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Welcome

WELCOME TO the fourth edition of Ocean Orthopedic Journal. We would like to take this opportunity for our patients to get to know us better. Ocean Orthopedic Associates is a collection of talented, highly trained Orthopedic Surgeons and staff dedicated to serving Ocean, Monmouth, and Middlesex counties. Ocean Orthopedic Associates was founded in 1969 by some of the original Orthopedic Surgeons to practice in Ocean County and their commitment to excellence and dedication to orthopedic care continues today.

Our Orthopedic Surgeons are Board-Certified and Board-Eligible by the American Academy of Orthopedic Surgeons specializing in sport medicine, total joint replacement, hand, spine surgery, pain management and adult reconstruction surgery. Our goal is to provide a comprehensive team approach in order to offer patients a continuum of care from general orthopedics and fracture care to highly specialized spine and joint reconstruction.

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Warmest Regards,

Alex J. Sturzebecher, MBA
Executive Director

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The Weekend Warrior

As we age there is an unfortunate decline in our musculoskeletal durability. Not only do we seem to fatigue faster but there is also an increase in athletic recovery time. Instead of feeling rejuvenated after a weekend of sports and fitness, Monday mornings often leave us feeling punished. Is there a solution?

While there is probably no way to prevent all joint and muscle soreness after every activity, a well regimented exercise program with emphasis on cross training and core strengthening may help improve performance, reduce recovery time and prevent pain and injury. The health benefits of regular exercise at any age on physical and mental health continue to be realized. Exercise is an integral component of any weight loss and maintenance program, improves cardiovascular health, reduces stress, increases mental awareness and cognition, reduces fatigue, and prevents osteoporosis and multiple medical conditions such as diabetes. A consistent exercise program is the foundation of injury prevention and physical well being.

So why doesn't everyone do it? The evidence is compelling, but there is no quick fix. What is regular exercise? There are many definitions, but generally it is between 30-60 minutes of aerobic and anaerobic exercise 3-5 days per week. That is a lot of time especially with today's busy schedules. One needs to make a commitment and start slowly with a gradual increase in frequency and intensity of your workouts. For working moms and dads, try working out in the mornings before work. At-home moms should schedule time while the children are at school or choose a club with day care. If you have never used a gym, work with a personal trainer or ask someone at the facility to help show you the equipment and plan a routine. If you are training for a particular sport ask a staff member for assistance in a planning sport-specific program. The goal is to improve your fitness and durability so you can enjoy your weekend activities and awake on Monday feeling happy and healthy.

As always, be safe. Know your limits and if you have a pre-existing medical condition you should see your internist before starting any sport or exercise program.

Welcome Relief

Minimally-invasive disc replacement by Dr. Dhawlikar at Ocean Orthopedic Associates helps return patients to full and pain-free functionality

Sripad H. Dhawlikar, M.D.

As a project supervisor in the construction industry, Neptune resident Daniel Garfinkel, 36, had always been a highly physical person. But all of that changed in the spring of 2016. "I woke up one morning and felt very stiff in my shoulders and neck," he recalled. And though he refrained from manual labor that day, "things got horribly worse really fast and I began losing nerve sensation down my right arm into my hand," he said. "Soon everything tightened up, it became painful to drive, and I was unable to do almost anything." A visit to Dr. Dhawlikar at Ocean Orthopedic Associates in Toms River along with an MRI revealed the cause – a disc in Garfinkel's neck had herniated and degenerated and was creating bone-on-bone irritation and nerve damage. Though medication helped reduce the immediate inflammation and provide temporary relief, an epidural shot to his spine failed to work and left him in need of a long-term solution that would restore his full functionality and pain-free quality of life.

For 40-year-old Scotch Plains resident Arvind Gurnani, the chain of events was strikingly similar -- debilitating pain followed by a series of unsuccessful attempts to treat it. All his life, Gurnani, the manager of a clinical laboratory and a married father of two young children, had been highly active, regularly playing in basketball and softball leagues and working out 4-5 times a week. "But in October 2014, I was on a plane returning home from Miami and woke up from a nap with a kink in my back," he said. "I got massages after getting home, but it never went away and I began noticing weakness in my left triceps and tingling down my left arm." A visit to a neurologist and an MRI revealed the culprit – a herniated disc in Gurnani's upper back/lower neck – but neither the prednisone, epidurals, nor physical therapy he was prescribed relieved his pain, and in October 2015 his primary physician and neurologist referred him to Dr. Dhawlikar at Ocean Orthopedic Associates for a surgical solution.

Disc Replacement: A Cutting-Edge Approach

"Discs act as cushions between our vertebrae and help enable normal mobility of the spine, but can start pushing on nerves and compressing the spinal cord if they herniate, degenerate, or become damaged," explained Sripad Dhawlikar, M.D., a spine surgeon at Ocean Orthopedic Associates with over 20 years of experience in the field and specializations in a broad range of spine-related issues, including minimally-invasive, cutting-edge spinal surgical techniques as well as pain management. "For many, degeneration of discs can start early in life and eventually lead to cracks in discs, while accidents or trauma can also cause ligaments to tear and discs to herniate." The result? "Neck pain that radiates to the arm and/or hand, causing numbness, tingling, weakness, and loss of sensation," he said.

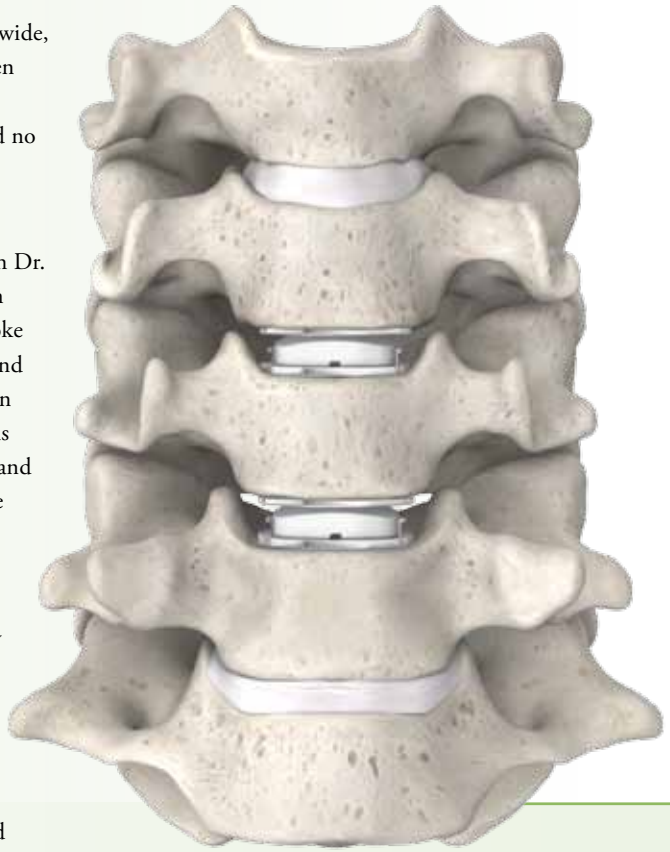
According to Dr. Dhawlikar, the standard approach for decades to treating disc herniation in the neck has been a procedure known as 'anterior cervical discectomy' and fusion with a titanium plate and screws. By this method, he said, "a surgeon would remove the herniated disk, put a bone graft in, and secure everything together with a plate and screws," after which the body would form bone over it that would heal to the graft. While this technique succeeded in reducing pain levels, "it limited mobility and also resulted in the transference of loads to discs adjacent to and below the grafted disc, putting them at risk of degenerating and potentially requiring later intervention themselves."

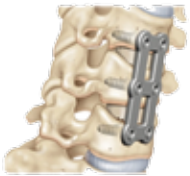
By contrast, Dr. Dhawlikar said that the field has seen tremendous success with a newer but proven approach known as 'disc replacement' that's become increasingly popular within the past decade. By this method, "a surgeon would take out the herniated disc to remove pressure from the nerve and spinal cord and insert an artificial, prosthetic disc where the damaged disc used to be," he said. A 60-90-minute, minimally-invasive outpatient procedure that involves small, one-inch incisions using dissolvable stitches to avoid scarring, "disc replacement with high-quality prosthetics made of the latest cutting-edge materials preserves motion so that the neck doesn't feel stiff and enables patients to recover quickly and return to their normal activities pain-free almost immediately," Dr. Dhawlikar said. Thanks to the availability

of five-year follow-up data on patients nationwide, "we can see that their mobility levels have been maintained over time and that levels of discs above and below the surgery have experienced no deterioration."

Immediate Relief

After opting for disc replacement surgery with Dr. Dhawlikar at Ocean Orthopedic Associates in May 2016, "I felt immediate relief when I woke up, with no nerve pain in my right arm or hand whatsoever and no pain in my neck other than some temporary discomfort from the incisions themselves," Garfinkel said. "Dr. Dhawlikar and the staff at Ocean Orthopedic Associates were very responsive and knowledgeable and made me feel comfortable about my surgery," he added. "Since having the procedure, I'm 110 percent better than I was and I feel absolutely great."





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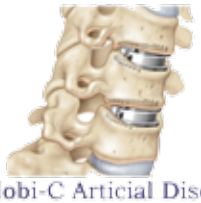

Mobi-C Articial Disc

Gurnani too has been delighted with the results of his surgery, a two-level disc replacement that he underwent in December 2015. "I was in better shape the next day and just kept getting better and better," he said of his ultimate return to a full and active life. "Dr. Dhawlikar made me feel very comfortable about the whole process and made it a collaborative effort that I felt a part of. In the end, the procedure relieved all of my symptoms and my neck got stronger – I now feel 100 percent normal as if nothing ever happened," Gurnani said.

"After trying other approaches first, both Daniel and Arvind were great candidates for disc replacement and did extremely well with no complications," Dr. Dhawlikar confirmed. "The procedure made a tremendous difference in their outlooks going forward and both can now work, participate in athletic and recreational activities, and fully enjoy their families and lives."

While disc replacement can help a wide spectrum of patients of all ages, "we often see herniated discs among the younger population, many of whom feel that there's no solution and that they just have to accept and live with the pain," Dr. Dhawlikar said. While he acknowledges that some people are apprehensive about having spine surgery, "in trained hands and after more conservative measures have failed to deliver desired results, disc replacement is a safe and very proven procedure with little to no risk that enables a quicker recovery, no compromise to adjacent areas, and can theoretically last a lifetime for patients."

As an active married father of two teenagers, "I'd been very concerned about my future and the prospect of being out of commission for my family," Garfinkel shared. "But I went back to work the Monday after my Friday surgery and truly felt like I was brand new."

"Spine surgery has advanced greatly over the past decade and we're very excited and gratified to be able to bring these cutting-edge techniques to the community and help return patients to their normal lives," Dr. Dhawlikar concluded. "There is hope and disc replacement is an excellent treatment option that can help patients live a happy, high-quality, and pain-free life with no disability."

For more information on disc replacement, any spine-related issue, or to reach Dr. Sripad Dhawlikar, contact Ocean Orthopedic Associates at (732) 349-8454 or visit www.oceanortho.com. Ocean Orthopedic Associates has offices conveniently located at 530 Lakehurst Road, #101 in Toms River and at 2 Hospital Plaza, #310 in Old Bridge.

Exercises to Reduce the Effects of Osteoporosis

Osteoporosis is a devastating disease involving demineralization of bone, leaving it fragile and susceptible to fracture. Age-related bone density loss begins at age 40 for both sexes. Men and women can lose 0.3% to 0.5% of cortical (more dense) bone yearly. Women can lose up to 35% of cortical bone and 55% of the trabecular (spongy) bone that is located at the hip, spine, and wrist. This is 66% more bone loss than men. Osteoporosis affects over 55% of Americans 50 years of age and older, 80% of them women.

Osteoporosis is called the "Silent Thief" because you cannot feel the loss of bone mass. Symptoms are revealed when bone mass is so compromised that the skeleton cannot withstand every day mechanical stresses. The result is non-traumatic fractures such as spinal compression fractures, rib fractures, hip fractures, and humeral and distal radial fractures producing acute pain. This condition may present itself in 60 to 70-year-old women as a kyphotic (hunched over) posture and loss of height. Fractures can also occur with falls secondary to these postural changes.

Osteoporosis can affect anyone at anytime, but can also be prevented and treated. Regular exercise can keep bones healthy and strong. Weight-bearing exercises add stress to the bones, making them and muscles stronger. Before beginning any exercise routine, it is best to consult a physician.

Nonimpact activities that promote better posture, balance, and function are great. These include Tai chi, yoga, and Pilates. Tai chi has actually been shown to slow down bone loss in postmenopausal women who performed these slow, graceful movements 45 minutes a day for five days a week. Yoga also helps with coordination and balance, as well as strengthening of bones and muscles. Iyengar yoga uses slow and precise movements shown to prevent falls in elderly women. Balance and posture exercises prescribed by a physical therapist also can improve function and reduce risk of falls.

Weight-bearing exercises that are high impact are the best in strengthening bones. This includes brisk walking, dancing, stair

climbing, and hiking. These exercises can be performed anywhere and at no cost. One study had shown that brisk walking for four hours a week had decreased the risk for hip fracture by 41%. Another trend, as seen on the T.V. show Dancing with the Stars, is dancing the salsa, samba, rhumba, and even the fox trot, which improves coordination, strength, and balance. Hiking is also a great exercise that promotes an increase in bone mineral density every time your foot hits the ground. It is also a great way to socialize and be with nature.

Other activities include golf and racquet sports. Golf promotes strengthening of the shoulder girdle and spine when swinging and also the legs when walking. Tennis, squash, and paddle tennis are higher impact with working of your shoulders and wrist, as well as your hips and spine when running to hit the ball.

Lastly, muscle strengthening exercises are the best in that they add muscle mass and stress to your bones. These exercises include activities where you move your body, a weight, or some other resistance against gravity. Also included are functional activities such as standing up from a chair or even vacuuming. Training with handheld weights, elastic bands, and machines are also other ways to promote strength. Strength training should incorporate the major muscle groups of the upper and lower body. These exercises should be performed in one or two sets of 8 to 10 repetitions with a 30-second rest between sets. If eight repetitions cannot be performed, the weight is too heavy. With those who have fragile bones, a lighter weight and more repetitions would be prescribed.

Remember to consult your physician prior to beginning any exercise regimen. It is best to also seek advice from a physical therapist to gain better insight on proper posture, balance, and strengthening exercises designed for your bones.

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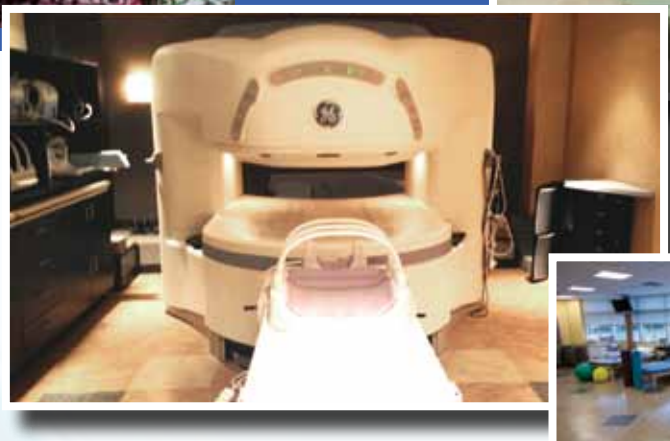

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Carpal Tunnel Syndrome

Carpal Tunnel Syndrome (CTS) is the most common nerve compression problem in the upper extremity. CTS is a term with which the public is usually familiar simply because many people have experienced CTS themselves or known someone else who has been diagnosed with this problem. The incidence of CTS is roughly 1-2% of the population, but this percentage increases among people involved in certain occupations. In general, 50% of cases are work related. For instance, CTS has been reported as 14-50% in people with manual labor jobs, usually involving repetitive motion, i.e. meat and poultry packaging, musicians, typists, carpenters and dental hygienists. In addition, the use of vibratory tools like Jackhammers, chain saws or oscillating saws tends to increase the incidence.

The actual physiologic change that causes CTS can be divided into four broad categories: idiopathic, anatomic, systemic and exertional. Idiopathic simply means that we as physicians and surgeons cannot explain the cause of CTS. We know statistically women are affected more than men. Other than this gender difference, most cases of CTS cannot be explained medically although we know it is a real life and work interfering phenomenon.

Anatomic causes can be broken down into subcategories: trauma, mass/tumor, small carpal canal. Trauma can cause CTS because the carpal canal is a confined space through which 10 structures reside – 9 flexor tendons and one large, important nerve called the median nerve. The tendons are able to withstand compression, but the tolerance for the nerve is much less. If the pressure inside the canal becomes too high the blood supply to the nerve becomes compromised. At this point, the nerve manifests symptoms of carpal tunnel syndrome or more appropriately called "median nerve compression syndrome." If a patient has sustained an injury to the wrist like a broken hand or wrist bone, a crush injury, or a bad burn, the soft tissues in and around the carpal canal will swell and in turn compress the median nerve. Infection and/or scarring after trauma can cause carpal tunnel syndrome. Sometimes benign masses like lipomas and ganglion cysts are called "space occupying lesions" which will take up the limited space in the carpal canal and cause median nerve compression. Finally, some individuals are built with a small sized canal and thus are more susceptible to small changes in the soft tissue swelling and interstitial fluid changes in the canal.

Systemic causes of CTS include various metabolic or disease states. These include pregnancy, obesity, diabetes, alcohol and drug toxicity, thyroid and renal disorders, and rheumatoid arthritis. People with alcohol or drug problems can directly damage the median nerve. The same is true in poorly controlled diabetics. Diseases like rheumatoid and renal failure cause build up of pannus and amalyoid, respectively, in the carpal canal. The rates of CTS in pregnant women has been reported as high as 20-40%, most likely related to fluid shifts especially during the third trimester. Fortunately, once post partum, most these women have resolution of their symptoms.

Lastly, exertional causes of CTS are common and often discussed in the work place. Experiments have confirmed that wrist and finger flexion and extension increase pressure in the canal. There are many muscles located on either side of the carpal canal, which get pulled into the canal with either wrist/finger flexion or extension. This, in turn, causes increased pressure in the canal and on the median nerve. We often hear about "keyboard" use as a direct cause of CTS; this has never been shown to be directly related to increase the incidence of CTS.

Regardless of the mechanism by which the median nerve becomes compressed the patient symptoms are usually the same. Most people will complain of numbness and tingling in the thumb, index and long fingers. This numbness and tingling is located on the palm side of these fingers and not the dorsal or back of the hand, which is innervated by a completely different nerve called the radial nerve. The small finger and ½ side (the ulnar side) of the ring finger are also innervated by a different nerve called the ulnar nerve. The numbness and tingling

Most people who present with CTS can be managed with conservative modalities. These include wrist splints to be worn during the day during activities that provoke median nerve symptoms and at night to prevent the wrists from bending and causing compression.

is at first intermittent, brought on by exacerbating positions of the wrist and fingers in flexion or extension, as in driving a car or talking on the phone. This also occurs at night when sleeping when most people subconsciously flex their wrists and fingers. Often people are woken by the pain associated with the compression of the nerve. Compression causes ischemia, which means decreased blood flow to the nerve. The nerve requires a healthy and uninterrupted blood flow to function normally whether the patient is awake or sleeping. When this blood flow is cut off the nerve becomes irritated and manifests this as pain. When the blood flow is completely interrupted to the nerve, the nerve stops working and this is when people start to lose the feeling in the thumb, index and long fingers. These patients often find themselves "shaking" their wrists to force blood back into the nerve at which point the nerve starts to function normally and the symptoms resolve.

The median nerve not only supplies sensation to the fingers, but also controls very small delicate muscles of the fingers and especially the thumb. When the median nerve is not functioning properly, these muscles also do not function as well. It is these muscles, which give the hand its ability to manipulate and pinch fine objects like buttons and zippers. Patients, therefore, find themselves with diminished dexterity and pinch weakness. They will often have trouble buttoning a sweater or using a key in a door.

If, however, the blood supply to the nerve has been diminished over an extended period of time, the numbness and tingling does not go away no matter what position the wrist is in or what type of maneuver the patient may try. At this point, the nerve has been damaged. This can also manifest in wasting or shrinking of the muscles around the thumb. Whether the median nerve can recover from this damage depends on many factors including the duration of the symptoms and the patient's health status.

The diagnosis of carpal tunnel can be made most of the time with a detailed patient history and physical exam. There are provocative tests the physician or surgeon can perform to cause intentional compression of the median nerve in the office. One common test is called the Phalen's Test. Here the examiner flexes the wrists and holds them in this position for 1 minute. If the patient starts to complain of numbness and tingling and pain in the thumb, index or long fingers the test is positive. Another test is called the Tinnel's Test. Here the examiner taps abruptly on the wrist crease directly over the median nerve to elicit a shocking sensation in the same fingers.

Both of these tests help confirm compression of the median nerve. If the patient, however, presents with persistent numbness and tingling, the examiner should look for wasting of the muscles around the thumb as a sign of chronic median nerve compression. Once other possible sources of median nerve irritation and/or compression in other parts of the upper extremity (like the neck, shoulder and elbow) have been ruled out the physician needs to consider either further diagnostic studies or treatment options.

Sometimes the patient's history or physical exam is not clear-cut for carpal tunnel syndrome. In this case, there is a study called Nerve Conduction Velocity/ Electromyography study, which can aid in ruling in or out the diagnosis of CTS. This study uses very fine sensors to test the sensory and motor ability of the median nerve. If the nerve exhibits abnormally slow velocities or weak motor strength, the nerve is being compressed.

Once the diagnosis is confirmed, the physician's treatment options are tailored to the patient's severity of median nerve compression. Most people who present with CTS can be managed with conservative modalities. These include wrist splints to be worn during the day during activities that provoke median nerve symptoms and at night to prevent the wrists from bending and causing compression. This, in combination with oral anti-inflammatory medicines, has been shown to improve patient's symptoms. If a patient cannot tolerate oral anti-inflammatory medicine or the symptoms are more severe and frequent,

corticosteroid injections can be given. This is an in office procedure that is tolerated well by patients and can provide dramatic relief of their symptoms. There are other types of modalities like ultrasound therapy, occupational therapy and even laser therapies, although the efficacy of these treatments is debated. The last conservative measure employed can simply include job modification or ergonomic changes with the work place to alleviate stress on the carpal canal.

After conservative measures have failed to provide relief of symptoms or the patient presents with acute post traumatic, or sever chronic CTS, operative intervention is recommended. The surgery is usually performed on an outpatient basis under local anesthesia, general anesthesia or a combination of both depending on the patient and the circumstances of the CTS. The surgery itself does not take long and under the expertise of a hand surgeon can take under 15 minutes. The type of procedure depends on the surgeon's preference. The two most popular methods include a "mini-open" procedure with an incision about 2-3 cm in length longitudinally located along the crease in the palm. Some surgeons use "endoscopic" surgery, which uses a camera on a small instrument to release the carpal tunnel ligament from underneath the skin. The goal of the surgery, no matter what type of method is used, is always the same – complete release of the transverse carpal ligament and decompression of the median nerve. The surgery requires no implants of any kind and only a closure of the skin and a dressing with or without a splint depending on the surgeon's preference. Most patients go home able to use the operated hand for light activities while the skin heels. The sutures are removed at about two weeks at which time the patient can resume normal activities

There are risks and benefits to both procedures as there are with any type of surgery but these risks are relatively low. Some people experience "pillar pain" after a carpal tunnel release, which is pain in and around the incision after the skin heels. This pain usually resolves at about three months. Recurrence of CTS can occur although the symptoms may not require re-operation. If the symptoms return, re-operation rates are not as successful as primary surgery for CTS. Fortunately, the success rate for primary release is greater that 97-98% and makes this surgery one of the most successful in all of orthopaedic surgery.

With regards to returning to work after carpal tunnel release, the recovery ultimately depends on the patient and their line of work. Manual laborers may require two or more weeks before they can return to work if they do not have a light duty status in their employment. Others who perform more administrative work can return in a few days. Often patients ask if they develop CTS in one wrist, are they likely to have the same problem in the other wrist? There is no yes or no answer to this question. Some people who do develop CTS in both wrists will need to have both carpal tunnels released, and whether a surgeon performs this on both hands at the same time or at separate times allowing the patient to recover from the first surgery before performing the second is again up to the patient and the surgeon coming to a mutual decision.

In sum, CTS is a very common and very debilitating problem, affecting adults of all ages and in a variety of professions. It is, however, a very treatable condition that can predictably, relieve pain, numbness, tingling, clumsiness, and time lost out of work, ultimately restoring the quality of one's professional and personal life.

Ocean Orthopedic Associates Welcomes **Dr. Michael J. Pensak**

Orthopedic – Hand and Upper Extremity Specialist

Dr. Michael J. Pensak is a fellowship-trained hand and upper extremity surgeon and the newest physician to join Ocean Orthopedic Associates. He graduated cum laude from Cornell University and attended medical school at SUNY Downstate Medical Center. He completed his orthopedic residency training at University of Connecticut and a hand and upper extremity fellowship at the University of Colorado. To schedule your consult with Dr. Pensak in either our Toms River or Old Bridge office call 732.349.8454

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