The fundamental differences
Blast trauma versus tinnitus

Introduction:
The fundamental differences between a blast trauma and a case of tinnitus are well-known to ENT doctors, but also to social insurance bodies. In the author‘s experience, the insurance companies regularly attempt to try and blur any difference between blast trauma and tinnitus in order to prevent justified claims for services. The author, as a doctor and provider of medical reports, has also experienced that lawyers, unless by chance they have their own experiences on this topic, are for understandable reasons not informed about the fundamental differences between blast trauma and tinnitus. This short comparison is intended to help.

Knalltrauma	Tinnitus
1. A blast trauma can kill any human being and any mammal, up to the size of an elephant or a whale, in fractions of a second. The only requirement is for a corresponding intensity. This is not a theoretical model, but happens every day in nature and has been demonstrated in the laboratory by experiments on animals and proven by structural lesions in organs found in post-mortems.	Tinnitus cannot kill.
2. A blast trauma with an intensity below the lethal limit is not sufficient to cause instant death in fractions of a second, but causes torn tissues and scars throughout the entire hearing system, reaching far into the brain. The resulting death may not come until long years of pain and suffering have passed. This is not a theory, but can be demonstrated by animal experiments and occurs every day in nature.	Tinnitus does not cause any torn tissues or scars. Tinnitus is a functional biochemical-electrical phenomenon and does not kill.
3. Survivors of blast trauma can, due to scars in the central acoustic pathway, be subject throughout the entire brain to life-long, incurable, permanent pain and other brain damage together with disabilities. This is not just a theory, but has been proved by animal experiments and image-forming procedures within human beings and occurs daily in nature.	Tinnitus does not cause any pain, as no tissues have been torn.

4. Blast trauma can be medically measured and proven.

   By medical ENT doctors‘ measurements, neurological measurement results and post-mortem discoveries – both in laboratory animals and human beings.

Tinnitus cannot be measured or proven by the methods of medical science. It is a biochemical-electrical phenomenon and as such it cannot even be proven in a post-mortem, as after the death of the patient it no longer exists.

5. There is a simple and reliably reproducible animal experiment to prove blast trauma. It would be possible to expose a laboratory animal, a dog for example, to a targeted blast trauma of a defined intensity that could occur under precisely the same conditions as a human blast trauma. After killing the dog (an unfortunate necessity) and an immediate post-mortem the same destruction of tissue, tearing of tissue and scarring would be demonstrated in the inner ear, the acoustic nerve and the brain stem in a microscopic investigation as would be seen in a human being who has suffered a blast trauma.

   However, a human being would not be prepared to have him or herself killed and dissected for the benefit of science or the interests of some insurance company.

There is no animal model for tinnitus.

6. As the consequences of blast trauma, medical, caused by scarring and by the tearing of tissues in the brain, have for many years been well-known to science and to doctors treating the condition, for example ENT doctors and neurosurgeons, the solution was suggested to attempt to ease the agonising life-long consequences by an operation on the brain. This is evidence of the tremendous pressure of suffering on patients affecting by blast trauma. (What healthy person suffering from ordinary headaches would undergo a life-threatening brain operation?)

   However, it also proves that medical science and ENT doctors are well aware that a blast trauma leaves behind disruption and pain in the acoustic pathways in the brain due to torn tissues. For what other reason would neurosurgeons have been willing to subject patients with blast trauma-related symptoms to a brain operation?

At present there is no model of treatment for tinnitus generally accepted by medical science. A major reason for this is the fact that patients with tinnitus of unknown origin suffer from very many different medical conditions. This means that it is impossible from the start to foresee any successes. Tinnitus is simply not a clearly defined term with a single cause (monocausal).

In comparison, blast trauma, as the name itself says, is monocausal in the assignment of its origin to a blast/explosion.

Unfortunately, viewed over a long period, the brain operations carried out by neurosurgeons to ease the injuries following blast trauma have been shown to have little effect and are accompanied by complications and risks. Because of a lack of success – and this is the current state of medical science – such neurosurgical brain operations are today no longer recommended by ENT doctors. However, the future and medical progress will surely prove that neurosurgical intervention can possibly bring about an easing of the life-long torture of these permanent consequences of a blast trauma.

An example: current research is investigating whether the permanent damage caused by blast trauma will respond to the implanting of an electric pacemaker in the interbrain and whether its stimulating electric impulses (similar to a heart pacemaker) are suitable for easing the agonising symptoms of patients suffering from blast trauma damage. These experiments are however still at an experimental stage and there are no treatment results covering several years.

To repeat:
the neurosurgical attempts to ease the worst of the life-long problems of blast trauma patients by brain operations or brain pacemakers are proof that medicine does indeed take these symptoms seriously and by no means views the descriptions of some of the most seriously afflicted patients as exaggerated. Enough has been said on the subject at this point.

Summary:
To explain the fundamentally different terms again, terms that are often used in an overlapping fashion or even by insurance companies to blur the consequences of injury:

1. Blast trauma:
Potentially deadly event, immediately or over the long term through mechanical damage to the inner ear, acoustic nerve and the entire central acoustic system, i.e. the hearing pathways throughout the entire brain. The causes are the tearing of tissues, internal bleeding and formation of scars. If the blast trauma is of a lower intensity, self-healing is possible. At high intensity, death is unavoidable.

2. Tinnitus:
A biochemical-electrical phenomenon. A so-called functional disorder, which cannot be demonstrated by microscopic or post-mortem investigation, as this disorder ends with death and leaves no demonstrable traces.

3. Sudden deafness:
A meaningless generic term in ENT medicine for every kind of inexplicable loss of hearing or inexplicable sudden hearing disorder. Sudden deafness is an antiquated expression, rather like „sudden bleed“ for a haemorrhage, and has no scientific meaning or definition. Simply expressed: no one, and no doctor, knows what lies behind the expression „sudden deafness“. Most likely many different diseases, which cannot be demonstrated at this present time.

Dr. med. Karl Sommer
- Specialist for internal medicine-
Road traffic medical qualification