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## **Intermitterende pneumatisk kompresjon for å forebygge venøs tromboembolisme hos pasienter innlagt i sykehus**

Systematisk kartleggingsoversikt med fokus på hovedfunn

**Intermittent pneumatic compression to prevent venous thromboembolism in hospitalized patients: Systematic scoping review**  
This is an excerpt from the full technical report which is written in Norwegian.  
The excerpt provides the report's main messages in English.

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# Key messages

In June 2016, the Knowledge Centre in The Norwegian Institute of Public Health was commissioned to prepare a systematic scoping review on the use of intermittent pneumatic compression (IPC) for preventing venous thromboembolism (VTE) in patients admitted to hospital. We searched for updated guidelines, systematic reviews and health technology assessments (HTA-reports) and registered clinical trials. The results were sorted and main findings were presented and assessed. Key messages are:

- The most comprehensive Norwegian guideline on the prevention of venous thrombosis in hospitalized patients does not recommend the use of IPC. In this respect it differs from both the original American guideline that it is based on, and an English national guideline, which both recommend IPC to be considered for selected patient groups. The difference in recommendations is due to different evaluations of the same evidence.
- A systematic review from 2013 had included 70 randomized controlled trials (RCTs) with a total of 16,164 hospitalized patients. The authors performed meta-analysis across all populations and found positive effects in favor of IPC with regard to reduction of deep vein thrombosis and pulmonary embolism compared with either placebo or compression stockings. The authors found no difference between IPC and pharmacological prophylaxis. We evaluate the evidence based on GRADE criteria to be of low quality. Reasons for downgrading were risk of bias and uncertainty about the transferability to individual populations.
- Eleven other systematic reviews of literature from 2013 or later focused on individual populations of patients in hospitals. The authors reported consistently low confidence in the evidence.
- We found no HTA-report updated after 2010 with relevant health economic analyses.
- We identified 10 relevant studies in registries of clinical trials. With one exception, a Saudi Arabian study (NCT02040103) with 2,000 acute surgical patients, the identified studies are small (less than 100 patients).

Overall, we conclude that IPC may have a positive effect with regard to reducing venous thromboembolism in hospitalized patients. Cost-effectiveness is uncertain and there is a lack of high quality evidence for individual patient groups. We do not believe that a more thorough HTA at the present time will reduce the uncertainty related to clinical effectiveness. The ongoing Saudi Arabian study is expected to be finalized in 2018 and could possibly actualize a new assessment, other ongoing trials will probably not have an important impact on the conclusions.