



A fight with a tough opponent requires preparation

And so does an effective tinnitus reduction

Be in your best shape when you take up such a demanding challenge. Get your nervous system ready for stimulation



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If you hear throbbing ,hissing , whiteband , high frequency tone that could be tinnitus, a symptome of sudden hearing loss. Dont worry we reduce all types of tinnitus in our advance clinics with high effectiveness by the most advance technology .We use advance neurobiology - audiology diagnostics measurment to track which synapses and neurons in your auditory pathway are hiperactive and what is your currently placticity nervous system model . After this process we choising the most effective treatment to your tinnitus model and you can start treatment right away . Also we treat sensory and hidde hearing loss , cognitive deprivation , schizophrenia and acoustics trauma with also higly effective .



Neurobiology of movement and diets in tinnitus treatment

It's become fashionable to be active physically. Some people use it to lose some weight or to make themselves more attractive for others. We, on the other hand, consider physical activity and keeping a diet as a part of science and increasing production of biomolecular proteins in your brain (more precisely, in the central nervous system). They are inevitable and very important in an effective tinnitus reduction and depression treatment.

Physical activity increases concentration of necessary biomolecular proteins in brain. Their amount determines effectiveness of stimulation, its influence and, as a consequence, an outcome of tinnitus reduction.

GABA

Physical activity increases the level of *gamma*-Aminobutyric acid. It's an important inhibitor which regulates activity level in a synapse. Tinnitus patient lacks this particular acid; as a result, synapses are constantly stimulated.

BDNF

BDNF protein regulates synaptic activity and decreases the number of open calcium channels in the hyperactive synapses of the auditory cortex in tinnitus patients.

HT-5

Serotonin is an important neurotransmitter. Normal level of serotonin regulates quality of sleep, excitement across synapses and possibilities of nervous system regeneration after strong stress.

Obligatory acquaintance with research studies which confirm huge influence of diet and physical activity on regulating the most important proteins BDNF – NT 3 and neurotransmitters (located in brain and necessary in depression and tinnitus treatment)

Acute Modulation of Cortical Glutamate and GABA Content by Physical activity

Richard J. Maddock, Gretchen A. Casazza, Dione H. Fernandez, and Michael I. Maddock

The effect of physical activity on the brain derived neurotrophic factor: from animal to human studies.

Zoladz JA, Pilc A.

Exercise-induced regulation of brain-derived neurotrophic factor (BDNF) transcripts in the human hippocampus.

Oliff HS, Berchtold NC, Isackson P, Cotman CW.

GDNF and BDNF gene interplay in chronic tinnitus

Sand PG, Langguth B, Schecklmann M, and Kleinjung T

Various levels of plasma brain-derived neurotrophic factor in patients with tinnitus.

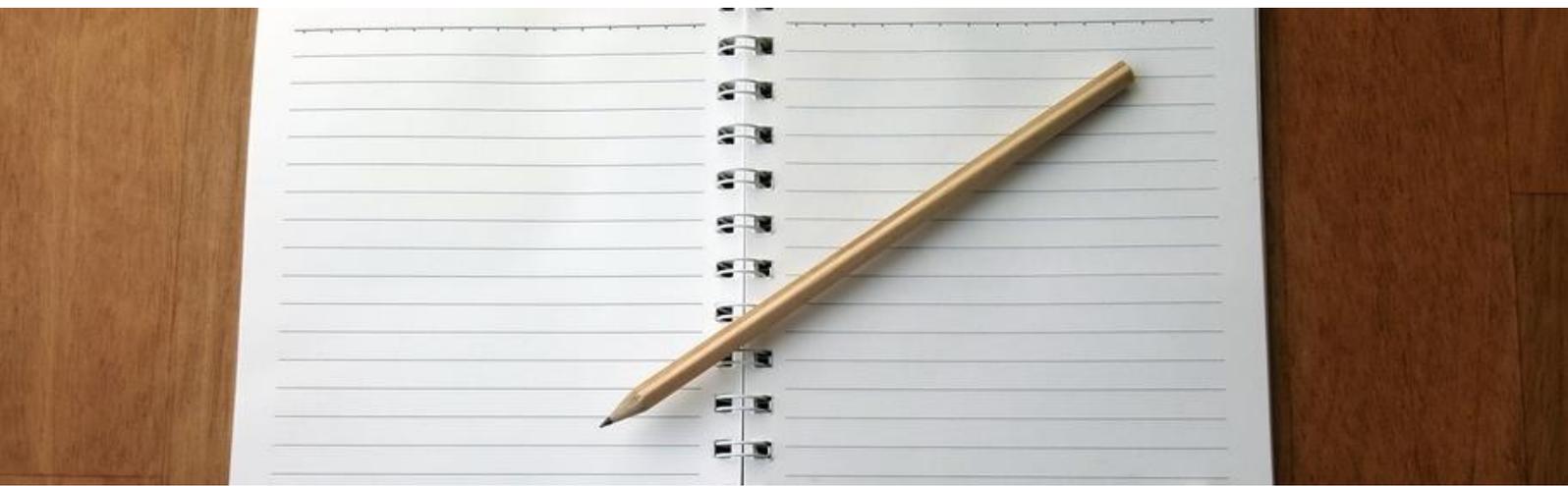
Goto F, Saruta J, Kanzaki S, To M, Tsutsumi T, Tsukinoki K, Ogawa K.

Neurotransmitter Modulation Relates with Tinnitus Signal Generation and Management

Wei Sun , Jianzhong Lu Erin Landrie

Neuroplasticity – Exercise-Induced Response of Peripheral Brain-Derived Neurotrophic Factor A Systematic Review of Experimental Studies in Human Subjects

Kristel Knaepen, Maaïke Goekint, Elsa Marie Heyman and Romain Meeusen



Understand the idea of Plasticity and effectiveness of therapy



Short test for understanding plasticity:

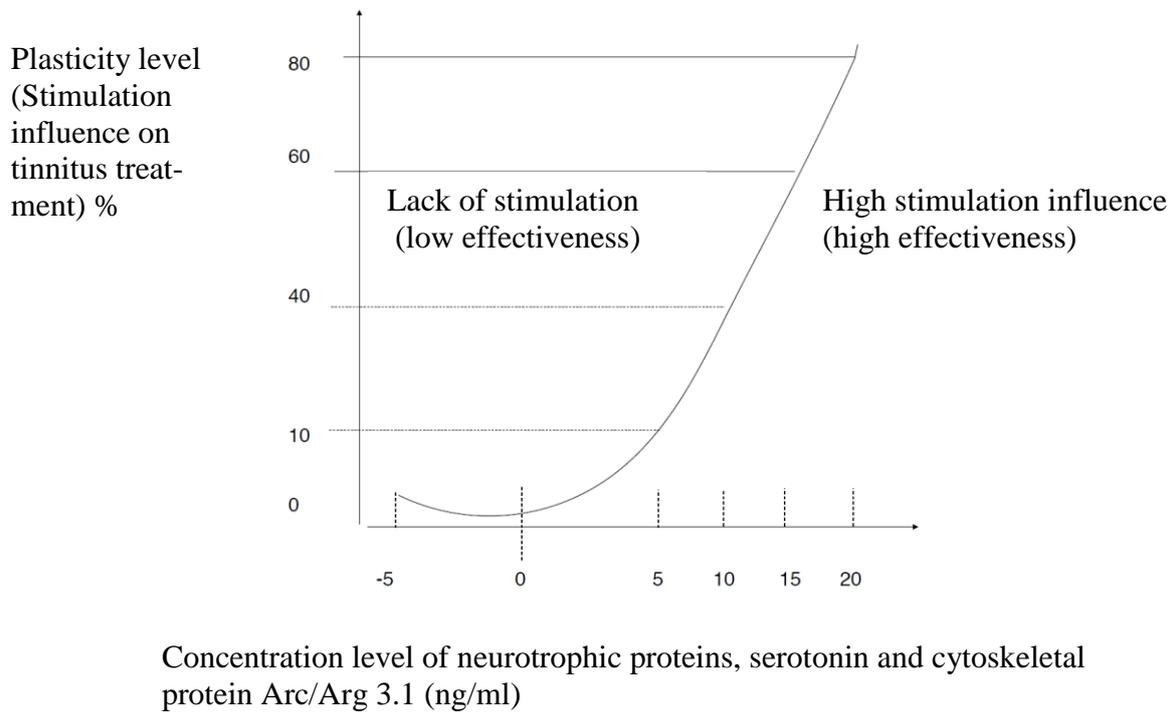
1. Take a pen or a pencil in your hand
2. Try to bend it without breaking it
3. It's not possible?

Of course it's not possible, because neither a pen nor a pencil are made of plasticible materials that we can bend or curve. Now, imagine your auditory path is this pen or pencil and the therapy is an attempt to bend or curve it. It works somewhat similar: you can't stimulate patient's nervous system with a therapy just like you can't bend a pen; and that's due to lack of plasticity. Thus, in order for your tinnitus reduction to be effective you will need plasticible environment you can influence by yourself.

Effectiveness of tinnitus reduction therapy depends upon:

- How meticulously your case will be diagnosed (plasticity model generating tinnitus)
- How precisely a therapy will match your plasticity model
- How plasticible will be your nervous system (if you have a normal level of biomolecular proteins which make tinnitus reduction possible with therapy)
- If you follow recommendations in terms of diet and being more active. It helps to maintain the highest concentration of Arc/ Arg 3.1 and BDNF proteins. Consequently, the greatest influence of stimulation on the changes we want to implement in the nervous system (tinnitus reduction).

Correlation between the level of neurotrophic proteins and effectiveness of tinnitus reduction therapy (2012 K. Lauger , S.T Simons , F, Flecher)



Results of K. Lauger ft 2012 shows concentration level of neurotrophic proteins, serotonin and cytoskeletal protein Arc/Arg 3.1 and influence of stimulation effectiveness on the nervous system. The higher concentration of all biomolecular elements was, the greater impact acoustic stimulation and short-term transcranial stimulation rTMS had on changes in tinnitus reduction. Low level of proteins was connected with poor plasticity, which means little influence; therefore, not evident changes concerning stimulation and effectiveness of therapy.

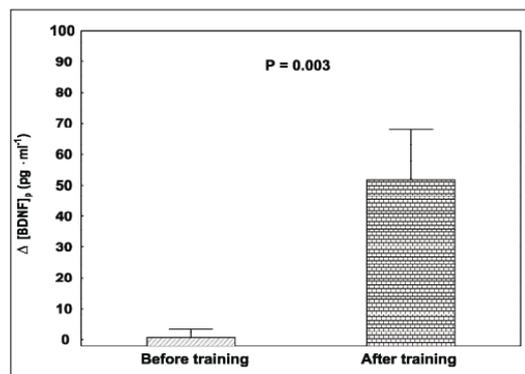
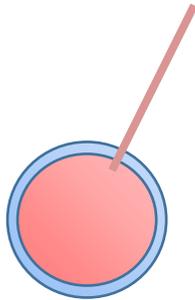


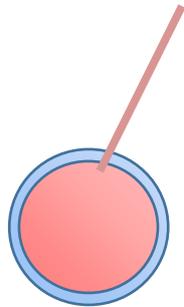
Fig. 2. Plasma BDNF concentrations ($[BDNF]_p$) in young healthy men (n =13), expressed as the difference between the end-exercise minus pre-exercise plasma concentration of BDNF ($\Delta [BDNF]_p$), determined before and after 5 weeks of the endurance training of moderate intensity.

Influence of physical activity on neurotrophic proteins level in blood plasma before and after exercising presented in the research study *Endurance Training Increases Plasma Brain - Derived Neurotrophic Factor concentration in young healthy men* (J.A Zoladz, A.Pilc 2, j. Majerczak , M. Grandys , J.Zapart-Bukowska , K. Duda).

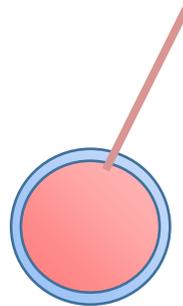
Following example presents a synapse which generates louder noises of its work in the process of tinnitus reduction. Too high activity is connected with insufficient level of certain biomolecular factors. They are responsible not only for regulating synaptic activity but also for its plasticible possibilities (whether it's going to expand or deprive).



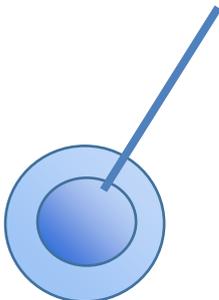
BDNF low protein level leads to opening greater number of calcium channels in synapses. In consequence, more frequent spontaneous activity (tinnitus) is generated.



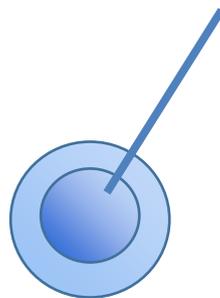
Low level of *gamma*-Aminobutyric acid maintains high excitement of synapses what intensifies noticeable tinnitus.



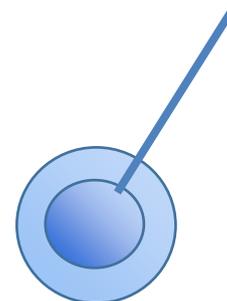
Production disorders of serotonin HT-5 and protein Arc/ Arg 3.1 leads to lack of stimulation on synapses. It makes them lack plasticity completely, so they are unable to change in terms of therapy.



BDNF high protein level regulates activity of synapses and closes unnecessarily opened calcium channels. It lessens excitement of synapses.



High level of *gamma*-Aminobutyric acid causes lessening excitement of synapses despite too low level of neurotransmitter from inner auditory cell with sudden hearing loss.



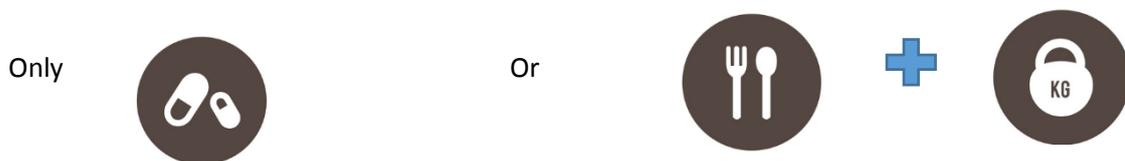
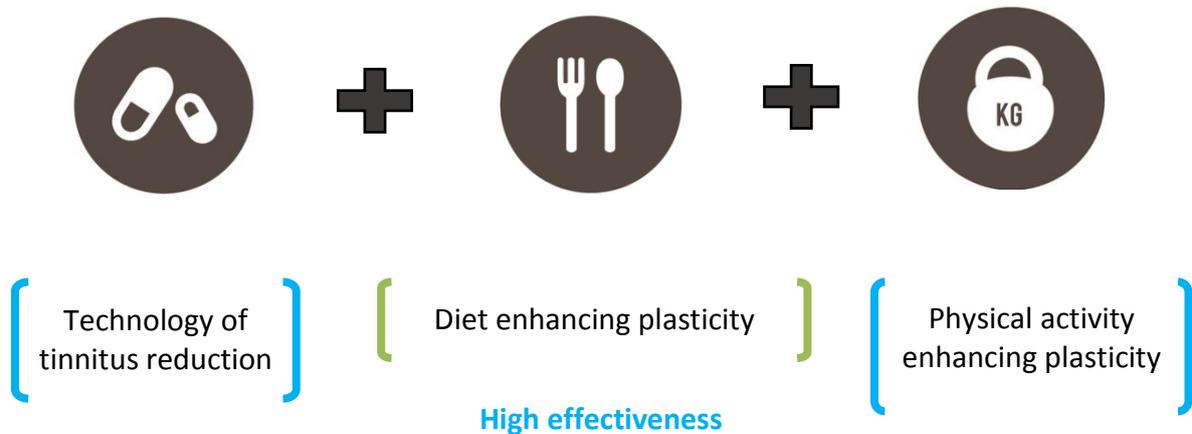
High level of serotonin HT-5 and protein Arc/ Arg 3.1 increases plasticity of synapses, namely influence of stimulation on their contexture.

Brain proteins that will mute your tinnitus

They are responsible for stress resistance of the nervous system, they take part in neurogenesis of new neurons and they regulate activity of synapses. We can have many or only quite a few of them. If a patient suffers from tinnitus or depression it means the proteins have been exhausted.

Strong correlations which can reduce tinnitus and faulty ones which cause low effectiveness level.

Very high effectiveness of tinnitus reduction



Lack of physical activity and diet



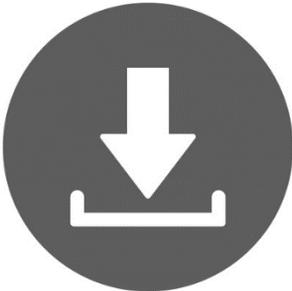
Lack of technology

Be active and reduce your tinnitus effectively with one of our technologies

Become our patient today
Register on our website and
create an account.



Download instructional videos and
all information for advanced training and diet.



Training and appropriate diet
will increase concentration of
proteins which will contribute
to tinnitus reduction. .





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We reduce tinnitus



Innovative treatment technologies



Passion



Involvement and focus



Advanced tinnitus and hearing diagnostics

Our partners



Narodowe Centrum
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nencki institute
of experimental biology



blocooustic
creative audiology solution



SYNEIKA



SEBOTeK
HEARING SYSTEMS