



Arthritis & Joint Insight

A Publication by Dr. Robert Lock, II

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To Halve or to Whole: Unicompartmental knee replacement

You may have seen an advertisement or watched a news program about the Unicompartmental knee replacement. Often this implant has the slogan of, "Avoid Total Knee." In this article we will review the concept, indications and contraindications of "halve vs. whole."

Unicompartmental surgery involves replacing only one of three compartments of the knee. Unicompartmental Knee Replacement (UKR) was first performed in the 1950's with a high failure rate. In the late 1970's the surgery was tried again with different criteria but ended with unacceptably high failure rates. Recently, interest in this component has grown again and clear indications with strict selection criteria have been set forth. Estimates are that approximately 5% of patients with knee arthritis may be candidates for the "uni" knee. There are three compartments of the knee: medial, lateral and the patellofemoral compartments. The "uni" implant is an option for those individuals who have arthritis in only one compartment. My experience and scientific research shows that greater than 95% of the time arthritis involves all 3 compartments. The UKR is thought to be best suited for

slim, females between the ages of 55-70 who meet other strict criteria. This surgery is not suitable for a young male who is involved in heavy labor or contact sports. The following are criteria for the UKR:

- Isolated arthritis to the anteromedial compartment
- Over 50 years old
- No Knee cap arthritis or previous osteotomy
- Adequate pre-operative range of motion (Able to bend the knee 90-100 degrees)
- No significant "knock-knee" or "bowlegged" deformity- The loading forces in these deformities will cause accelerated wear and failure of the component
- No underlying history of inflammatory arthritis (like rheumatoid arthritis) due to the risk of progression and ongoing synovitis, and
- Being grossly overweight (BMI over 30-35) causes an accelerated incidence of wear and need for revision surgery.

According to a 2005 study published in the Journal of Orthopedics, surgeons reported no difference in results between a UKR and a Total knee replacement (TKR) for anteromedial compartment arthri-

tis. Restrictions remain the same after both UKR and TKR, which include maintaining a healthy body weight and avoiding high impact sports, such as jogging or singles tennis. Global research indicates that UKR results are clearly not as good as TKR, and that patients should weigh their risks vs. benefits. Some researchers suggest seeking a second opinion if the option for the "uni" knee was suggested by your surgeon. My philosophy with joint replacement has always been, "one and done" as the literature clearly shows diminishing results with each subsequent revision surgery. Currently revision rates on a UKR at 5-7 years are unacceptably high when compared to the life span of a total knee replacement.

(Below: X-ray shows UKR)



(Information compiled from the following: Journal of Orthopedics, Zimmer, AAOS, amd3, Knee Doc UK, JBJS, Clinical Orthopedics)

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Gently down the Stream: Helen Fish shares her trip down the Colorado

In the Winter newsletter, we discussed the benefits of exercise for arthritis and pain. As promised we wanted to share with our readers some activities and success stories on getting in shape for this “New Year-New You”! This story highlights one of the many activities that’s great for arthritis sufferers. Once again we meet up with Helen Fish, 61 year old bilateral Gender Knee® replacement recipient, who was featured in our Fall 2007 newsletter and in Zimmer’s Annual Report. She never ceases to amaze us with her positive outlook and go-get-them attitude. Here she shares with us how she “tamed” the Colorado.

Helen Fish, joined by 22 friends all 55 years or older, took an 11 mile kayak trip with local Bullhead City company, Desert River Outfitters. Their journey began below Hoover Dam and continued down to Willow Beach. Along the way the group stopped off 4 times for optional hikes up to natural Hot Springs. Helen required no pain relievers after this trek but prepared weeks in advance. For those who aren’t exceptionally motivated about indoor or traditional exercises, kayaking could be

a great activity to try. Kayaking is a tremendous workout for your upper body, thereby affording a much needed rest for those who suffer with knee arthritis. Kayaking organizations recommend preparing a few weeks in advance for your first trip out. Helen began lifting small arm weights a few weeks ahead of time, along with her regular exercise regimen of daily water aerobics, walking and line dancing. Even though kayaking is a great upper-body workout, professionals agree that warm-up and stretching exercises before jumping in the kayak is ideal. A brisk walk and whole body stretch for 10 minutes prior to your outing should prevent any strains or injuries during your excursion, but like all activity know when to take a break. The great advantage of the Colorado river below Hoover Dam is the calm, swift current. This current runs about 3mph so even without a lot of work on your part, you and your kayak will float down at a nice pace. Due to high activity on the river during the summer months the ideal time of

year to enjoy the serenity of nature is Winter or Early Spring. There are night excursions available for those who are ready to get your feet wet right away. These trips take advantage of the gorgeous night sky as well as a calm, boat-free river. For those who may wonder about tipping the kayak, instructions on “rolling” are always taught, however, the calm water of the Colorado makes tipping infrequent. Rental equipment is relatively inexpensive and guided or unguided trips are available. Kayaking provides a great sport for connecting with nature and affords those individuals avid about getting in shape another alternative to traditional gym settings. Helen and her friends not only enjoyed the beauty of the Colorado but a day filled with laughter, friends and memories. For more info log onto gopaddle.org or call the helpful staff at Desert River Outfitters at 1-888-Kayak33.

(Photos: Far Left: Helen Fish during her 11 mile kayak trip this Spring. Middle: Helen poses while climbing up a ladder leading to a hot spring. Below: Helen takes a break from paddling the calm waters of the Colorado.)



AOAO Award of Fellow

Dr. Lock has been awarded the title of “Fellow of the American Osteopathic Academy of Orthopedics”(FAOAO). This honor is granted by the Academy to those members who have demonstrated outstanding contributions to the art of healing, the practice of Orthopedic Surgery, to research and other meritorious services. Dr. Lock was nominated by a Fellow and Lifetime member of the

AOAO, Dr. David Smith, of Canton, Ohio. The American Osteopathic Academy of Orthopedics was founded in 1941. Today the AOA has over 1167 members. The AOA is committed to education, research and fostering a holistic approach to medicine. The Academy currently has 29 approved Orthopedic Residency programs across the country. A formal induction ceremony will be held

this fall in Boca Raton, Florida at the annual Academy meeting.



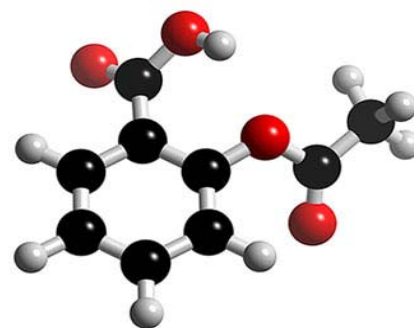
Acetylsalicylic Acid: History of Aspirin™

In the mid-eighteenth century pharmacists used willow bark extract, a pre-cursor to Aspirin, for its effects on fever, pain and inflammation. Gerhardt, a French chemist, was the second to prepare the compound of acetylsalicylic acid in 1853 for a paper he was writing on anhydrides. Although Gerhardt mentions this compound in his work he did not pursue studying it. Sixteen years later a group of chemists repeated the work and correctly named the compound of salicylic acid and acetyl chloride as acetylsalicylic acid. It wasn't until 1897 that scientists at the drug and dye firm Bayer began investigating the compound in hopes of finding a less irritating compound than willow bark. Bayer called it's new drug *Aspirin* in 1899 and began selling it around the world. Aspirin was the first-discovered non-steroidal anti-inflammatory drug (NSAID). Aspirin's popularity grew and led to fierce competition of brands and products. The drug

was given special credit for it's effectiveness during the 1918 Spanish flu pandemic. Aspirin's popularity started to decline in the twentieth century with the developments of acetaminophen (*Tylenol*) in 1956 and ibuprofen (*Advil*) in 1962. It wasn't until 1971 that Vane, an English pharmacologist discovered the basic mechanism of how Aspirin works. This discovery earned him the Nobel Prize in Medicine in 1982. In the 1980's, Aspirin's popularity surged, but not as a pain reliever or fever reducer like it's former glory. This time around Aspirin was known for it's anti-clotting properties and is currently used in low doses as a preventative treatment for heart attacks and strokes. Aspirin is still used for the treatment of pain, fever and migraines, although today's preparation is often combined with analgesics and other NSAIDs. Aspirin has an undesirable effect of gastrointestinal ulcers and bleeding which led some drug companies to coat

the medication to decrease this side effect. Most often these tablets are labeled “enteric coated”. Despite numerous advances, the chemical discovered in the nineteenth century is still considered a staple in the pharmacological world. Aspirin is one of the most widely used medications around the globe. The National Institute of Health estimates that nearly 40,000 metric tons of the compound are consumed each year.

(Below: Molecular drawing of the compound Aspirin)



(Information compiled from the following: Wikipedia, NIH, British Journal of Medicine, American Therapeutics)

Pain and Depression: How the blues affects your arthritis pain



The Arthritis Foundation has a good schematic drawing showing the “viscous cycle” of Arthritis. In their drawing they have arrows pointing from Arthritis to Pain to Decreased Mobility to Depression. The thing that really stands out about this drawing is that the arrows go both ways. This “cycle” of pain, depression and arthritis is very real and is thought to be affecting nearly 11% of Americans today. Arthritis represents a group of conditions that cause inflammation to the joints and is currently the leading cause of disability in the US. Nearly 46 million Americans have some form of Arthritis. In 2005, the National Institute of Health (NIH) reported that 50% of people over age 65 reported having doctor-diagnosed Arthritis. Those individuals reported twice as many sick days and three times as many days of decreased activity than non-arthritis sufferers. The manifestations of arthritis consisting of chronic pain and decreased activity likely fan the flames of individuals with underlying depression. Depression, however, is a treatable illness. The risk of developing depression can be from genetic factors, chemical imbalances or chronic stressors. Symptoms of depression include the following:

- Fatigue
- Insomnia
- Stomach Pain, Bowel Problems & Nausea
- Headaches & Dizziness
- General feeling of sadness
- Heart Palpitations, Chest Pain or Shortness of Breath
- Joint & Muscle Pain– most often in the neck, shoulders and back, but can also be felt in other areas

The symptoms of depression most often represent symptoms from other conditions and, therefore, can make diagnosis difficult. Depression is most often explained as a bad “connection” between your body and your brain. This theory might explain the many different physical symptoms of depression. Most researchers will agree that if you have a feeling of sadness for longer than 2 weeks you should seek care from your doctor. Women are more often diagnosed as suffering from depression which may be attributed to hormones. Men more often exhibit anger, refuse treatment and may seek substance abuse. The elderly, however, are the least likely to receive treatment for depression, often attributing their condition with the normal signs of aging. Unfortunately this lack of proper treatment and diagnosis only exacerbates chronic pain and arthritis. Studies suggest that untreated depression when combined with chronic arthritis pain

increases the risk of mortality in individuals over the age of 65. It is important then to consider treatment for both conditions if a diagnosis of depression has been made. According to a 2003 study in the *Journal of the American Medical Association*, a depression management program consisting of coordination of medication and counseling can reduce both depression and arthritis pain and disability in older adults. Arthritis pain has also been shown to be decreased when an individual is taking an antidepressant medication on a regular basis. Many seniors are hesitant to speak with their physician regarding depression and most do not wish to add another medication to their regimen. Antidepressant medications are oftentimes misunderstood and some individuals may be hesitant to take a drug that may “alter their mind”. These medications have come along way since their counterparts from the 1950’s and more is known today about depression than ever before. Other ways to help treat the “blues” are counseling, support groups, exercise, weight loss and keeping a journal. Research from the NIH has shown that individuals who take part in their own care report less pain, make fewer visits to the doctor and enjoy a better quality of life. To learn more visit mentalhealth.org or speak with your physician.

(Information was compiled from the following sites: JAMA, CNN, JHI, IDPH, NIAMS, NIH, US Administration on Aging, SAMHSA, WHO, & the Arthritis Foundation)

Fire & Ice: When to heat up and when to cool down

Patients will often ask me, “Hey Doc, which is better, ice or heat?” For which I give my standard answer, “Yes and Yes.” It’s not that I’m taking their question lightly, but they are both good treatments. I recommend both heat and ice often for those who suffer with arthritis stiffness and pain and such treatments have been known to be used for centuries. Since heating or cooling an inflamed joint is not going to cure the arthritis some individuals may overlook the potential benefits of adding it to their daily routine. First, let’s understand the basic concept of what happens when we apply heat or ice. When heat is applied to tissues the capillaries, small blood vessels that carry blood to tissues, expands. Likewise, when ice is applied those capillaries will constrict, or get smaller. With those two concepts in mind let’s then apply those to arthritis pain and inflammation. If you suffer from stiff joints when you wake up in the morning it would be best theoretically to heat up the affected area. You would want to get the blood capillaries to expand and the heat will also cause the muscles around that area to relax making it easier to get up and start your day. However, if you wake up with a painful, swollen joint, possibly affected by an arthritis flare-up, like from gout, you would benefit from a cold pack. The cold pack will work to control the swelling and pain from inflam-

mation. Prior to your pre-exercise stretching routine, a warm compress can be applied to the arthritic joint. You could also soak in a warm tub bath if that is available. This will relax the joint prior to your exercise regimen. Once you have completed your exercises you should ice that area to control the inflammation and subsequent pain. Here is a list of tips and suggestions that should help you implement this therapy safely into your daily regimen.

Heat It Up:

- Warm bath, shower, Hot Tub
- Use a warm paraffin bath (Available at a beauty supply store)-This treatment is a nice option for those who suffer with rheumatoid or other conditions involving their hands and fingers
- Heating pad or Hot water bottle
- Electric blanket– Great on cold mornings when you may suffer from all over stiffness

Cool it Down:

- Cold packs can be made from wrapping frozen veggies in a towel or filling a reusable water bottle with ice
- Try taking a cooler shower after a workout
- Elevate the affected joint or limb while icing– This will help the blood to drain, via gravity, away

from the inflamed area, thereby decreasing pain and swelling

Tips for Safety:

- Use heat or ice for 15-20 minutes only, to prevent injuries– Allow the skin to return to normal color and temperature before applying another treatment
- Never sleep with a heating pad on– This is especially true if you are using it for your back! Severe burns have been reported which have needed surgery & skin grafting.
- Always place a towel between your skin & the treatment pack
- Never use creams or rubs under a heating pack or pad- this could cause burns & blisters to the skin
- Check your skin before and after treatments– Skin should be clean, dry and healthy (no open cuts or sores)
- Check with your physician** prior to use if you have poor circulation or other conditions for which treatment could be adverse



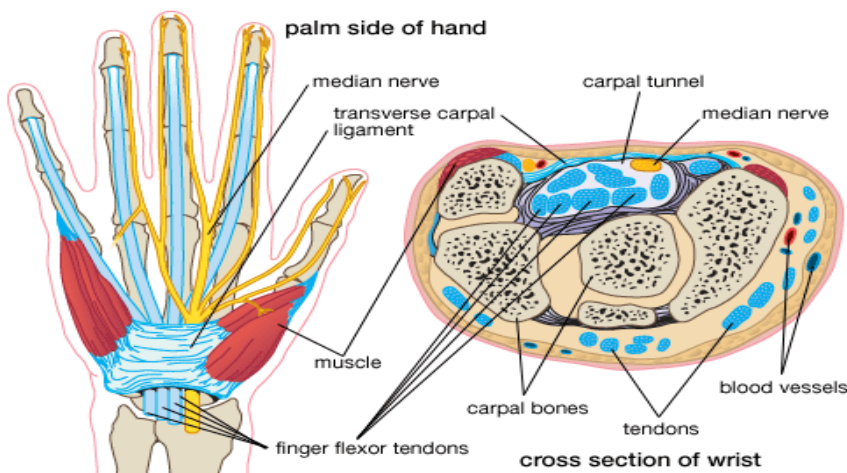
Carpal Tunnel Syndrome: Median Nerve Compression at the Wrist

Medical references related to median nerve compression at the wrist have been around since the early 1900's. Today median nerve compression at the wrist is more commonly referred to as carpal tunnel syndrome (CTS) or "carpal tunnel".

This condition, which most often affects women, can occur at any age but has peak incidence at around 40 years of age. To better understand the syndrome, which consists of numbness and tingling to the thumb, index and middle fingers, we must first understand some basic anatomy of the wrist. The wrist contains the carpal tunnel, or canal, in which the median nerve passes. This canal is surrounded by bones and the carpal ligament (See illustration below). Swelling inside the canal or compression around the canal can cause compression of the median nerve thereby causing the hand and fingers to become numb and tingle. We most often refer to hand numbness or tingling as "falling asleep". CTS most often is overlooked in

the early stages. Signs of progression may include dropping of objects, hand grip weakness and difficulty making a fist. Diagnosis can be made by history and physical examination. Patients suspected of suffering from the syndrome are then sent to a Neurologist for a nerve conduction study. The exact cause of CTS is unknown. The most common cause of carpal tunnel syndrome has been attributed to repetitive strain activities, however, this is a highly debated issue within the medical and occupational field. Most scientific studies show no correlation between specific work duties and the development of CTS. It has been established that physiology and genetic predispositions may have a role in the development of CTS. Trauma and Acromegaly are both conditions for which the bones surrounding the canal can cause compression. It is important to rule out undiagnosed cases of hypothyroidism and diabetes as these disease processes have both been noted to produce CTS-like symptoms. If a

patient does not have CTS then corrective surgery will not be effective, hence the need for proper diagnosis. Proper treatment of underlying disease conditions often resolve CTS-like symptoms. If a diagnosis of CTS has been made most practitioners start with non-surgical treatment options first, such as pain medications and wrist splinting. Most individuals complain that the wrist splints are cumbersome and compliance with splinting is known to be low. If worn, wrist splints do offer proper ergonomics of the wrist and hand and will help alleviate symptoms of CTS especially in the beginning stages. Carpal Tunnel release surgery is the surgical treatment for CTS. The procedure only lasts a few minutes and is done on an outpatient basis. The procedure consists of dividing the transverse carpal ligament in two, thereby relieving the pressure in the canal. Generally individuals recover in a few weeks and most are able to return to their previous jobs. Research suggests that 3-8% of Americans suffer from CTS. Proper diagnosis is essential. Most individuals find relief from non-surgical or surgical intervention. Chronic untreated CTS may lead to permanent damage with symptoms of numbness, muscle wasting and hand weakness. For more info log onto www.nih.gov.



(Information compiled from the following sites: NINDS, NIH, OSHA, AAOS, AAN, Wikipedia. Photo credit: 2007 Encyclopedia Britannica)

28 hours from Surgery to Discharge:**Robert Rozzi shares his experience with 'Next Day' Hip Replacement**

It's 3 pm and 28 hours after his total hip replacement and Robert Rozzi is headed home. He is one of many who are enjoying the benefits of minimally invasive joint replacement. Robert, 71, lives in Bullhead City with his wife of 17 years, Kay. The couple (pictured below) relocated to the area in 1992, after Robert retired from the Police force in Los Angeles after 29 years. During his years on the force, he suffered with knee and back pain, that unfortunately got worse as he got older. He doesn't let that slow him down though. He's in good shape and has enjoyed playing racquetball and golf since his retirement. Earlier this year he took advantage of an educational lecture that Dr. Lock was hosting, after his friend urged him to attend. "He came home from that meeting and wanted to tell me all about it. I knew that he felt comfortable about surgery after that night," said Kay. Robert agrees with Kay and feels that "seeing the materials and hearing about the surgery really made a difference." Robert attended that meeting hoping to learn more about knee replacement but what he didn't know was that he'd be getting his hip replaced first. "The hip pain just happened all of the sudden," said Robert, "I would really notice severe groin pains when I was climbing a ladder or playing racquetball. I knew my knees were in bad shape but the pain in my left hip was definitely worse." While in the office for paperwork to get his knee replaced, he said, "Hey Doc, you think we could X-ray my hip?"

His instincts were right. His hip needed to be replaced. "I never had any reservation about having surgery. A few friends have had joint replacement and they all are doing well. I convinced myself I was in much better shape than half of them. It was probably a little pride, but I definitely thought, "If they can do it- so can I." Robert said he "never worried" about post operative pain. He doesn't recall anything prior to waking up in his room and thinking, "I wonder when they are going to get me up to walk?" "I prepared myself beforehand that I would be doing exercises and walking the afternoon of my surgery," Robert said. He noted that his left leg was swollen and that he wasn't able to move it easily at first. "You know I didn't panic. I just rested and knew that I'd just keep getting better." By the next morning, he was feeling better. He got up with the Physical Therapist. He walked using a walker. He learned his exercises and then decided he was ready to go home. "The exercises were easier than I had imagined and the pain was manageable," Robert said. "I'm a really good patient. I do what I'm told. I wear my compression stockings. I use my walker. I do my exercises. I even use that abduction pillow at night. I just want everything to be right," said Robert. He and Kay talk about how thankful they are that he was able to have the surgery locally. "We're really lucky to have a good hospital, with good nurses and specialists right

here in Bullhead," said the Rozzi's. Robert was impressed with his inpatient care. "The staff really took care of me." Kay commented on how nice it was that everyone made an effort to be friendly. "It was nice to pass employees in the hallway and they actually made eye contact and said 'Hello' ". Since his May 8th surgery Robert has only had to take minimal narcotic pain medication and has found over the last several days that Tylenol and Naproxen are working well to control his pain. He notices that he's taking a few more naps during the day which is normal after the body recovers from surgery. For the past few months he's been sleeping in the only place he could get comfortable- his recliner. He has continued to do that since his surgery, but not for comfort. He's now sleeping in the recliner to avoid worrying about "rolling over" or dealing with his three rescued dogs that prefer sleeping in the people bed with him and Kay. "Last night, 9 days after my surgery, I went to a dinner party with my wife and friends. I feel a little better every day and look forward to getting my knee replaced in the near future," said Robert, "I'm just ready to get back to doing the things I enjoy." At his rate it won't be long.





Robert Lock, II, DO, FAOAO

Contact Info:

Bullhead City 928-758-1175

Kingman 928-692-0003

Email:

drrobertlock@yahoo.com



Dr. Robert Lock, II, of Tri State Orthopedic Institute, is a board certified Orthopedic Surgeon who has been practicing in Mohave County and the surrounding area for 13 years. A native of Tucson, he graduated from the University of Arizona with honors. He attended medical school in Texas and his internship in Phoenix. He completed his residency at Ohio University/ Grandview Hospital in Dayton, Ohio .

Choosing to further his orthopedic training he was accepted to a joint replacement fellowship at the Florida Orthopedic Institute/University of South Florida in Tampa. This additional year of training laid the foundation for his expertise in complex Joint Reconstruction Surgery.

Dr. Lock offers the latest, technologically advanced treatment options available for individuals suffering with osteoarthritis. Specialty services include: Minimally Invasive (Non-muscle cutting) Joint Replacement, Complicated Total Joint Revision Surgery, Computer-Assisted Surgery, Shoulder resurfacing and Replacement. Dr. Lock also offers the Zimmer Gender Knee and Hip Replacement for women as well as their High-Flexion implants to help safely accommodate deep knee bends.

Dr. Lock is currently the Chief of the Medical Staff at Western Arizona Regional Medical Center and a board member of Hualapai Mountain Medical Center. He is a member of the American Medical Association, the Arizona Osteopathic Association, and the American Osteopathic Academy of Orthopedics. He was recently awarded the title of "Fellow of the AOA" for his outstanding commitment to orthopedic research and education.

DISCLAIMER: *Arthritis and Joint Insight* is intended to provide readers with accurate and timely medical news and information. It is not intended to give personal medical advice. As with all information please consult your physician. Acting on any information provided without first consulting your physician is solely at the reader's risk. **INQUIRIES:** Please send correspondence by email or to our Bullhead City office location. Patients interested in appearing in "Tell Your Story" should email or call 928-234-5773 for further details.



Tri State Orthopedics
2000 Hwy 95, Suite 200
Bullhead City, AZ 86442

