

# CORE TRAINING WITH THE T-BOW®

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A selection of concepts and examples of differential exercises with the T-BOW® for frontal, lateral and posterior trunk muscle building is presented, based on fundamentals of motor physiotherapy and the practical experiences since 1995 of Sandra Bonacina and Viktor Denoth at Zurich University.

\* It is not the purpose of this article to deal with the execution and breathing techniques related to the strengthening of trunk, nor the respective planning criteria.



## A comment about strengthening the trunk and core training

"Middle zone training", "core training" and other similar expressions have been used to describe strength-stability training of the trunk-pelvis complex, which we can simplify into what has traditionally been called trunk strengthening.

The systematic application of "core training" or trunk strengthening exercises to any individual who follows a fitness program or to any athlete, without considering the muscular requirements of their daily activity and their fitness and/or sports activity, is a practice that does not allow to optimize movement performance efficiently.

For example, it is possible to assess that an individual does not require any type of strengthening of the trunk and only needs to relax the pelvic-lumbar area.

## Core Training with the T-BOW®

The arched shape of the T-BOW®, with a calculated curvature with slightly more arch than the typical physiological lumbar lordosis, allows for anatomically correct trunk training. This arched design promotes a healthy adaptation to the curves of the spine, as opposed to more pronounced curves that are too demanding and often harmful for many people.

The arch of the T-BOW®, in a stable position, supports the spinal column in such a way that it can be exercised in degrees of amplitude greater than a flat surface (greater range of movement) and, based on the physiological curvature, in a stable position throughout the movement range or static posture.

Simultaneously, the reactivity of the T-BOW® (with a mat on the convex part that is comfortable and very sensitive to body contact) improves the kinesiological fixation of the back, the possibility of a very stable localization of the spinal curvatures and rapid accuracy of posture and movement; unlike softer and less reactive surfaces (bosu or fitball type) that cause a sinking of the back when supporting it and slower postural feedback, limiting fine postural-movement adjustment, although their use can be considered as contrast exercises in certain global postures.

The trunk can be strengthened at different levels, mobilizing different segments of the spine by positioning the hip at different heights of the T-BOW® arch; thus selectively influencing parts of the musculature:

- frontal (costal/pelvic priority),
- lateral (trunk/pelvis/legs overload) and
- back of the trunk (lower/upper back and pelvis/legs).

The load varies depending on where the hip rests and whether the trunk or the hips/legs are mobilized; also, depending on how the body itself is used, the T-Bands (each anchor hole of the elastic bands creates different lines of force and increasing-decreasing-constant tension) or free weights (their place of placement on the body or segmental mobilization causes different overloads).

A training with asymmetric or unilateral load at the level of the trunk, for example with the traction of a T-Band or elevation of a dumbbell, especially when relatively small overloads are applied, allows the activation of deeper muscle groups of the intervertebral musculature of the back that give stability to the spine, maintaining a harmonic alignment of the vertebrae and intervertebral discs, with instant rebalancing.

With the T-BOW® in a highly reactive swing position, you train on dynamic surfaces that add variety to core training; achieving a smaller muscular localization and a greater optimization of the global rebalancing-reactivity of all the stabilizing muscles of the trunk.

In these extremely reactive T-BOW® (unstable position) balance situations, with a very fast and fine postural and movement adjustment, the use of asymmetrical or unilateral loads, for example with dumbbells, takes trunk strengthening to the highest level of strength and precision.

Once it has been studied whether or not it is necessary to strengthening the trunk, the personalized selection of exercises in stable and unstable positions of the T-BOW® is essential to achieve an effective optimization of the strength-stability of the trunk-pelvis complex, both for the individual who seeks health in their daily activities as for the elite athlete.

Likewise, the following factors must be considered, as a minimum:

- Postural disposition: a) anti-flexion, anti-extension, anti-rotation and anti-lateral tilt (bilateral/unilateral); b) supine/prone, lateral and vertical/inverted (extended/flexed segments).
- Execution surface: a) flat / +- arched, b) level of reactivity (+- soft).
- Static, dynamic (+- slow-fast, +- elastic, +- ballistic, +- reactive) and combined static-dynamic (fixed/mobile zone) muscular conditions.
- Overloads oriented towards maximum strength, rapid strength or endurance strength (with one's own body, free weights, medicine balls, rubber bands, etc.).
- Balance and rebalancing situations (biomechanical and sensory variations).
- Coordinative variations of execution (motor control, spatial implementation and temporal adequacy) of the trunk-pelvis complex.
- Space-time and rhythmic optimizations.
- Decision making and unforeseen situations.
- Associated breathing techniques.
- Static-dynamic relaxation and regeneration adjuvant supplements.
- Static-dynamic muscle balance of the most important muscle groups, protagonists-antagonists, of the trunk-pelvis complex.
- Tendinous-articular unloading, joint mobility and muscular elasticity at a local and global level of the trunk-pelvis complex.

Applicability: in group fitness, personal training, postural and injury rehabilitation.

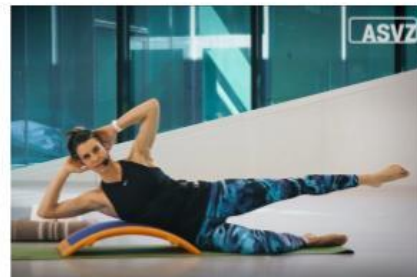
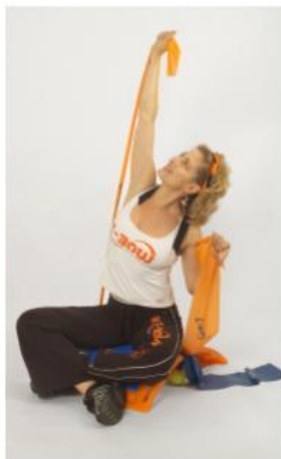
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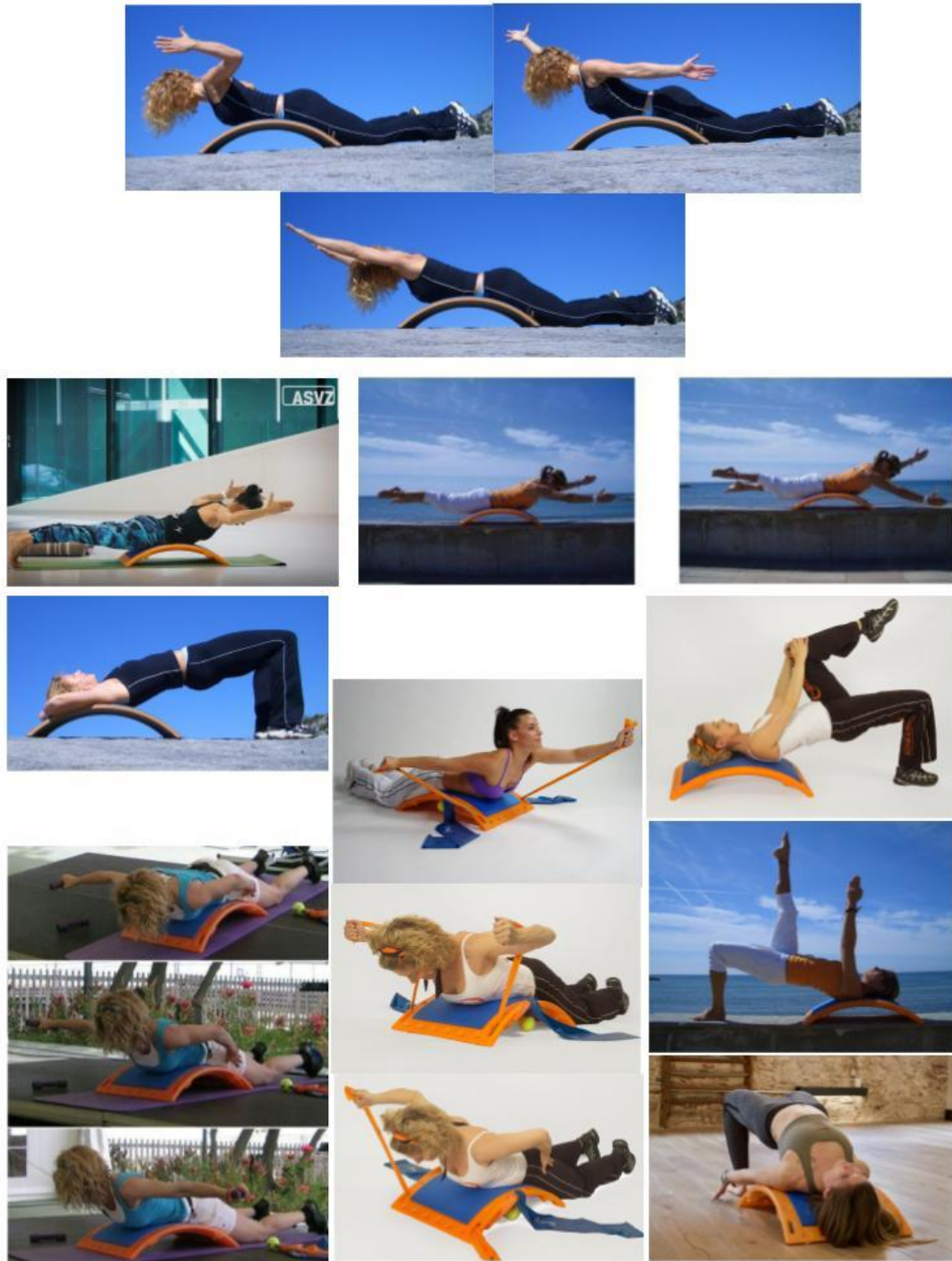
EXAMPLES CORE TRAINING WITH T-BOW® · FRONTAL · ANTI-EXTENSION



EXAMPLES CORE TRAINING WITH T-BOW® · LATERAL ANTI-SIDE TILT



EXAMPLES CORE TRAINING WITH T-BOW® · POSTERIOR - ANTI-FLEXION



EXAMPLES CORE TRAINING WITH T-BOW® · GLOBAL REBALANCING

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EXAMPLE CORE TRAINING WITH T-BOW® · UNILATERAL LOAD · GLOBAL REBALANCING

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