

Using the Body & Brain Performance Strategy to Improve Balance

By Kjersten Marlow, MPT, TPI, SFMA

BALANCE / 'balens/ N. An even distribution of weight and forces enabling someone or something to remain upright or steady.

We all need good balance—to get out of a chair, to sit at a computer, or to efficiently swing a golf club. So, how does your balance system work? Your brain (cerebellum) continually communicates with your eyes (vision system), inner ear (vestibular system), and muscles and joints (proprioceptive system) to detect position and to make the postural adjustments in your muscles necessary for remaining upright, steady, and/or balanced.

Although this process sounds complicated, it happens naturally, without any conscious thought. But what happens when you have an injury to your body or your brain? Pain, weakness, and movement dysfunction can alter this system, requiring you to consciously take control of your muscles and joints to improve your balance in sitting, standing, and while moving.

With our unique program called the *Body & Brain Performance Strategy (BBPS)*, we (1) **Realign** your body's muscles and joints to make balancing easier; (2) **Retrain** your brain and body to actively use the right muscles, to do the right job, at the right time; and (3) **Restore** your balance strategies to improve your performance and decrease your risk of injury.

REALIGN

Your body requires proper alignment for everything you do. Whether you are lying down, sitting, standing, or walking, your brain wants your weight-bearing joints—ankles, knees, and hips—to be stacked under your shoulders. This allows your joints to properly transmit forces throughout your body and perform at its best. If your joints

are improperly “stacked,” abnormal forces will stress them, and you will be more likely to lose your balance. For example, when you walk with your feet close together you have a too-narrow base of support and are more likely to fall off balance. But, if you align ankles, knees, hips, and shoulders while walking, you'll have a wider base of support and are more likely to stay balanced. Similarly, if you sit at your computer with your legs crossed, your joints are not properly aligned and you will likely have a slouched posture. By sitting with your feet flat on the floor, your joints will be aligned, making it easier to have a more natural, balanced posture.

RETRAIN

Good balance requires that your “right muscles, are doing the right job, at the right time.” Most of the pain and dysfunctional movement we experience is caused by compensatory muscle use. In your body you have *stabilizers* (muscles that hold your posture and joints stable) and *movers* (muscles that move your joints through a range of motion). If you don't properly use your *stabilizers* to hold your posture and protect your joints, your *movers* are “recruited” to do the job. Unfortunately, your *movers* can't hold a balanced position and move properly at the same time. Those muscles will compensate for a while—until they can't do it any longer—and that's when you'll feel pain and/or your movement breaks down.

To prevent this compensation and injury, the BBPS retrains your body to use both your *stabilizers* and your *movers* more effectively. For example, if you get out of a chair using your thigh and back muscles,



you will likely experience tightness or pain in your knees and/or your back. However, if you properly align your ankles, hips, knees, and shoulders and use the *right muscles* (your glutes) at the *right time* (after your joints are aligned), to do the *right job* (stand up from your chair), your glutes (buttocks) will push you straight up to standing, with no pain in your knees and back. Give it a try and see for yourself!

RESTORE

Lastly, the BBPS focuses on restoring missing balance strategies. For example, you may find yourself losing your balance when you bend down to pick something up off of the ground, or falling backwards when you swing a golf club. This is often caused by the way your feet contact the ground.

Good balance starts with your feet because they are the only parts of your body that touch the ground. When you stand, your feet should hit the ground with three equal points of contact: the ball of your big toe; the ball of your little toe; and your heel. If you are standing with more weight on your toes than your heels, you will possibly fall forward when you

start to move. If your arches flatten out, you will feel more weight on your big toe and your heel—only two points of contact with the ground, which is less stable than three. As a result, your knees will drop inward, your hip stabilizers will “turn off,” your thigh and back muscles will be forced to compensate to support your posture; and you will likely feel the stress in your knees and back.

However, if you align your ankles, knees, hips, and shoulders, and balance yourself on three points of contact, your arches will be more supported, your knees will take less stress, your hip stabilizers will be more active, and your thigh and back muscles will not be needed to support a balanced standing posture.

Learning the *Body & Brain Performance Strategy* to *realign, retrain, and restore* will improve your performance—in daily activities and in sports—and give you back the control of your balance in life. **h&h**

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