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ERECTILE DYSFUNCTION AFTER DECOMPRESSIVE LUMBAR SURGERY

Erectile dysfunction is an often overlooked comorbidity associated with lumbar stenosis. This study evaluated the rates of erectile dysfunction among male patients with lumbar stenosis who underwent surgical decompression.

The subjects were 38 male patients diagnosed with lumbar spine stenosis, 75 years of age or younger. Exclusion criteria included signs of cauda equina syndrome, a history of radical prostatectomy or a significant psychiatric or medical condition. At baseline and postoperatively the participants were assessed with the International Index of Erectile Dysfunction.

The patients underwent various types of decompressive surgeries without serious complications. Preoperatively, 89.5% met the criteria for erectile dysfunction. Postoperatively, the rate of erectile dysfunction increased to 92.1%. A historical comparison found that erectile dysfunction is present in 19.2% to 53.9% of males over the age of 40.

Conclusion: This study suggests that lumbar spinal stenosis is associated with erectile dysfunction, and that this problem does not improve after decompressive spinal surgery.

Gempt, J., et al. Effects of Lumbar Spinal Stenosis and Surgical Decompression on Erectile Function. *Spine*. 2010, Oct 15; 35(22): E1172-E1177.

TANEZUMAB FOR TREATMENT OF OSTEOARTHRITIS

Nerve growth factor regulates the structure and function of small diameter nociceptive afferent fibers. Previous studies have demonstrated

that exogenous nerve growth factor increases the sensation of pain, and that increased expression of nerve growth factor is found in inflamed tissues in patients with arthritis, pancreatitis, and prostatitis. This study investigated whether tanezumab, a humanized monoclonal antibody against nerve growth factor, can reduce the pain of osteoarthritis (OA) of the knee.

Four hundred fifty patients with OA of the knee were randomized into six groups. These groups received either a placebo or tanezumab at doses of 10, 25, 50, 100 or 200 mcg/kg given on day one and day 56. The patients had eight scheduled study visits and were contacted for telephone interview on day 42. All were asked to record daily pain scores using an electronic diary. The subjects were allowed to take tramadol or acetaminophen as a rescue pain medication. Efficacy measures included knee pain, walking, and patients' global assessments of response to therapy, averaged over weeks one to 16.

As compared with placebo, tanezumab, was associated with an improvement in the primary efficacy measures at all of the doses studied. The mean reduction in pain while walking ranged from 45% to 62% with the study medication, as compared to 22% with the placebo ($p < 0.001$). The global assessment of response to therapy increased from 29% to 47% with the various doses of tanezumab compared to 19% for patients receiving placebo. Adverse effects occurred in 68% in the treatment group and 55% of the placebo group. The most common among these were headaches, upper respiratory infection and paresthesias, with higher rates noted among those receiving the highest doses of tanezumab.

Conclusion: This study found that the humanized monoclonal antibody that inhibits nerve growth factor, can be an effective treatment

for the pain of osteoarthritis of the knee.

Lane, N., et al. Tanezumab For the Treatment of Pain from Osteoarthritis of the Knee. *N Eng J Med*. 2010, Oct 14; 363(13): 1521-1531.

STROKE DURING PREGNANCY

Numerous physiologic changes occur during pregnancy, including altered coagulation, volume shifting, vascular reactivity and hormone status. These factors can be associated with an increased risk of stroke. However, stroke occurring during pregnancy is a rare condition. This study investigated the factors associated with stroke during pregnancy and explored the frequency and risk for adverse pregnancy outcomes after stroke.

This study utilized two, large Taiwanese databases, the Taiwan National Health Insurance Database, and the National Birth Certificate Registry, maintained by Taiwan's Ministry of the Interior. From these databases were identified 473, 529 women who had live, singleton births between 2001 and 2003. Of those women, 272 were diagnosed with stroke during those pregnancies and were matched for age and year of delivery with one of 1,288 control subjects. Conditional logistic regression analyses were performed to examine the odds of a low birth weight, preterm or small for gestational age baby.

The data revealed no significant differences in the prevalence of preterm babies, low birth weight babies and small for gestational age babies between women who had strokes during pregnancy and the control group. Mothers who had a stroke during pregnancy were more likely to have a lower monthly family income and to have gestational hypertension, anemia and

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preeclampsia/eclampsia than were the control group.

Conclusion: This study found that women who had strokes during pregnancy were at no increased risk of preterm deliveries, low birth weight babies or small for gestational age babies as compared with controls.

Kang, J., et al. Stroke during Pregnancy: No Increased Risk of Preterm Delivery and Low Birth Weight. A Nationwide Case Controlled Study. **J Neuro Neurosurg Psych.** 2010, November; 81(11): 1211-1214.

C-REACTIVE PROTEIN AFTER SURGERY

C-reactive protein (CRP) was first described in 1930 and has been used as a clinical marker for inflammatory processes. As with other acute phase proteins, CRP is present in trace amounts in the serum, but increases rapidly in response to infectious and inflammatory conditions. This study sought to determine whether CRP is effective in detecting postoperative infectious complications after neurosurgical procedures.

This prospective study included 50 consecutive females and 50 consecutive males admitted for one of seven neurosurgical procedures. Blood samples were collected pre-operatively and post-operatively in the recovery room and on days two, three, four and five. Blood was drawn for CRP concentrations, erythrocyte sedimentation rates and white blood cell counts. Patients were monitored for postoperative infectious complications using standard laboratory and clinical methods. CRP values were compared with clinical outcomes.

For each of the neurosurgical procedures, the peak CRP concentration occurred on the second post-operative day. Of the 100 patients, 87% had an uneventful course, while 13% suffered from postoperative infection. All of the patients with infection had CRP values on day five which were higher than on day one.. A secondary rise in CRP or failure to decrease as expected had sensitivity, specificity, negative and positive predictive value of 100%, 93.1%, 100% and 68.4%, respectively, for detecting infectious complications.

Conclusion: This study of consecutive, neurosurgical patients suggests that C-reactive protein is a reliable screening test for postoperative infectious complications.

Al-Jabi, Y., et al. Value of C-Reactive Protein after Neurosurgery: A Prospective Study. **Br J Neurosurg.** 2010, December; 24(6): 653-659.

TELEPHONE BASED MANAGEMENT OF OSTEOARTHRITIS

Osteoarthritis (OA) is a leading cause of pain and disability throughout the world. Optimal management of OA involves both pharmacologic and behavioral strategies. Only 10% of patients with arthritis report receiving education about how to manage this condition. This study examined the efficacy of a one-year, telephone-based, self management, support intervention for patients with hip and knee OA.

Patients were included who had a diagnosis of hip or knee OA and who were enrolled in primary care at the Durham, North Carolina, Veterans Administration Medical Center. The subjects were randomized to either a usual care group or a self-management, support intervention group. The intervention group received education related to the management of OA symptoms, as well as exercise videos designed for persons with OA. A health educator called participants monthly for 12 months to discuss key points from these materials, guiding the participants in overcoming barriers. The control group received written and audio materials regarding a range of common health problems. The primary outcome measure was the Pain subscale of the Arthritis Impact Measurement Scale-2 (AIMS-2), while secondary outcome measures included the Physical Function and Affect subscales of the AIMS-2 and a visual analogue pain scale.

At 12-month follow-up, AIMS-2 Pain subscale scores were significantly lower in the intervention group than in the control group (p=0.0006). The Function and Affect subscales of the AIMS did not significantly differ between the two groups. The estimated, mean visual analogue scale pain score in the self-

management group was significantly lower than that in the usual care group ($p < 0.001$). Finally, the estimated mean walking and bending scores were lower in the intervention group than in the control group at 12 months ($p = 0.035$).

Conclusion: This prospective study of patients with knee or hip osteoarthritis found that telephone-based, self-management interventions may be more successful in reducing pain than is usual care.

Allen, K., et al. Telephone-Based Self-Management of Osteoarthritis. *Ann Intern Med.* 2010, November 2; 153(9): 570-579.

ULTRASOUND TO DIAGNOSE OSTEOARTHRITIS OF THE FINGER

Erosive osteoarthritis (EOA) of the interphalangeal joints is an important subtype of hand osteoarthritis (OA). This diagnosis is based upon conventional radiography that shows typical central erosions and collapse of the subchondral bone. However, these radiographic findings are often delayed with respect to the clinical presentation. This study sought to determine whether ultrasound (US) can detect more erosions in EOA than does conventional radiography.

All subjects fulfilled the American College of Rheumatology criteria for hand OA. All interphalangeal joints of 38 patients were examined by both US and conventional radiography. The images were scored for erosions, osteophytes and inflammatory changes. Comparisons were made between the frequencies of sonographic findings and conventional radiographic findings and between erosive OA and non-erosive OA.

US detected 94.4% of radiographically identified erosive joints, finding an additional 45 erosive joints. US missed erosive joints in four patients as compared with conventional radiography. In patients without erosive OA, US detected erosions not visible on conventional radiography in 4.8% of joints. US was found to be more sensitive in detecting osteophytes, with positive findings in 60.9% of joints in erosive OA and in 62.7% of joints in non-erosive OA. No significant differences were found between the groups in inflammatory findings.

Conclusion: This study found that ultrasound is more sensitive in detecting erosions in patients with osteoarthritis of the hand than is conventional radiography.

Wittoek, R., et al. Structural and Inflammatory Sonographic Findings in Erosive and Non-Erosive Osteoarthritis of the Interphalangeal Finger Joints. *Ann Rheum Dis.* 2010, December; 69(12): 2173-2176.

THERAPEUTIC ULTRASOUND IN HIP OSTEOARTHRITIS

Hip osteoarthritis (OA) is a common degenerative condition. While ultrasound (US) is often used for OA treatment, evidence is limited regarding the efficacy of this modality for the treatment of hip degenerative disease. This study assessed the short- and long-term efficacy of therapeutic US in patients with hip OA.

This prospective, randomized, placebo-controlled trial included 45 patients with primary hip OA. All had complained of pain for over three months, and all were assigned Kellgren-Lawrence grade II-III scores on radiographic evaluations. The patients were randomly assigned to one of three treatment groups. These treatments included conventional physical therapy (exercise and a hot pack), conventional physical therapy with sham US, and conventional physical therapy with US. In the conventional group, hot packs were applied for 20 minutes before therapy. In all groups, the participants performed strengthening exercises for the hip muscles for 20 minutes, directed by a therapist held blind to treatment allocation. After the therapy sessions, all patients were educated for home exercise and were instructed to perform the exercise three times per week, for 10 repetitions of each exercise. Outcome measures were assessed at baseline, at the end of physical therapy sessions and a one and three months after therapy.

Each group demonstrated significant improvement in pain scores, on 15 m walking tests and on the Western Ontario and McMaster Osteoarthritis Questionnaire. Only the subjects in group three exhibited significant changes at one and three month follow-up ($p = 0.001$ and 0.002 , respectively). Quality of life measures

did not reach significance in any comparison.

Conclusion: This study suggests that therapeutic ultrasound may have a positive effect on pain and functional status among patients with hip osteoarthritis.

Mine, K., et al. The Effect of Additional Therapeutic Ultrasound in Patients with Primary Hip Osteoarthritis: A Randomized, Placebo-Controlled Study. *Clin Rheum.* 2010, Dec: 29(12): 1387-1394.

ANTIPLATELET THERAPY IN MILD HEAD INJURY

Mild head injury (MHI), with a Glasgow Coma Scale score of 14 to 15, carries a low risk for intracranial complications. Nearly 95% of adult subjects with MHI show no abnormalities on CT scan and fewer than one percent require neurosurgical intervention. While the use of anticoagulants is a well known risk factor, the consequences of the chronic use of antiplatelet drugs has not been well studied. This study reviewed the effect of the chronic use of antiplatelet drugs on the risk of intracranial lesions among subjects with MHI.

Included in this study were 14,288 adolescent and adult subjects who presented to the emergency department within 24 hours of MHI. Data collected at that time included any history of the use of aspirin or ibuprofen. Low risk patients were sent home without any neurologic imaging. Medium risk patients underwent CT scan according to their physician's judgment. High risk patients underwent CT scan and were managed within the first 24-48 hours under strict observation, regardless of CT findings. The main outcome measure was the diagnosis of any posttraumatic lesions on CT within seven days of the trauma. Outcome at six months post-injury was evaluated by a systematic search of all patients by checking death certificates and local medical databases.

Antiplatelet drug use was recorded in 10% of the entire cohort, and in 24.7% of those 65 years of age or older. Pre-injury use of antiplatelet drugs was associated with a significantly increased risk of intracranial hemorrhage ($p < 0.001$).

The authors also found an increased risk among patients over the age of 75 years.

Conclusion: This study found that antiplatelet therapy is a significant risk factor for the development of intracranial lesions after a mild head injury.

Fabbri, A., et al. Predicting Intracranial Lesions by Antiplatelet Agents in Subjects with Mild Head Injury. **J Neurol Neurosurg Psychiatry.** 2010, November; 81(11): 1275-1279.

BLOOD PRESSURE MANAGEMENT IN ACUTE INTRACEREBRAL HEMORRHAGE

Primary intracerebral hemorrhage (ICH) accounts for 10 to 20% of all stroke events worldwide. High systolic blood pressure (BP) has been reported in up to 90% of those presenting acutely with an ICH. During the acute phase of treatment, the American Stroke Association recommends intravenous antihypertensive therapy when systolic BP is 180 mmHg or more. This study assessed adherence to BP guidelines and its management in ICH in a tertiary Canadian Stroke Centre.

This two part study included a retrospective review of the charts of all patients admitted during a 12 month period with a diagnosis of ICH. The charts of these patients were reviewed for BP care including adherence to established guidelines. Subsequently the authors established a BP management protocol with precise dose and scheduling directives aimed at achieving specific blood pressure targets. The initial patients managed with this protocol were assessed separately and compared to the retrospective cohort.

The retrospective analysis included 142 patients, 25.7% who were taking antiplatelets and 12.9% who were taking anticoagulants. BP treatment orders were established in 73% of the patients. Only 26% of the patients achieved the target BP as advised by the current guidelines. Only 54% achieved their assigned BP target within one hour. At 12 hours, 12.9% had still not achieved the target BP. No significant relationships were found between any of the hemodynamic parameters and hemorrhage expansion. Eighteen

patients were included in the prospective study. Patients treated with this protocol were significantly more likely to achieve their target BP (83.3%) at 1 hour than were patients with BP orders alone ($p = 0.036$) There were no relationships between mortality or discharge disposition and any BP parameter.

Conclusion: This study of patients presenting with acute intracerebral hemorrhage found that management of blood pressure varies considerably, with poor adherence to recommended guidelines.

Manawadu, D., et al. Blood Pressure Management in Acute Intracerebral Hemorrhage: Guidelines Are Poorly Implemented in Clinical Practice. **Clin Neuro and Neurosurg.** 2010, Dec; 112(10): 858-864.

MODAFINIL FOR TRAUMATIC BRAIN INJURY

Excessive daytime sleepiness (EDS) and fatigue are frequent symptoms after traumatic brain injury (TBI). Studies have shown that EDS and fatigue significantly impair quality of life and daytime functioning, including job performance and social activity. This study examined the effects of the daily use of modafinil for the treatment of post-traumatic EDS and fatigue.

This prospective, double-blind, randomized, placebo-controlled pilot study included 20 patients with TBI who reported EDS, fatigue or both. A baseline examination included The Fatigue Severity Scale, the Epworth Sleepiness Scale and the Maintenance of Wakefulness Test. Ten subjects were randomized to receive 100 mg of modafinil in the morning, while 10 were randomized to receive a placebo. The subjects were called every two weeks and, if they reported no significant change in symptoms, were prescribed an additional dose at noon. The maximum dose of modafinil was 100 mg twice per day. After six weeks of treatment, testing was repeated.

At six weeks, a significantly greater decrease on the Epworth Sleepiness Scale was noted in the treatment group than in the placebo group ($p=0.005$). Findings on the Maintenance of Wakefulness Test revealed a significant increase in mean sleep latency in the treatment group as compared with the placebo

group ($p=0.04$). A decrease was noted in Fatigue Severity scores, but that finding did not differ significantly between the groups after correction for independent variables.

Conclusion: This study of patients with traumatic brain injury found that modafinil may be effective and well tolerated for the treatment of post-traumatic, excessive daytime sleepiness. However, this effect was not found for fatigue.

Kaiser, P., et al. Modafinil Ameliorates Excessive Daytime Sleepiness after Traumatic Brain Injury. **Neur.**2010, November; 75: 1780-1785.

VITAMIN D AND COGNITION IN ELDERLY FEMALES

Vitamin D is a neurosteroid hormone involved in the nervous system. At the level of the brain, vitamin D binds to the neuronal vitamin D receptors and develops anti-neurodegenerative action through multiple properties. This study sought to determine whether weekly dietary intake of vitamin D is associated with global cognitive performance among females.

A total of 5,596 elderly women were participants in a large French study designed to evaluate the risk factors for hip fracture among women 75 years of age or older. All underwent a baseline physical examination, including structured questionnaires concerning dietary habits. A self-administered food frequency questionnaire was used to estimate weekly dietary vitamin D intake, with the groups divided according to those with inadequate intake (<400 iu/day) and those with adequate intake (>400 iu/day). Cognitive impairment was measured with the Pfeiffer Short Portable Mental State Questionnaire (SPMSQ), with results compared by vitamin D intake category.

Of the 5,596 study participants, 794 (14.2%) had an inadequate dietary intake of vitamin D. In addition 627 (11.2%) were found to have cognitive impairment. Women with inadequate intake of dietary vitamin D had lower mean SPMSQ scores ($p<0.001$) than did those with adequate intake. This association remained significant even after adjustment for all potential confounders. In addition, older age,

disability and current depression were significantly associated with cognitive impairment.

Conclusion: In this large, population-based study of older women it was found that weekly dietary intake of vitamin D is significantly associated with global cognitive performance.

Annweiler, C., et al. Dietary Intake of Vitamin D and Cognition in Older Women. A Large, Population-Based Study. *Neur.* 2010, November 16; 75 (20): 1810-1816.

CHINESE HERBAL MEDICINE FOR DEGENERATIVE DISC DISEASE

Degenerative disc disease of the cervical spine is among the most common causes of chronic neck pain. As this condition is often refractory to conventional treatment, many patients turn to complementary and alternative medicine (CAM). This review explored the efficacy of Chinese herbal medicine for the treatment of chronic neck pain due to degenerative disc disease.

This literature review included randomized, controlled trials with participants ages 18 to 65 with a clinical diagnosis of cervical degenerative disc disease or cervical radiculopathy. All had symptoms lasting for at least six months. Any Chinese herbal medicine formula compared with placebo or any other treatment was included. The primary endpoints were visual analogue scale or other validated pain scores, functional status and patient satisfaction.

Four trials were selected, with a total of 1,100 participants. All four included studies were in Chinese and two were unpublished. The study substances included Qishe tablets, Huangqi and Extractum Nucis Vmicae, with comparisons against other pain medications or a placebo. Only the short-term effects of the herbal formulas were studied, as pain relief was measured either immediately after the end of the treatment, or four to eight weeks later. All of the studies reported that the herbal medicines tested were better than the comparison treatments, although the effect sizes were not clinically relevant.

Conclusion: This systematic review of the literature found positive, but weak, evidence that Chinese

herbal medicine can be effective for chronic neck pain due to cervical degenerative disc disease.

Trinh, K., et al. Chinese Herbal Medicine for Chronic Neck Pain Due to Cervical Degenerative Disc Disease. *Spine.* 2010, November: 35 (24): 2121-2127.

BICEPS SUSPENSION PROCEDURE FOR HEMIPLEGIC SHOULDER SUBLUXATION

Patients with upper motor neuron injury often develop upper extremity spasticity and impaired motor control. These patients can develop static and dynamic components of resultant deformity, including painful inferior glenohumeral subluxation. When painful, the cause of this pain is uncertain. Among the treatment options, surgical stabilization has been considered. This study reports on the outcome of a biceps suspension procedure designed to achieve joint reduction and pain relief.

This retrospective study included 11 consecutive, hemiplegic patients with painful glenohumeral subluxation. All were at least six months post-stroke, had failed conservative intervention and had undergone surgical reduction with a biceps suspension procedure. The subjects were assessed by physical examination, pain evaluations, radiographs and patient satisfaction measures before and after surgery. The average follow-up period was 3.2 years.

The average duration between upper motor neuron injury and surgery was 11.7 years. At baseline, all patients complained of pain with passive range of motion at the shoulder, with only one complaining of such pain postoperatively ($p < 0.001$). The mean Ashworth scale scores were 2.1 before surgery and 1.1 after surgery ($p = 0.003$). With the exception of adduction and internal rotation, shoulder motion improved in all planes, although only extension was significantly changed ($p = 0.017$). Nine of the patients were very satisfied with their outcomes, one patient was somewhat satisfied and one was somewhat dissatisfied.

Conclusion: This study of patients with painful hemiplegic shoulders demonstrates that biceps suspension surgery can provide pain

relief and improved range of motion when conservative measures fail.

Namdari, S., et al. Outcomes of a Biceps Suspension Procedure for Painful Inferior Glenohumeral Subluxation in Hemiplegic Patients. *J B J S (Am)*. 2010, November 3; 92(15): 2589 - 2597.

FEMOROACETABULAR IMPINGEMENT AMONG PATIENTS WITH ADDUCTOR RELATED GROIN PAIN

Long-standing, adductor related groin pain (LSARGP) is common in sports that involve cutting and kicking. Some have used the term LSARGP to describe pain at the proximal attachment of the adductor muscles to the pubic bone. The natural history of this condition is unknown. Femoroacetabular Impingement (FAI) is a hip condition caused by abnormal contact between the femur and the acetabulum. This study sought to determine the relationship between FAI and LSARGP.

Included in the study were patients referred for groin pain. All presented with pain upon palpation of the proximal insertion of the adductor muscles, and all had painful resisted adduction. Each subject underwent a physical examination and a radiologic evaluation of the pelvis. The radiographs were assessed by a clinician blinded to the presence of radiographic signs of FAI. These signs included a pistol grip deformity, centrum-collum-diaphyseal angle and femoral head neck ratio. Physical exam findings were compared to radiological findings.

The prevalence of radiologic signs of FAI in this group was 94%, with only four hips demonstrating no signs of FAI. No significant relationship was seen between the number of signs of FAI and a positive hip impingement test. In fact, the two hips with the highest number of radiological signs had a negative impingement test result. In addition, no significant relationship was found between hip range of motion and the number of radiological signs.

Conclusion: This study of athletes with long-standing, adductor related groin pain found that a vast majority of the subjects had radiological signs of femoroacetabular

impingement, with no association seen between the number of these signs and range of motion or symptoms.

Weir, A., et al. Prevalence of Radiological Signs of Femoralacetabular Impingement in Patients Presenting with Long-Standing, Adductor Related Groin Pain. *Br J Sports Med.* 2011, January; 45: 6-9.

EPIDURAL INJECTIONS FOR LUMBAR SPINE STENOSIS

Low back pain is a common complaint in up to 30% of American adults 65 years of age or older. In this population, degenerative lumbar spinal stenosis is often a cause for this pain, and is one of the most common reasons for back surgery. While epidural steroids are commonly used for back pain, the efficacy of this treatment for pain resulting from spinal stenosis is not well understood. This study assessed the effectiveness of epidural steroid injections for patients with lumbar spine stenosis.

Eighty-six patients were scheduled for a one-time lumbar epidural spinal injection of a combination of triamcinolone and Xylocaine. All were over the age of 60, were diagnosed with degenerative LSS, and had undergone no injections within the prior six months, nor any previous lumbar surgery. The effectiveness of the injection was measured through the Pain subscale of the SF - 36 questionnaire, completed at baseline, at one month and at three months post injection.

Fifty-six patients completed the process. A 14-point reduction in pain was noted at one month and an eight-point reduction was noted at three months ($p < 0.05$ and $p < 0.05$, respectively). After stratification against descriptive data, the data revealed that significant improvements in pain occurred in patients with higher body mass index and stronger emotional health.

Conclusion: This study found that, among older adults with pain due to degenerative spinal stenosis, epidural steroid injections may reduce pain for up to three months or more.

Briggs, V., et al. Injection Treatment and Back Pain Associated with

Degenerative Lumbar Spinal Stenosis in Older Adults. *Pain Physician.* 2010, Nov/Dec; 13(6): E347-E355.

MODERATE ALCOHOL USE AND COGNITIVE FUNCTION

While moderate alcohol use has been found to have several clinical benefits, most observational studies have been performed in western cultures. This study examined this association using a southern Chinese sample.

The Guangzhou Biobank Cohort Study included adults, 50 years of age or older. The participants underwent a detailed medical interview and a physical examination, including laboratory tests and a battery of tests of cognitive function. All subjects reported on alcohol use, categorized as never, occasional, moderate, heavy and former drinking. Cognitive test results were compared by alcohol consumption group

A total of 20,537 participants were included in the analysis. Of those, 79% of the women and 54% of the men were never drinkers. Among the men, occasional and moderate alcohol users had a better 10-word recall score than did never drinkers. Among women, occasional alcohol users had higher scores than did never drinkers. The pattern of associations for the Mini Mental State Examination was similar, with higher scores for occasional and moderate alcohol users among men and occasional alcohol users among women.

Conclusion: This Chinese study found that moderate alcohol use is associated with better cognitive function, particularly among men.

Yeung, S., et al. Moderate Alcohol Use and Cognitive Function in the Guangzhou Biobank Cohort Study. *Ann Epidemiol.* 2010, December; 20 (12): 873-882.

OBESITY AND QUALITY OF LIFE

The prevalence of overweight and obesity is continuing to rise throughout the world. Researchers have found a negative impact of obesity on physical function, general health perception and vitality, as well as psychological and social well-being. This study sought to quantify the impact of obesity by examining

total daily energy expenditure and health related quality of life.

Subjects were 69, obese individuals with an average age of 39.8 years. This group was classified based upon body mass index (BMI). These divisions included class I (BMI 30 to 35), class II (BMI 35 to 40) and class III (BMI > 40). All patients underwent anthropometric evaluation, measures of energy expenditure, including resting energy expenditure and total daily energy expenditure, and measures of health related quality of life. The results of those tests were compared by BMI class.

Obesity class was negatively associated with health related quality of life ($p < 0.001$). No significant difference was found between the three groups in total energy expenditure when adjusted for body weight. Class III obesity was associated with greater impairment on physical measures of the SF 36, greater depression as measured by the Hospital Anxiety Depression Scale and a higher total energy expenditure as compared with the lower obesity classes.

Conclusion: This study found that morbidly obese individuals have poorer health-related quality-of-life and a higher risk of depression than do individuals in other obesity categories.

Castres, O., et al. Quality of Life and Obesity Class Relationships. *Int J Sports Med.* 2010, November; 31 (11): 773-778.

NONINVASIVE VENTILATION IN AMYOTROPHIC LATERAL SCLEROSIS

Amyotrophic lateral sclerosis (ALS) is a progressive neurodegenerative disease resulting in respiratory insufficiency. Noninvasive, positive pressure ventilation (NIV) has become the standard of care for the respiratory management of patients with ALS. This study assessed the impact of wireless telemetry to control NIV settings on compliance, function, survival and health care utilization of patients with ALS.

Forty, consecutive, ventilated patients with ALS were randomized to either a control group or an intervention group. The control group underwent a compliance and ventilator parameter setting

evaluation during office visits. The intervention group received a modem device connected to the ventilator. This modem was programmed to communicate bi-directionally, in order to allow the physician to monitor and to change the parameter settings and to measure compliance. The primary outcome measures were the number of office and emergency room visits including hospital admissions and the number of parameter setting changes needed to assure compliance.

The number of office visits, emergency room evaluations and inpatient admissions was significantly lower in the treatment group than in the control group ($p < 0.0001$). In addition, a reduced rate of ventilator setting changes was seen with telemonitored NIV. The authors calculated that the use of telemonitored NIV resulted in a 50% cost reduction, mostly through fewer hospital visits and hospital admissions.

Conclusion: This study of patients with amyotrophic lateral sclerosis found that telemonitoring of ventilator settings for patients at home can result in better care with reduced health care costs as compared with conventional care.

Pinto, A., et al. Home Telemonitoring of Noninvasive Ventilation Decreases Health Care Utilization in a Prospective, Controlled Trial of Patients with Amyotrophic Lateral Sclerosis. *J Neuro Neurosurg Psych.* 2010, November; 81(11): 1238-1242.

HIGH FRUCTOSE AVERAGE INTAKE AND GOUT

Emerging evidence suggests that gout is associated with the metabolic syndrome and may lead to myocardial infarction, diabetes and premature death. A recent, prospective study of men found that sugar sweetened sodas, fruit juices and fructose were associated with a substantially increased risk of gout. This prospective study sought to determine whether this relationship is also true among women.

A cohort of 78,906 women with no history of gout was examined. Data were derived from the Nurses Health Study, a prospective study spanning 22 years. To assess dietary intake, a validated food questionnaire was completed in 1980, 1984, 1986, 1990,

1994, 1998 and 2002. Within this questionnaire, participants were asked how often on average during the previous year they had consumed sugar sweetened soda, diet sodas or other low-calorie beverages. Consumption of different types of fruits and fruit juices was also queried. From these results, dietary fructose intake was determined. Non-dietary factors were also assessed. Incident cases of gout during the study were determined using the American College of Rheumatology gout survey criteria. The primary endpoint of the study was incident cases of gout.

During the 22 years of the study, 778 cases of gout were confirmed. Increasing intake of sugar sweetened soda was associated with an increasing risk of gout ($p < 0.001$). A multivariate analysis revealed that one serving per day of fructose containing soda carried a 1.74 relative risk for gout, while two or more servings carried a relative risk of 2.39. Diet sodas were not associated with increased risk of gout.

Conclusion: This study found that a high intake of sugar sweetened sodas and juices are related to an increased risk of gout among women.

Choi, H., et al. Fructose Rich Beverages and Risk of Gout in Women. *JAMA.* 2010, November 24; 304(20):2270-2278.

COMPRESSION STOCKINGS FOR THROMBOEMBOLISM PREVENTION

Deep venous thrombosis (DVT) and pulmonary embolism are common among immobile, hospitalized patients. Compression stockings alone or in combination with anticoagulants are widely used for DVT prophylaxis. The literature suggests that stockings are associated with a significant reduction in the risk of developing a DVT. This study sought to further determine whether thigh high or below knee compression stockings are superior for the prevention of DVT.

Patients who were hospitalized with an acute stroke were enrolled in this single-blind, randomized, parallel group, multi-center trial. Eligible patients were randomized to receive routine care with either thigh high or knee high compression stockings, to

be worn 24 hours per day. At one week and at one month after enrollment, ultrasound was performed to assess for DVT. The primary outcome measure was popliteal or femoral vein DVT.

Proximal DVT was detected in 98 of the 1,552 patients (6.3%) who received thigh high, and in 138 of the 1,562 (8.8%) who received knee-high stockings ($p < 0.007$). The differences in DVT rate were largely due to a reduction in proximal, rather than distal, DVT. The treatment groups did not significantly differ in the number of deaths or pulmonary emboli. Skin problems were noted in nine percent of patients in the thigh high group, and in 6.9% of patients in the knee-high group ($p < 0.03$).

Conclusion: This study of patients hospitalized with an acute stroke found that proximal DVTs were significantly more frequent among patients wearing knee-high, as compared to those wearing thigh high, compression stockings.

The CLOTS Trial Collaboration. Thigh High versus Low Knee Stockings for Deep Venous Thrombosis Prophylaxis after Stroke. *Ann Intern Med.* 2010, November 2; 153(9): 553-562.

EPIDEMIOLOGY OF PAIN DURING END-OF-LIFE

As patients approached the last years of life, management of symptomatic distress, especially pain, may become paramount in their care. Although freedom from clinically significant pain is a high priority, very little is known about the prevalence of pain toward the end of life. This population-based, observational study reviewed clinically significant pain during the last two years of life.

Subjects were 4,703 individuals with a mean age of 76 years who were enrolled in the nationally representative Health and Retirement Study of adults over 50 years of age. Data were collected by interviewing the subjects every two years, with the results of this study based upon findings at the time of the interview in relation to the date of death. Data were analyzed and 24, distinct, monthly cohorts were identified, based upon the time of interview in relation to the date of the death.

A total of 4,703 participants were represented in the final sample. The

(Continued from page 2)

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most common cause of death in this cohort was heart disease, followed by cancer, sudden death, other causes, and frailty. The prevalence of clinically significant pain increased from 30.7% among those interviewed two years before death, to 47.4% among those interviewed in the last month of life. The prevalence of pain increased an average of six percentage points per month in the last four months of life ($p < 0.001$). The presence of arthritis seemed to have the greatest differential in the predicted pain prevalence at all time points. Among participants with arthritis, pain was noted in the last month of life in 60%, as compared to 26% of those without arthritis ($p < 0.0001$).

Conclusion: This prospective study found that the prevalence of clinically significant pain increases in the last four months of life, with the diagnosis of arthritis strongly associated with this pain.

Smith, A., et al. The Epidemiology of Pain during the Last Two Years of Life. *Ann Intern Med.* 2010, November 2: 153(9): 563-569

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