**Habituation of tinnitus induced reactions = passive extinction of the conditioned reflex**

Primary goal of TRT is **habituation of reaction** to tinnitus – note tinnitus may still be perceived with the same psychoacoustical characterization (pitch and loudness), and it may be perceived the same percentage of time. BUT – the presence of tinnitus will no longer produce any annoyance, or emotional or autonomic response, therefore, you will no longer be bothered by tinnitus and it will no longer have a negative impact on your life.

TO DO THIS it is necessary to change the functional connections between the auditory system and the limbic and autonomic nervous systems that are responsible for the conditioned reflex ARC linking the tinnitus-related neuronal activity with activation of the sympathetic part of the autonomic nervous system.

Secondary goal of TRT is to facilitate **habituation of perception** to tinnitus. When we can do this you will be aware of the tinnitus for a small portion of the time, mainly when you focus your attention on tinnitus. It is necessary to induce the process of blocking or filtering out the tinnitus related neuronal activity from the higher levels of the auditory system where it is perceived.

Pavlov describes passive extinction of conditioned reflex – it is achieved by repeating the sensory stimulus WITHOUT REINFORCEMENT. Note: that it is impossible to eliminate all reactions of the autonomic nervous system (which acts as your negative reinforcement), but a technique is used in which both the stimulus and the reinforcement are present, but are decreased.

* To put in different words we are able to use a modification of Pavlov technique.
  + (Pavlov removed reinforcement all together).
  + TRT – we move the Stimulus (TINNITUS) to a neutral category – this is done by truly understanding that tinnitus is a benign compensation of the auditory system (our conversations about what is happening is a natural phenomenon). THEN as a result of this reclassification the limbic AND autonomic nervous system by the higher cognitive loop is removed (or strongly decreased) and only the subconscious loop remains
    - Essential to understand ---- the reclassification of tinnitus to this category of neutral or semi-neutral stimuli is ESSENTIAL for habituation to occur.

Keep in mind - Our autonomic nervous systems react more powerfully to an unknown danger than a known danger. (example of this would be: Patient waiting in dentist waiting room. Scenario #1: Patient has been counseled on the phone before coming and knows what to expect. Root canal, discusses the process and what to expect start to finish. Scenario #2: Patient does not know what lies ahead when he enters the dental chair. Even though the outcome will be the same, the patient is faced with uncertainty about dangerous or unpleasant experiences is much more DISTRESSED and AGITATED than the one who knows what is coming) .

How does this relate to tinnitus therapy? We go over the mechanisms resulting in tinnitus perception, those mechanisms creating annoyance and negative emotional responses – we teach the neurophysiological model of tinnitus. All of this will produce a DECREASE in the autonomic nervous system activity resulting from tinnitus because you NOW KNOW what is happening and WHY. Tinnitus is no longer linked with danger.