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CHERRY CONSUMPTION AND RISK OF GOUT

While the pathophysiology of gout is well recognized, many patients continue to experience recurrent attacks. Over the past several years, several small studies have suggested that cherry consumption may lower serum uric acid levels, and have anti-inflammatory and antioxidant qualities. This prospective study was designed to further explore the benefits of cherry intake on recurrent gout attacks.

Data were obtained as a part of the Boston University online gout study, beginning in February of 2003. The participants were asked to provide information regarding recurrent gout attacks, including anatomic location, symptoms, signs, and medications used for intervention. Exposures to a set of risk factors during the two days before the attack were recorded, including dietary risk factors. Using a case crossover design, the relative risk of gout attack after cherry intake was compared to periods with no cherry intake.

A total of 633 patients participated in this study. During the one-year follow-up, 1,247 gout attacks were recorded. Of the participants, 224 reported ingesting cherry fruit or cherry extract. Cherry consumption over a two-day period was associated with a 35% reduction in recurrent gout attacks as compared to no cherry consumption. The risk was reduced for those who consumed two servings and was further reduced among those consuming three servings, with no gain realized through additional servings. When cherry intake was combined with allopurinol intake, the risk of gout attacks was 75% lower.

Conclusion: This study of patients with a diagnosis of gout found that cherry consumption, up to three servings over two days, may significantly reduce the risk of recurrent attacks.

Zhang, Y., et al. Cherry Consumption and Decreased Risk of Recurrent Gout Attacks. **Arthritis Rheum**. 2012, December; 64(12): 4004 – 4011.

HIP MAGNETIC RESONANCE IMAGING IN ASYMPTOMATIC SUBJECTS

While diagnostic imaging has demonstrated the presence of acetabular labral tears in athletic patients with hip or groin pain, the prevalence of hip lesions in asymptomatic people remains unknown. This study documented the prevalence of abnormal hip findings in asymptomatic individuals.

Volunteers were recruited from the community and included 28 men and 17 women ages 18 to 66. All were screened with a standardized questionnaire. Participation was allowed for those with no history of pain, injury or surgery of the hip. All volunteers underwent a magnetic resonance imaging (MRI) evaluation. MRI scans from patients of a similar age who had hip symptoms were randomly included in the evaluation process, with the radiologists held blind to these MRI results. The findings were compared between the two groups.

Abnormal MRI findings were seen in 73% of the asymptomatic subjects. The most common of these was a labral tear, occurring in 69%. In addition, chondral defects were found in 24%, fibrocystic changes of the head/neck junction in 22%, osseous bumps in 20%, subchondral cysts in 16%, acetabular bone edema in 11% and rim fractures in 11%. Participants older than 30 years of age were over eight times more likely to have a labral tear than were younger participants. Those over 35 years of age were more than 13 times more likely to have a chondral defect than were younger participants.

Conclusion: This study of asymptomatic individuals found that over 70% have abnormal MRI hip findings.

Register, B., et al. Prevalence of Abnormal Hip Findings in Asymptomatic Participants. A Prospective, Blinded Study. **Am J Sports Med.** 2012, December; 40 (12): 2720-2725.

MORTALITY IN PATIENTS WITH RHEUMATOID ARTHRITIS TREATED WITH TUMOR NECROSIS FACTOR INHIBITORS

Inhibition of tumor necrosis factor (TNF) has been found to be effective against rheumatoid arthritis (RA), and is now prescribed in 15% of patients with RA in Sweden. While observational studies have shown differences in mortality rates among patients treated with TNF inhibitors, the different TNF inhibitors have not been compared with one another. This study was designed to investigate the association between various TNF inhibitors and the risk of death.

The study's sample was defined as all patients with RA identified in the Swedish Biologics Register between 2003 and 2008. This register has collected data on adult patients prescribed biologic agents for the treatment of RA in Sweden since 1999. Those data included age, disease duration, date of initial therapy, disease activity and treatment discontinuation or switching. Swedish national databases were used to follow patients for inpatient or outpatient visits, as well as cause of death. Outcomes were compared among the different TNF inhibitor drugs.

Outcome data included 2,686 patients taking etanercept, 2,027

taking infliximab and 1,609 taking adalimumab. During the follow-up period, 211 deaths were recorded, with 85% of those occurring among patients who had been exposed to only one of the target drugs. Neoplasms were the most commonly reported cause of death. No significant differences were seen among the drugs in mortality rates. Those who used infliximab had a shorter average RA disease duration, although higher recorded ESRs.

Conclusion: This Swedish study of patients with rheumatoid arthritis treated with tumor necrosis factor inhibitors found no difference in mortality rates between groups treated with the three available biologic agents.

Simard, J. Mortality Rates in Patients with Rheumatoid Arthritis Treated with Tumor Necrosis Factor Inhibitors. Drug-Specific Comparisons in the Swedish Biologics Register. **Arthr Rheum.** 2012, November; 64 (11): 3502-3510.

WEIGHT REDUCTION FOR PATIENTS WITH FIBROMYALGIA

Fibromyalgia (FM) affects two to five percent of the population. Of these patients, 32-50% are obese, and an additional 21-30% are overweight. This study examined whether weight reduction improves the disease burden among patients with FM.

This randomized, controlled study included obese men and women ages 18 to 70 years, all with a diagnosis of FM. None of these patients were taking medications other than nonsteroidal anti-inflammatory drugs. Eligible subjects were randomized to a dietary weight loss group or to a control group. The weight-loss group was advised to follow a 1,200 kcal per day diet for six months, with 15-20% of energy intake derived from protein, 50-55% from carbohydrate and 30% from fat. The control group was told to continue to follow the medical treatments advised by their physicians. The primary outcome measure was the Fibromyalgia Impact Questionnaire (FIQ), with secondary measures including tender point examinations, Beck Depression Inventory scores and the Pittsburgh Sleep Quality Index.

The subjects included 83 obese patients with primary FM. Significant reductions in body mass index (BMI) were noted in the weight-loss group after six months, with BMI falling from 32.3kg/m^2 to 29.03 kg/m^2 ($p<0.001$) No change in weight was seen in the control group. After six months, patients in the control group scored worse on the FIQ than did the intervention group ($p=0.007$). In addition, those in the weight reduction group had significantly lower physical impairment, pain, fatigue and depression scores than did the control group ($p<0.033$, $p<0.001$, $p=0.008$ and $p<0.001$, respectively). The weight-loss group also had reduced tender point counts and tender point ratings relative to the controls ($p<0.015$ and $p<0.001$).

Conclusion: This study of obese patients with a diagnosis of fibromyalgia found that weight reduction can significantly improve quality of life, physical impairment, pain, fatigue and depression.

Senna, M., et al. Effect of Weight Reduction on the Quality of Life and Obesity Issues with Fibromyalgia Syndrome: A Randomized, Controlled Trial. **Clin Rheum**. 2012, November; 31(11): 1591-1597.

OBESITY AND DEGENERATIVE SPINE DISEASE

Obesity is a significant risk factor, known to increase morbidity and mortality in many medical conditions. The effect of obesity on the outcomes of the surgical treatment of spinal disorders remains controversial. This study was designed to better understand the effect of obesity on the outcomes of patients undergoing surgical intervention for lumbar spine stenosis and degenerative spondylolisthesis (DS).

This study was conducted at 13 spine practices in 11 states across the United States. Patients with lumbar stenosis and DS were randomized to undergo either surgical decompression or conservative treatment. A nonoperative group received usual care, including active physical therapy, education and counseling. Study measures included questionnaires completed at baseline, six weeks and three to 48 months after enrollment. The primary outcome measures included pain and physical function domains of the 36-

Item Short Form Health Survey (SF-36), and the American Academy of Orthopedic Surgeons Musculoskeletal Outcome Data Evaluation and Management System's Version of the Oswestry Disability Index (ODI). Among the data collected was body mass index (BMI). Outcomes were compared by patient weight at the time of surgery.

Data involved 373 patients with a BMI of less than 30 kg/m^2, and 261 with a BMI of 30 kg/m^2 or greater. At four-year follow-up, no statistically significant difference was seen between the surgically treated obese and non-obese patients on any of the primary outcome measures. Of those treated nonoperatively, obese patients demonstrated significantly less improvement on the ODI and SF-36 at four-year follow-up. At four years, obese patients also demonstrated significantly less improvement than did non-obese patients in low back pain bothersomeness, with significantly worse self-rated assessments of progress. Obese patients with DS had significantly higher rates of postoperative infections and a two-fold repeat surgery rate at four years as compared to the non-obese ($p=0.05$ and $p=0.01$, respectively).

Conclusion: This study found that obesity does not affect the long-term clinical outcomes of patients with lumbar stenosis and degenerative spondylolisthesis, but is associated with higher rates of infection and re-operation in degenerative spondylolisthesis.

Rihn, J., et al. Does Obesity Affect Outcomes of Treatment for Lumbar Stenosis and Degenerative Spondylolisthesis? Analysis of the Spine Patient Outcomes Research Trial (SPORT). **Spine.** 2012, Nov 1; 37(23): 1933-1946.

COMPARING PAIN IN MULTIPLE SCLEROSIS TO THAT IN NEUROMYELITIS OPTICA

Although multiple sclerosis (MS) and neuromyelitis optica (NMO) both affect the spinal cord, NMO is associated with poorer recovery and greater disability, resulting from more extensive spinal cord injury. This study characterized and compared the prevalence, severity and characteristics of pain between these two disorders.

This retrospective, cross-sectional study involved 29 subjects with NMO and 66 patients with MS. The McGill Pain Questionnaire and a 10-point scale were used to quantify pain. The Expanded Disabilities Status Scale, Multiple Sclerosis Functional Composite was used to measure disability. The SF-36, the Modified Fatigue Impact Scale and the CES-D served as measures of disability and function.

Current pain was found to be more common and more severe among subjects with NMO than among those with MS ($p<0.001$ and $p<0.001$ respectively). Subjects with NMO used prescription pain medications more frequently (76% versus 38%) than did those with MS ($p<0.001$). No subject with NMO taking pain medications reported being pain free, while 48% of those with MS reported no pain. Pain negatively impacted quality of life in both groups. The NMO group also had higher disability and worse quality of life scores than did the MS group.

Conclusion: This study found that pain is much more common and severe in patients with neuromyelitis optica than in those with MS.

Qian, P., et al. Association of Neuromyelitis Optica with Severe and Intractable Pain. **Arch Neurol**. 2012, Nov; 69(11): 1482-1487.

FUNCTIONAL OUTCOME AND DEPRESSION AFTER HOSPITALIZATION

Depressive symptoms are common among hospitalized patients, and are associated with significant morbidity and mortality after discharge. It has been estimated that 10% of hospitalized, older adults with medical illness have a major depressive disorder. This study measured depressive symptoms during the first year after hospitalization, in an effort to determine the influence of this condition on outcome.

This study included a random sample of individuals 70 years of age or older, all admitted to the general medical ward of either of two study hospitals. From those, 1,129 agreed to participate and were included in the final data analysis. Data were extracted from the charts, and patients were assessed for depressive symptoms using the Center for Epidemiologic Studies Depression Scale. Covariates included sociodemographic characteristics, clinical characteristics and severity of illness. Functional disability was determined based upon activities of daily living (ADLs) and instrumental ADLs. The subjects were divided into four groups, based upon depression scores, which were recorded at hospitalization and at follow-up (low or high depression at hospitalization and low or high depression scores at follow-up). Mortality was measured at three, six and 12 months after hospital discharge.

Of the 1,129 participants, 133 died in the year after discharge, 19% of those between one and three months after discharge, 30% between three and six months and 51% between six and 12 months. The one-year outcome was associated with the number of depressive symptoms upon discharge ($p<0.001$). In one year, more participants in the low-low depression group were alive and independent than in the low-high group, and more participants in the high-low group were alive and independent in ADLs than in the high-high group ($p<0.001$).

Conclusion: This study of elderly, hospitalized patients found that the number of depressive symptoms at discharge, and the change in depressive symptoms after discharge, were significantly related to poorer functional outcome and higher mortality.

Pierluissi, E., et al. Depressive Symptoms after Hospitalization in Older Adults: Function and Mortality Outcomes. **JAGS.** 2012, December; 60: 2254-2262.

COGNITIVE-BEHAVIORAL THERAPY FOR THE TREATMENT OF CHRONIC WHIPLASH RELATED POSTTRAUMATIC STRESS DISORDER

Whiplash injury is often precipitated by a traumatic event, often a motor vehicle collision (MVC). Posttraumatic stress disorder (PTSD) is common after a MVC. Some have reported a shared pattern of etiology between whiplash associated disorders (WADs) and PTSD. As trauma focused cognitive behavioral therapy (TF-CBT) has emerged as

the gold standard for the treatment of trauma related PTSD, this study evaluated the effect of TF-CBT for patients with chronic WAD.

Twenty-six individuals were recruited, all 20 to 49 years of age with a diagnosis of MVC- related PTSD and WAD. The subjects were assessed with The Structured Clinical Interview DSM-IV, Text Revised (SCID). Details of the MVC were obtained with as much detail as possible about feelings, behaviors and sensory experiences. Physiological and pain thresholds were measured. The subjects were then randomized to either a treatment group or a waiting list group. The treatment group received 10, weekly, one-hour sessions of TF-CBT. The participants were evaluated immediately after treatment and at six -month follow-up to determine levels of physiological arousal and sensory thresholds. The Neck Disability Index (NDI) was the primary outcome measure for neck pain and disability.

Significantly more participants in the treatment condition no longer met the criteria for PTSD at post-treatment than did those on the waiting list ($p<0.004$). Greater reductions were also found in the NDI percentage scores in the treatment group than in the waiting list group, both at post-treatment ($p=0.006$) and at six-month follow-up ($p=0.006$).

Conclusion: This study of patients with co-morbid diagnoses of posttraumatic stress disorder and whiplash associated disorder found that trauma focused cognitive behavioral therapy helps reduce symptoms and disability.

Dunne, R., et al. A Randomized, Controlled Trial of Cognitive-Behavioral Therapy for the Treatment of PTSD in the Context of Chronic Whiplash. **Clin J Pain.** 2012, November/December; 28(9): 755-765.

ADJACENT DISC DEGENERATION AFTER DISC PROSTHESIS SURGERY

Spinal fusion is a common surgery for patients with chronic low back pain (LBP) and degenerated discs. An alternative intervention, disc prosthesis surgery, has been reported to cause less adjacent level degeneration (ALD) than does fusion. This study was designed to better understand the risk of ALD among patients with disc prosthesis surgery.

Subjects included patients 25 to 55 years of age with chronic LBP and degenerative disc disease at L4- L5 and L5-S1. Of these, 59 were randomized to undergo a discectomy and prosthetic replacement, while 57 were randomized to receive rehabilitation services. The subjects were followed for up to two years. Outcome measures at two years included MRI results, pain, and disability, the latter two as measured by a visual analogue scale (VAS) and the Oswestry Disability Index (ODI).

After two years, the surgery group experienced greater improvement on the ODI and VAS pain scores than did the rehabilitation group. Also at two years, at adjacent spine levels, at least one MRI parameter changed for the worse in 13% of the surgery group and in 11% of the rehabilitation group. At least one MRI parameter improved in 20% of the surgery group and in nine percent of the rehabilitation group. Neither finding was statistically significant. At the level of the surgery, facet arthropathy was a new or worsening finding in 34% of the surgery group and four percent of the exercise group ($p<0.001$).

Conclusion: This study of patients undergoing disc prosthesis surgery found that adjacent level spinal degeneration is equal to that of those who do not undergo surgery. However, the surgery group had increased facet arthropathy at the level of the surgery.

Hellum, C., et al. Adjacent Level Degeneration and Facet Arthropathy after Disc Prosthesis Surgery or Rehabilitation in Patients with Chronic Low Back Pain and Degenerative Disc: Second Report of a Randomized Study. **Spine.** 2012, Dec 1; 37(25): 2063-2073.

SMOKING CESSATION AND SPINE PAIN

Tobacco abuse has been identified as a modifiable risk factor for many chronic pain disorders. This study examined the relationships among the patient's smoking status, smoking cessation and self assessment of pain and disability for patients treated for axial or radicular pain associated with spinal disorders.

A prospectively maintained database at two academic hospital centers was examined for patients undergoing spinal care. Data obtained included smoking history, secondary gain factors, Oswestry Disability Index scores, and the patient's assessment of pain on a visual analogue scale (VAS). Smoking status was defined by four groups, a) those who had never smoked, b) former smokers who had quit, c) current active smokers and, d) those who had quit smoking during the course of care. Secondary gain was defined as involving ongoing Worker's Compensation, litigation, disability or malpractice claims related to the spinal disorders.

A total of 5,333 patients with axial or radicular pain due to a spinal disorder were included in the analysis. At the time of entry into care, patients who had never smoked and prior smokers reported less pain than did those who currently smoked and those who had quit during the study period ($p<0.001$). Compared to patients who were current smokers, those who had quit smoking reported significantly greater improvements in pain scores for worst pain, current pain and average weekly pain ($p<0.013$, $p<0.05$ and $p=0.024$, respectively). Greater improvements in disability scores were found for those who had never smoked as compared with current smokers.

Conclusion: This study of patients receiving treatment for pain related spine disorders found that improvement in pain is correlated with smoking status.

Behrend, C., et al. Smoking Cessation Related to Improved Patient Reported Pain Scores following Spinal Care. **J Bone Joint Surg (Am).** 2012, December 5; 94 (23): 2161-2166.

PHYSICAL ACTIVITY FOR ELDERLY WITH WHITE MATTER CHANGES

Physical exercise has been shown to improve cerebral blood flow, reduce vascular risk factors, decrease the secretion of stress hormones and stimulate plasticity. Exercise is also associated with enhancement of endothelial function, counteracting the loss of vasodilatory function associated with aging. The Leukoaraiosis and Disability (LADIS)

study was designed to investigate the impact of physical activity on the evolution of cognitive impairment and dementia in a cohort of elderly individuals with white matter changes.

This prospective, multinational European study included elderly individuals with white matter changes detected on magnetic resonance imaging (MRI), who had no reported disability. The subjects had been enrolled due to minor neurologic, cognitive, mood or motor complaints or incidental findings on intracranial imaging. Subjects were evaluated at baseline and yearly for three years using a comprehensive clinical and functional protocol. During the interview, physical activity was assessed, with subjects classified as physically active or inactive. An MRI was performed at baseline and again at three years' follow-up.

Six hundred thirty-eight subjects were included in this analysis. Of these, 29.6% had a previous history of a stroke and 14.6% were diabetic at baseline. At the final clinic visit, dementia was diagnosed in 90 patients and cognitive impairment, not dementia, was found in 147. Physical activity at baseline was an independent protective factor for cognitive impairment over time. The protective effect of physical activity was unchanged when controlling for diabetes. Using a Cox regression analysis, physical exercise was found to reduce the risk of cognitive impairment, dementia and vascular dementia (p=0.002, p=0.043, and p=0.008, respectively) independent of age, education, white matter change severity and medial temporal atrophy.

Conclusion: This study found that, among nondisabled elderly with white matter changes, physical activity can reduce the risk of cognitive impairment and vascular dementia.

Verdelho, A., et al. Physical Activity Prevents Progression of Cognitive Impairment and Vascular Dementia: Results from the LADIS (Leukoaraiosis and Disability) Study. **Stroke.** 2012, December; 43: 3331-3335.

RETURN TO SPORT AFTER TIBIAL PLATEAU FRACTURE

Tibial plateau fractures are common among athletes involved in impact sports. This study was designed to determine sporting abilities after surgical repair of tibial plateau fractures.

Subjects included patients with tibial plateau fractures requiring operative repair between 2003 and 2009. These patients were given activity questionnaires at the time of the injury, one year after surgery and at the time of the survey. Questionnaires were sent to participants in 32 different sports and recreational activities, inquiring about overall level of satisfaction with surgery, and use of pain medications. The modified Lysholm score and the Visual Analogue Scale for Pain were used to assess clinical outcomes. The Tegner Activity Scale and the Activity Rating Scale were used to determine activity levels.

Data were obtained for 89 athletes, with a postoperative follow-up period averaging 52 months. The subjects' mean age at the time of surgery was 47 years. At the time of injury, 88.8% of the patients were engaged in sports, falling to 62.9% at one year post-surgery. At long-term follow-up, 73% of the patients were engaged in a sport, reflecting a significant increase as compared with one year after surgery (p<0.001). Of the 11 professional athletes, nine were not competing at one year, with one returning to competition at long-term follow-up. However, the number of different sporting activities and the activity duration per week declined significantly after surgery, and remained reduced through long-term follow-up.

Conclusion: This study of patients with tibial plateau fractures repaired surgically found that the majority could not return to their previous levels of activity, with most competitive athletes ending their careers.

Kraus, T., et al. Return to Sports Activity after Tibial Plateau Fractures. 89 Cases With Minimum 24-Month Follow-Up. **Am J Sports Med.** 2012, December;40(12): 2845-2852

SUBSTANCE ABUSE PRECEDING STROKE

In 2007 it is estimated that approximately five percent of all strokes in the United States occurred in adults between the ages of 18 and 44 years. Stroke in this age group appears to be increasing. Some have suggested that this increase may influenced by the use of illicit drugs. This study was designed to better understand the association between substance abuse and stroke in this relatively young age group.

Using a population-based design, involving patients within the greater Cincinnati and Northern Kentucky regions, all cases of stroke were reviewed. Charts were reviewed for evidence of alcohol abuse or illicit substance abuse. Illicit drugs were recorded as present if found on routine urine or blood drug tests, or if self-reported in the medical chart. Drug screens were not mandatory.

The number of patients 18 to 54 years of age who experienced a stroke increased from 1993 to 2005. During this time, there was an increase in overall use of substances, including current smoking, alcohol and illicit drug use combined, from 45% in 1993 to 62% in 2005. This finding paralleled an increase in the documented use of substances within 24 hours of stroke (1.4% in 1993, 6.3% in 1999 and 12.8% in 2005; p<0.0001). Among these substances, illicit drugs showed the greatest increase over time (3.8%, 9.8% and 19.8%) for the years 1993, 1999 and 2005, respectively (p<0.01).

Conclusion: This population-based study of young adults with acute stroke found that substance abuse is common, is growing, and is associated with an increasing risk of stroke in this population.

De los Rios, P., et al. Trends in Substance Abuse Preceding Stroke among Young Adults: A Population-Based Study. **Stroke.** 2012, December; 43 (12): 3179-3183.

STEM CELL THERAPY IN STROKE

Recent studies have demonstrated evidence of neurogenesis in the adult human brain. This Indian study was designed to investigate the role of bone marrow derived stem cells as an intervention for acute ischemic stroke.

This unblinded, nonrandomized, case-control study included 40 stroke patients, 18 to 65 years of age, with time since stroke between three and 24 months. Twenty of these patients received stem cells followed by eight weeks of physical therapy. Of those, six received culture expanded

mesenchymal stem cells and 14 received autologous mononuclear stem cells. All stem cells were infused intravenously into the medial cubital vein. Twenty patients received physical therapy alone. Outcome measures included the Fugl-Meyer (FM), the modified Barthel Index (mBI) and the Medical Research Council (MRC) grade for strength. The Ashworth tone scale and functional imaging were used for assessments at baseline, eight weeks and 24 weeks.

In the stem cell group significant improvements were found in FM and mBI scores between baseline and 24 weeks ($p<0.05$). Improvement in the mBI was statistically more improved than the control group at 24 weeks ($p=0.05$).

Conclusion: This study of stroke patients demonstrates that stem cell therapy is safe and feasible, with better functional gains noted in the treatment group than in the control group.

Bhasin, A, et al. Stem Cell Therapy: A Clinical Trial of Stroke. **Clinical Neurol Neurosurg.** http://dx.doi.org/10.1016/j.clineuro.2012.10.015

TOTAL HIP REPLACEMENT AND STROKE RISK

Several epidemiologic studies have demonstrated that the perioperative stroke incidence rate may be as high as 0.6%. The rate of stroke after hip arthroplasty has not been compared with matched controls, nor has the timing of this risk been well defined. This study was designed to better clarify these issues.

This nationwide, retrospective, cohort study used Danish national registries which include all 5.5 million Danish residents. These registries contain detailed information concerning hospitalizations, clinic visits, medications, vital status and date and cause of death. From these data, all patients at least 18 years of age who had undergone a primary total hip replacement were included in the study cohort.

The research team was able to compare approximately 67,000 patients with nearly 200,000 matched controls. The two groups were followed from the date of the surgery until reaching one of the primary endpoints, including death, total hip replacement revision, stroke, migration out of the country or the end of the study period.

A substantial increase in the risk of hemorrhagic and ischemic stroke occurred during the first two weeks after surgery (hazard ratios of 4.69 and 4.40, respectively). The concurrent usage of anticoagulants or antiplatelets reduced this risk by nearly 70%. For both types of stroke, the risk dropped steadily afterward, remaining significantly elevated for the first six weeks for ischemic stroke, and for 12 weeks for hemorrhagic stroke.

Conclusion: This study of patients undergoing hip replacement surgery found that this surgery is an independent risk factor for stroke, with the greatest risk of stroke within two weeks after surgery.

Lalmohamed, A., et al. Timing of Stroke in Patients Undergoing Total Hip Replacement and Matched Controls; A Nationwide Cohort Study. **Stroke**. 2012, December; 43(12): 3225-3229.

VENOUS THROMBOEMBOLISM AFTER PATELLOFEMORAL ARTHROPLASTY

Patellofemoral arthroplasty (PA) has become a popular procedure for knee osteoarthritis, as an alternative to total knee arthroplasty, for patients with isolated patellofemoral degenerative disease. Venous thromboembolic disease has not been well studied among patients undergoing PA. This study assessed the incidence of symptomatic venous thromboembolism (VTE) in a group of patients undergoing primary or revision PA.

One hundred thirty-one, consecutive patients undergoing 149 PAs were followed between November of 1997 and December of 2009. Data were collected concerning the method of prophylaxis, risk factors, demographics and operative details. Patients with no significant risk factors received bilateral, intermittent, pneumatic compression devices during hospitalization and enteric-coated aspirin at 325 mg for six weeks. Those considered at high risk received warfarin for six weeks.

Symptomatic VTE occurred in one patient. That patient had an undisclosed family history of VTE, and was subsequently diagnosed with a heredity coagulopathy. No other symptomatic VTE complications occurred.

Conclusion: This prospective study and found that patients undergoing patellofemoral arthroplasty have a low risk of symptomatic venous thrombo-embolism.

Levack, A., et al. Incidence of Symptomatic Thromboembolic Disease after Patellofemoral Arthroplasty. **Am J Orthop.** 2012; 41 (10): 456-460.

RISK OF THROMBOEMBOLISM AFTER TOTAL HIP REPLACEMENT

Mortality within the first 30 days after total hip replacement (THR) has been reported to be higher than that in the corresponding general population. As THR is known to be a major risk factor for venous thromboembolism, this study examined the one-year risk of symptomatic thromboembolism following this surgery.

Using data from the Danish civil registration system, information was gathered for all patients undergoing a first, primary THR identified between 1995 and 2010. These subjects were matched with controls who had not undergone a THR. The subjects were followed from treatment until the occurrence of symptomatic VTE, first inpatient admission for symptomatic VTE, death or the study's end date.

A total of 85,965 patients were identified, all of whom had undergone THR. These subjects were compared with matched controls totaling 257,895. Compared with controls, those undergoing THR had a substantially increased risk of VTE within the first 90 days after surgery, with a relative risk of 15.84. The risk was highest in the first 30 days post-surgery, with a risk ratio of 26.9, which declined to 8.92 during the second month, and to 5.32 during the third month after surgery. The relative risk for VTE fell to 2.41 during the period of 91 to 365 days post-surgery.

Conclusion: This study of patients undergoing total hip replacement found that the risk of symptomatic venous thromboembolism increases for up to one year after surgery.

Pedersen, Y., et al. Increased One-Year Risk of Symptomatic Venous Thromboembolism following Total Hip Replacement: A Nationwide Cohort Study. **J Bone Joint Surg (Br).** 2012, December; 94B: 1598-1603.

SHOCKWAVE THERAPY AFTER ROTATOR CUFF REPAIR

Extracorporeal shockwave therapy (ESWT) has been found to accelerate the healing of bone fractures. This study evaluated the efficacy of ESWT for tendon healing after arthroscopic repair of rotator cuff injuries.

Seventy consecutive patients with small to large rotator cuff tears underwent arthroscopic rotator cuff repair. The subjects were randomly assigned to one of two groups, with 35 receiving ESWT after surgery and 36 receiving usual treatment only. A single ESWT treatment was performed six weeks after surgery. Outcome measures included Visual Analog Scale (VAS) Pain scores, Constant Shoulder Scores and the University of California, Los Angeles (UCLA) score. Computed tomography arthrography was used to evaluate cuff integrity at six months after surgery.

No statistical difference was noted between the two groups by measures of the VAS, the Constant and the UCLA scores. Cuff integrity was maintained in 46 of 50 patients in both groups. There were no complications associated with the ESWT.

Conclusion: This study of patients undergoing arthroscopic rotator cuff repair failed to demonstrate that a single low-dose of ESWT, delivered six weeks after surgery, could enhance surgical site healing.

Kim, J., et al. Extracorporeal Shockwave Therapy is not Useful after Arthroscopic Cuff Repair. **Knee Surgery Sports Traumatol Arthrosc**. 2012, December; 20(12): 2567-2572.

SHOCKWAVE THERAPY FOR DELAYED TENDON BONE INSERTION HEALING

The tendon bone insertion serves as an interface for force transmission from tendon to bone. This interface has limited reparative ability. Thus, chronic injuries and delayed healing of these injuries are often observed. As extracorporeal shockwave (ESW) has been found to enhance bone fracture healing, this animal study explored the dosing effects of ESW on TBI healing.

Ninety-six female rabbits underwent partial patellectomy, with delayed healing induced by shielding of the interface between the tendon and bone. These animals were divided randomly into three groups including controls and those receiving either low-dose ESW or high dose ESW. The rabbits were sacrificed at week eight or 12 for assessments including radiographic, architectural, histological and mechanical evaluations.

Radiographic assessment revealed that the new bone area was significantly larger in both ESW groups at both eight and 12 weeks follow-up, as compared with the control group. The architectural analysis revealed new bone volume increases of 14.2% in the controls, 133.4% in the low-dose group and 164% in the high-dose group from weeks eight to 12. Mechanical testing revealed that the failure load of the two ESW groups improved significantly as compared to the control group. The differences between the two ESW groups did not reach statistical significance on any of the evaluations.

Conclusion: This animal study of delayed tendon bone insertion healing found that low and high dose extra corporeal shockwave treatments are equal in their ability to accelerate healing.

Chow, D., et al. Extracorporeal Shockwave Therapy for Treatment of Delayed Tendon-Bone Insertion Healing in a Rabbit Model. A Dose Response Study. **Am J Sport Med.** 2012, December; 40(12): 2862-2871.

THE INCIDENCE OF STINGERS IN PROFESSIONAL FOOTBALL PLAYERS

Brachial neuropraxia (BN) or transient brachial plexopathy, often referred to as a "stinger", is a common phenomenon in football. Previous studies have identified the incidence of these injuries in American football. This study was designed to better determine the incidence of BN among Canadian football players, and to identify risk factors for these events.

Written questionnaires were administered to 244 Canadian collegiate football players, both before and after the season. Data concerning prior BN, years of participation in football, age, body mass index, padding and participation in strength training were collected. At the end of the season, additional inquiries were included regarding stingers sustained during the season.

During the 2010 season, 26% of players reported a stinger incident. In the historic data, 62% of players reported a stinger at some point in their careers, with 50% sustaining more than one. A multivariate analysis demonstrated an association between stingers during the past season and a previous history of stingers ($p=0.0001$). A blow to the shoulder was the most common description of the mechanism of injury (66%). Of the players who sustained a stinger, 92% did not report the injury to a physician.

Conclusion: This study of Canadian football collegiate athletes found that brachial neuropraxia is a common football injury which is grossly underreported to physicians.

Charbonneau, R., et al. Brachial Neuropraxia in Canadian Atlantic University Sport Football Players: What Is the Incidence of "Stingers"? **Clin J Sports Med.** 2012, November; 22: 472-477.

TREATING INSOMNIA IN OLDER ADULTS WITH CHRONIC DISEASES

Insomnia has been found to increase with age and chronic diseases associated with aging. However, in older adults, hypnotic drugs may pose a significant risk of side effects. Conversely, cognitive behavioral therapy is associated with sustained and risk-free improvement in sleep outcomes. This study was designed to assess the effect of cognitive behavioral therapy for elderly people with chronic disease, reporting comorbid insomnia.

This study included 193 subjects, ages 55 to 87 years, all with long-term medical conditions and chronic insomnia. This two-arm, randomized, controlled trial compared self-help cognitive behavioral therapy with

(Continued from page 2)

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treatment as usual. The self-help group received six booklets designed as a structured educational program, as well as access to a telephone help line. The control group only received written advice concerning standard sleep hygiene measures. Outcome measures included sleep quality, assessed using the Pittsburgh Sleep Quality Index (PSQI), with secondary outcomes including the Insomnia Severity Index, the Subjective Sleep Efficiency Index and the Fatigue Severity Scale.

At the post-treatment assessment, as compared to controls, the self help intervention participants reported better PSQI rated sleep quality ($p<0.001$) sleep efficiency ($p<0.001$), and less insomnia severity ($p<0.001$). The treatment had no effect on levels of daytime fatigue.

Conclusion: This study suggests that self-help cognitive behavioral therapy may be a reasonable first-line intervention for symptoms of insomnia associated with chronic disease.

Morgan, K., et al. Self-Help Treatment for Insomnia Symptoms Associated with Chronic Conditions in Older Adults: A Randomized, Controlled Trial. **JAGS**. 2012, October; 60(10): 1803-1810.

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