AAOS 2012 Annual Meeting Hot Topics

/PRNewswire-USNewswire/ -- The 2012 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS) takes place this week at the Moscone Convention Center. Each day, the public relations department will send the most newsworthy components of the meeting. To schedule an interview about any of the topics below, contact AAOS public relations.

Highlights:

Economic Factors Impact Orthopaedic Trauma Volume

Previous studies have found that human behavior during a recession is remarkably different than that during a bullish economy. For example, people tend to spend more time focused on working and less time engaging in leisure and recreation activities, resulting in fewer motor vehicle and other accidents. According to a 10-year study at a Level 1 regional trauma center, economic trends do impact orthopaedic trauma volume. Between 1999 and 2009, a local county's population steadily grew at an annual rate between .9 and 2.9 percent. Unemployment rates peaked in 2002 at 5.4 percent, declined to 3.3 percent in 2006, and rose again in 2009 to 10.7 percent. While general trauma volume increased during the later years, there was a significant negative association between orthopaedic trauma volume and county unemployment rates of the previous year.

Modern, Low-Energy Ammunition Can Cause Deep Tissue Damage

Gunshot injuries are typically categorized as low- or high-energy based on the weapon's missile velocity and mass. Typically, low energy injuries are treated with simple wound care, with or without antibiotics, regardless of the presence of a fracture. In contrast, high energy injuries are treated more agressively. However, modern low-energy handgun ammunition is designed to inflict significant soft tissue damage, which can cause infection and compartment syndrome (a painful condition that occurs when pressure within the muscles builds to dangerous levels). A review of ballistics data from forensic scientists and law enforcement officers in a major U.S. city police department, as well as gunshot-induced fractures from a single level 1 trauma center, found that low-energy handgun injuries have become more prevalent, and with hollow point ammunition (designed to expand when entering the body), can cause severe underlying tissue injury that may be overlooked by clinicians. Orthopaedic surgeons need to be aware of this powerful new ammunition, and the likelihood that even "low energy" handguns can cause substantial bone and soft tissue injury.

Post Surgical Phone Support Improves Outcomes Following Knee Replacement

Poor emotional health and morbid obesity are associated with less functional gain following total knee replacement (TKR) surgery. Approximately 180 patients were categorized by gender, body mass index (BMI) and emotional health. Each patient randomly received either emotional telephone support by a trained behavioral specialist, or standard patient care. Telephone support included three phone calls before surgery, one in-person hospital visit, and eight weekly post-operative calls. Telephone emotional support was well received by all patients. Among high-risk TKR patients, those who received telephone support reported significantly higher post-surgery physical activity and function at six months than those who received standard of care. A tailored, telephone-delivered emotional support program can be helpful in improving activity and function for patients, and especially those at risk for sub-optimal outcome.

44 Percent of Postmenopausal Women with Distal Radius Fracture Have Low Levels of Vitamin D

Wrist fractures, also called distal radius fractures (DRF), are among the most common osteoporosis-related fractures occurring on average 15 years earlier than hip fractures. As researchers recently linked vitamin D deficiency with muscle weakness, increased fall risks, and bone fractures, investigators sought to determine the prevalence of vitamin D deficiency among post menopausal women with DRF. Medical records of 104 post menopausal women treated for a DRF, and 107 age-matched control patients with soft tissue disease, were reviewed. Mean vitamin D levels were "significantly" lower in the DRF group of patients. Specifically, 26 percent of the DRF patients were vitamin D insufficient (having vitamin D serum levels between 20 and 32 ng/ml), and 18 percent, deficient (serum levels below 20 ng/ml), compared to 11 percent and 2 percent of patients being vitamin D insufficient and deficient, respectively, in the control group. Further research may determine whether vitamin D supplementation (or, maintaining adequate vitamin D levels) can help prevent distal radius fractures, or prevent future fractures in patients that experience their first distal radius fracture.

Risk of Pulmonary Embolism (PE) Greatest During First Week Following Total Joint Replacement

The elevated risk of pulmonary embolism (PE) - a blood clot that travels from the leg to the lungs - has been well established, yet little is known about the natural course and timing of this potentially fatal condition. The records of 25,660 patients who received total joint replacement (TJR) between 2000 and 2010 were reviewed. All patients received the anticoagulation (blood thinning) drug Coumadin immediately following surgery and each was monitored, but not screened, for PE. Pulmonary embolism occurring within 90 days of the joint replacement was documented. The median occurrence of PE was two days following surgery, with 254 out of 286 cases of PE (88.8 percent) occurring within the first seven days after surgery. Based on the findings of this study, anticoagulation treatment beyond seven days may not be necessary.

Aspirin Prevents Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE) in Joint Replacement Patients

Following a total joint replacement, anticoagulation (blood thinning) drugs can prevent Deep Vein Thrombosis (DVT), a blood clot deep within the extremities, or a pulmonary embolism (PE), a complication that causes a blood clot to move to the lungs. However, prolonged use of these therapies may increase the risk of hemorrhage and infection. Investigators performed a venography, a test for DVT, before and after knee or hip surgery on 1,500 patients. All patients used a foot pump, and wore an elastic stocking, immediately after surgery. In addition, each patient took a regular dose of aspirin beginning two days post-surgery. The incidence of DVT was 19.2 percent (32.7 percent in total knee replacement and 5.6 percent in total hip replacement patients) which is below normal. None of the PE cases were fatal or severe, and there were no complications caused by the aspirin. Age and a high patient body mass index (BMI) were among the factors associated with a higher risk for DVT. Aspirin along with the use of stockings and a foot pump are safe and effective therapies in preventing DVT and PE in most joint replacement patients. Patients at high risk for DVT made require the use of anticoagulation therapies.

Shorter Hospital Stay for Total Knee Replacement Linked with Greater Revision and Mortality Risks

No previous research has quantified and compared the costs and outcomes between total knee replacement (TKR) patients who have differing lengths of hospital stay following surgery. Investigators identified Medicare patients who had undergone TKR between 1997 and 2009. The patients were separated into the following groups: outpatient, 1-day inpatient, 2-day inpatient, 3- or 4-day inpatient (standard of care), and 5 plus day inpatient. Investigators reviewed outcomes for the patient groups including annual payments, mortality, readmission, revision and common complications. After adjusting for various factors, the results were compared at 90 days, one year, and two years after surgery. Compared to patients who had the standard of care 3-4 day hospital stay, the incremental payments for osteoarthritis costs at 2 years were - $6,964 (lower) for the outpatient group, -$3,327 for patients hospitalized for one day, -$1,681 for two days, and +$1,159 for five plus days. At 90 days, the outpatient group had less pain and stiffness compared to the standard care (3-4 day) group, but had a higher risk for mortality, readmission and dislocation. Investigators recommend that hospitals that chose to implement shorter stay protocols for TKR patients, should do so gradually and only with appropriate and sufficient capabilities.

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