



**TITLE: Intra-Operative Use of Mechanical Intermittent Compression Devices in Adult Patients: Guidelines**

**DATE:** 24 February 2010

**RESEARCH QUESTION:**

What are the evidence-based guidelines for the use of mechanical intermittent compression devices in adults during surgery?

**METHODS:**

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 2, 2010), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI, EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between 2005 and February 2010. Filters were applied to limit the retrieval to health technology assessments, systematic reviews, meta-analyses, and guidelines. Internet links were provided, where available.

**RESULTS:**

The literature search identified five evidence-based guidelines on the use of mechanical intermittent compression devices in adults during surgery. No health technology assessments, systematic reviews, or meta-analyses were identified. Additional articles of potential interest are included in the appendix.

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by evidence-based guidelines.

**Health technology assessments**

No literature identified

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## Systematic reviews and meta-analyses

No literature identified

## Guidelines and recommendations

1. NASS Evidence-based Guideline Development Committee. *Antithrombotic therapies in spine surgery* [Internet]. Burr Ridge (IL): North American Spine Society (NASS); 2009. [cited 2010 Feb 23]. Available from: [http://www.spine.org/Documents/Antithrombotic\\_Therapies\\_ClinicalGuidelines.pdf](http://www.spine.org/Documents/Antithrombotic_Therapies_ClinicalGuidelines.pdf)  
See: Section B. Mechanical Prophylaxis. p. 21  
  
Summary with regulatory warning available from: [http://www.guideline.gov/summary/summary.aspx?doc\\_id=14724&nbr=007294&string=007294](http://www.guideline.gov/summary/summary.aspx?doc_id=14724&nbr=007294&string=007294)
2. *National Guideline Clearinghouse* [database on the Internet]. Rockville (MD): National Guideline Clearinghouse; c2009 -. Prevention of deep vein thrombosis and pulmonary embolism; 2007 Aug [cited 2010 Feb 23]. Available from: [http://www.guideline.gov/summary/summary.aspx?doc\\_id=11429&nbr=005947&string=005947](http://www.guideline.gov/summary/summary.aspx?doc_id=11429&nbr=005947&string=005947)
3. Stahl TJ, Gregorcyk SG, Hyman NH, Buie WD, Standards Practice Task Force of The American Society of Colon and Rectal Surgeons. Practice parameters for the prevention of venous thrombosis. *Dis Colon Rectum* [Internet]. 2006 Oct [cited 2010 Feb 23];49(10):1477-83. Available from: [http://www.fascrs.org/files/pp\\_thrombosis.pdf](http://www.fascrs.org/files/pp_thrombosis.pdf)  
[PubMed: PM17041751](#)  
See: Prophylaxis for venous thromboembolism: Physical Measures. pp. 1479-80  
  
Summary with regulatory warning available from: [http://www.guideline.gov/summary/summary.aspx?doc\\_id=10782&nbr=005610&string=005610](http://www.guideline.gov/summary/summary.aspx?doc_id=10782&nbr=005610&string=005610)
4. Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). *Guidelines for diagnosis, treatment, and use of laparoscopy for surgical problems during pregnancy* [Internet]. Los Angeles (CA): Society of American Gastrointestinal and Endoscopic Surgeons (SAGES); 2007 Sep. [cited 2010 Feb 23]. Available from: <http://www.sages.org/sagespublication.php?doc=23>  
See: Venous Thromboembolic (VTE) Prophylaxis: Guideline 14  
  
Summary available: [http://www.guideline.gov/summary/summary.aspx?doc\\_id=11546&nbr=005977&string=005977](http://www.guideline.gov/summary/summary.aspx?doc_id=11546&nbr=005977&string=005977)

5. Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). *Guidelines for diagnosis, treatment, and use of laparoscopy for surgical problems during pregnancy* [Internet]. Los Angeles (CA): Society of American Gastrointestinal and Endoscopic Surgeons (SAGES); 2006 Oct. [cited 2010 Feb 23]. Available from: <http://www.sages.org/sagespublication.php?doc=c>  
See: Pneumatic Compression Devices (PCD)

Summary with regulatory warning available from:

[http://www.guideline.gov/summary/summary.aspx?doc\\_id=10864&nbr=005677&string=005677](http://www.guideline.gov/summary/summary.aspx?doc_id=10864&nbr=005677&string=005677)

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**APPENDIX – FURTHER INFORMATION:**

**Review articles**

6. Muntz JE, Michota FA. Prevention and management of venous thromboembolism in the surgical patient: options by surgery type and individual patient risk factors. *Am J Surg.* 2010 Jan;199(1 Suppl):S11-S20. [PubMed: PM20103080](#)
7. Barillari G, Pasca S. Practical use of intermittent pneumatic compression as thromboprophylaxis in neurosurgery. *J Neurosurg Sci.* 2009 Jun;53(2):45-8. [PubMed: PM19546842](#)