



Getting You On

THE ROAD TO RECOVERY

A Quarterly Newsletter from Peninsula Rehab & Sport Medicine

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Balance and Physical Therapy

From the Healing Bridge Physical Therapy
September 2009 Wellness Notes

By [Zeyla Brandt, PT](#)

"Balance has become a modern buzzword: balance between work and play, exercise and relaxation, and in the physical therapy clinic, balance between muscle strength and flexibility. There is another kind of balance: balance that allows us to stay upright in space.

That kind of balance is determined by many things. The components of the balance system include:

- *the vestibular system, located in the inner ear. This is a system of canals that tells the brain when we move*
- *the eyes, that also give information about movement*
- *the musculoskeletal system, which allows the body to make adjustments based on the information from the vestibular system and the eyes*
- *the brain, which processes all the information, and relays instructions to the musculoskeletal system and the eyes to deal with the information it has received.*

When there is a problem with any part of the balance system, the main complaints are of falling or losing balance, and of "dizziness". Dizziness is a word that can mean many things: a spinning sensation (called vertigo), tipping, the feeling of falling or "catching" of balance, lightheadedness or faintness, or the feeling that you have a "bobble head" and are unable to keep your eyes steady. All of these may be in the absence of actual movement.

There are several reasons why this might occur: damage to the structures of the inner ear, eye problems, or musculoskeletal weakness. If we cannot move our feet or legs in response to the information from the balance organs, the result is the same as if we had faulty information: we feel as if we might fall, or worse, we actually do fall! The treatment for the musculoskeletal system includes strengthening the muscles and improving movement patterns, allowing for accurate responses to changes in position (more on this next month).

The most common problem with the vestibular system is BPPV, Benign Paroxysmal Positional Vertigo. This is a condition that becomes more common as we age, affecting up to 30% of the population over the age of 70! These unfortunate people report difficulty accomplishing the most basic of tasks: rolling over in bed, sitting up, lying down, having their hair washed or dental work done. Classically, BPPV presents as a feeling of spinning or falling, a few seconds after the person has changed position. The cause of these symptoms is small crystals moving around in the canals of inner ear.

There is a system of treatment for BPPV that is extremely effective in moving the crystals back out of the canals of the inner ear, resolving the symptoms. While it is not a cure for BPPV, it eliminates the unpleasant sensation, and the patient is usually very happy to be able to lie down again without the feeling of their head falling through the bed!

The role of the balance organs is often overlooked or taken for granted...when they are working well. But anyone with a problem in any of the systems involved will tell

you that they will do almost anything for relief from the spinning and falling sensation. Physical therapy can provide an effective solution to this debilitating problem and address any associated problems that may have resulted from long term dizziness". --- end of reprinted article.

Here in the PRSM clinic we treat a variety of problems that can cause balance disorders. Our therapists are trained to perform Berg Balance Assessments, an assessment which can determine the severity and nature of one's balance problems. Our Biodex Balance System is a testing and training



Biodex Balance System

tool which is very helpful in balance training. In addition, a variety of obstacle courses and strengthening exercises for legs and core muscles are used.

A LITTLE FUN AND GAMES

We thought it might be fun to include a word search which includes many of the terms you may have heard around the clinic while you were here. Find the word and circle the entire word. You may find that they intersect in some places. They may run bottom to top or diagonal. Give it a try, but we warn you It's not easy!

BALANCE	BAPS	BERG	COLDTHERAPY
DEBRIDMENT	ELECTRODES	ELECTROTHERAPY	EVALUATION
EXERCISE	GAIT	GAITBELT	LUMBARSTABILITY
PHYSICALTHERAPY		RANGEOFMOTION	TENSUNIT
THERABALL	THERABAND	THERAPUTTY	ULTRASOUND
WHEELCHAIRUSE		WHIRLPOOL	WOUND CARE

J U C L M U C Y N O E U E E X O Q Q A K
 U H C J W M M P E X E R C I S E H N T R
 T O K F C Z N A S U J P Y V H J O S T X
 N C T Z O O O R U S P G E O X I E P N Y
 R V W U L P I E R S N W V K T D H V T G
 T O Q K D X T H I Z Y H T A O Y E I R E
 T C A I T A O T A K V G U R S R L U H D
 X P O K H C M O H I G L T I A I T Y E R
 W G X B E D F R C P A C C C B I T B A B
 M A E S R S O T L V E A D A N T R A L P
 D I R X A P E C E L L N T U U I A L R E
 N T V R P T G E E T U S S P D P F A E H
 D B Z X Y A N L H O R N A M L S C N X S
 P E L S I I A E W A E R E M I P V C I S
 E L L T G G R E B T E N F Y N A P E P C
 E T U S O A V M D H T H E R A B A L L R
 Q C F X P Y U L T R A S O U N D W A W G
 I N R Y Y L D N A B A R E H T H V Z U Q
 D F R W H I R L P O O L G T X O B I W K
 B Q N L L K I L G Q N Y Q T O K K G R S

DO YOU DRINK ENOUGH WATER?

How Much is Enough?

(Information taken from the Mayo Clinic website)



Water is essential to good health, yet needs vary by individual. These guidelines can help ensure you drink enough fluids.

It's a simple question with no easy answers. Studies have produced varying recommendations over the years, but in truth, your water needs depend on many factors, including your health, how active you are and where you live. Although no single formula fits everyone, knowing more about your body's need for fluids will help

you estimate how much water to drink each day.

Health benefits of water

Water is your body's principal chemical component and makes up about 60 percent of your body weight. Every system in your body depends on water. For example, water flushes toxins out of vital organs, carries nutrients to your cells and provides a moist environment for ear, nose and throat tissues.

Lack of water can lead to dehydration, a condition that occurs when you don't have enough water in your body to carry out normal functions. Even mild dehydration can drain your energy, make you tired, and wilt just like a plant would.

How much water do you need?

Every day you lose water through your breath, perspiration, urine and bowel movements. For your body to function properly, you must replenish its water supply by consuming beverages and foods that contain water.

So how much water does the average, healthy adult living in a temperate climate need? In general, doctors recommend 8 or 9 cups. Here are the most common ways of calculating that amount:

- **Replacement approach.** The average urine output for adults is about 1.5 liters (6.3 cups) a day. You lose close to an additional liter (about 4 cups) of water a day through breathing, sweating and other bodily functions. Food usually accounts for 20 percent of your total fluid intake, so if you consume 2 liters of water or other beverages a day (a little more than 8 cups) along with your normal diet, you will typically replace your lost fluids.
- **Eight 8-ounce glasses of water a day.** Another approach to water intake is the "8 x 8 rule" — drink eight 8-ounce glasses of water a day (about 1.9 liters). The rule could also be stated, "Drink eight

8-ounce glasses of fluid a day," as all fluids count toward the daily total. Although the approach really isn't supported by scientific evidence, many people use this easy-to-remember rule as a guideline for how much water and other fluids to drink.

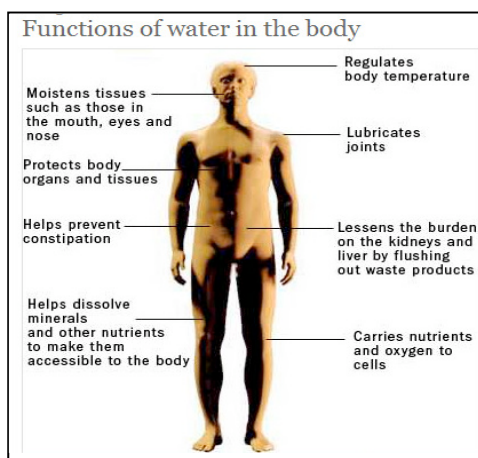
- **Dietary recommendations.** The Institute of Medicine advises that men consume roughly 3 liters (about 13 cups) of total beverages a day and women consume 2.2 liters (about 9 cups) of total beverages a day.

Even apart from the above approaches, if you drink enough fluid so that you rarely feel thirsty and produce 1.5 liters (6.3 cups) or more of colorless or slightly yellow urine a day, your fluid intake is probably adequate. If you're concerned about your fluid intake, check with your doctor or a registered dietitian. He or she can help you determine the amount of water that's best for you.

Factors that influence water needs

You may need to modify your total fluid intake depending on how active you are, the climate you live in, your health status, and if you're pregnant or breast-feeding.

- **Exercise.** If you exercise or engage in any activity that makes you sweat, you need to drink extra water to compensate for the fluid loss. An extra 400 to 600 milliliters (about 1.5 to 2.5 cups) of water should suffice for short bouts of exercise, but intense exercise lasting more than an hour (for example, running a marathon) requires more fluid intake. How much additional fluid you need depends on how much you sweat during exercise, and the duration and type of exercise. During long bouts of intense exercise, it's best to use a sports drink that contains sodium, as this will help replace sodium lost in sweat and reduce the chances of developing hyponatremia, (an electrolyte disturbance in which the sodium concentration in the serum is lower than normal) which can be life-threatening. Also, continue to replace fluids after you're finished exercising.
- **Environment.** Hot or humid weather can make you sweat and requires additional intake of fluid. Heated indoor air also can cause your skin to lose moisture during wintertime. Further, altitudes greater than 8,200 feet (2,500 meters) may trigger increased urination and more rapid breathing, which use up more of your fluid reserves.
- **Illnesses or health conditions.** When you have fever, vomiting or diarrhea, your body loses additional fluids. In these cases, you should drink more water. In some cases, your doctor may recommend oral rehydration solutions, such as Gatorade, Powerade or CeraLyte. Also, you may need increased fluid intake if you develop certain conditions, including bladder infections or urinary tract stones. On the other hand, some conditions such as heart failure and some types of kidney, liver and adrenal diseases may impair excretion of water and even require that you limit your fluid intake.



▪ Pregnancy or breast-feeding.

Women who are expecting or breast-feeding need additional fluids to stay hydrated. Large amounts of fluid are used especially when nursing. The Institute of Medicine recommends that pregnant women drink 2.3 liters (about 10 cups) of fluids daily and women who breast-feed consume 3.1 liters (about 13 cups) of fluids a day.

Beyond the tap: Other sources of water

Although it's a great idea to keep water within reach at all times, you don't need to rely only on what you drink to meet your fluid needs. What you eat also provides a significant portion of your fluid needs. On average, food provides about 20 percent of total water intake. For example, many fruits and vegetables, such as watermelon and tomatoes, are 90 percent or more water by weight. In addition, beverages such as milk and juice are composed mostly of water. Even beer, wine and caffeinated beverages — such as coffee, tea or soda — can contribute, but these should not be a major portion of your daily total fluid intake. Water is still your best bet because it's calorie-free, inexpensive and readily available.

Staying safely hydrated

It's generally not a good idea to use thirst alone as a guide for when to drink. By the time you become thirsty, you may already be slightly dehydrated. Further, as you get older your body is less able to sense dehydration and send your brain signals of thirst. On the other hand, excessive thirst and increased urination can be signs of a more serious medical condition. Talk to your doctor if you experience either. To ward off dehydration and make sure your body has the fluids it needs, make water your beverage of choice. Most healthy adults can follow these tips:

- Drink a glass of water with each meal and between each meal.
- Hydrate before, during and after exercise.
- Substitute sparkling water for alcoholic drinks at social gatherings.

Although uncommon, it is possible to drink too much water. When your kidneys are unable to excrete the excess water, the electrolyte (mineral) content of the blood is diluted, resulting in low sodium levels in the blood, a condition called hyponatremia. Endurance athletes, such as marathon runners, who drink large amounts of water, are at higher risk of hyponatremia. In general, though, drinking too much water is rare in healthy adults who eat an average American diet.

SHOULDER INJURIES

Without a doubt, one of the most common body parts treated for physical therapy is the shoulder, usually an injury to the rotator cuff. It is remarkable all the various ways how people hurt their shoulders. Here are a few of the answers given when asked how did you hurt your shoulder?

- 1. I don't know.
- 2. I was horsing around with my kids, grandkids, brother, etc., and fell on it.
- 3. I was lifting something really heavy.
- 4. I was playing baseball when it popped.
- 5. I guess I was sleeping on it wrong.
- 6. I was reaching for something too high for me when I felt a pain.
- 7. It started hurting after I played golf yesterday.

Arthritis and bursitis are also common causes of shoulder pain. In autopsy studies it has been recorded that tears are noticeable in 70 percent of individuals over the age of 80 and 30 percent in those under the age of 70.

Injuries can occur in any number of ways, but the most common is degeneration of the joint from wear and tear over time, or a traumatic injury (baseball pitcher, assembly line worker, etc.). All of these can cause injury and or tears individually or collectively to the rotator cuff muscles.



Common symptoms of a shoulder injury are pain and weakness. Common complaints include the inability to raise your arm or reach behind to get a wallet out of your back pocket or clasp a bra. Other symptoms may include inability to rotate your arm or brush your hair, etc. This injury often occurs to the dominant arm as it is utilized more.


If you have symptoms of pain and weakness that last for more than 2 – 3 days and are interrupting your ability to sleep, perform daily activities, work, etc., it would be wise to contact your physician. You should also ask your physician to write a referral for physical therapy for treatment to help re-establish your range of motion and decrease pain. The longer you wait, the stiffer the shoulder may become and the more motion you may lose in the process.

GOING GREENER! SAVING TREES --- LESS TRASH

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- * Ergonomics
- * Manual Therapy
- * The needs of the active retirement community

with the goal of getting you *on the road to recovery* and back to the activities you enjoy.

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