Continuous passive motion for preventing venous thromboembolism after total knee arthroplasty.

**Background:** Total knee arthroplasty (TKA) is a common form of orthopaedic surgery. Venous thromboembolism (VTE), which consists of deep vein thrombosis (DVT) and pulmonary embolism (PE), is a major and potentially fatal complication after TKA. The incidence of DVT after TKA is 40% to 80% and the incidence of PE is approximately 2%. It is generally agreed that thromboprophylaxis should be used in patients who undergo TKA. Both pharmacological and mechanical methods are used in the prevention of DVT. Pharmacological methods alter the blood coagulation and may increase the risk of bleeding complications. When pharmacological methods cannot be used the mechanical methods become crucial.

**VTE prophylaxis.** Continuous passive motion (CPM) is provided through an external motorised device which enables a joint to move passively throughout a preset arc of motion. Despite the theoretical effectiveness and widespread use of CPMP there are still differing views on the effectiveness of CPM as prophylaxis against thrombosis after TKA. This is an update of the review first published in 2012.

**Objective:** The aim of this review was to determine the effectiveness of continuous passive motion (CPM) therapy for preventing venous thromboembolism (VTE) in patients after total knee arthroplasty (TKA).

**Search Methods:** For this update Cochrane Peripheral Vascular Diseases Group Trials Search Co-ordinator searched the Specialised Register (last searched February 2014). CENTRAL (2014, issue 1), Ovid MEDLINE (to week 1 February 2014) and EBI/EMBASE (to Week 07 2014).

**Selection Criteria:** Randomised controlled trials (RCTs) comparing the use of CPM with control in preventing DVT or PE after TKA. People aged 18 years and older who had undergone TKA were included in this review. We excluded studies of patients who presented with DVT at baseline. The experimental and control groups received similar postoperative care and therapy other than the CPM.

**Data Collection and Analysis:** Two review authors independently assessed the citations retrieved by the search strategies for reports of relevant RCTs. They independently selected trials that satisfied the inclusion criteria, extracted data and undertook quality assessment. Effects were estimated as risk ratios (RRs), mean differences or standardised mean differences with 95% confidence intervals (CIs). Meta-analyses were

**Publication Types, MeSH Terms, Grant Support**

**Publication Types**
- Meta-analysis
- Research Support, Non-U.S. Gov't

**MeSH Terms**
- Arthroplasty, Replacement, Knee/adverse effects
- Human
- Motion Therapy, Continuous Passive/methods
- Pulmonary Embolism/prevention & control
- Randomized Controlled Trials as Topic
- Venous Thromboembolism/prevention & control
- Venous Thrombosis/prevention & control

**Grant Support**
- Chief Scientist Office/United Kingdom

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