



**Queensland  
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Queensland Health

## Effect of prophylaxis for venous thromboembolism following hip and knee surgery

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The rates of venous thromboembolism (VTE) following hip and knee replacement appear to be falling at The Prince Charles Hospital (TPCH) following increased use of mechanical VTE prophylaxis.

Many hospital patients are at high risk of developing VTE, particularly due to long periods of inactivity following major surgery.

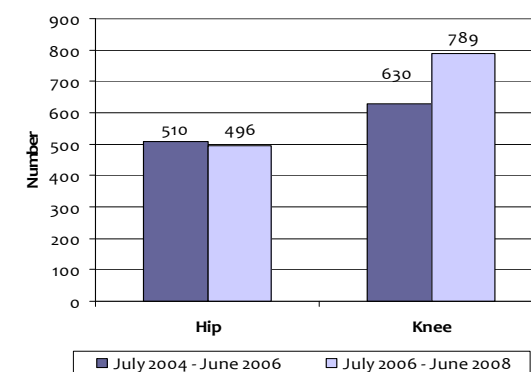
TPCH increased availability of intermittent pneumatic calf compression devices for prevention of VTE in June 2006. Compliance was enhanced with external auditing. The use of other prophylactic measures including anticoagulants (e.g. heparin, aspirin) and compression stockings remained unchanged by the intervention.

Data from the Queensland Hospital Admitted Patient Data Collection (QHAPDC) indicate that prior to this intervention, 2.4% of patients undergoing hip replacement or revision at TPCH developed VTE in-hospital or were readmitted to another Queensland public hospital with VTE within 90 days of surgery. After the improvement of prophylaxis, this rate fell to 1.0% ( $p=0.098$ , two-sided).

The decrease was similar for patients undergoing knee replacement or revision (4.4% vs. 2.3%;  $p=0.022$ , two-sided). For hips and knees combined, the rates significantly decreased from 3.5% to 1.8% ( $p=0.008$ , two-sided).

These results clearly demonstrate the significant improvements in the rate of VTE that can be obtained by increasing and improving the use of appropriate prophylaxis.

**Figure 1.** Number of Hip and Knee Replacements and Revisions, The Prince Charles Hospital, July 2004 – June 2008



**Figure 2.** VTE rate following hip and knee replacement and revision, The Prince Charles Hospital, July 2004 – June 2008

