

Functional Training #2: Balance

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Balance underlies all movements! Balance is one of the fundamental movement skills. If you can't balance, your movements will be awkward or even unsafe. Functional balance (dynamic equilibrium) is the interplay of imbalance and balance as the body constantly tries to regain balance to perform efficient movement using these senses: ocular (vision), vestibular (inner ear), kinesthetic (body position awareness), and auditory (hearing).

There are two “zones” of balance. Begin training the inner zone (close to center of gravity) before training the outer zone (beyond the static stance center of gravity). The amount of balance training volume should be small, but you should work on balance everyday.

Important Balance Terms

Inner Zone Balance: Body's center of gravity balanced over bilateral stance. Start with both feet flat on ground & little or no movement—a “neutral” stance.

- The mass of your body is concentrated towards your body center—no extreme leaning, no legs sticking way out, and arms close to sides or equally spaced for counterbalance.
- This position that is not highly functional but a good start for more demanding and complex drills. ***Note:** Proprioceptive demands are low with inner zone balance.
- ✓ **Safety Warning: Always master each balance exercise before progressing to the next level of balance challenge and more complex movements.**

Outer Zone Balance: Outside of *inner zone* and beyond body's neutral center of gravity. Achieved by reaching or stepping while still maintaining balance. Not to the point of balance threshold.

- Picture your leg taking a big lunge step, leaning your upper body, or pointing both arms the same direction “away from” the center of your body all while maintaining balance.

Balance Threshold: Closely related to but beyond *outer zone balance*. Point where you lose control of balance for that particular activity.

- The actual “loss of balance” is not productive to functional movement because it trains the body to move inefficiently.

Functional Threshold of Balance: Point of control between *outer balance* and *balance threshold*. This is the goal and stopping point of balance exercises because you still have control. Don't go to the “balance threshold” where you actually “lose” your balance.

- ✓ Functional Threshold is optimal because you are challenging your balance but still have control.
- ✓ Balance Threshold is the “loss” of balance—not good! ☹

--The Balance Continuum--

(↓Challenge) Inner > Outer > **Functional Threshold** > Balance Threshold (↓Balance)

Driver of Balance: A driver is anything that manipulates the force that we have to balance against whether gravity, ground reaction force, or momentum.

- **The driver controls balance.** A driver can be effects of gravity, angle of ground, surface, shoes, direction of movement, extremities like legs and arms, wind, or external resistance equipment like weights, bands, or tubing. Knowing “the driver” is important for effective balance training. Manipulating the driver can add or decrease challenge and difficulty.

Dynamic Stability: Ability to control and/or to decelerate motion.

- Stability is “reactive” in nature, i.e. the body’s automatic response to unstable or changing environments.
- Functional activities of daily living involve dynamic movement and instability; this is why it is important for your training to involve instability, reaction, and dynamic movements! **Training in a dynamic environment will enable you to better control “real world” movements.**

Proprioceptive Demand: Neural input from joints, muscles, tendons, and tissues that stimulate functional movement patterns. **Good proprioception keeps you standing up and not falling down!**

- Proprioceptive development is the key to all movement. Strength, speed, and flexibility are all regulated by proprioceptive feedback and adjustment.
- Static balance is low proprioceptive demand and not very functional. Dynamic balance has higher proprioceptive demand and thus is more functional to “real world” human movements.
- Higher functional movements have higher proprioceptive demand.
- Faster movements place a higher demand on muscles and proprioceptive system. Faster movements teach the body to reduce or “decelerate” forces more efficiently. If you can decelerate a fast movement, you’ll have better control of your body as it moves dynamically.

Balance Challenge & Progressions

Now put it all together—static balance, dynamic balance, proprioceptive demand, and dynamic stability to go through the following positions and progression challenges of balance exercises. **Be creative!** 😊

Basic Positions	Progression Challenges
<p style="text-align: center;"><u>Inner Zone Balance</u></p> <ol style="list-style-type: none"> 1. Bilateral Stance (both feet, shoulder width apart, arms counterbalance) 2. Bilateral Stance (without arms) 3. Unilateral Stance (with arms counterbalance) 4. Unilateral Stance (without arms) 5. Bilateral Squat <p style="text-align: center;"><u>Outer Zone Balance</u></p> <ol style="list-style-type: none"> 1. Bilateral Squat & Reach 2. Lunge (with arms counterbalance) 3. Lunge & Reach 4. Unilateral Squat <ul style="list-style-type: none"> • Positions: #1 (easy) to #4-5 (harder) 	<ol style="list-style-type: none"> 1. Head turned 2. Dominate eye closed 3. Both eyes closed 4. Varied surface (grass, incline, decline, dirt) 5. Apparatus (foam pad, core board, BOSU!) 6. Dynamic movements <ul style="list-style-type: none"> • (uni-plane to multi-planar) 7. Increase range of motion (ROM) 8. Increase speed (while maintaining control!) 9. Add reaction (directional cues) 10. Add external kinesthetic stimulus (push/pull) <ul style="list-style-type: none"> • Progressions: #1 (easy) to #10 (harder)

References

Boyle, Mike. Mike Boyle Strength & Conditioning; Clark, Michael. National Academy of Sports Medicine (www.nasm.org); Ettinger, Mitchell, & Blair. “Fitness After 50: It’s Never Too Late to Start!” (1996); Gambetta, Vern. Gambetta Sports Training Systems (www.gambetta.com); Lang, Annette. Reebok Alliance (www.reebok.com); Santana, Jose Carlos. Optimum Performance Systems (www.opsfit.com)

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