

## Applications of Training with Instability Devices to Health and Sport Performance

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### **Purpose:**

The aim of this study was to analyze the relevant characteristics of instability devices that will allow an effective selection of their training applicability to health and sport performance.

### **Methods:**

Based on practical training experiences with different instability devices and the support of selective research literature, it was carried out the comparison among three different instability devices (the T-BOW®, the Bosu and the Freeman Plate), by using the following criteria: 1) the level of static-dynamic reactivity (softness and elasticity of the device), 2) the conditions of the supports (how feet, hands or any body part can be placed on the device), and 3) the axis causing movement imbalances (from 1 to several axis).

### **Results:**

While training with Bosu is more applicable to softer surfaces, training with T-BOW® and Freeman plate is more applicable to harder surfaces like most of the daily life and sports. The support on flat surfaces, as on the Bosu and Freeman Plate in their unstable positions, requires unilateral control of the foot and multidirectional instability applicable to sports practiced on flat surfaces (eg. windsurfing). The support on the narrow edges of the T-BOW® and parts of its concavity (unstable position) requires bilateral control of the foot and unidirectional instability applicable to sport activities practiced on different-design surfaces. In their stable positions the three devices have rounded surfaces (the Bosu a big half sphere, the Freeman Plate a tiny half sphere and the T-BOW® a convex curved surface) offering multiple support options that are always conditioned by the level of reactivity of each device.

### **Conclusions:**

Mastering the movement education and training resources is the most relevant factor in order to optimize unlimited situations of static and dynamic balance in specific motor abilities that are developed in daily life and sports. Therefore, any additional training with unstable devices requires a careful selection of its applicability and in all cases it is more appropriated for a general-special conditional training than for specific balance training.

### **Key Words:**

Instability, Training, Health, Sport Performance, Bosu, T-Bow, Freeman Plate.