

# Beating blood clots: Reducing your risk before hip replacement surgery

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Risk factors for venous thromboembolism after total hip replacement (THR) surgery were identified in a new study published in the September 2010 issue of *The Journal of Bone and Joint Surgery (JBJS)*. While the rate of thromboembolism has been significantly reduced through medication, understanding the risk factors could further reduce the likelihood of patients developing this potentially fatal complication.

Two of the most common manifestations of a [thromboembolism](#) include:

- [Deep vein thrombosis](#) (DVT), in which the blood clot forms in a deep vein, commonly in the thigh or calf; and
- [Pulmonary embolism](#) (PE), in which the blood clot breaks free and travels through the veins.

Any surgery often carries the risk of a thromboembolism, especially orthopaedic surgery involving the lower extremities, like the hip or knee. Because of this risk, THR patients are usually treated with medications designed to prevent it from occurring. Despite that, this study found that approximately 1 percent of patients who took the medication still suffered a DVT or PE within 90 days of surgery.

"Risk of 1 percent may seem low, but it is clinically relevant," said Alma P. Pedersen, M.D., Ph.D., one of the co-authors of the study, and a staff specialist in the department of clinical epidemiology at Aarhus

University Hospital in Aarhus, Denmark.

In this study, researchers reviewed the cases of more than 67,000 Danish patients who received total hip replacements over a 10-year span. They found that the overall incidence of venous thromboembolism did not change during that decade. In addition, the researchers identified a number of co-morbidity factors that increased a patient's likelihood of a DVT or PE, including:

- previous hospitalization for a DVT or PE;
- previous hospitalization for cardiovascular or cerebrovascular diseases; and
- presence of other diseases or disorders before THR surgery, including dementia, chronic pulmonary disease, connective tissue disease and ulcer disease.

The researchers were surprised to discover that the patients' age and sex were not risk factors, thus, younger patients also can sustain a thromboembolism. Another surprise, patients who had previously been hospitalized for cancer treatment were not at higher risk, which goes against current thinking, Dr. Pedersen notes.

In addition, patients with rheumatoid arthritis had reduced risk of a DVT or PE compared with those with osteoarthritis. "According to previous literature, we expected the opposite results," says Dr. Pedersen.

To prevent venous thromboembolism, patients who undergo a total [hip replacement](#) need to know about the symptoms of a blood clot, so that - if suspected - treatment is not delayed. If any symptoms of a blood clot arise, you should seek medical attention immediately.

These symptoms include:

- For DVT—leg pain, swelling, redness, and/or warmth in the limb or calf; and
- For PE — anxiety, shortness of breath, chest pain, coughing, coughing up blood, leg pain and swelling, or palpitations.

Before any orthopaedic surgery, patients should provide their orthopaedic surgeon with a complete, detailed medical history so risk factors can be identified. Patients also should follow the surgeon's pre- and post-surgical instructions and take all medication prescribed.

The rate of total hip replacements continues to grow:

- In 2008, more than 277,000 total hip replacements were performed in the U.S.; this number represents an increase of nearly 50 percent in the last decade. While THR is considered a safe procedure, conducting ongoing and additional research in thromboembolism risk factors clearly has the potential to save many lives.
- As travel can create greater risk for a blood clot post surgery, there are things like leg exercises and ankle pumps that you can do to lessen your risk. View the complete traveler's checklist, also available at [www.aaos.org/dvt](http://www.aaos.org/dvt) .

Provided by American Academy of Orthopaedic Surgeons

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