

## IMPORTANT CONCEPTS

**B**alls have been used in rehabilitation exercises since the 1960s. More recently they have made inroads in rehabilitation and sports conditioning.

AOK Balls allows you to easily incorporate the following training concepts into your program. It will benefit you and your clients while fitting in with and complementing your other rehabilitation and training ideas.

### Core Stability ...

... encompasses active pelvic stabilization, shoulder and hip girdle stabilization. Using muscles such as the transversus abdominis, oblique abdominii, latissimus dorsi, iliopsoas and multifidulus, will provide a stable torso – allowing more efficient movement.

### Efficient Movement Patterns ...

..... using only the required muscles to perform a movement in a specific sequence. Without using unnecessary muscle groups, we save neural energy – making movement more efficient.

Athletes in particular strive to conserve energy to aid in their performance. If an athlete can obtain core stability and control, they can use the otherwise wasted energy to enhance their performance.

### Unstable Environments ...

AOK manufactures many products to create an unstable environment suitable for movement assessment or exercising. This is the beneficial aspect of the ball for therapists, coaches and athletes as most sporting environments, especially team contact sports, and many workplaces are very unstable environments. You can sit, lie, lean, stand, kneel and get into many other positions on a mediBall, to perform exercises.

AOK Balls resists compression when under load - such as when sitting or exercising. This provides 6 essential benefits:

- 1 Using mediBall as a seat/bench you can move easily while maintaining optimal lordosis/posture.
- 2 The mediBall feels firm and substantial which promotes confidence during sitting or exercise.
- 3 While exercising it slows the reaction speed of the mediBall so that the proprioceptive/sensory pathways are stimulated through the entire range of motion. There are no 'blind spots' due to ballistic motion.
- 4 Retains its spherical form and thus instability to enhance the body's stabilisation responses.
- 5 Promotes long life due to resistance to wear and tear for uses indoors and outside.
- 6 Extra safety due to Burst Resistance up to 500 kg.

## BENEFITS OF TRAINING

### Increased Kinesthetic Awareness

Because of the unstable nature of the ball, you are forced to be intrinsically aware of the positioning of their body in space. Stabilizer muscles have 5-10 time more muscle spindles than prime movers. You can increase the neural workload dramatically with simple balance exercises with the risk associated with increasing load. By using good movement patterns when unstable you are likely to achieve more resistant skill sets.

### Prime Mover Strength

Free or cable weights, and theraband resistance exercises can be performed on the mediBall. Exercises such as the dumbbell press can isolate the prime movers to perform the action, while the stabilisers and neutralisers are working to prevent any other unnecessary movement.

Because of the high neural demand of mediBall training, the reps and sets performed can be minimal to gain a training effect. Time efficiency is as important as any other factor of training.

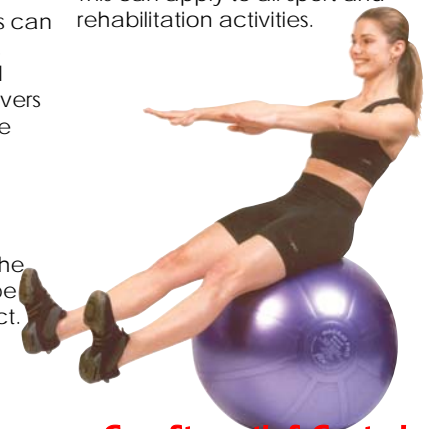
### Stabiliser/Neutraliser Strength

Because the ball is unstable, the various stabiliser muscle groups are challenged. If you are unstable, the stabilisers engage to prevent you from falling off the ball. Good strength and endurance function in joint stabilisers can not only have a performance enhancing role, but may also play a role in injury prevention in the long run. You will be able to hold form longer, leading to better efficiency.

### Dynamic Flexibility

Flexibility training on the ball has the advantage of training a certain degree of strength at the end range. Having strength at the end of a range of motion not only prevents injury (most muscle tears occur at end range) but allows you to have control throughout the full potential of the movement while muscles are lengthening (eccentrically contracting). Because the movements come from a stable core, coaches can isolate specific areas for flexibility training and reach goals quickly (distal mobility on core stability).

This can apply to all sport and rehabilitation activities.



### Core Strength & Control

The concept of core stability should be taught in a stable environment (ie on the floor) initially, and then that stability can be easily challenged by getting on the ball. You should be able to control movements performed on the ball by using your core stability. Many abdominal strengthening exercises can be performed on the ball in a variety of positions, allowing eccentric, isometric and concentric contraction. Oblique abdominii, rectus abdominis and transversus abdominis may all benefit from these exercises, unlike traditional rectus abdominis work.

### Balance

The unstable nature of the ball forces you to make constant weight shifts while on the ball, to find your best balance points.

