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Intermittent Pneumatic Compression Devices
ECRI Evaluation Update 2009

Summary

ECRI (www.ecri.org) is a USA-based independent unbiased research organisation that undertakes medical device evaluations as well as offering guidance on patient safety, quality and risk management issues. Advice is given to hospitals and health systems on safe and cost effective decisions on purchase of healthcare technologies.

In June 2007, a 28 page detailed evaluation report of IPC devices was published. The following devices were tested and rated:

- The VenaFlow® system (Aircast-DJO Inc.)
- The *Flowtron® Excel* and *Flowtron Universal* systems (ArjoHuntleigh)
- The PlexiPulse and Pulse SC system (KCI Medical)
- The AV Impulse, SCD Express and SCD Response systems (Covidien AG)

The Flowtron® Universal device was the best overall product tested **and is the (single) preferred IPC product on the market. Patient safety and ease of use were evaluated as excellent. Patient comfort, product performance and construction of product were rated as good.**

In **April 2009,** an update was issued in response to hospitals who continued to ask if one sleeve type or compression cycle was more effective than any of the others. A second literature search was undertaken focusing on comparing IPC devices with different sleeve types and compression cycles. Based upon these 2 reviews, the ECRI position remains the same:

"IPC is effective in general, but no evidence has been found demonstrating that any one type of IPC therapy or device is superior."

Choosing IPC devices

ECRI recommend that since purchasing decisions cannot be made based upon sleeve type and compression cycle, key purchase considerations should include the following:

- Safety features that help eliminate some of the risks of using IPC devices
  - Cuffs should NOT use Luer connectors
  - There should be alarms to alert the user to over pressurisation, cuff misconnections, constant inflation
  - Fail safe mechanisms such as sleeves with pinholes that enable venting during a failure to deflate fault condition - IPC devices that offer this feature are inherently safer than those that don't.

- Ease of use. Devices that automatically set pressures and timing cycles require minimal user training and are more likely to be used correctly.
- Patient comfort – The feel and breathability of a garment, pressure patterns and noise level of the pump are important features that affect compliance.
- Purchasing strategies – purchasing from a single supplier will simplify training, service and repair. Purchasing an all-in-one pump that provides a range of therapies is also beneficial.