quantitative estimation of the extent of micro-perfusion disturbance is possible with the determination of vascular endothelial growth factors (VEGF), whereby in the Post-VAC syndrome late phase, unlike in Long-haul COVID, there are usually significantly increased values. The elevated blood values indicate an increased formation of new blood vessels as a result of persistent endotheliitis.

In the case of many "possible" laboratory tests, some of which are pathophysiologically revealing, one should consider whether the results actually have therapeutic consequences, especially since some of the tests will not be paid by the patient's health insurance.

5.3.3 Hormonal Status

Indicated in case of suspected disorders of hormone production or the hypothalamic-pituitary-endocrine gland axis due to vascular effects, autoimmune mechanisms or deposition of pathogenic proteins. Thyroid levels in particular should be kept in mind, as thyroid dysfunction such as autoimmune thyroiditis or Hashimoto's thyroiditis occurred after the use of mod-mRNA injections, but also of the "vector vaccines".[119,120]

5.3.4 Infection Diagnostic, Virology, Bacteriology

Here, the procedure depends on the clinical complaints, the clinical findings and the laboratory findings. Depending on the clinical findings, special laboratory tests must be carried out. Wide-ranging tests are not very helpful and often create more confusion than goal-oriented help, especially since there are usually no therapeutic consequences.

5.3.5 Toxicological Tests

If toxic influences are suspected, targeted toxicological tests must be carried out depending on anamnesis and clinical findings. It should be remembered that patients may have been harmed by self-medication. Especially through "self-help groups", sometimes obscure therapies are taught, which often are applied without medical care.

5.4 Special Diagnostics

In the case of inconclusive findings, specialist examinations may be necessary.

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[117] Carlo Brogna et al., (2023) Detection of recombinant Spike protein in the blood of individuals vaccinated against SARS-CoV-2: Possible molecular mechanisms;

[118] Amelie Semmler et al. (2023) Chronic Fatigue and Dysautonomia following COVID-19 Vaccination Is Distinguished from Normal Vaccination Response by Altered Blood Markers, Vaccines 2023, 11, 1642.

[119] Jafarzadeh, A. et al. (2022) Thyroid dysfunction following vaccination with COVID-19 vaccines: a basic review of the preliminary evidence. J Endocrinol Invest. 2022 Oct;45(10):1835-1863. doi: 10.1007/s40618-022-01786-7. epub 2022 Mar 26. PMID: 35347651; PMCID: PMC8960081.

[120] Ruggeri R.M. et al. (2022) SARS-CoV-2 vaccine may trigger thyroid autoimmunity: real-life experience and review of the literature. J Endocrinol Invest. 2022 Dec;45(12):2283-2289. doi: 10.1007/s40618-022-01863-x. Epub 2022 Jul 12. PMID: 35829989; PMCID: PMC9277984.

5.4.1 Cardiac Examination

Given the frequency of cardiac damage after mod-mRNA injection, careful cardiac diagnosis is essential. Classical diagnostics here include:

- ECG, if necessary stress ECG, long-term ECG
- Echocardiography
- Chest x-ray
- hs-troponin in suspected myocarditis
- Cardiac-MRI with gadolinium mapping in suspected myocarditis.

Cardiac-MRI is now performed in all major medical centers and has been confirmed as diagnostic in suspected myocarditis.[121]

5.4.2 Neurological Examination

Neurological diseases have increased with alarming frequency since the beginning of genetic immunization experiments.

There are also indications of an increase in dementia. Numerous cases of relapses or recurrences of multiple sclerosis after Corona "vaccinations" have also been described, including initial manifestations.[122]

Another neurological problem that has been reported in connection with mod-mRNA injection (Comirnaty and Spikevax) is idiopathic facial palsy (Bell's palsy, BP). It is a sudden onset of facial paralysis or paresis resulting from inflammation of the facial nerve without a disease of the central nervous system. Here, too, autoimmune mechanisms and/or microcirculatory disorders are likely to be the cause. The symptoms can last for months.

Other GIT patients, especially younger ones, express symptoms similar to polyneuropathy. In addition to reflex status, testing of sensory and motor functions, nerve conduction velocity is revealing. Occasionally, the picture of small fiber neuropathy (SFN) appears. Here, the suspected diagnosis or the differential diagnosis to other triggering factors can be clarified by punch biopsy.

In the context of neurological examination, lumbar cerebrospinal fluid puncture with the acquisition of cerebrospinal fluid cells would be particularly useful in patients with central nervous system symptoms. CSF cytology with immuno-histochemical spike detection would be innovative and informative terms of differential diagnosis. The detection of spike protein in CSF cells without the presence of viral capsid antibodies in the serum would, as in the histological examination after biopsy of other tissues, prove damage caused by the mod-mRNA, whereby the lumbar puncture would be the much simpler procedure compared to a biopsy, especially since it could also be used to clarify other inflammatory changes in the CNS. This would be a further contribution to the differentiation between Post-VAC and Long-haul COVID and would also be instructive with regard to shedding diagnostics.

One of the few laboratories in the German-speaking world that carries out these tests is the *INMODIA, Institute for Molecular Diagnostics of the MWGFD*. Contact: *https://inmodia.de/en/*

5.4.3 Orthopedic Examination

In the case of peripheral osseous pain, joint discomfort, muscle pain, orthopedic clarification should be carried out as part of differential diagnostics. It is primarily about the exclusion of underlying orthopedic

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[121] *https://healthcare-in-europe.com/de/news/myokarditis-mrt-hat-hoechste-sensitivitaet-spezifitaet.html*

[122] *Ismail II et al. (2021) A systematic review of cases of CNS demyelination following COVID-19 vaccination. J Neuroimmunol. 2022 Jan 15;362:577765. doi: 10.1016/j.jneuroim.2021.577765. Epub 2021 Nov 9. PMID: 34839149; PMCID: PMC8577051.*

diseases and less about therapeutic measures such as "insole prescription".

5.4.4 Psychiatric Examination

The topic is difficult because, especially during initial medical contact, many patients with unclear symptoms of illness after the mod-mRNA injection are not taken seriously by the doctors they see. Consequences of an injection are generally denied by the doctors and a psychosomatic or mental illness is very quickly conjured up.

Accordingly, it can be difficult to determine actual mental illnesses in this context, although pre-existing depression, psychosis or familial mental illnesses could well play an important role. Social status would also have to be taken into account and the question of nocebo effects or primary or secondary disease gain.

5.4.5 Ophthalmological Examination

Ophthalmoscopic examination can indicate spike-related changes in the vessels at a very early stage. As is well known, the fundus of the eye is the "mirror of the blood vessels". The changes may affect arteries and/or veins in mod-mRNA-treated individuals. Papillary edema and visual field loss have also been described.

Ophthalmological diagnostics are therefore very important in the early clarification of a suspicion of damage after GIT or "vaccine damage", especially since there is a risk of blindness.[123]

5.4.6 Ear Nose Throat Examination

In the context of GIT, increased cases of tinnitus have been reported[124] and sudden deafness[125,126], possibly as a result of micro-perfusion disorders, thromboembolic processes or autoimmune reactions. In the case of corresponding symptoms, the ENT clarification is crucial, especially with regard to possible therapeutic measures.

5.4.7 IMPORTANT: Deceased Person with Suspected Harm from the mod-mRNA Injection

Since clarifying examinations of people who had died in temporal connection with the mod-mRNA injection or the vector vaccination had been rejected by the health authorities, and in some cases even prohibited, it is now all the more important that careful autopsies are carried out with targeted immuno-histochemical spike or capsid antigen proof, as the connections are becoming more and more obvious.[127]

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*[123] Li, J.X. et al. (2023) Risk assessment of retinal vascular occlusion after COVID-19 vaccination. npj Vaccines **8**, 64 (2023). https:// doi.org/10.1038/s41541-023-00661-7*

[124] Ahmed S.H. et al (2022) SARS-CoV-2 vaccine-associated-tinnitus: A review. Ann Med Surg (Lond). 2022 Mar;75:103293. doi: 10.1016/j.amsu.2022.103293. epub 2022 Jan 25. PMID: 35096388; PMCID: PMC8788157.

[125] Nieminen T.A. et al. (2023) Sudden Hearing Loss Following Vaccination Against COVID-19. JAMA Otolaryngol Head Neck Surg. 2023 Feb 1;149(2):133-140. doi: 10.1001/jamaoto.2022.4154. PMID: 36520464; PMCID: PMC9857204.

[126] Yanir Y et al (2022) Association Between the BNT162b2 Messenger RNA COVID-19 Vaccine and the Risk of Sudden Sensorineural Hearing Loss. JAMA Otolaryngol Head Neck Surg. 2022 Apr 1;148(4):299-306. doi: 10.1001/jamaoto.2021.4278. PMID: 35201275; PMCID: PMC8874902.

[127] Banoun H. et al. (2023) Why request an autopsy after the death of a person vaccinated with a messenger RNA "vaccine" against COVID-19? https://www.researchgate.net/publication/372365662_Why_request_an_autopsy_after_the_death_of_a_person_vaccinated_with_a_messenger_RNA_vaccine_against_COVID-19

Since there is a possible connection between mod-mRNA injection and protein misfolding or destruction of prion proteins, a histological examination of the brain, peripheral plexus and myocardium for amyloid plaques after Congo Red staining should be performed.

6 Therapy

Anyone expecting a well-structured catalogue of measures here will be disappointed. In view of the variety of damage caused by mod-mRNA in the bodies of individual sufferers, it is almost impossible to create a "classic guideline" that could be followed point by point. Although special tendencies can be identified, the individual symptoms are non-specific and usually influenced by a variety of factors.

Even in the "*AWMF S1 Guideline Long/ Post-COVID*" published by the *Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften* in Germany, in which the term "post-vac" does not appear, there are only vague recommendations on the partly similar symptoms of post-COVID and post-vac, but no causal therapy suggestions.[128] The different pathophysiology is not even discussed. Instead, the risks of mod mRNA injection are downplayed and side effects and late effects are assessed as rare or extremely rare.

Knowing the pathological changes, we must assume that post-vac syndrome is multifactorial. It can be assumed that the spike protein, which is formed in various body cells, triggers inflammatory processes (endotheliitis), especially in the endothelial cells of the blood vessels, and is thus the starting point for many subsequent reactions and complaints.

Furthermore, it may be that reactions of the immune system, which previously did not know such changes, lead to symptoms. In addition, the work of the immune system is often not successful, as the spike protein is produced continuously, so that exhaustion or incorrect reactions of the immune system can occur.
It may be that reduced blood flow in individual parts of the body, in tissues or organs, including thrombosis or embolism, leads to symptoms. This can result in organ-typical dysregulation.

It is also possible that the new types of protein or amyloid deposits lead to symptoms and that these also push the body's own regulation to its limits. Even prion mechanisms have been discussed and actually proven. In this context, it would be conceivable that cryoglobulins (abnormal proteins in the blood that show precipitation phenomena when cooled) are formed, which then trigger Raynaud's symptoms (cold-induced feeling of cold, pain, abnormal sensations and color changes in the fingers).

As if this were not enough, additional problems can arise from the nano-lipids that surround the mod-mRNA as a protective shell. It is not clear what interactions they have with normal endogenous lipids, when and how they are degraded, and what effect they have in the long term.

And finally, studies of vaccine sera have also found so-called plasmids, which are DNA building blocks that originate from the production process of mod-mRNA and contain the blueprint for the spike protein. Whether inadequately cleaned or intentionally left remains to be seen. However, these DNA fragments can ultimately trigger transcription into mRNA and translation into spike protein.

The therapeutic approach is different depending on the stage in which the patient is. Therefore, we distinguish between therapeutic measures in the early and later stages.

6.1 Early Stage

In the early stage, i.e. in the short term after the injection of the mod-mRNA, the question arises: Could the vaccination reaction / immune reaction be stopped? The answer is no, at least at this stage of research.
Even if it were possible to produce a monoclonal antibody against spike protein, for example, in the

[128] *https://register.awmf.org/assets/guidelines/020-027l_S1_Long-Post-Covid_2024-06_1.pdf*

short term, there would be hardly any change in the pathomechanisms involved. The immune system would intervene one "step" later with corresponding autoimmune effects.
At present, in this phase, the immune response can only be influenced by corticosteroids and possibly antihistamines and anti-inflammatory drugs. A healing therapy is therefore not possible.
The spike protein produced cannot be specifically removed from the body. Methods of apheresis may have delivered a certain subjective success in individual cases, but the logical link to the mechanism of action is missing. Most notably, how is spike protein to be reached outside the bloodstream in this way? In addition, spike production seems to be continuing for a long time.
In the early phase, there were considerations to limit the effects of spike production, for example by drug-based competitive displacement of the S1 Spike subunit from the ACE2 receptor. However, several randomized controlled clinical trials have shown that ACE inhibitors and angiotensin receptor blockers (ARB) can even worsen clinical symptoms. In this respect, their use is not advisable, especially since the autoimmune mechanisms are not receptor-dependent.[129,130]

6.1.1 Degradation of mod-mRNA

The LNP-coated mod-mRNA fuses with the cell surface, the mRNA stabilized with N1-methyl-pseudouridine enters the cell and causes spike protein production. It can be assumed that it can also be distributed in the body via exosomes as mod-mRNA. Since it is stabilized by N1-methyl-pseudouridine, it is only degraded with a delay by the ubiquitously present RNases.
Theoretically, mod-mRNA shedding (4.1.5) via mucosal surfaces is conceivable.
It is unclear whether LNPs can be distributed by exosomes and whether this has a damaging effect. A transport via exosomes can at least be assumed.[131] Furthermore, it can be assumed that the DNA plasmids detected as impurities in the "vaccine" can be distributed by exosomes.

Most research suggests that the mod-mRNA can persist in the body for a few weeks.[132] The original statements of the manufacturers that the "vaccine" disappeared from the body after days were clearly false.

Although the degradation of the stabilized mod-mRNA is delayed, it ultimately follows the metabolic pathway of all nucleic acids. RNAses dissolve the ribose compounds. Monomers or oligomers are formed, which can usually be used for the re-synthesis of RNA. Whether "atypical" mono- or oligomers containing N1-methyl pseudouridine are formed and whether these are further utilized is not known and not investigated. When completely degraded, uric acid is produced as the end product. It is not possible to exert a direct influence to accelerate the degradation. Therapeutic approaches to this are currently lacking.

6.1.2 Degradation of the Spike Protein, Nattokinase

Summarized the crude mechanism of spike protein formation and the reactions of the organism to it:

After mod mRNA injection (e.g. with BioNTech/Pfizer or Moderna) against SARS-CoV-2, a complex reaction starts in the body. The mod mRNA is taken up by the body's own cells. These cells then produce the encoded spike protein. The spike protein is presented on the cell surface or released in small quantities. The immune system recognizes this spike protein as foreign. B cells are activated and

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[129] Lee M.M.Y., McMurray J.J.V. (2023) Lack of benefit of renin-angiotensin system inhibitors in COVID-19. JAMA. 2023;329(14):1155-1156. doi:10.1001/jama.2023.4405

[130] Writing Committee for the REMAP-CAP Investigators (2023) Effect of Angiotensin-Converting Enzyme Inhibitor and Angiotensin Receptor Blocker Initiation on Organ Support-Free Days in Patients Hospitalized With COVID-19: A Randomized Clinical Trial. JAMA. 2023;329(14):1183–1196. doi:10.1001/jama.2023.4480

[131] M. Maugeri, et al. (2019) Linkage between endosomal escape of lnp-mrna and loading into evs for transport to other cells. Nature communications, 10(1):4333, 2019.

[132] Castruita, J.A.S. et al. (2023) SARS-CoV-2 spike mRNA vaccine sequences circulate in blood up to 28days after COVID-19 vaccination. APMIS. 2023 Mar;131(3):128-132. doi: 10.1111/apm.13294. epub 2023 Jan 29. PMID: 36647776; PMCID: PMC10107710.

differentiate into plasma cells that produce specific antibodies against the spike protein. These antibodies bind to the spike protein when it is freely present in the tissue or blood. An immune complex (antigen-antibody complex) is formed.

The body eliminates the immune complexes through several mechanisms:
- Macrophages (phagocytes) and other phagocytes recognize the complex via Fc receptors.
- The complexes are phagocytosed, i.e. "eaten", and degraded intracellularly in lysosomes.
- Both the spike protein and the antibody are enzymatically decomposed.
- Small fragments can be presented via the MHC-II pathway, which further strengthens the immune response (memory formation).
- The degradation products (amino acids, peptides) are partly recycled.
- Others are excreted via the kidneys and liver (e.g. as urea, creatinine).

Immune complexes in too large numbers can in principle lead to inflammation (e.g. through complement activation). The immune reaction ensures memory cells that react more quickly when they come into contact again.

The spike protein is modified with proline on two nucleosides at residues 986 and 987, whereby this modification delays cleavage by proteases. The spike should be able to have an immunogenic effect for as long as possible, according to the underlying way of thinking.

Part of the spike protein formed is broken down into smaller peptides in the cell by the proteasome. These fragments are then presented via the MHC-I pathway, activating cytotoxic T cells. Another part of the spike protein can be released into the extracellular space or packaged into extracellular vesicles (EVs).[133] This could further enhance the immune response by activating dendritic cells, or B cells, that induce antibodies against the spike protein.
It was assumed that the half-life of the spike protein is relatively short, so that it is removed from the body within a few days to weeks. However, almost all studies suggest that the spike protein persists for a long time, whether through permanent new formation or delayed degradation.

Nattokinase
Nattokinase, which is recommended by some doctors in this context for the cleavage of spike protein, and lumbrokinase, which is supposedly established in China as a fibrinolytic agent, should be viewed critically.
The recommendations for nattokinase are based on in vitro studies[134,135], according to which nattokinase can cleave spike protein, but from which in vivo success cannot be deduced. In addition, the fibrinolytic activity of nattokinase, actually a serine protease with 362 amino acids, is lower than that of the tissue-specific plasminogen activator (T-PA) or urokinase.

Of course, a protease will break down proteins, that is its enzymatic task, and that is what it will do in the test tube. But that is by no means proof that this also happens in the body, because for this to happen, the protease must first enter the body - and if it is to cleave the spike protein, it must first reach it.

There is a study (financed by the manufacturer for enzyme preparations) for bromelain[136] that shows that peptides and larger protein molecules occasionally pass through the mucous membrane barrier of the gastrointestinal tract. This is most likely the case when the intestinal wall barrier is functionally impaired, which could actually happen both with β-coronavirus infections and after mod-mRNA

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[133] U. Kämmerer et al. (2024) Biontech rna-based covid-19 injections contain large amounts of residual dna including an sv40 promoter/ enhancer sequence. science. Public Health Policy and the Law, 5:2019–24, 2024.

[134] Tanikawa, T. et al. (2022) Degradative Effect of Nattokinase on Spike Protein of SARS-CoV-2. Molecules. 2022 Aug 24;27(17):5405. doi: 10.3390/molecules27175405. PMID: 36080170; PMCID: PMC9458005.

[135] Liu J, et al. (2022) Rapid Degradation of SARS-CoV-2 Spike S Protein by A Specific Serine Protease. Molecules. 2022 Mar 14;27(6):1882. doi: 10.3390/molecules27061882. PMID: 35335246; PMCID: PMC8954242.

[136] Lorkowski G. (2012) Gastrointestinal absorption and biological activities of serine and cysteine proteases of animal and plant origin: review on absorption of serine and cysteine proteases. Int J Physiol Pathophysiol Pharmacol. 2012;4(1):10-27. Epub 2012 Feb 28. PMID: 22461953; PMCID: PMC3312459

injection. Other orally administered serine and cysteine proteases of plant and animal origin can therefore enter the blood and lymph in small quantities. It is assumed that the absorption rate is up to 3-5%. However, the proteases in the blood are quickly deactivated by so-called anti-proteases and, as foreign proteins, they are immediately destroyed by our innate immune system. The fact that there is no pronounced immune reaction after oral ingestion of nattokinase suggests that this protease is actually digested and utilized as mono- or oligopeptides, like any protein ingested with food.

We should remember streptokinase (used as a thrombolytic in the 1960s), which was completely ineffective orally, but after an injectable form was available and used, repeated use led to serious immune reactions, including allergic shock.
There is no injectable form of nattokinase, however. As with streptokinase, allergic reactions must be taken into account when used intravenously. So far there is no plausible explanation for the effect of nattokinase. The use of bromelain, a cysteine protease derived from pineapple, should be viewed in a similar way.

There is currently no scientific justification for the use of proteases for the purpose of spike cleavage or destruction. The effects of n-methyl-pseudouridine-modified mRNA injection are far too diverse to even consider proteolytic therapies to be useful. The K986P and V987P modifications (the so-called 2-proline mutation) stabilize the spike protein in a prefusion conformation, making it more difficult to cleave it proteolytically to remain it immunogenic for longer. These modifications are deliberately chosen to (hypothetically) achieve a more effective antibody response.

In addition, it is now assumed that the spike protein is actually also transported in the body via extracellular vesicles (EVs) / exosomes, which may play an additional role in its stability.[123] EVs can protect proteins from enzymatic degradation and transport them to other cell compartments or tissues.

The main focus is on the production of the toxic spike protein, but there is also the production of junk proteins as a result of a possible frameshift in mRNA reading, and furthermore as a result of additional genetic codes via the plasmid contamination of many "vaccine batches".

The theoretical splitting of all these foreign proteins into smaller fragments carries the risk of expanding the immunological attack surfaces and would very likely contribute to overloading the immune system, and neurotoxic effects cannot be ruled out. Amyloid deposits should also be considered.

6.1.3 Removal of Lipid Nanoparticles (LNP)

A cationic lipid consists of 3 parts

- pole head (the charged part)
- greasy hydrophobic tail (the lipid part)
- bond connecting the two parts above (either an ester or an amide bond).

The body's own enzymes attack the ester or amide bond and break it down. The cationic lipid breaks down into a charged head and a lipid tail. The question is how quickly this degradation occurs. The reverse reaction of esterification is acid ester hydrolysis. After the ester cleavage of ALC-0315, the doubly de-esterified metabolite still has a cationic effect and is lipophilic ionizable. Further metabolism is carried out by glucuronidation and subsequent excretion in the urine. Nevertheless, larger amounts of ALC-0315 were still found in the liver two weeks after administration. SM-102 and its breakdown products are excreted more quickly through the kidneys and bile.[137]

It is now clear that the cationic lipids remain in the body for up to 6 weeks and cause damage during this time. In particular, degradation and excretion of ALC-0315 are delayed, with 60% of the initial dose

[137] *Jörgensen A. M. et al. (2023) Biodegradable Cationic and Ionizable Cationic Lipids: A Roadmap for Safer Pharmaceutical Excipients https://doi.org/10.1002/smll.202206968*

being concentrated in the liver and organ damage is to be expected there.[138] With this metabolic pathway, it should also be kept in mind that other pollutants that generally have a negative effect on enzyme activities, such as glyphosate, can have a synergistic effect.[139]

Direct removal of the LNP is probably not possible, as most LNP mRNA particles attach to a cell surface relatively quickly. Therefore, the approach of H.E.L.P. apheresis or lipoprotein apheresis does not correspond to the logic, especially since there are no specific absorbers for LNP.[140]

6.1.4 Spike and Thromboembolic Complications

Here, the clinically proven procedures are most likely to be used, low-dose ASA, possibly anticoagulation with the anticoagulants commonly used today.

From some studies, a fibrinolytic and thrombolytic effect of **nattokinase** can actually be derived, although it is unclear which metabolites take effect here after the digestion process. Since thromboembolic processes are frequently detected in post-vac patients, especially in the early phase after the mod mRNA injection, nattokinase would be most likely to be used under this aspect. However, there is no indication from the studies that natto is superior to standard therapy with low-dose acetylsalicylic acid (ASA), only a warning from the “Arznei-Telegramm” of 2011 about a possible increased risk of bleeding when combining nattokinase with ASA or phenprocoumon.

There are no prospective clinical trials for **VITT**. Therapeutic recommendations are based on experience with HIT2 and non-heparin-induced autoimmune thrombotic thrombocytopenia. Heparin administration in VITT appears to worsen the problem, so anticoagulation with heparin or low molecular weight heparin (LMWH) should be avoided.

The therapy takes place mainly in the clinic. Intravenous immunoglobulin replacement therapy, IVIg is an important part of therapy, as in the case of congenital and acquired immunodeficiencies, with careful monitoring because of the risk of new clots during therapy. Otherwise, direct oral anticoagulation and/or parenteral direct thrombin inhibitors may be considered. ASA should be avoided for treatment. It is not effective in preventing platelet activation by HIT antibodies and can thus increase the risk of bleeding. Plasmapheresis is also used. For the family doctor, as a rule, the continuation of oral anticoagulation remains for a limited time (3 months).

6.1.5 Myocarditis, Endocarditis, Pericarditis, Infarction

Usually, the symptoms require treatment in the hospital. CRP apheresis appears to have a beneficial effect on infarction-scar formation. However, almost all of the underlying studies point to a conflict of interest on the part of the authors.[141,142]
Regardless of this, infarction-specific treatment with coronary dilation or bypass surgery may be necessary.

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[138] Yu J, Zhang H, et al. (2017) Metabolomics revealed the toxicity of cationic liposomes in HepG2 cells using UHPLC-Q-TOF/MS and multivariate data analysis. Biomed Chromatogr. doi: 10.1002/bmc.4036. epub 2017 Jul 17. PMID: 28664536.

[139] Using the example of polyethylene glycol (PEG), an important component of LNP, the excretion of LNP can be addressed at least to some extent. After oral ingestion, excretion of unabsorbed PEG occurs predominantly via the faeces. Here, a shedding mechanism would be conceivable. After parenteral intake, elimination occurs mainly via urine. Low molecular weight PEGs are metabolized to low

[140] PRESS RELEASE OF THE MEDICAL SERVICE BUND Berlin/Essen, 27 April 2023 Treatment of long and post-COVID: No evidence of benefit of H.E.L.P. apheresis ("blood washing") and hyperbaric oxygen therapy

[141] The patient must live with reduced cardiac performance, take it easy. Long-term effects such as damage to the heart valves can only be detected by regular check-ups.

[142] Ries, W. et al. (2021) C-Reactive Protein Apheresis as Anti-inflammatory Therapy in Acute Myocardial Infarction: Results of the CAMI-1 Study. Front Cardiovasc Med. 2021 Mar 10;8:591714. doi: 10.3389/fcvm.2021.591714. PMID: 33778017; PMCID: PMC7988098.

6.1.5 Immuno-stimulation / Immuno-inhibition

A large part of the symptoms after the mod-mRNA injection seems to be the result of a pronounced exaggerated immune response. Immune stimulants are logically likely to intensify this symptomatology. Therefore, in the acute phase, immuno-suppressive substances such as glucocorticoids are more indicated. The use of immuno-stimulatory substances such as β-glucans in the acute phase after administration of the mod-mRNA is unlikely to make much sense. On the other hand, its use in the late phase can be considered.

6.2 Late Stage

A completely different approach emerges in the late phase after the mod-mRNA injection, i.e. after a period of about 4 - 6 weeks. The body will usually try to repair itself the damage manifested in the wake of the "vaccination". It is necessary to support the body in the best possible way in the repair processes. It is important to consider the individual initial situation of the patient. An underweight patient who has continued to lose weight as part of the damage is to be treated differently than, for example, an overweight patient who may be afflicted with metabolic diseases. All in all, these can only be individual therapy attempts in which close medical care is recommended. Long-term support is essential.
In general, care must be taken to ensure that synergistic interactions with other pollutants (glyphosate, herbicides or pesticides) or with drugs are recorded and taken into account in the therapy. A topic that is currently receiving little attention.

In the meantime, there are many colleagues who dedicate themselves to the late-stage treatment of post-vac syndrome, with varying success. The often practiced polypragmacy, i.e. the concept-less use of a wide variety of therapeutics and methods, should be viewed critically, especially since the costs incurred are usually not covered by health insurance companies. Scientific studies on the evidence of the treatments are still lacking. It must be clear to everyone that the use of 20 or more substances in the context of a therapeutic intervention ultimately does not allow any statement to be made about the effectiveness of the individual substances. It doesn't matter whether it's classic medications, vitamins or dietary supplements.

6.2.1 Symptom-related Therapy

6.2.1.1 Endothelial damage

As long as spike production continues in the body, it is almost impossible for the body to repair the endothelial damage in the vessels. It does not matter whether the sustained spike protein production is due to repeated administration of the mod-mRNA (booster), the result of an incorporation of the genetic code for the spike into the genome after reverse transcription, or via plasmid impurities. If spike production continues, we can only hope that the body's own repair mechanisms will heal over long time.
Currently, there are no targeted therapeutic approaches.

In principle, the body is able to break down and renew the destroyed endothelia by autophagy (autophagocytosis), as in normal cell turnover, and, at least as far as micro-perfusion is concerned, to create new capillaries. In a healthy body, autophagy ensures a balance between the degradation of old cell components and the production of new cells or cell organelles.[143]

Fasting or reduced food intake, especially reduced protein intake, stimulates autophagy. This may lead to an approach to accelerate the healing of endothelial damage, always taking into account the overall condition of the patient.
Spermidine, a biogenic polyamine, is found in whole grains or wheat germ, matured cheese,

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[143] *Kaufmann, A., Wollert, T. (2015) Autophagocytosis: the multifunctional recycling system of the cell Research Report (imported) - Max Planck Institute of Biochemistry.*

mushrooms, soy products and legumes, enhances autophagy and offers a therapeutic approach in this respect.[144] It is commercially available as a dietary supplement. Other substances also seem to have a beneficial influence here: flavonoids such as quercetin and other polyphenols such as resveratrol (both are dietary supplements), even coffee, and even metformin, a diabetes drug, can influence autophagy signaling. It makes sense to focus on one or two substances. The simultaneous use of many different possible active ingredients is not recommended.

In Post-VAC syndrome, in contrast to SARS-CoV2 infection or Long-haul COVID, the competitive blockade mechanisms of receptors such as ACE2 or neuropilin are likely to play a subordinate role, because the autoimmune process takes place primarily on the surfaces of the spike-producing cells, independent of the receptor. The use of *sartans* and *statins* should therefore be viewed rather critically. Their use would most likely be justified in the case of a mod-mRNA-induced increase in blood pressure. But even here, studies showed rather negative effects (6.1). The use of statins also carries the risk of muscle damage (rhabdomyolysis), which would be difficult to delineate in the context of the overall pain syndrome in post-vac patients.

6.2.1.2 Disturbance of Microcirculation

As already discussed, a large part of the complaints in post-vac patients are likely to be caused by microcirculatory disorders, although in post-vac these are not simply rheological in nature, but are caused by multiple **mechanical** factors: endotheliitis and thrombosis as a result of spike production in the endothelia with a corresponding immune reaction, thereby destruction of the glycocalyx of the vascular walls with increased permeability of the same for blood and blood components up to dissection of the vascular wall. This results in a chain reaction within certain organ areas up to the peripheral nerve fibers in small fiber neuropathy.
The situation is apparently exacerbated by autoimmune mechanisms in the sense of molecular mimicry, i.e. an attack of the primarily spike protein-oriented immune mechanisms on homologous surface features of other proteins along with the deposition of dysfunctional proteins (amyloid).

Even small-fiber neuropathy (SFN), a disease of the peripheral nervous system due to isolated or predominant damage to thinly myelinated Aδ-fibers and / or unmyelinated C-fibers, appears to be primarily caused by micro-perfusion disorders and / or direct immune mechanisms.

When there is not enough oxygen available in the tissues, for example due to a micro-perfusion disorder, the cells produce a hypoxia-induced factor (HIF), which induces, among other things, the release of Vascular Endothelial Growth Factors (VEGF), a group of signaling molecules that promote vasculogenesis, i.e. the formation of vessels / capillaries.
VEGF also promotes the production of nitric oxide (NO) in the vascular wall, which in turn leads to vasodilation and improvement of tissue blood flow, but also to a drop in blood pressure. The body thus reacts to the effects of endotheliitis. By the way, VEGF can be measured in serum, which makes it possible to estimate the approximate extent of micro-perfusion disorders. But beware: Overexpression of the angiogenesis factor VEGF is also found in some malignant tumors as a sign of the formation of new blood vessels for the nutrient supply of the tumor.

In addition to the promotion of repair mechanisms through autophagy, measures that improve microcirculation can be considered. In a sufficiently agitated muscle, capillaries can re-form if necessary. Capillary training, such as intermittent hypoxia-hyperoxia therapy (iHHT), can be helpful here in the long term; also altitude training or training with a special mask. All this only makes sense if continuous production of Spike is excluded. And here, too, it is necessary to take into account the general condition of the patient. Excessive exercise often causes more harm than good. For pacing, see 6.2.1.6

Hyperbaric oxygen therapy (HBO) in the hyperbaric chamber offered by some centers may reduce ischemic reperfusion damage, but is unlikely to be helpful in Post-VAC syndrome, even considering the cost-benefit analysis.

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[144] *Hofer, S.J. et al. (2022) Mechanisms of spermidine-induced autophagy and geroprotection. Nat Aging **2**, 1112-1129 (2022). https://doi.org/10.1038/s43587-022-00322-9.*

Pentoxifylline, a xanthine derivative that allegedly improves the rheological properties of blood, is considered controversial, but is nevertheless recommended by some authors. However, there is no proof of its effectiveness.

6.2.1.3 Thromboembolic Complications in the Late Stage

Even in the late stages, anticoagulant drugs such as ASA may be useful for persistent thromboembolic complications. Their use has long been proven to improve blood flow and reduce coagulopathies. Whether long-term heparinization makes sense may have to be decided on a case-by-case basis, but it is generally not recommended. In VITT, anticoagulation is usually carried out orally for three months. For nattokinase, see 6.1.3

6.2.1.4 Neurological Sequelae, Polyneuropathy (PNP)

A large proportion of the complaints expressed by post-vaccine patients are of a polyneuropathic nature. The causal triggers are likely to be microcirculation disorders or direct autoimmune processes, and both are probably the case. At least, spike protein was also detected in nerve cells during histological diagnostics in living patients and post-mortem immunohistochemically.

Traditionally, vitamin B complex is used here, even in high doses, although its effectiveness has not been proven with certainty. At least there is hardly any risk of overdose. The B vitamins form a metabolic network. They can therefore be used as a complete complex - apart from exceptional diagnoses such as pernicious anemia. An immediate improvement in PNP symptoms is not to be expected, but an acceleration of the recovery of affected neurons and possibly also an improvement in pain symptoms. Vitamin B12 can also be used as a lozenge for this purpose, because it is better absorbed through the mucous membrane than through the gastrointestinal tract. This therapeutic attempt does not correlate with the B12 blood levels, so it can also be successful in individual cases with normal B12 levels.

Small fiber neuropathy (SFN) (see also 4.2.13) is a particular problem for post-vaccine patients because it has a particularly significant impact on the quality of life of those affected. Typical symptoms are painful paraesthesia, often starting in the feet and hands, abnormal sensations, tingling, pins and needles, and impaired sensation of cold and heat.

Conventional painkillers have almost no effect. One can try to interrupt the pain cycle using neural therapy or lidocaine patches on the pain site. A positive benefit-risk ratio for tricyclic antidepressants or calcium channel modulators such as gabapentin or pregabalin is questionable and without evidence. In particular, the side effects (dizziness, drowsiness, confusion) must be taken into account, which partly coincide with the primary symptoms in post-vac (6.2.1.6). In addition, the substances can sometimes cause severe withdrawal symptoms when tapering off again.

High-dose cortisone administration only seems to bring some success in the early stages. Immunosuppressants such as MTX, azathioprine or mycophenolate (Cellcept) are being used clinically on a trial basis, but should be viewed critically due to the side effects, especially since post-vac patients with SFN are usually younger and the long-term effects are unpredictable.

In the case of **idiopathic facial paralysis (Bell's palsy, BP)** in connection with the mod-mRNA injection, a therapeutic attempt with glucocorticoids is the main focus. Spontaneous healing usually occurs within months.

Treatment for **Guillain-Barré syndrome (GBS)** and **Transverse Myelitis (TM)** is usually performed in the hospital and will only be briefly mentioned here.
In **GBS** with mild to moderate symptoms, intravenous immunoglobulins (IVIG) are used therapeutically to neutralize autoantibodies and modulate the immune response, as well as plasmapheresis. Experimental and complementary therapies (2025) include complement inhibition (e.g., with Eculizumab) to specifically inhibit the complement cascade as a component of the autoimmune

response. Monoclonal antibodies against specific autoantibodies, such as ganglioside antibodies, are also being used experimentally.

In the clinical treatment of **TM**, depending on the cause, high-dose corticosteroids are often used in combination with plasmapheresis and immunoadsorption, intravenous immunoglobulins (IVIG) are also used. Improvement can sometimes be achieved in combination with antivirals or antibiotics.

6.2.1.5 Misfolded Proteins, Amyloid

As discussed in 4.2.3, Post-VAC syndrome leads to an increased deposition of misfolded proteins such as amyloid, especially in the central nervous system, but also in the myocardium, as histological studies have shown. There is currently no therapeutic approach. Despite the increasing number of Alzheimer dementia patients in recent years, a possible connection with the mod-mRNA vaccine is not being discussed.
There is currently no indication for the use of the overpriced drug Tafamidis, which is advertised by Pfizer in connection with transthyretin amyloidosis, in mod mRNA-related amyloidosis, especially since serious accidents or injuries have been registered under Tafamidis, mainly in connection with falls. A possible pathomechanism is not known. In addition, malignant tumors (mainly skin tumors) are observed more frequently.[145]

Monoclonal beta-amyloid antibodies (e.g. Donanemab, EU approval revoked at the end of March 2025 due to fatal side effects, Aducanumab – annual treatment costs of about 56,000 US dollars) caused a reduction in amyloid plaques (surrogate markers), but at best only slightly improvement in symptoms in dementia or Alzheimer's disease.[146]

The occasional claim that apheresis can wash out amyloid plaques is false. There are also no studies that prove that nattokinase, for example, could dissolve amyloid plaques.
The problem of misfolded proteins or destruction of prion proteins by spike antibodies after mod-mRNA injection may prove to be one of the most dramatic consequences of the so-called vaccination; the long-term consequences are not foreseeable.

6.2.1.6 Myalgic Encephalomyelitis / Chronic Fatigue, ME/CFS

ME/CFS is a chronic, complex disease that manifests throughout the system. The clinical picture has been known for a long time, but the pathomechanisms are still enigmatic.[147]

ME/CFS has long-term effects on important body functions comparable to multiple sclerosis, rheumatoid arthritis or heart failure. The hallmark of ME/CFS is persistent and unexplained fatigue. Those affected are severely disrupted in their daily routine. After physical or mental exertion, the symptoms worsen significantly, while comparable stresses before the disease were easily tolerated. In addition to intense fatigue, many patients report concurrent pain symptoms, cognitive dysfunction, dysautonomia and sleep disorders. Additional symptoms may include headache, sore throat, painful lymph nodes, muscle aches, joint pain, fever, mental health problems, allergies, and abdominal discomfort.

Treatment
There are no specific approved drugs to treat or cure ME/CFS. Some symptoms, especially sleep disorders and pain, can be improved by non-pharmacological therapies (such as sleep hygiene, massage, acupuncture, heat or cold packs) or herbal medications. All medications should be started at lower doses than usual and increased slowly. It was found that patients with ME/CFS are more sensitive to medication than the general population. Narcotics should be avoided.

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[145] *a-t-2020; 51: 67-8*

[146] *Pawlowski, M., Warnecke, T. (2022) Causal therapy of Alzheimer's disease: amyloid antibodies. Internal Medicine **63**, 1000-1008.*

[147] *https://www.cdc.gov/me-cfs/index.html*

Controlled therapeutic trials have demonstrated no significant benefit of acyclovir, fludrocortisone, galantamine, modafinil, and IV immunoglobulin for patients with ME/CFS, among others.

Dysautonomia
It (also called autonomic dysfunction) refers to a malfunction of the autonomic nervous system (ANS), the part of the nervous system that controls involuntary bodily functions. These include breathing, heart rate, blood pressure, digestion, temperature regulation, pupillary response, and other vital processes that normally occur automatically.

Dysautonomia is therefore not a separate disease, but rather a collective term for various disorders, e.g.:
- Postural tachycardia syndrome (POTS) – a sharp increase in heart rate upon standing
- Neurocardiogenic syncope – a sudden loss of consciousness due to dysregulation of heart rate and blood pressure
- Multiple system atrophy (MSA) – a neurodegenerative disease with severe autonomic dysfunction
- Diabetic autonomic neuropathy – nerve damage caused by diabetes
- Autoimmune dysautonomia – e.g. B. in certain autoimmune diseases

The following symptoms are summarized:
- Circulatory problems (e.g., dizziness, fainting)
- Cardiac arrhythmias
- Digestive disorders (e.g., gastroparesis)
- Temperature regulation disorders
- Pupil or sweating abnormalities
- Fatigue, sleep disorders, anxiety

Diagnosis:
- Tilt table test
- Heart rate and blood pressure measurements
- Sweat tests
- Neurological examinations

Treatment depends on the symptoms. Non-pharmacological measures, e.g., fluid intake, compression stockings, and physical exercise, are the primary focus; medications (e.g., to stabilize blood pressure) are used if necessary.

Post-Exertional Malaise (PEM)
Post-exertional malaise (PEM) is the worsening of symptoms after even minor physical, mental or emotional exertion. Sensory overload (light and sound) can also trigger PEM. Symptoms typically worsen 12 to 48 hours after activity or exposure and can last for days or even weeks.
Activity management, also known as *pacing*, can help balance rest and activity to avoid PEM flare-ups caused by exertion. To do this, patients must explore their individual limits of mental and physical activity and behave within these limits.

Sleep Disorders
Patients with ME/CFS typically sleep poorly and feel less rested after sleeping than before their illness. Common sleep complaints include difficulty falling asleep or staying asleep, extreme sleepiness, intense and vivid dreams, restless legs, and nighttime muscle cramps.

Many post-vaccine patients with CFS use the evening hours in particular to interact with other sufferers in social media forums and chat groups. This increases anxiety and even leads to psychological symptom transfer. The further the patient can mentally distance themselves from the symptoms, the better they can counteract them, which particularly affects sleep.

The focus of treatment is on improving sleep hygiene. It is recommended to maintain regular bedtimes and to create an optimized sleeping environment (quiet, dark, cool bedroom, approximately 16–18°C). Comfortable mattress and pillows), avoid blue light, i.e., avoid screen use (smartphone, laptop) at least

1 hour before bedtime or activate a blue light filter. Avoid heavy meals and stimulants in the evening. No caffeine or alcohol 4–6 hours before bedtime; prefer light evening meals.

Cognitive behavioral therapy for insomnia (CBT-I) is considered the gold standard for chronic insomnia. It includes:
- Sleep restriction: Targeted limitation of bedtime to increase sleep pressure.
- Stimulus control: Use bed only for sleeping (no television, work, or ruminating).
- Thought management: Techniques to reduce obsessive rumination and stress-related difficulty falling asleep.
- Relaxation techniques: Progressive muscle relaxation, breathing exercises, or meditation.

Regular exercise, especially walking, can improve sleep quality, but not directly before bedtime, but about an hour before. Daylight in the morning and throughout the day helps stabilize the body's internal clock and promote melatonin production in the evening.
Other options include relaxation and stress management, as well as other techniques: meditation, autogenic training, yoga, or tai chi may help calm the mind. Consistent sleep rituals are also important: Having a set routine before bed can signal to the body that it's time to shut down its activity.

Melatonin medications can be used to help you fall asleep. If this does not help, prescription sleeping pills can be used, starting with the smallest dose and for the shortest possible duration. It should be noted that sleeping pills such as zolpidem have a negative effect on the brain's clearing system, the so-called *glymphatic system*, which is active during sleep. Therefore some drugs may increase amyloid deposits and worsen the situation.[148]

Pain
People with ME/CFS often experience deep-seated, occasionally burning pain in muscles and joints, occasionally headaches (typically pressure-like) and skin pain, numbness to touch, and general restricted movement. The term *CRPS (Complex Regional Pain Syndrome)* describes the symptoms. It is a chronic pain syndrome that usually occurs rarely after injuries or surgeries.

First, simple painkillers such as paracetamol, aspirin, or ibuprofen should be tried. Other pain management methods include stretching and movement therapies, gentle massages, warmth, and toning exercises.

Depression, Stress and Anxiety
Many patients with ME/CFS develop depression during their illness. These should be treated. Some patients may benefit from antidepressants or anti-anxiety medications. However, medications used to treat depression have side effects that can worsen ME/CFS symptoms, therefore, the use of psychotropic drugs should be restrained.

Relaxation techniques such as autogenic training, muscle relaxation according to Jacobson, MBSR (Mindfullness Based Stress Reduction), massages and exercise therapies such as stretching, yoga and tai chi can reduce stress and anxiety and promote well-being.

Dizziness, Orthostatic Complaints
In case of dizziness or orthostatic intolerance, it may be helpful to increase daily fluid and salt intake.

Memory and Concentration Problems
Occasionally, psychostimulants, typically used to treat attention-deficit / hyperactivity disorder (ADHD), are prescribed for concentration problems. Some patients with ME/CFS benefit from these and can improve concentration problems, while others can trigger a "push-and-crash" cycle and worsen symptoms. "Push-and-crash" cycles occur when patients try to do more than they would normally, only to experience a breakdown afterwards.

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[148] *Natalie L. Hauglund et al. (2025) Norepinephrine-mediated slow vasomotion drives glymphatic clearance during sleep, doi: 10.1016/j.cell.2024.11.027*

Diagnostic Distinction
According to a study from August 2023, there are indications that chronic fatigue syndrome in the context of post-vac disease can be differentiated from CFS/ME of other causes.[149] In the aforementioned study, this fatigue syndrome is therefore referred to as *post-acute COVID-19 vaccination syndrome (PACVS)*. Compared to mod mRNA "vaccinated" patients without symptoms, the serological vaccine response was significantly altered in PACVS, potentially allowing a distinction from the normal state after "vaccination" and other etiologies of CFS/ME. In particular, this would make it possible to differentiate from CFS/ME in long or post-COVID. There were increased angiotensin II type 1 receptor antibodies, decreased alpha-2B adrenergic receptor antibodies and increased IL-6. The conclusion is that PACVS can be considered a somatic syndrome that can be distinguished by diagnostic blood markers.

6.2.1.7 Musculoskeletal disorders

Post-vac-related inflammatory diseases of the musculoskeletal system have now been confirmed by studies. The symptoms are manifold and particularly affect the tendon insertions and muscles. Therapy is symptomatic, often protracted. Anti-inflammatory drugs and analgesics are usually not helpful. Heat / cold respond in individual cases, but usually only temporarily. In the hope that the body's own spike production will limit itself over time, time is seen as a healing factor. Careful training is advantageous in individual cases. See also 4.2.13
An uncommon clinical picture after mod mRNA injection is neuralgic amyotrophy (NA, parsonage-Turner syndrome) or brachial neuritis. It is a painful peripheral neuropathy with a monophasic course that is accompanied by severe paralysis, mainly affecting the upper extremities. NA is also described as a rare clinical picture after other vaccinations, including the zoster vaccination. Non-steroidal anti-inflammatory drugs usually do not have a pain-relieving effect, but cortisone does. By the end of April 2021, there had been at least 5 reports in Germany.

6.2.1.8 Nephropathies

In "vaccine-induced" IgA nephropathy, ACE inhibitors or AT1 receptor blockers (sartans) are used to lower blood pressure and reduce proteinuria, as well as corticosteroids and occasionally immunosuppressants such as mycophenolate.
In acute interstitial nephritis, the underlying cause should be treated, so in the case of a post-vaccine episode, further booster injections should be avoided. Glucocorticoids are used in severe or protracted cases. In severe acute renal failure, temporary dialysis is required.

6.2.2 General Therapeutics

6.2.2.1 Therapeutics for Strengthening

As for many chronic diseases, there are various basic programs for Post-VAC to improve body condition. Many of these therapies are empirical, partly come from homeopathy and have generally proven effective for physical weakness and weakness of the immune system. Often it is a targeted substitution with vitamins and micronutrients after appropriate laboratory tests. See also 6.2.3.2

Vitamin C is often used, in high doses orally (1 to 2 grams daily), occasionally also intravenously (up to several grams daily). Caution in case of overdoses, because the risk of calcium oxalate stones in the urinary tract is increased! B vitamins are used after appropriate laboratory diagnostics, for example B12 or B1 (thiamine), or as a complex, phytopharmaceuticals such as milk thistle, dandelion, artichoke for elevated liver values, as well as magnesium, zinc and selenium, if deficiency symptoms are present here. Here, too, polypragmatism should be avoided and a healthy, varied diet should be preferred.

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149 Amelie Semmler et al. (2023) Chronic Fatigue and Dysautonomia following COVID-19 Vaccination Is Distinguished from Normal Vaccination Response by Altered Blood Markers, Vaccines 2023, 11, 1642. https://doi.org/10.3390/vaccines11111642

Vitamin D in combination with vitamins A and K has proven to stabilize the immune system. Omega-3 fatty acids (3 grams per day) are considered important for stabilizing cell membranes and mitochondria, along with turmeric and ginger as an anti-inflammatory therapy, as well as so-called cofactors of the respiratory chain such as coenzyme Q10, biotin, creatine and carnitine. All these substances are freely available dietary supplements. However, they only should be used in consultation with the treating physician.

For the use of substances such as chlorine dioxide, we do not have valid results with regard to specific indication and dosage in GIT.[150,151]

6.2.2.2 Support of the Microbiome

In the maturation of the child's immune system, the **Peyer's patches** of the small intestine (connected clusters of 10 to 50 lymph follicles) play a central role in the interaction with the developing microbiome. The Peyer's patches contain specialized cells (e.g., M cells) that continuously absorb antigens (e.g., components of bacteria, viruses, food) from the intestinal contents and present them to the immune system; they thus serve to monitor the intestinal flora and food. In early childhood, immune cells in the Peyer's patches learn to tolerate harmless antigens such as food components or beneficial bacteria—a process known as "oral tolerance." This protects against unnecessary inflammation and later allergies or autoimmune diseases. When Peyer's patches encounter dangerous pathogens, they rapidly activate immune cells such as T and B lymphocytes, which then initiate a targeted immune response (e.g., the production of secretory IgA antibodies that protect the intestine). Furthermore, antigens are presented to naive immune cells in Peyer's patches. The activated cells migrate throughout the body and contribute to build the immune system's "memory repertoire." One could say that Peyer's patches are a kind of training camp and early warning system for the gut-associated immune system. They are particularly active during childhood because the immune system has to learn what is "normal" and what is "dangerous."

The intestinal microbiome, especially the *bifidobacteria* and *lactobacilli*, but ultimately also all other intestinal germs, therefore have a significant and complex influence on our body's immune effectors from early childhood. The importance is evident in the bidirectional axes such as *gut-brain axis*, *gut-lung axis*, *gut-skin axis*, and other compounds.

There is evidence that major gut bacteria are negatively affected by both COVID infection and mod mRNA injection, most likely in conjunction with environmental toxins such as glyphosate, which blocks the shikimate pathway through which phenylalanine, tryptophan, and tyrosine formation occurs, not only in plants but also in our microbiome.[152] This can result in a deficiency of these essential amino acids with multiple effects up to reduced serotonin and melatonin production in the central nervous system.

In the case of post-vac victims, a *rough overview of the intestinal microbiome* with the question of whether sufficient bifidobacteria and lactobacilli are present is therefore useful. However, *extensive intestinal microbiome diagnostics* are **not** recommended because the significance of such examinations is low. The microbiome begins to develop intrauterine and is influenced by many factors until its "adult state" (type of delivery, breast milk, early childhood nutrition, nutrition in adolescence and adulthood). And even in a mature state, it is not stable, but is permanently adapted and changed depending on lifestyle, diet and habitat. Different ethnicities have distinct differences in the gut and skin microbiome.[153]
The damage to the microbiome as a result of the mod mRNA injections must rather be understood as a

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[150] Arellano-Gutiérrez G. et al. (2021) Intestinal perforation associated with chlorine dioxide ingestion: an adult chronic consumer during COVID-19 pandemic. Clin J Gastroenterol. 2021 Dec;14(6):1655-60. doi: 10.1007/s12328-021-01527-y

[151] Burke, D. et al. (2014) Acute Hemolysis Following an Overdose of Miracle Mineral Solution in a Patient With Normal Glucose-6-Phosphate Dehydrogenase Levels. Chest. 2014;146(4_MeetingAbstracts):273A; https://doi.org/10.1378/chest.1988668

[152] Stephanie Seneff GLYPHOSATE, DEUTERIUM AND COVID-19 March 16, 2021

[153] Sabu Thomas Editor (2022) Human Microbiome Clinical Implications and Therapeutic Interventions

disturbance of the individual balance within the personal microbiota. Testing for specific groups of germs with regard to normal values makes no sense. The effects on the intestinal virome (the intestinal bacteriophages) cannot be recorded at all.

Whenever damage to the microbiome is discussed, the term "**leaky gut syndrome**" comes up. In this syndrome, the barrier function of the intestinal mucosa is disrupted, allowing pathogens, such as bacteria, fungi, toxins, and incompletely digested particles, to enter the bloodstream from the intestine and trigger various diseases. There is no specific, standardized diagnosis for leaky gut syndrome. Functional tests such as the *lactulose-mannitol test* (urine) are diet-dependent and generally positive in intestinal infections (increased permeability, more lactulose in the urine). *Zonulin measurement* in blood and stool and *α-1-antitrypsin measurement* in stool are likely to be the most informative.
However, since therapeutic approaches (probiotics, prebiotics) are effective and free of side effects in cases of microbiome disorders such as leaky gut syndrome, they can also be used as a trial without complex diagnostics.

There is little knowledge about the effects on the other microbiomes of our body, for example on the ectocommensals, the **skin or mucous membrane microbiome**.[154] In a case study after mod-mRNA vaccination, spike protein could be detected in the excretory ducts of eccrine glands.[155] It is known that there are strong mutual relationships between the gut microbiome and the skin microbiome.[156] Therefore it can be assumed that this system is also influenced by the mod-mRNA in combination with other pollutants.[157] Some unvaccinated people claim that COVID vaccinated people with whom they are in close contact "smell" differently since vaccination, which could be an indication of an altered skin microbiome. However, there is a lack of studies on this. It makes sense to refrain from additional damage to these microbiome areas by disinfectants and/or cosmetics.
An influence on the mucosal microbiome is also to be expected.If vaginal candidiasis occurs more frequently, a controlled build-up of the vaginal flora should take place quickly after targeted antifungal treatment.

Prebiotics (substrates selectively used by host microorganisms) provide a selective nutritional base for these bacteria and can specifically influence the composition of the intestinal microbiota and rebuild it.

Probiotics, preparations containing living microorganisms such as lactobacilli (functional food), can also be used, for example, probiotic yoghurts.

A sensible diet, preferably without industrially produced ready-made products, preferably pesticide-free, fiber-rich food, raw vegetables, fermented vegetables such as raw sauerkraut, kimchi et cetera, natural yoghurt and β-glucan carriers such as mushrooms or oatmeal support the intestinal microbiome and thus contribute to healing.

6.2.2.3 Nutrition

The quality of nutrition has declined significantly in industrialized countries in recent years. In many households, mainly ready-made products or industrially produced food are used instead of freshly prepared, fiber-rich and vitamin-rich foods. This can be seen, among other things, in the increasing body weight of the population, as well as in the deterioration of the immune reactions against infectious diseases.
The increasing contamination of our nutrients with herbicides such as glyphosate and other pesticide residues seems to have a particularly dramatic effect here, as these substances permanently disrupt

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[154] Schommer N., Gallo R. (2013) Structure and function of the human skin microbiome; doi: :https://doi.org/10.1016/j.tim.2013.10.001

[155] Sano S. et al. (2024) SARS-CoV-2 spike protein found in the acrosyringium and eccrine gland of repetitive miliaria-like lesions in a woman following mRNA vaccination. J Dermatol. 2024 Apr 1. doi: 10.1111/1346-8138.17204. Epub ahead of print. PMID: 38558035.

[156] Szántó, M. et al., (2019) Targeting the gut-skin axis—Probiotics as new tools for skin disorder management? Exp. Dermatol., 28, 11, 1210–1218

[157] Puigbò P, et al. (2022) Does Glyphosate Affect the Human Microbiota? Life (Basel). 2022 May 9;12(5):707. doi: 10.3390/ life12050707. PMID: 35629374; PMCID: PMC9145961.

the intestinal microbiome.[158]

For the Post-VAC patient, a low-carb and ketogenic diet seems to be particularly effective as a temporary, but not a permanent measure, as it does for cancer, as it has a positive effect on the immune system, keeps calorie intake low, and is also rich in vitamins and micronutrients.[159] At the same time, the gut microbiome is stabilized, which has proven to be beneficial in healing Post-VAC damage. It is important to make sure that only foods are used that are not contaminated.
In our opinion, special forms of nutrition such as Paleo diets, vegan diets, gluten-free diets et cetera make little sense, especially since post-GIV patients almost always have deficiency symptoms of important vitamins and micronutrients anyway. In this sense, recommendations suggesting a gluten-free diet with the predominant use of spelt instead of wheat seem downright paradoxical, disregarding the fact that spelt is the grain with the highest gluten content.

6.2.3 Special Therapies

6.2.3.1 Apheresis, Plasmapheresis

The therapeutic idea of these expensive measures, which are usually paid for by the patient himself, is to remove spike protein and/or autoantibodies (AACs) from the blood after mod-mRNA administration. However, there are no specific absorbers for spike and AAC. As a result, a non-specific flushing of immunoglobulins usually occurs, which can lead to a weakening of the general immune system with an increase in susceptibility to infections. It can also be assumed that the production of AAC will not stop as a result. In this respect, the application must be assessed critically.

Apheresis with CytoSorb®, which is recommended at times, especially in severe COVID courses, but also in Long-haul COVID, which is intended to intercept cytokines from the blood, did not improve disease progression or mortality, but even increased mortality in patients with previous disease-related cardiac arrest.[160]

The HELP apheresis providers are spreading the thesis that LDL precipitation with heparin would also work with the spike protein, so that the spike protein could be removed.[161] However, some of the authors listed have conflicts of interest because they are patent holders. Reference is made to a study from 2021, according to which the thrombosis-inducing effect of the spike is based on the competitive binding to heparan sulfate.[162] Although heparin induces LDL precipitation in HELP apheresis and the absorbers are also designed exactly for the complex formed, it is only a guess that the absorbers also bind heparan-sulfate-bound spike. There are no studies on this, only ideas, speculations and hypotheses. From a purely technical point of view, a dextran-sulfate-cellulose adsorption (from whole blood) takes place in the absorber and/or polyacrylate adsorption, i.e. a direct adsorption of lipoproteins.

For all forms of apheresis/plasmapheresis: It only refers to blood components. The spike protein in the tissue or cells, where it is formed mod-mRNA-induced, is not reached by apheresis at all, therefore this therapy must be repeated constantly. This probably explains the at best brief clinical improvement of the symptoms in some patients after this apheresis.
Antibodies or autoantibodies are not removed in HELP apheresis. Autoimmune processes, if present,

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[158] Stephanie Senef, TOXIC LEGACY, How Weedkiller Glyphosate is Destroying our Health and the Environment

159 http://keto-bei-krebs.de/wp-content/uploads/2012/09/InfoBroschuereKetogen1011.pdf

[160] Becker, S. et al. (2023) Efficacy of CytoSorb®: a systematic review and meta-analysis. Crit Care 27, 215. https://doi.org/10.1186/s13054-023-04492-9

[161] Jaeger BR et al. (2022) The potential of heparin-induced extracorporeal LDL/fibrinogen precipitation (H.E.L.P.)-apheresis for patients with severe acute or chronic COVID-19. Front Cardiovasc Med. 2022 Oct 11;9:1007636. doi: 10.3389/fcvm.2022.1007636. PMID: 36304538; PMCID: PMC9592739.

[162] Yi Zeng et al. (2021), SARS-CoV-2 spike protein causes blood coagulation and thrombosis by competitive binding to heparan sulfate. Int J Biol Macromol. 2021 Dec 15;193(Pt B):1124-1129. doi: 10.1016/j.ijbiomac.2021.10.112. Epub 2021 Oct 29. PMID: 34743814; PMCID: PMC8553634.

therefore continue to take place.
If colleagues have been able to achieve lasting success with HELP apheresis, we would be very grateful for appropriate feedback and case reports.

If these forms of therapy were all covered by health insurance, targeted studies could easily be carried out. At present, however, this is being carried out on the backs of the self-paying post-vac victims.

6.2.3.2 Immune Stimulation or Immuno-modulation

Since in the chronic phase of Post-VAC syndrome there is often a weakening of the immune system due to permanent overload, stimulation of the system may be indicated.

In addition to a healthy diet (6.2.2.3), β-glucans, for example, which are recognized as "modifiers of the biological immune response", are recommended. Beta-1,3-1,6-glucans as essential components of the cell walls of fungi, some plants and bacteria are structures that are recognized by our immune system as quasi-pathogens, act as Pathogen Associated Molecular Patterns (PAMPs) and are recognized by the Pattern Recognition Receptors (PRRs) of the innate immune system. This hypothetically puts the immune system on non-specific alert. Infections, etc. can thus be fended off more quickly.

β-glucans are commercially available as dietary supplements, but are also found in mushrooms and oatmeal in larger quantities. The supply can therefore preferably be done through food. Polyphenols such as resveratrol and curcumin, antioxidant flavonoids such as quercetin, terpenoids (vitamins A, E and K), omega-3 fatty acids, some trace elements such as selenium, vitamin C, vitamin D and probiotics stabilizing the intestinal microbiome also have an immuno-stimulating effect.

6.2.3.3 Low-dose Naltrexone (LDN)

The opiate receptor antagonist naltrexone is said to have immuno-modulatory effects at low doses of 1-4.5 mg. There is some evidence that the substance inhibits inflammatory signaling pathways mediated via toll-like receptor-4, modulates macrophages and microglia, and inhibits T and B lymphocytes via as yet unknown pathways.
Individual positive effects in ME/CFS have been reported, in particular there seems to be a reduction in pain symptoms in Long-haul COVID or ME/CFS.

The studies so far have many limitations and do not allow any reliable conclusions. A specific study on efficacy in Post-VAC syndrome is not available until spring 2025. Despite the low dosage, patients reported personality changes caused by the substance. In individual cases, this therapy may be useful.

6.2.3.4 BC 007

BC 007 is an aptamer (short single-stranded DNA or RNA oligonucleotides, 25–70 bases) made of DNA that is said to be able to eliminate or block pathogenic autoantibodies (AAB) against G protein-coupled receptors (GPCRs) comparable to immuno-adsorption. It was in clinical tests and was developed primarily for the treatment of special forms of cardiomyopathy.

In advance, there were supposedly some individual successes with ME/CFS. Most often, a case report from November 2021 was cited: neutralization of autoantibodies targeting G-protein-coupled receptors.[163] The substance was primarily promoted in online self-help groups. By reporting between the lines about miraculous healing of individual sufferers, needs and hopes were already created in advance that could not be fulfilled.

In May 2025 BC 007 is no longer recommended for the treatment of Post-Vac. The results of the Phase

[163] *Bettina Hohberger et al. (2021) Case Report: Neutralization of Autoantibodies Targeting G-Protein-Coupled Receptors Improves Capillary Impairment and Fatigue Symptoms After COVID-19 Infection,*

II study (November 2024) showed that BC 007 is safe and well-tolerated, but does not demonstrate a significant advantage over a placebo in the treatment of Long COVID. As a result, Berlin Cures halted the activities for the further development of BC 007 for Long COVID or Post-Vac.[164]

Despite this withdrawal, the *reCOVer study* at the University Hospital Erlangen continues. This phase IIa study examines the effects of BC 007 on blood circulation in long-COVID patients. The final results of this study are still pending, and it remains to be seen whether they will provide new insights into the efficacy of BC 007 (May 2025).

6.2.3.5 Psychotherapy

Since psychological stress plays a major role in the Post-VAC problem, especially the fear of long-term disability, job loss, social decline, among others, psychotherapeutic help can be very useful.

A therapist who excludes possible connection between symptoms and "vaccination", as it is probably often the case, is unsuitable in this case, as the therapist could even intensify the symptoms.

Finding a suitable therapist can be difficult. Assistance is provided, for example, by the therapist agency of the Association of **Mediziner und Wissenschaftler für Gesundheit, Freiheit und Demokratie, e.V**.: https://www.mwgfd.org/therapeutenvermittlung/

6.3 Medical Care

6.3.1 Family Doctor

In most cases, the family doctor is the first contact for patients with Post-VAC symptoms. Even those colleagues who have "vaccinated" out of conviction should be aware that there is a large number of "vaccine induced damages", that there is a multifactorial clinical picture, and that the affected patients urgently need help. Even if the public health authorities still largely deny "vaccine damage", the patient has the right to be taken seriously.

Most patients with Post-VAC syndrome can be cared for long-term by their family doctor. Only in the initial phase can cooperation with special centers be useful. Currently (summer 2023), the existing centers in Germany are completely overcrowded. Waiting times of months to over a year are the rule. The guidance is primarily aimed at family doctors.

6.3.2 Clinical Care

In many cases, clinical care of patients is necessary, particularly in the early phase of Post-VAC, especially when myocarditis, thromboembolic problems or autoimmune reactions create life-threatening situations.

7 Concluding Remarks

Data from the WHO database show dramatic increases in serious diseases as a result of genetic immunization trials, although it is not always clear what impact missed visits to the doctor during the lockdowns had on the numbers.[165]

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[164] *Berlin Cures AG: Topline results of Phase 2 Long Covid trial do not show evidence of superior efficacy of BC 007 over placebo arm. Online: https://www.berlincures.com/*

[165] *https://sciencefiles.org/2023/05/04/bis-zu-4600-daten-der-who-zeigen-dramatisches-wachstum-schwerer-erkrankungen-nach- covid-19-shot-first-systematic-evaluation-of-who-database/amp/*

In any case, Post-Vac or Post-VAC syndrome has opened up a "new", extremely economical field of activity in medicine. In addition to the standard therapies for clear clinical symptoms, a variety of empirical medical methods are used, which sometimes subjectively bring an improvement, but in some cases are likely to be placebo effects, which in itself is not bad. In addition, there is a playground for charlatanry and pseudo-medical experiments.

Particularly complex and cost-intensive procedures such as apheresis and hyperbaric oxygen therapy, which usually have to be paid for by the patient himself, are trying to gain a foothold in this market. None of these procedures brought a significant therapeutic breakthrough.

The human body can repair and heal a lot of damage on its own. It takes time to do so, possibly many months in the case of Post-VAC. As doctors, we can provide supportive help here, and the support also consists of encouraging those affected.[166]

In view of the poor general study situation on mod-mRNA injection, clinical studies on the topic, in particular on the pathomechanisms and the resulting long-term effects, including possible therapies, are useful and urgently needed.

7.1 Abuse of "Vaccine-injured" / Long-haul COVID sufferers.

Some examples are summarized below:

- In some cases, rip-offs are carried out by overpriced self-paid therapies, which are often traded under the hand as a miracle cure, without evidence
- Self-help groups collect data from those affected without informing patients about the use of the data
- Marketing of various medications via self-help groups, some without approval
- Sale and use of preparations not approved in Germany or Europe, such as DMSO, etc.
- Obscure mixed therapies bypassing the attending physician with increased risks
- Download options for so-called therapy primers carry dangerous risks, as they can be used to induce dangerous self-therapies
- Some forums on Instagram and other social media; targeted letter to Post-Vac patients asking for a picture and data submission; this could be astroturfing.
- Misuse of data within such actions is possible at any time (disclosure of data to employers, insurances; market analyses by the pharmaceutical industry, undercover studies)
- Presentation of "miracle cures" of individual patients before testing or approval of medicines, i.e. demand creation and market manipulation, e.g. BC007
- Disclosure of sensitive patient data to companies such as Pfizer, BioNTech, Moderna and others for research purposes without the patient's knowledge
- Justifying mod-mRNA injection retrospectively by rebranding Post-VAC to post-COVID or Long-haul COVID and negating vaccine damage (there is then only Post COVID)
- Market manipulation, patient manipulation by means of grassroots engagement[167], astroturfing, etc., in order to change of opinion and justification of vaccination, lockdown measures and enormous financial expenditure by the government

7.2 What options do we have as physicians to intervene here?

The aim of this guide is to explain to treating physicians, in particular, the pathomechanisms of post-vaccine syndrome and to discuss the possibilities for targeted therapeutic measures. Even four years

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[166] Prof. Stefan Hockertz (2023) https://www.bitchute.com/video/5sXqe7RbOGFR/

[167] Grassroots engagement and grassroots campaigning have become increasingly important in recent years. Grassroots campaigning is the direct approach to interested parties in order to mobilize them for an issue or project. Grassroots campaigning is particularly effective on the web and in social media. There, new target groups can easily be reached and the commitment of members can be stimulated and supported.

after the start of mod-mRNA injections, there are no controlled, randomized trials on therapeutic measures for most of the so-called "vaccine injuries." Evidence-based therapy is largely lacking, even if some clinical statements suggest otherwise.

This text will be consistently developed further. Many thanks to our colleagues who contributed to this work.

Here is a summary of the most important diagnostic measures:

- Careful basic examination with careful anamnesis also with regard to psychological aspects
- Symptom-related laboratory diagnostics, no comprehensive, wide-ranging laboratory tests, no fixation on individual borderline laboratory findings
- Avoid time-consuming technical examinations without a real indication, high error rate(!)
- Careful differential diagnosis, especially with regard to malignant diseases, familial diseases
- What self-medication / supplements does the patient take?
- Can drug interactions be present?
- Can other vaccinations be causally involved?
- Nutritional analysis, alcohol?
- Pay attention to social environment, family situation, professional situation
- Why was the vaccination done? Conviction? Pressure from outside?
- It is important to have educational discussions, information about possible data misuse in self-help groups (SHG), groups in social media
- Clarification of the sense or nonsense of certain therapeutic methods recommended by SHG; Prerequisite: You have to inform yourself about these methods and not just rely on medical journals
- Some of the Long-haul COVID cases are likely to have psychosocial causes, in the sense of a propaganda enhanced nocebo effect
- Primary and secondary disease gain should always be considered
- A nocebo effect is also likely to play a role in Post-VAC under certain conditions, for example, in people who have been "forced" to be vaccinated under pressure.
- No hasty fixation on the diagnosis of Long-haul COVID or Post-VAC, but the diagnosis first after careful anamnesis and diagnostics. Precise recording of the injections carried out as well as background of a possible COVID disease (symptoms? PCR test?)
- Post-VAC must always be ruled out first when someone has received the injection
- The phrase "This certainly has nothing to do with vaccination" should become obsolete.
- There are no diagnostic markers for post-GIV or Long-haul COVID
- It is astonishing, for example, that in some countries Long-haul COVID and ME/CFS seem not to exist, for example in Greece or Cuba (personal surveys), but mod-mRNA vaccine damage does

7.3 Last but not Least

If we base our approach on the evolutionary biological concept of Luis P. Villarreal and others[168], namely that all life is based on an original RNA world, which is now responsible for the formation and imaging of DNA information (epigenetic mechanisms), the logical consequence is that as soon as, for example, artificially modified RNA is introduced into the body (and, in the case of vaccinations, additional immune-active adjuvants), a variety of complex, non-evolutionary reactions are triggered. We recognize at most a fraction of these, because our recognition always depends on our search algorithms.

Any intervention in such a highly complex system, which has been built up over millions of years and is regulated, among other things, by equilibrium reactions using addiction modules (toxin/antitoxin, regulation/restriction, etc.), must have drastic consequences, consequences that we can hardly

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[168] *INFECTIOUS THOUGHTS, Discovering Biology as a Social Science Dialogues, Books, Symposia, Articles*
Luis P. Villarreal & Guenther Witzany © Luis P. Villarreal and Guenther Witzany, 2024, DOI: 10.13140/RG.2.2.35183.66725

comprehend.
Of course, this also applies in principle to any infection with microbes, viruses, or contact with viral relics, but the situation here is different from that with the mod-mRNA vaccine because there is already an evolutionary connection, which is evident in pathogen-associated molecular patterns (PAMPs) and pattern-recognition receptors (PRRs). In early childhood, our immune system is decisively shaped with the help of these evolutionary precursors already stored in the genome, the developing microbiome, the thymus, and the Peyer's patches in the small intestine.

Times have changed. Over 200 years of vaccination history are now being countered by insights from evolutionary biology that shed a different light on the importance of microbes and viruses. Microbes and viruses are not just pathogenic factors, but also control elements of our evolution, indeed of our lives. We live in a virusphere, a "microbiosphere," and are directly dependent on it. We should consider this with all vaccinations, not just with the mod-mRNA platform.

It's high time to stop being afraid of viruses!

Many thanks to all colleagues involved, especially to Cornelia Morche, MD, Christfried Preußler, MD, and Wolfgang Wodarg, MD, for their contributions. In memoriam Arne Burkhardt.

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