New Guidelines Target Fewer Blood Clots After Hip and Knee Replacement

PRNewswire-USNewswire/ -- An updated clinical practice guideline released last week by the American Academy of Orthopaedic Surgeons (AAOS) Board of Directors recommends how to reduce the likelihood of blood clots after hip or knee replacement surgery, procedures that more than 800,000 Americans undergo each year. The new guideline suggests use of preventive treatments and advises against routinely screening patients after surgery using ultrasound imaging.

"Hip and knee arthroplasty [joint replacement surgery] is among the most successful of procedures in terms of restoring function and minimizing pain. However, one possible complication that orthopaedic surgeons are concerned about is venous thromboembolic disease," said Joshua Jacobs, MD, Academy second vice president, an orthopaedic surgeon at Rush University Medical Center in Chicago, who was chairman of the workgroup that developed the guideline.

Thromboembolic disease encompasses two conditions: deep vein thrombosis (DVT), or formation of a blood clot in a deep vein such as in the thigh or calf, and pulmonary embolism (PE). According to the guideline, in the absence of prophylaxis, DVT occurs in about 37 percent of patients, as detected by imaging. The majority of those patients will remain asymptomatic and will require no further treatment. Recent studies in Denmark show that only 0.7 percent of hip replacement patients and 0.9 percent of knee replacement patients require hospitalization because of DVT in the first three months after surgery.

"After looking at all available scientific research evidence, in a rigorous fashion to minimize bias, we made recommendations that can help guide practitioners in the safest and most effective ways to prevent this potentially serious complication," said Jacobs. Among the preventive measures the experts analyzed for safety and effectiveness are mechanical compression devices, designed to improve blood flow in the legs after surgery, as well as drug therapy. Drug therapy involves anticoagulants, commonly called blood thinners, as well as aspirin, which interferes with blood clotting by acting on platelets.

The work group also outlined suggestions for future research to fill in the evidence gaps that were apparent through an exhaustive and systematic review of the medical literature. Further research is deemed critical to develop the optimum strategies to prevent venous thromboembolic disease in the safest and most effective manner. From the evidence reviewed, the workgroup made the following recommendations for physicians treating patients before hip or knee replacement:

- Patients should stop taking antiplatelet medications (a type of anticoagulant), such as aspirin and clopidogrel (Plavix), because of the increased risk of blood loss during surgery with these drugs.
- A patient should discuss the timing of stopping any medication with his or her physician.
- A prior DVT or PE is an additional risk factor for thromboembolic disease and it is important that patients discuss any such event with his or her surgeon. There is insufficient evidence to recommend for or against routinely assessing patients for other possible risk factors.
- Patients may want to have the surgery performed under regional anesthesia, such as epidural or spinal, rather than general anesthesia. Although evidence suggests that these regional approaches do not affect the occurrence of DVT or PE, they do limit blood loss.
- The workgroup also made these recommendations for care after hip or knee replacement.
- Hip and knee replacement patients should not have routine post-operative screening for thromboembolic disease with duplex ultrasonography (an ultrasound test that shows how blood moves through the arteries and veins).
- Screening with this test does not significantly reduce the rate of symptomatic DVT or PE or the rate of fatal PE.
- Patients should receive anticoagulant therapy (unless they have a medical reason for not being able to use these drugs, such as a bleeding disorder or active liver disease) and/or mechanical compression devices after a hip or knee replacement surgery. There is, however, insufficient evidence to recommend any particular preventive strategy or the duration of these treatments. Patients should discuss the duration and type of preventive treatment with their physician.
- After hip or knee replacement, patients should get up and walk as soon as safely possible. Although there is insufficient evidence that "early mobilization" reduces DVT rates, early mobilization is low cost, of minimal risk and consistent with current practice.

The full guideline, along with all supporting documentation and workgroup disclosures, is available on the AAOS website: www.aaos.org/guidelines [1].

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[1] http://www.aaos.org/guidelines