

CLINICAL FOCUS

DVT

THE IMPORTANCE OF VTE PROPHYLAXIS IN OBSTETRICS & GYNAECOLOGY

Venous thromboembolism (VTE) is a significant cause of mortality and morbidity during pregnancy, delivery and the post-partum. Caesarean section (C-section) places the woman at even more risk nearly doubling a woman's possibility of developing VTE¹. Deep vein thrombosis (DVT) can also cause significant morbidity in later life as a result of post-thrombotic syndrome (PTS) and venous ulceration².

Procoagulant changes throughout pregnancy and the immediate puerperium combined with venous stasis and trauma to the pelvic veins at the time of delivery all contribute to the risk of thromboembolism⁴. Venous ultrasound has also demonstrated a marked reduction in venous blood flow velocity during pregnancy which is thought to be due to progesterone induced venodilatation and the weight of the pregnant uterus which impedes venous return⁵.

FLOWTRON® DVT PROPHYLAXIS SYSTEMS

Prevention of venous stasis

Use of Flowtron Systems prevents venous stasis by active augmentation of blood flow⁶⁻¹². This reduces stasis, flushes valve pockets where thrombi originate, decreases venous hypertension and decreases interstitial oedema¹³.

Increased Fibrinolytic Activity

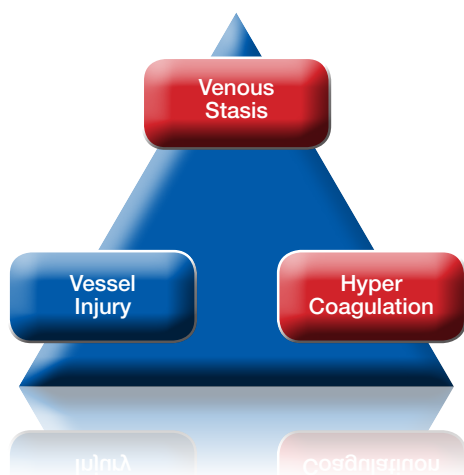
Use of Flowtron Systems results in an increase in the fibrinolytic activity of the blood^{11,14} a suppression of procoagulant factors¹⁵ and may assist in the reversal or prevention of fibrinolytic shutdown.

Recent guidelines³ published by The American College of Obstetricians & Gynecologists recommend that intermittent pneumatic devices are used for all women undergoing C-section; they should be fitted before surgery and left in situ until the woman is mobile or until anti-coagulant medication is commenced.

Use of Flowtron Systems in clinical practise has established high levels of clinical and cost efficacy combined with excellent patient concordance and freedom from adverse effects¹⁶⁻²².

C-section is an independent risk factor and nearly doubles a woman's risk¹

For patients with multiple risk factors undergoing C-section, both Intermittent Pneumatic Compression and pharmacological prophylaxis may be required³



The use of IPC addresses 2 of the 3 parts of Virchow's Triad

References

1. Lindqvist P, Dahlback B, Marsal K (1999). Thrombotic risk during pregnancy: a population study. *Obstetrics and Gynaecology*; 94: 595-595.
2. Bergqvist A, Bergqvist D, Matsch T, Lindhagen A (1990). Late symptoms after pregnancy-related deep vein thrombosis. *British Journal of Obstetrics and Gynaecology*. 1990;97:338-341.
3. American College of Obstetricians and Gynecologists (2011). Practise bulletin no. 123: thromboembolism in pregnancy. *Obstetrics & Gynaecology*; 118(3):718-29.
4. Rodger M (2010). Evidence base for the management of venous thromboembolism in pregnancy. *Hematology – American Society of Hematological Educational Program*. 173-80.
5. Macklon NS, Greer IA, Bowman AW (1997). An ultrasound study of gestational and postural changes in the deep venous system of the leg in pregnancy. *British Journal of Obstetrics & Gynaecology*;104:191-197.
6. Westrich G, Specht LM, Sharrock NE et al (1998). Venous hemodynamics after total knee arthroplasty: Evaluation of active dorsal to plantar flexion and several mechanical compression devices. *The Journal of Bone & Joint Surgery*; 80-B(6): 1057-1066.
7. Flam E, Berry S, Coyle V et al (1996). Blood-flow augmentation of intermittent pneumatic compression systems used for the prevention of deep vein thrombosis prior to surgery. *The American Journal of Surgery*; 171(3): 312-315.
8. Flam E, Nackman G, Tarantino D, Raab L (2000). Intermittent pneumatic compression devices of the foot: A comparison of various systems on femoral vein blood flow velocity augmentation in the supine and dependent, non-weight bearing positions. *Huntleigh Healthcare Clinical Report*.
9. Procter MC, Zajkowski PJ, Wakefield TW et al (2001). Venous hemodynamic effects of pneumatic compression devices. *The Journal of Vascular Technology*; 25(3): 141-145.
10. Woodcock J, Morris R (2002) The effect of the Kendall SCD® and Huntleigh Flowtron DVT30 garments on femoral and popliteal vein blood flow measurements. *Huntleigh Healthcare Clinical Report*.
11. Morris R (2003). The hematologic and hemodynamic effects of the Aircast Venaflov calf-length and the Huntleigh Flowtron Calf-length intermittent pneumatic compression for deep vein thrombosis prophylaxis. *Huntleigh Healthcare Clinical Report*.
12. Morris RJ, Giddings JC, Jennings GM, Davies DA and Woodcock JP (2003). Hematological and hemodynamic comparison of the Kendall AV Impulse and the Huntleigh FP5000 Intermittent Pneumatic foot Compression System. *Huntleigh Healthcare Clinical Report*.
13. Kumar S, Walker M (2002). The effects of intermittent pneumatic compression on the arterial and venous system of the lower limb: a review. *Journal of Tissue Viability*; 12(2): 58-65.
14. Comerota A, Chouhan V, Harada R et al (1997). The fibrinolytic effects of intermittent pneumatic compression. *Annals of Surgery*; 226(3): 306-313.
15. Giddings JC, Ralis H, Davies D et al (2001). Suppression of the tissue factor pathway combined with enhanced tissue plasminogen activator activity (tPA) and urokinase plasminogen activator activity (scuPA) after intermittent pneumatic compression. *Thrombosis and Haemostasis*; 86:S2240.
16. Pagella P, Cipolle M, Sacco E et al (2007). A randomised trial to evaluate compliance in terms of patient comfort and satisfaction of two pneumatic compression devices. *Orthopaedic Nursing*; 26(3): 169-174.
17. ECRI (2009). Intermittent pneumatic compression therapy. *Health Devices*; 9: 120-122
18. Ginzburg E, Cohn S, Lopez J et al (2003). Randomised clinical trial of intermittent pneumatic compression and low molecular weight heparin in trauma. *British Journal of Surgery*; 90: 1338-1344.
19. Brooks PJ, Keramati M, Wickline A (2007). Thromboembolism in patients undergoing total knee arthroplasty with epidural analgesia. *Journal of Arthroplasty*; 22(5): 641-643
20. Kurtoglu M, Guloglu R, Ertekin C et al (2005). Intermittent pneumatic compression in the prevention of venous thromboembolism in high-risk trauma and surgical ICU patients. *Turkish Journal of Trauma & Emergency Surgery*; 11(1): 38-42
21. Kurtoglu M, Yanar H et al (2004). Venous thromboembolism prophylaxis after head and spinal trauma: Intermittent pneumatic compression devices versus low molecular weight heparin. *World Journal of Surgery*; 28(8): 807-811
22. Procter MC, Greenfield LJ, Wakefield TW et al (2001). A clinical comparison of pneumatic compression devices: the basis for selection. *Journal of Vascular Surgery*; 34(3): 459-464.

The recently published American College of Obstetrics & Gynaecology Guidelines on Thromboembolism in Pregnancy³ highlight that:

Use of Intermittent Pneumatic Compression is a safe, recommended and cost effective intervention

Intermittent Pneumatic Compression is recommended for all women not already receiving thromboprophylaxis undergoing C-section. The devices should be fitted before surgery and left in situ until the woman is mobile or until anti-coagulant medication is commenced

ArjoHuntleigh is a branch of Arjo Ltd Med. AB. Only ArjoHuntleigh designed parts, which are designed specifically for the purpose, should be used on the equipment and products supplied by ArjoHuntleigh. As our policy is one of continuous development we reserve the right to modify designs and specifications without prior notice. ® and ™ are trademarks belonging to the ArjoHuntleigh group of companies. © ArjoHuntleigh, 2011

ARJOHUNTLEIGH
GETINGE GROUP

www.ArjoHuntleigh.com

Therapy & Prevention Product Division

310-312, Dallow Road, Luton

Bedfordshire LU1 1TD

United Kingdom

Phone: +44 1582 413 104

Fax: +44 1582 459 100

GETINGE GROUP is a leading global provider of products and systems that contribute to quality enhancement and cost efficiency within healthcare and life sciences. We operate under the three brands of **ArjoHuntleigh**, **GETINGE** and **MAQUET**. **ArjoHuntleigh** focuses on patient mobility and wound management solutions. **GETINGE** provides solutions for infection control within healthcare and contamination prevention within life sciences. **MAQUET** specializes in solutions, therapies and products for surgical interventions and intensive care.