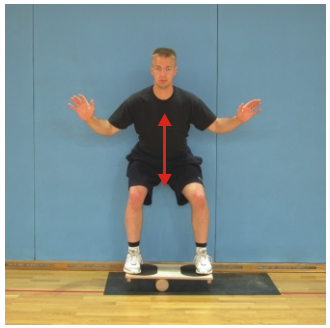
- perform an exercise **by raising and lowering the body's gravity center** (squats, on-board wrestling, etc.),



- perform an exercise **in combination with strength exercises** (squats with weights, dead lift, langue, behind-neck push).

## INSTRUCTIONS FOR EFFECTIVE AND SAFE TRAINING

Performing the contents of proprioceptive training has to be safe. Consistent training in accordance with our instructions and safety measures guarantee the highest level of safety during exercise. By giving you this extensive advice, we only want to help you. The retailer of Tone-Boards requisites takes no responsibility for possible body injuries which might occur while using the requisites. The content of proprioceptive training must be chosen in a way that ensures con**stant movements of joints in small amplitudes.** If you, at the beginning, want to make the exercise even more safe and smooth, you can **help yourself with arms,** so you can immediately continue with exercise if you lose balance. Let us give you some more guidelines for efficient and safe training:

- The system in proprioceptive training must be provoked because it is essential for **constant balance maintenance.** The aim of constant destabilization of the system is to achieve the desired stability at a higher level and improve motor control.
- In the long-term, we have to aim at more-direction loading. It is good if the exercise involves movements of a joint in **all planes that are characteristic for a certain joint.** With ankles we can, therefore, make movements in frontal and sagital plane, with knees more in sagital plane.
- The intensity of proprioceptive training has to increase progressively. It applies the basic principle from easier to harder, from simple to more complex, from low to high speed, from small to large disturbances, from short-term to long-term repetitions.
- The amount of exercise in one exercise unit can be quite small. 5 to 10 minutes of exercise, with one joint or joint system, supplies (3 to 7 series, from 30 to 60 seconds) to achieve the effect. Proprioceptive training is not very exhaustive and can be carried out every day, though not less than three times a week if we want any visible effects.
- During the exercise we **try to concentrate** on keeping balance with the joint in order to improve its stability. We try to exclude other joint systems as much as we can (compensational arm and trunk movements).
- The above mentioned exercises do not present the whole range of possible exercises you could do for efficient training. You can **invent new exercises and modify them** to meet your needs according to a specific sport or rehabilitation aims. Therefore, you have to use your imagination and creativity and also take into consideration the main criteria for successful training.

According to the above information you will be able to organize your own proprioceptive training program and include it into your training. If you will follow the principle of progression, you should increase the duration of series (from 30 to 60 seconds), the number of series (from 3 to 6 series), frequency of training (from 2 to 5 times per week), shorten rests between series (the same duration as for loads or longer), and change the requisite with which you exercise.

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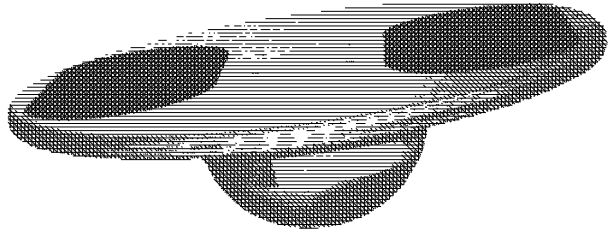
TONE

# BOARDS

*tools for proprioceptive training*



## PROPRIOCEPTIVE TRAINING

For the purposes of quality proprioceptive training we developed balance Tone-Boards. These enable planned training and gradual progression which are the basic principles of successful training. Nowadays, proprioceptive training is acquiring greater importance in rehabilitation and sports training programs where it is used for:

- prevention of injuries and damage especially to ankle, knee and shoulder joints, and spine,
- rehabilitation following the above mentioned injuries,
- improvement of motor control quality.

The damage, injuries and laxer motor control are all factors which can deprive many athletes of the best results, destroy their careers, or, in the worst case, make any participation in sports activities impossible. Quality proprioceptive training can help prevent the occurrence of such problems.

Proprioceptive training is characteristically **very efficient, relatively safe, takes little energy** and is at the same time **entertaining.** Most frequently used instruments when doing this kind of training are various balance requisites. Among them are **balance boards,** which cause rotations or translations of joints or both. Such exercises positively affect other motor abilities such as body coordination and agility. The agility of an individual depends on the degree of their coordination, whereas the coordination depends on balance. The level of development of these abilities affects the degree of skillfulness when moving, the control of your own body in space and time, and the accuracy of movement in connection with injury prevention.

Proprioception is the ability of an organism to consciously or reflexively recognize the positions of its body parts in a certain space and time. **Conscious proprioception** enables accurate joint activities when we consciously decide how to move. **Reflexive proprioception,** on the other hand, enables reflexive sustenance joint stability and joint systems. Reflexive proprioceptive is especially important in protecting a joint from unexpected disturbances which are a consequence of quick and violent mechanical loads on a joint. Due to longer nerve paths, conscious responses in comparison to reflexes are too slow to prevent an injury.

Mechanoreceptors in muscles, ligaments, joint structures and skin supply the central nervous system with information about the condition of individual body parts. Balance organs and sight also contribute the information on motor control and poise. All these systems are intertwined and they complement each other.

## EFFECTS OF PROPRIOCEPTIVE TRAINING

With systematic and regular proprioceptive training we can help improve:

- **the reaction time of joint muscles** we work on which means faster activation of the muscles at an external disturbance. In this way, we achieve active stabilization of a joint and reduce loads on ligaments.
- **conscious activation of muscles** at injured persons,
- **inter-muscular coordination** which is important in joint injuries prevention (for example in injury of anterior cruciata ligaments, ankle sprain, etc.),
- **poise and balance** as the basic factors of economical movement,
- **awareness of body position** in a space which enables efficient preparation for conscious or reflex movements,
- **general physical condition** of an individual and thus preventively influence the reduced susceptibility for injury occurrence.

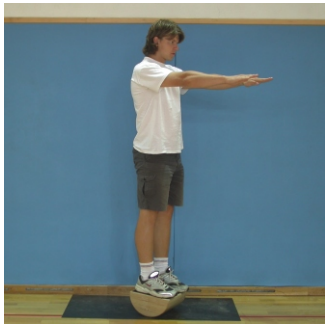
## TOPOLOGICAL DIVISION OF PROPRIOCEPTIVE TRAINING

Proprioceptive training works on ankles, knees, hips, trunk and shoulders. Balance Tone-Boards are primarily intended for exercises with lower extremities, pelvis and lower part of a trunk. Most proprioceptive exercises intended for a particular joint also have some impact on neighboring and more distant joint systems. Training with such more-joint loads is more functional.

## PROGRESSIVENESS OF PROPRIOCEPTIVE TRAINING

Every type of exercise can be seen in view of the progressiveness principle which goes from easier to harder, from simpler to more complex. This also applies to proprioceptive training. Progressiveness is closely linked to the manner of exercise. Each basic exercise can be performed in many different ways. These modified exercises can intensify or lighten our training. If we want improvement, we can intensify the already-mastered exercise in many ways:

- perform an exercise **on both feet or just on one** (some boards enable both),



- perform an exercise **with open or closed eyes** (exclusion of sight largely increases the difficulty of exercise),
- perform an exercise **by preliminary disturbing balance organ** (such situations are common in sports, e.g. falls, vaults, turns, etc.),
- perform an exercise **with additional coordination exercises** (throwing, catching, dribbling of a ball, additional exercise on the other foot, etc.),

- perform an exercise **of more demanding geometry on a board.** If we reduce supporting surface, we increase the speed of torque growth at losing our balance (Tone-Boards requisites are designed especially with this intention),

- perform an exercise **by including additional external disturbance** (partner, additional weights, stopping and accelerating on a cart, jumps on and off the board),