

ACTIVE P.T. SOLUTIONS  
...BECAUSE LIFE  
SHOULD BE ACTIVE

# APTS Monthly



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## NEW Office

### Hours:

Monday - 8:00am -  
5:30pm

Tuesday - 8:00am -  
7:00pm

Wednesday - 8:00am  
- 6:00pm

Thursday - 8:00am -  
7:00pm

Friday - 8:00am -  
5:00pm

Saturday - 8:00am -  
1:00pm

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## The Human Body's Response to Trauma

When we are involved in an accident and suffer an injury, we expect to experience pain immediately following the incident. However, sometime down the road we also expect to heal and recover, ultimately moving on with our lives. Unfortunately, many of us never fully recover and are left with what is commonly termed *residual pain and limitation*. Many patients cannot come to terms with residual symptoms because, "I didn't have this pain before the accident" and their expectation is to be the way they were "before the accident". There are many reasons for residual post-traumatic pain.

How our bodies handle physical trauma such as an automobile or skiing accident is largely dependent on the status of our tissue health and strength at the time of the injury. If you are strong and healthy, you have a better chance of withstanding the trauma and having a complete recovery. If you are very deconditioned and have several chronic diseases, you are more likely to experience residual pain and dysfunction.

Age plays a role in your ability to heal and recover. The older we are, the less resilient our tissues are. Therefore, when they are stretched or compressed, they don't bounce back like they did when we were younger. Consequently, the damage that occurs may be permanent. When we are younger than 25 years old, we generally heal with new tissue. This is why when we are young and have an injury or a cut there is less scar tissue produced. After the age of 25, we will progressively heal with scar tissue instead of regenerating new tissue. The development of scar tissue results in poor tissue mobility, restricted motion, poor microcirculation, and nerve entrapments.

Our DNA also governs our healing ability. Essentially, our parents and family tree dictates how we will respond to trauma. We won't know how our bodies will respond until we actually experience the trauma, so this part is a bit of a guessing game. If our parents gave us a

user's manual it might make it easier but that is not the case.

Other age-related aspects that hinder our ability to recover from trauma is the presence of pre-existing arthritis or degenerative changes. Joints that are arthritic are inherently unstable. When they experience a trauma, the forces result in more damage than had they been healthy at the time of injury. This subset of patients is



the most likely to experience some level of long term pain and limitation following a notable injury such as an automobile accident.

Along with degenerated or arthritic joints we usually find degenerated or thinning tissues. Tendons will thin as the corresponding muscles atrophy or weaken. Think of our younger tissues like a washcloth. A washcloth is strong and flexible and can handle a good amount of tugging, pulling, and abrasion before it breaks down. Now think of our older tissues more like a sheet of paper towel. It can handle some pulling and pressure but it doesn't take very much to damage it be-

yond recognition. So our younger muscles, tendons, and other connective tissues will stretch and absorb impact much better than our older thinner tissues.

The type of force that we are exposed to also plays a role in our ability to recover or continue to have lingering pain and lost function. If we are sitting in our car stopped at a traffic light with our seatbelt on and suddenly we are hit from behind, this is commonly referred to as a "whiplash" injury. The restraint system keeps our torso pinned to the seat and our head is free to move back and forth on our neck. Because of the single shoulder harness commonly used it is not an entirely linear force. There is a rotational component. This is why we see more residual neck pain than we did in the days of the "whiplash belt" which was only a waist restraint. Multidirectional accidents usually occur in more high-speed type impacts. Examples would be motorcycle accidents, skiing accidents, or pedestrian accidents. Let's say you decide to walk home from work one day, and while you are crossing the street in the middle of the crosswalk, a pickup truck fails to see you and hits you on the side sending you airborne approximately 30 feet. While the initial impact may have been linear, the subsequent flight and impact on the ground was multidirectional. We refer to this as "ragdoll syndrome". Patients in this type of accident are almost guaranteed to experience residual chronic pain and dysfunction for years following the injury.

General health, strength and flexibility are our best assets to withstanding and recovering from a traumatic accident. If you are older when the accident happens, it means you will need to put in more effort to recover and you are looking at a longer road than your younger counterparts.

Article by Dale Buchberger, DC,  
PT, CSCS

# Exercise of the Month: Ceiling Reach



Ceiling reach: start and end position (top), reach position (bottom)

The ceiling reach exercise works your *serratus anterior* muscles, which work to bring your shoulder blades around the side of your ribcage. In today's technology-enhanced society, this tends to be the assumed posture and, therefore, these muscles become weak, causing instability in the shoulder. This fairly simple exercise will help to strengthen this muscle group.

To start, lie on your back on the floor holding a sturdy stick (broomstick, dowel, bat, roll of

wrapping paper, etc.) with your hands placed slightly wider than your hips or shoulders. Raise the stick until your arms are at a 90-degree angle to your body with your elbows fully extended. Reach your arms toward the ceiling by lifting your shoulder blades off the floor. Keeping your elbows fully extended, lower your shoulder blades back down to the table.

Start with one set of 10 repetitions two different times per day, or two sets of 10 repeti-

tions (with a 30-60-second break in between sets) once a day. As it gets easier, increase your repetitions by 3-5 until you reach 30 repetitions. You should notice a difference in your posture as well as shoulder strength within 4-6 weeks. Do not perform if your pain level reaches a 5/10 or more. As with any exercise, if this causes any kind of discomfort, seek the help of a health care professional.

## Proper Lifting Techniques For Shoveling Snow



Don't shovel like this guy!

The online resource "Spine Health" offers the following suggestions on their website:

Always face the load you want to lift while keeping your shoulders and hips square to the load

Use a shovel that is lightweight and the proper length to minimize bending at the waist.

Bend at the hips, not the lower back or waist, and push the chest out, pointing forward. Then bend your knees and lift with your thigh

and hip muscles, keeping your back in the upright position.

Lift lighter loads more often rather than heavier loads less often. The average snow shovel load weighs approximately 20 pounds.

Walk to the area where you want to deposit the snow rather than throwing it. Keep the load as close to your body as possible until you are ready to drop it. Then drop the snow just in front of your feet.

When at all possible, push the snow towards its intended destination instead of lifting it.

Avoid throwing the snow over your shoulder or to the side. The twisting motion involved may lead to a lower back injury.

Or just don't shovel! Some people should not be shoveling snow. Men and women over the age of 45, especially those who are not physically active on a regular basis or that have an existing history of a heart condition, should seek assistance with snow shoveling.

## Did You Know That...?



...Active Physical Therapy Solutions has a Facebook page? "Like" us to keep up with what's going on at APTS, to view weekly postings of health tips, and to watch videos demonstrating some of our

exercises. You will also be able to access Dr. Buchberger's monthly Citizen health column articles and these monthly newsletters. And the best part? You can "share" all this with your friends!

**Active Physical Therapy Solutions celebrated 5 years at our Columbus Street location on January 5, 2020! Thanks to all of you for your patronage, support, and referrals!**



## Total Shoulder Replacement vs. Reverse Total Shoulder Replacement



Over the last several months we are seeing an increasing number of patients recovering from or requiring shoulder replacement surgery. Generally there are two types of shoulder replacement

surgery. The first is known as a total shoulder arthroplasty (TSA) and the other is referred to as a reverse total shoulder arthroplasty (r-TSA). Which one you have or require depends on your particular set of circumstances and the condition of your shoulder at the time of surgery.

A traditional total shoulder replacement (TSA) is similar to the original anatomy in that the socket structure remains concave just like the original scapula and the ball remains round like the humeral head. Granted, the parts are usually plastic and titanium (there are a variety of metals), but the design mirrors the original equipment. Patients that have traditional total shoulder replacement surgery have a rotator cuff that can be repaired or attached in a way that will work with the new replacement parts. However, if both the ball and the socket are degenerated and destroyed, this damaged architecture will prevent normal motion. This is usually an older patient or it could be a middle-aged patient that has abused the shoulder through a combination of heavy weight lifting and a physical occupation. Patients that have a total shoulder replacement can expect a reduction in pain once the rehabilitation process is complete. However, it is rare for patients to achieve full range of motion following the replacement. So total shoulder replacements are considered a salvage surgery performed primarily for pain relief.

Any additional post-operative function should be considered a bonus. Another consideration is that some patients may develop deep periprosthetic infections anywhere from 2-weeks to 3-years after the surgery. A sign of the deep periprosthetic infection is pain that does not resolve with external treatments such as physical therapy. Like anything else, the best way to diagnose the infection is to suspect it.

Reverse total shoulder arthroplasty (r-TSA) commonly referred to as a reverse total shoulder replacement does just what it says: it reverses the anatomy of the shoulder. The ball is now attached to the scapula or shoulder blade where the socket once was. The socket is now attached to the upper arm. This type of replacement is performed for several different reasons or circumstances. If the patient's shoulder is severely degenerated with an atrophied or severely torn rotator cuff, the r-TSA will allow the shoulder to leverage the larger deltoid muscle and bypass the rotator cuff, if you will. If a patient has had a previous TSA and develops a deep periprosthetic infection, it is common for the surgeon to perform a revision surgery with the r-TSA. Patients that are offered r-TSA surgery do have a better chance to advance their range of motion beyond their restricted pre-operative range of motion. One common complication of the r-TSA is a stress fracture of the scapula where the prosthesis was attached. Receiving supervised post-operative rehabilitation can minimize this. Your physical therapist will progress you rehabilitation at a rate that will reduce the risk of post-operative fracture.

Some patients that have had a traumatic injury to their shoulder in their teens or twenties may experience early degenerative changes of the shoulder joint. An example would be if a young athlete experiences what is known as a Bankart injury

involving a fracture of the socket and a torn cartilage and ligament. It is not uncommon for this injury to be repaired with screws leading to premature arthritic development. In these cases, it is possible to consider a shoulder resurfacing. This is a type of hemiarthroplasty that is a round cap placed over the existing ball. The resurfacing procedure is less invasive and preserves range of motion and activity level. Patients that have resurfacing can return to the majority of recreational and athletic activities that they enjoyed before their dysfunction.



**Patients that have a total shoulder replacement can expect a reduction in pain once the rehabilitation process is complete; however, it is rare for patients to regain full range of motion.**

If you are over the age of 50 and have been told you have a "frozen shoulder" you should inquire about the X-ray results. It is not uncommon for patients with a "stiff shoulder" to be labeled "frozen" when there is actually severe arthritic development causing the stiffness. By definition a "frozen shoulder" is an inflammation and stiffness of the ligaments with the bones underlying being of normal architecture. When the architecture is destroyed by severe degeneration or arthritic development, the stiffness no longer falls under the umbrella or "frozen shoulder" and has progressed to severe osteoarthritis. If your shoulder is stiff and restricted, the first step is a regular x-ray to take a good look at the bony architecture to make sure that ball is still round. If you have been told you need a shoulder replacement, be sure that your orthopedic surgeon offers all three types of replacements. This will ensure you get the one you need and not the one they want you to have.

Article by Dale Buchberger, DC, PT, CSCS  
Photos courtesy of Tom G.

## APTS Recipe Box: Paleo Strawberry Mousse

This dessert is quick and easy to prepare and only uses a few simple ingredients. It can be served both as a fancy, elegant dessert or just a casual, everyday treat.

**Ingredients:** 1 can full fat coconut milk, chilled; 10-12 large strawberries (enough to make between 1 1/2-2 cups strawberry puree); 2-3 tbsp honey (to taste); 1 tbsp gelatin

**Instructions:** Chill the can of coconut milk in the refrigerator before beginning. This will help separate the layer of coconut cream from the liquid layer below. Scoop out only the solid coconut cream layer from the top of the can

and place into a chilled mixer bowl. Keep the bowl of coconut cream cold in the fridge while working on the following steps. Pour the remaining liquid from the can into a saucepan with the gelatin and stir them together while heating over low to medium heat until the gelatin has dissolved. Remove from heat. Add the honey to the warm gelatin mixture and stir until it is well incorporated. Clean and cut the strawberries into small pieces and add them to a blender along with the warm gelatin mixture. Blend until smooth. The chilled strawberries should help cool the gelatin mixture, but if it is still warm, allow it to cool. Whip the coconut cream into a

whipped cream using a chilled beater. Fold the strawberry mixture into the coconut whipped cream and immediately pour the mixture into serving dishes. Chill for at least an hour before serving.

**Tip:** If you feel that it is too much of a hassle to make a coconut whipped cream separately and instead decide to mix all the ingredients together, you will still end up with a good, light dessert!

Source: <https://http://www.rubiesandradishes.com/2016/02/15/easy-paleo-strawberry-mousse/>



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Get Well...Get Active...Be Active

Newsletter Edited by Carolyn B. Collier, PTA

At Active Physical Therapy Solutions, we utilize the most cutting edge treatment and management techniques available. Our goal is to deliver the best possible healthcare in a friendly, caring, and well-organized environment. Our staff is here to provide active solutions to achieving your personal goals!

...BECAUSE LIFE SHOULD BE

**ACTIVE!**

## Nutrition 101: Chronic Fatigue and the Paleo Diet

Chronic fatigue syndrome is an actual condition marked by disabling fatigue of at least 6 months, accompanied by numerous rheumatological, infectious, and neuropsychiatric symptoms. Western medicine has offered little support for effective treatment options, and many practitioners believe the condition is only psychosomatic. However, researchers have recently discovered that there are actual plasma biological markers in people with early symptoms of chronic fatigue.

Nutritional deficiencies can contribute to the clinical manifestations of chronic fatigue and can also impact the healing process. The Paleo Diet is nutrient dense and exceeds the governmental requirements for over 13 nutrients lacking most in the Standard American Diet (SAD).

Antioxidants have therapeutic potential to reduce oxidative damage, which is often shown to be high in those with chronic fatigue. **Glutathione** is required to properly utilize antioxidants such as

vitamins C, E, and selenium and carotenoids; therefore, it is important to replenish the body with glutathione-rich foods, such as garlic, onions, and cruciferous vegetables (i.e. cauliflower, cabbage, kale, garden cress, bok choy, Brussels sprouts, and similar green leaf vegetables), which are rich in sulfur.

Stress hormones tend to deplete **magnesium** levels, which have also been shown to be decreased in chronic fatigue patients, despite adequate dietary intake of magnesium. Magnesium supplementation from naturally rich sources, such as avocados, dark leafy greens, and nuts, has been shown to improve energy levels, emotional well-being, and reduce pain in patients with chronic fatigue.

Low levels of **essential fatty acids**, which are often linked to immune, endocrine, and sympathetic nervous system dysfunctions, appear to be common in individuals with chronic fatigue. The Paleo Diet mimics our hunter-gatherer ancestors' dietary intake of omega-6 to omega-3 with a ratio of 2:1 or 3:1, as opposed

to the modern diet, which has been estimated at 10:1 or 25:1. Pastured meats and wild fish as recommended on the Paleo Diet are naturally higher in omega-3 fatty acids and support anti-inflammatory actions within the body.

Stress contributes to the pathology and clinical symptoms of chronic fatigue syndrome. The greater number of stressful life events predicts a worse functional and fatigue symptom profile, and those who recover from chronic fatigue for over one year report lower levels of life stress than those who do not recover. The **lifestyle choices** of hunter-gatherers differ from those of modern man in that there was adequate rest and recovery from both physical endeavors and mental feats. In addition to getting a solid night's sleep, spend time outdoors each day, turn off technology early, and practice meditation or other stress-reducing activities to support your Paleo Diet lifestyle.

Source: <http://thepaleodiet.com/chronic-fatigue-and-the-paleo-diet/>