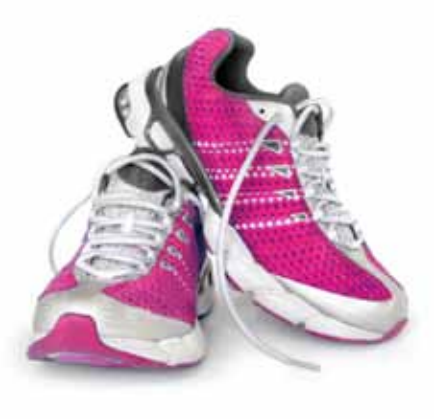
# The Power of Posture:

## a program to encourage optimal posture



**This postural training program provides active-aging professionals with key concepts and exercises to support body awareness and alignment, functional movement patterns and proper movements by participants**

*by Terry Eckmann, PhD, and Dayna Stoddart, BScPT*

Many parents encourage their children to "sit up straight" or "stand tall" to help them develop good posture. Why? Adults understand the impact of good posture on appearance. Fewer may realize that good posture is vital to overall health and well-being.

Britnell and colleagues[1] define posture as a state of skeletal and muscular balance and alignment that protects the body's supporting structures from progressive

*Continued on page 56*

# The Power of Posture: a program to encourage optimal posture *Continued from page 54*

deformity and injury. Maintaining good posture with a neutral spine position not only impacts the musculoskeletal system, but also breathing, digestion, concentration, cognition, energy levels and confidence. Good posture plays a crucial role in fall prevention as well.[2]

Poor posture contributes to pain, discomfort, muscle imbalance, shallow breathing, limited energy flow, and diminished functioning of internal organs. In addition, poor posture creates stress on muscles, ligaments, joints and cartilage. These stresses over time lead to low-back pain, neck pain, muscle knots, headaches, plantar fasciitis, bone spurs, osteoporosis, and respiratory problems.

As active-aging professionals, we know that physical activity is key to healthy aging and improved quality of life. The Power of Posture program sets a foundation for a well-rounded physical activity/fitness regimen by promoting body awareness and alignment, functional movement patterns, and proper movements to encourage optimal posture.

The program begins with a clear overview of how good posture looks and feels. The benefits of good posture are then explained to support how posture and alignment make a difference in health and well-being, and to give instructors some key concepts to share with clients. Finally, a postural training section is outlined with clear instructional cues to make the program easy to implement and the exercises simple to teach. These exercises strengthen and stretch muscles that are key for good posture, back health, and an overall balanced body. Let's start with a look at what constitutes good and bad posture.

## What is good posture?

Neutral spine posture in sitting and standing is essential to support the body's weight against gravity. Neutral spine refers to the natural curve of the lumbar spine (lower back). *Good posture* occurs when the body maintains muscular and skeletal balance, so joints and muscles don't experience overstretching or excessive tightening that results in decreased range of motion. *Poor posture* puts excess stress on muscles and joints, particularly in the neck and lower back, which can lead to discomfort, pain and musculoskeletal issues. If the body is not in good alignment for extended periods of time, muscles adapt by shortening or lengthening.[3] These adaptations often lead to musculoskeletal imbalances and, ultimately, injury.

Poor posture can present in the following ways:

- *Rounded and elevated shoulders and pushed-forward head position:* This position places stress on the spine between the top of the neck and skull and the base of the neck and upper shoulders. It reduces the stability of the shoulder blades, resulting in changes to the movement pattern of the upper extremities.
- *Forward tilting of the hips, increased curve of the lumbar spine, and protruding stomach:* This position places stress over both the hip joints and lower back.

Research has determined that sitting for prolonged periods is hazardous to health,[4] yet the average person sits a minimum of eight hours a day.[5] Sitting in good posture can help to alleviate a significant amount of postural discomfort and prevent some of the issues related to excessive sitting.

## Benefits of good posture

In what ways does good posture benefit the body? Breathing is positively affected when people sit and stand in a good posture (neutral spine position), with shoulders lifted and back, shoulder blades squeezed together behind the back, and core muscles engaged. Sitting in good posture gives the diaphragm and lungs room to do their work. Rounded and slumped shoulders, along with weak core muscles, causes poor posture and prevents maximal thoracic (chest) expansion, limiting breathing capacity.

Good posture positively impacts the functioning of internal organs. Each organ in the body has a natural position that good posture can help maintain. Poor posture changes the position of internal organs, cramping the lungs, stomach and intestines, which leads to faulty digestion and sometimes constipation.[6]

When a person moves in poor posture, the body isn't as balanced over its base of support.[1] This imbalance and inefficiency of movement can increase the risk for falls. Edmond and colleagues[7] identified other concerns related to poor posture, including difficulty with the following:

- standing in one place for about 15 minutes
- stooping, crouching and kneeling
- getting in and out of a car
- walking
- reaching
- putting on socks

Consciously practicing good posture and strengthening postural muscles can greatly benefit how individuals execute these movements and prevent falls.

Poor posture affects cognitive health. How? The brain uses 20% of the body's oxygen and glucose.[8] A misaligned spine negatively impacts the flow of oxygenated blood to the brain, which affects concentration, focus and cognition.

Further, individuals with poor posture are more likely to have poor self-image and less self-confidence.[9] Briñol, Petty and Wagner[10] found that sitting in a confident position was related to posi-

tive thoughts, while sitting in a doubtful posture was associated with more negative thinking. Feeling depressed is often associated with having less subjective energy. Peper and Lin[11] found that by changing posture, subjective energy level could increase or decrease. [**Ed.** For more about the multidimensional impact of posture, turn to Marilynn Larkin's article, "A wellness approach to posture," on pages 48–53.]

Exercises that strengthen and stretch key muscles help improve posture.

## The Power of Posture exercise series

Instructors can offer postural training with the Power of Posture exercises outlined in this section and in the sidebar on pages 62–68. These exercises, which can be integrated into another class or taught as a separate program, focus on body alignment and awareness, flexibility, strength, balance, breathing and relaxation. Functional movement patterns are used to encourage and develop optimal posture and bone building.

### Body alignment & proprioception

Throughout the Power of Posture training exercises, instructors use clear, concise visual and alignment cues to help clients improve body alignment and enhance proprioception (a sense of where the body is in space). Developing good body alignment and proprioception is the foundation of improving posture. It is key for participants to become more mindful of how their bodies feel both at rest (static) and with movement (dynamic) to empower the mind to focus on achieving good posture.

The three exercises below concentrate on awareness of and ability to recognize and maintain "connections" for shoulder girdle and pelvic/core stabilization in order to produce optimal upper-extremity/arm and lower-extremity/leg movement patterns.

**Figure 1.** *Standing in good posture.*

**Figure 2.** *Sitting in good posture.*

***Verbal cues for standing in good posture***

[Figure 1.] Stand tall. Visualize a rope attached to the crown of your head. Now imagine someone is pulling up on that rope toward the ceiling. Feel the lengthening in your spine, elongating your trunk; focus on maintaining this length. Now scan your body from your head to your feet. Create awareness of your body's position in space and your alignment. Your head is centered between your shoulders. Shoulders are above your hips. Connect your navel to your spine, keeping your spine neutral. This should not compromise your breathing. Visualize pulling up a zipper on a tight pair of pants; feel the tightening sensation in your lower abdomen. Keep your knees soft and feet about hip distance apart.

***Verbal cues for sitting in good posture***

[Figure 2.] Sit tall on a chair (stable surface) or on a stability ball (unstable surface). Visualize a rope attached to the crown of your head and someone pulling up on that rope toward the ceiling. Feel the lengthening in your spine, elongating your trunk. Focus on maintaining this length. Scan your body from your head to your hips. Create awareness of your body's position in space and your alignment. Your head is centered between your shoulders. Shoulders are above your hips. Your hips are weighted equally on the chair or ball. Notice if you are shifting your weight into one hip more than the other. Center your weight between both hips. Connect your navel to your spine, keeping your spine neu-

*Continued on page 60*

# The Power of Posture: a program to encourage optimal posture *Continued from page 57*

**a.**

**b.**

**Figure 3.** *Lying on your back in good posture.*

tral. This should not compromise your breathing. Visualize pulling up a zipper on a tight pair of pants; feel the tightening sensation in your lower abdomen.

***Verbal cues for lying on your back in good posture***

[Figure 3.] Lie on your back on a mat with your knees bent. Keep your feet and knees about hip distance apart, with your feet flat on the floor. Allow the mat/floor to provide feedback. Become aware of how your body is contacting the mat from your head to your tailbone. Create awareness of how your body feels. Your head should be centered between your shoulders. Chin is off your chest. Visualize a headlight on your chin; it should shine straight up to the ceiling. Compare your left and right shoulders. Are they weighted equally on the mat? Anchor your shoulder blades down on the mat as you visualize length in your collarbones. Scan down your spine. Compare the left and right sides of your spine/trunk. Are they weighted equally on the mat, or do you feel heavier on one side of your trunk? Center yourself. Let your tailbone be heavy on the mat. Compare your left and right hips. Are you weighted equally in your hips, or do you feel heavier in one hip versus the other? Center your weight in your hips.

*Purpose/benefit of these three exercises:* Create a mind-body connection and mental focus that enhances alignment and awareness of where the body is in space; establish ideal standing, seated and lying posture.

On pages 62–68, the Power of Posture exercise series continues with some foundational exercises that establish good posture.

## Empowering posture

Posture plays a vital role in our clients' overall health and well-being. The Power of Posture program offers key concepts and exercises for active-aging professionals to use to encourage optimal posture, safely and effectively, in clients.

This simple, yet effective, postural training can enhance more than physical health in clients. Learning the power of posture can also empower individuals—on many levels and in multiple dimensions—helping them enjoy a better quality of life.

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*Dayna Stoddart, BScPT, is wellness director at Ballantrae Golf and Country Club in Stouffville, Ontario, Canada. Stoddart, who received her degree from the University of Western Ontario, completed two years in kinesiology before transferring to physical therapy. She moved to Chicago, Illinois, where she was licensed as a physical therapist. In Chicago, Stoddart practiced in long-term care for many years with Sundance Rehabilitation, before working in subacute and acute care. After moving back to Canada, Stoddart channeled her passion for exercise and healthy lifestyle choices combined with her academics and career experiences into a successful position as wellness director for Ballantrae, a large active-adult lifestyle community.*

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**Images courtesy of Dayna Stoddart**

*Continued with the postural training exercises on pages 62–68*

## Mark your calendar

Join Terry Eckmann and Dayna Stoddart at the ICAA Conference 2015, taking place November 19–21 in New Orleans, Louisiana, where they will be among the presenters. Their sessions will include:

**November 21; 10:00–11:15 a.m.**
**A body balance class demonstrating the power of posture**
Dayna Stoddart will teach participants exercises and exercise variations that safely, effectively encourage improved posture, as well as appropriate cueing.

**November 20; 4:00–5:30 p.m.**
**20 Brain booster minute movers and minute minders**
Terry Eckmann's brain-health session will offer 20 engaging brain-booster activities that participants can use to energize residents or members.

**November 21; 8:30–9:45 a.m.**
**Circle dances on your feet and in your seat**
In this session, Terry Eckmann will share dances that participants can incorporate into group exercise classes or teach in one class to make into a cardio workout.

To learn more or to register, visit www.icaa.cc/conferenceandevents/overview.htm or call toll-free 866-335-9777.

# The Power of Posture: a program to encourage optimal posture *Continued from page 61*

## The Power of Posture: postural training exercises

### Key exercises to improve posture at all ages & stages of life

Instructors can include some of these key postural training exercises in any program/class, or teach the series in its entirety. Three preliminary exercises are available to help participants build awareness of the body's alignment and its position in space. These exercises on pages 57–60 cue standing, sitting and lying on the back in good posture.

**1. Forward-head syndrome/postural exercise: sitting or standing**

Interlace your fingers and place your hands at the base of the skull, cupping the cervical spine/neck. If you are tight in the pectoral muscles (chest), allow your elbows to point forward. Keeping your hands firm, pull/press the skull into your hands without any change to the cervical spine/neck (a). Visualize your ears moving back over your shoulders. Gently press and release. Feel a stretch. Do not tip your chin up or down, or "pop" your chest or ribs forward.

**a.**

**2. Shoulder rolls: sitting or standing**

Sit or stand in good posture (a). Roll your shoulders backwards only. As you roll the shoulders up and back (b), squeeze your shoulder blades together behind your back. Continue rolling your shoulders backwards 10 times. Be aware of how your neck and shoulders feel.

**a.**

**b.**

**3. Shoulder blade squeeze: sitting or standing**

With your arms at your sides, squeeze your shoulder blades together behind your back, hold and release. Imagine holding a tennis ball between the shoulder blades. Alternatively, hold your arms out in front at shoulder height. Squeeze shoulder blades together as you bend your elbows (a), pulling your arms and shoulders back. Squeeze and release.

**a.**

**4. Shoulder girdle mobility**

*Lying on the back, utilizing the floor/mat for feedback*
Lie on your back on a mat. Place your feet flat on the floor, with your feet and knees about hip distance apart. Float your hands directly above your shoulders, palms facing in, hands about shoulder distance apart, and fingers long. Reach your fingertips up toward the ceiling, feeling your shoulder blades come up off the mat around your rib cage (a). Inhale. As you exhale, pull the shoulder blades back down into the mat (b). Keep your elbows straight; do not bend your arms; keep your elbows and wrists still. This focuses on shoulder girdle mobility

*Sitting in a chair (modified)*
Sit tall in a chair, with your thighs supported and hips weighted equally on the seat; your back supported against the seat's back. Place your feet flat on the floor (or on a support under your feet). Hold your arms out in front at shoulder height, palms facing in and hands about shoulder distance apart. Inhale as you reach your fingers forward (c). Keep your lower back supported against the chair, but feel your shoulder blades moving around your rib cage away from the seat's back. Exhale and pull your shoulder blades back against the chair (d).

**a.**

**b.**

**c.**

**d.**

*Continued on page 64*

# The Power of Posture: a program to encourage optimal posture *Continued from page 63*

**5. Chest opener**

*Lying on the back on a mat (as in exercise 4 above)*
Lying on a mat, scan your body from your head to your tailbone. Become aware of how your body is contacting the mat. Make sure your chin is off your chest. Anchor your shoulder blades down on the mat. Float your hands up above your shoulders, fingers toward the ceiling, palms facing each other. Visualize length in your collarbones. Inhale and open your arms out to the sides as you lower your arms toward the floor, palms facing up (a). Keep your elbows and wrists still. Exhale and float your hands back up above your chest (b). Keep your shoulder blades anchored on the mat. Control the movement. Listen to your body; do not push into pain.

*Sitting in a chair (modified) (as in exercise 4 above)*
Sitting in a chair, scan your trunk as you sit against the seat's back. Hold your arms out in front at shoulder height, palms facing in, hands about shoulder distance apart. Anchor your shoulder blades against the chair. Visualize length in your collarbones, fingers long. Inhale and open your arms out to the sides (c) until you feel the stretch across the front of your shoulders and chest. Keep your elbows and wrists still. Exhale and bring your arms together in front of your chest (d). Control the movement. Listen to your body; do not push into pain.

**a.**

**b.**

**c.**

**d.**

**6. Rib cage stability**

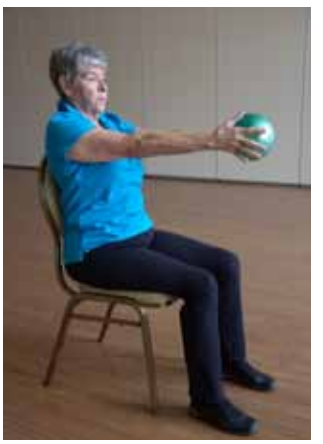
*Lying on the back on a mat (as in exercise 4 above)*
Lying on a mat, scan your body from your head to your tailbone. Create awareness of how your body is contacting the mat. Hold a ball between your hands, palms facing each other; press the ball between your palms. Anchor your shoulder blades down into the floor. Connect your navel to your spine. Be sure you keep your spine neutral. Inhale as you take the ball overhead to touch the floor behind you (a). It is important to listen to your body and do not push into pain; stay within a pain-free range. Keep your rib cage heavy on the mat and **do not** let your lower back arch or pop off the mat. Exhale and float the ball back above your chest (b). Keep your elbows and wrists still.

*Sitting in a chair (modified) (as in exercise 4 above)*
Sitting in a chair, scan your trunk against the seat's back. Hold your arms out in front at shoulder height, palms facing in, hands about shoulder distance apart. Anchor your shoulder blades against the chair. Hold a ball between your hands and press it between your palms. Connect your navel to your spine. Be sure you feel your lower back supported against the chair. Inhale as you take the ball overhead (c). Listen to your body and do not push into pain; stay within a pain-free range. Keep your rib cage heavy against the chair and **do not** let your lower back arch or pop away from the seat's back. Exhale and float the ball back down before your chest (d). Keep your elbows and wrists still.

**a.**

**b.**

**c.**



**d.**

*Continued on page 66*

# The Power of Posture: a program to encourage optimal posture *Continued from page 65*

**7. Pelvic stabilization: rolling ball in and out**

*Lying on the back on a mat (as in exercise 4 above)*
Lying on a mat, scan your body from your head to your tailbone. Create awareness of how your body is contacting the mat. Your head is centered between your shoulders; your chin is up off your chest; and your shoulder blades are anchored down on the mat and weighted equally. Connect your belly to your spine. Ensure your hips are weighted equally on the mat, and your tailbone feels heavy. Place your heels on the stability ball, keeping your legs straight. Inhale and roll the ball in (a). Exhale and roll the ball out (b). Do not let your lower back arch or rise off the mat when you roll the ball out. This movement should be one smooth roll in and roll out. Do not rock hips from side to side.

**a.**

**b.**

**8. The Bridge**

*This a fundamental exercise for people of all ages.*
Lying on the mat, scan your body from your head to your tailbone. Become aware of how your body is contacting the mat. Your head is centered between your shoulders; your chin is off your chest; and your shoulder blades are anchored down on the mat. Connect your belly to your spine. Keep this connection. With knees bent, keep both your feet and your knees about hip distance apart, and your feet flat on the floor/mat. Scan and center the hips. Inhale to prepare. Exhale as you raise your hips/tailbone off the mat (a). Keep your shoulder blades anchored against the floor. Feel the weight between your shoulder blades, not in your neck. Keep your chin off your chest. Inhale as you lower your hips to the mat (b) (notice if your hips touch down together or one side touches down before the other).

**a.**

**b.**

**9. Upper-body strengthening/range-of-motion series**

*This exercise series reinforces shoulder girdle stabilization.* Lying on the mat, scan your body from your head to your tailbone. Become aware of how your body is contacting the mat. Your head is centered between your shoulders; your chin is off your chest; your shoulder blades are anchored down on the mat. Connect your belly to your spine. Keep this connection. With knees bent, keep both your feet and your knees about hip distance apart, with your feet flat on the floor/mat. Scan and center the hips.

Take a weighted yoga ball/dumbbell in your right hand. Raise the hand above your shoulder, palm facing forward (a). Inhale as you lower your arm down by your side to your hip (b). Don't let gravity pull your arm down; control the movement. Keep your elbow and wrist still. Your shoulder blades stay heavy on the mat. Exhale as you float your arm up to the starting position (hand above shoulder). Always listen to your body and do not push into pain; stay within a pain-free range. Do not shift into one side of your body/trunk. Switch the ball to your left hand and repeat.

Take a weighted yoga ball/dumbbell in your right hand. Raise the hand above your shoulder, palm facing forward (c). Inhale as you lower your arm back by your ear (d). Don't let gravity pull your arm down; control the movement. Keep your elbow and wrist still. Do not push into pain; work in a pain-free range. Keep your shoulder blades and rib cage heavy on the mat. Be sure to keep your belly button connected to your spine. Do not let your lower back arch or pop off the mat. Switch the ball to your left hand and repeat.

**a.**

**b.**

**c.**

**d.**

*Continued on page 68*

# The Power of Posture: a program to encourage optimal posture *Continued from page 67*

**10. Standing balance exercise**

*Use a wall or a chair for support as needed. Keep it safe.*
Stand tall. Visualize a rope attached to the crown of your head. Your head is centered between your shoulders; your shoulders are above your hips. Connect your belly to your spine. Place your right foot on a ball (your knee above your ankle). Keep the ball still under your right foot. Set a solid foundation under the left foot by anchoring a point under the big toe, baby toe and heel. Visualize that foot growing roots into the ground. Keep the left knee loose; do not lock it. Focus on a point on the floor or wall, stand still and hold. Switch legs. Repeat with your left foot on the ball, standing on the right leg. Progress the challenge by increasing the time you can maintain a still stance, and by changing your arm position from hands on your hips (a), to arms by your sides (b), to hands above your head (c).

**a.**

**b.**

**c.**

**Images courtesy of Dayna Stoddart**