



**VENAFLOW<sup>®</sup> Elite**

**>> Walk Away From Risk**

Mimic ambulation to prevent DVT

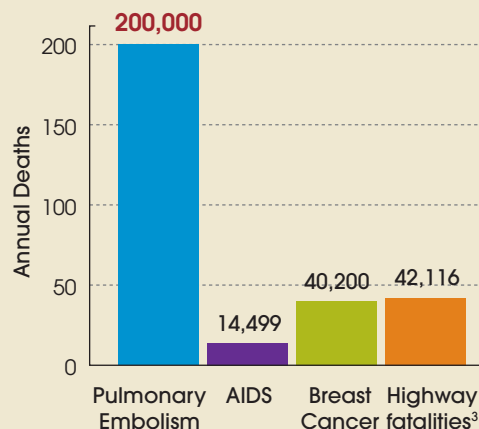
**AIRCAST<sup>®</sup>**



## Walk Away From Risk

*VenaFlow Elite's unique technology is proven to mimic ambulation and reduce DVT to help healthcare facilities and patients walk away from risk<sup>1,2</sup>*

- Approximately 100,000 to 200,000 VTE related deaths occur in the U.S. per year<sup>3</sup>
- Approximately 300,000 to 600,000 VTEs occur in the U.S. per year<sup>3,4</sup>
- Approximately 2 million symptomatic DVTs occur in the U.S. per year<sup>4</sup>
- Approximately 10 million asymptomatic DVTs occur in the U.S. per year<sup>4</sup>



**“Deep-vein thrombosis is preventable.** We can reduce the risks of its serious and life-threatening complications if we raise education and awareness among the public and urge all healthcare providers to institute standard preventative measures.”  
 –Bruce Evatt, MD, Chief of the Hematologic Diseases branch at the CDC<sup>3</sup>

## How does normal inflation prevent DVT?

Blood clots often form behind venous valves. A normal inflation device such as VenaFlow accelerates venous velocity, which in turn creates turbulence to prevent clot formation.

### Color scale:

Black - No flow; Blue/green - toward the heart; Red/yellow - away from the heart<sup>5</sup>

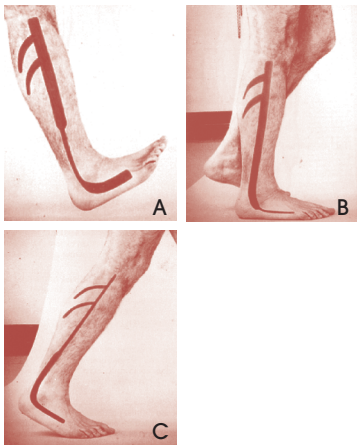
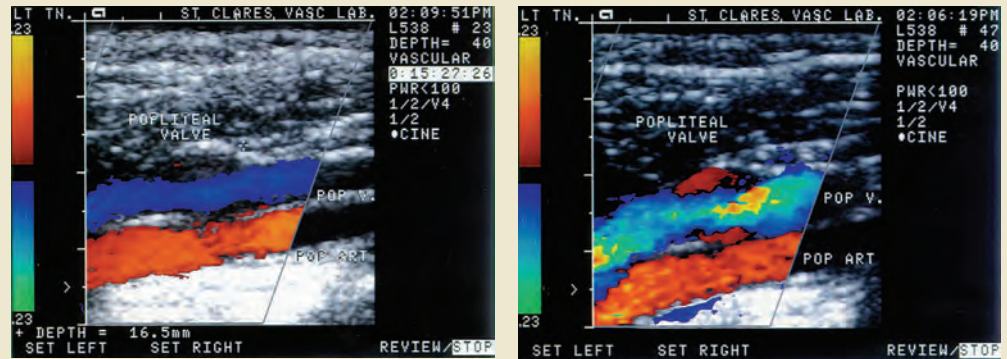


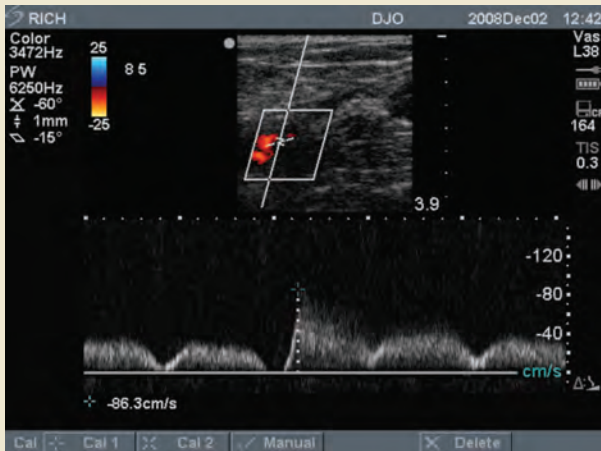
Fig. A, B & C Sequence of venous pump action during ambulation. Note that the physiological sequence is distal calf pump, foot pump then proximal calf pump.

## What does blood flow during ambulation look like?

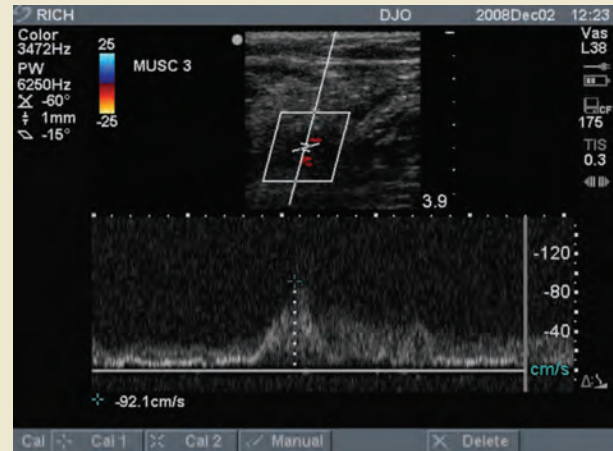
The sequence of blood flow during ambulation begins by emptying the distal calf first, then the foot and finally the proximal calf. This is the mechanism of VenaFlow's graduated, sequential compression which squeezes the distal portion of the calf, then the proximal for a simulation of ambulation.<sup>6</sup>

- Research shows that graduated, sequential compression devices are more effective than a nonsequential device in clearing blood from the soleal, tibial and femoral veins and therefore is more effective at preventing deep venous thrombosis proximal to the calf. (Nicolaidis)<sup>9</sup>
- "The use of elliptical, sequential and rapid-filling compression of the leg with overlapping aircells produces significant hemodynamic changes in the common femoral vein, which are superior to other sequential slow or rapid-filling IPC devices." (Labropoulos)<sup>10</sup>

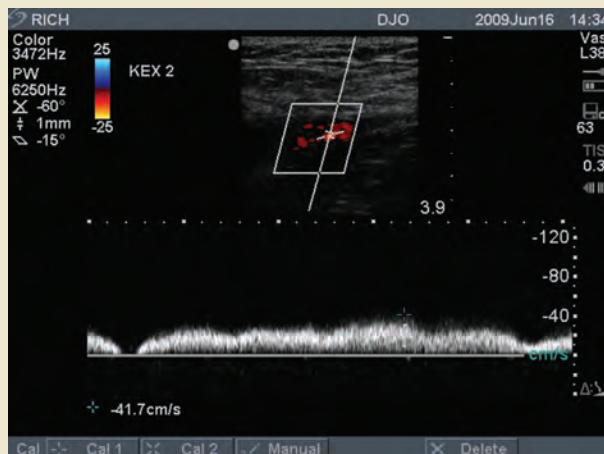
The Dopplers below exhibit the blood velocity achieved under the following conditions: ambulation, with VenaFlow Elite and with two competitive slow inflation devices.<sup>5</sup>



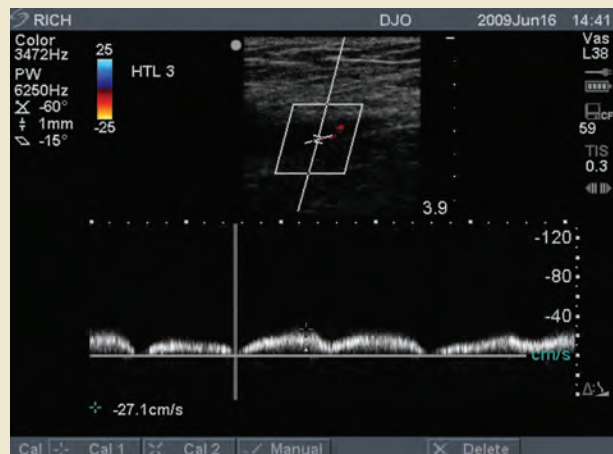
**Plantar/dorsiflexion**  
111% increase in venous velocity



**VenaFlow Elite**  
112% increase in venous velocity



**Slow inflation device**  
50% increase in venous velocity



**Slow inflation,  
uniform compression device**  
33% increase in venous velocity

*VenaFlow Elite's ability to mimic ambulation makes it more effective at preventing DVT. VenaFlow has been proven to reduce DVT by 50% vs. slow inflation devices on the market.<sup>2</sup>*



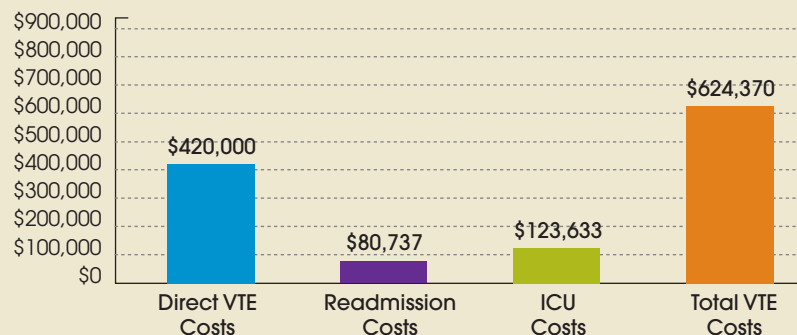
“The overall rate of DVT diagnosed by ultrasonography was 6.9% with the RIAC (VenaFlow) device and 15% with the SCD (Kendall SCD device)... This may be the result of decreased venous stasis, increased local fibrinolysis, inhibition of the coagulation cascade, or the enhancement of peak venous velocity as measured in the proximal deep venous system or a combination of several mechanisms.”

–P.F. Lachiewicz, MD<sup>2</sup>

Lower DVT rates means lower costs. Because VenaFlow Elite has been proven to reduce DVT by 50% vs. slow inflation devices, it consequently can save healthcare facilities financially.<sup>2</sup>

- Average per patient cost for DVT: \$7,500 and for PE: \$13,000<sup>4</sup>
- Readmission for VTE occurs in 5 to 14% of patients<sup>4</sup>
- Hospital readmissions costs for DVT and PE respectively: \$11,862 and \$14,722 per patient<sup>4</sup>
- There are approximately 33.7 million U.S. hospital discharges per year<sup>11</sup>
- About 1 to 1.8 % of hospitalized patients experience a VTE<sup>3,4</sup>
- Average size hospital has approximately 4,500 discharges which translates to an estimated 45-81 VTE's, 15-27 PE's, and 30-54 Symptomatic DVT's<sup>11,4</sup>
- The total VTE cost to the U.S. Healthcare System is between \$2-6 billion dollars per year<sup>11,4</sup>
- **For every 10% reduction in DVT rates, facilities save an estimated \$50,000-75,000 and at least 2 lives!**

### Average Hospital VTE Costs<sup>4, 11</sup>



*The VenaFlow Elite's new state-of-the-art design elegantly displays its unique, user friendly features.*



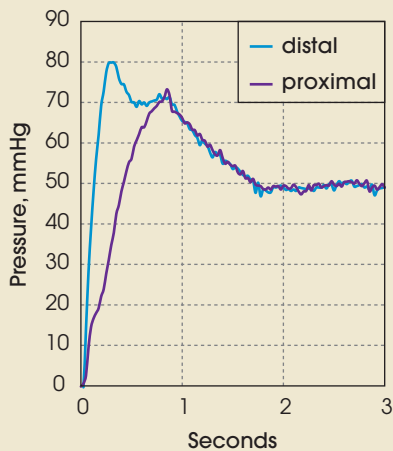
Features	Benefits
Low profile, light-weight design	Easily stored, easily transported
Compliance counter	Available with compliance counter to monitor and track compliance
Telescoping bed hanger	Extends to accommodate up to 3.5 inches
Battery option	Battery-installed units available upon request
Automatic Cuff Detection	System automatically identifies attached cuff configuration and adjusts pressure accordingly
Preset pressures & alarms	No adjustments necessary
One pump for calf, thigh & foot cuffs	Provides for ease of use and minimizes inventory
Soft and breathable cuffs	Assists in increasing patient comfort and compliance

VenaFlow Elite is the only DVT compression device that combines *normal inflation and graduated, sequential compression*. This unique technology combination makes it the only device proven to mimic physiologic blood flows achieved through ambulation.<sup>1</sup>

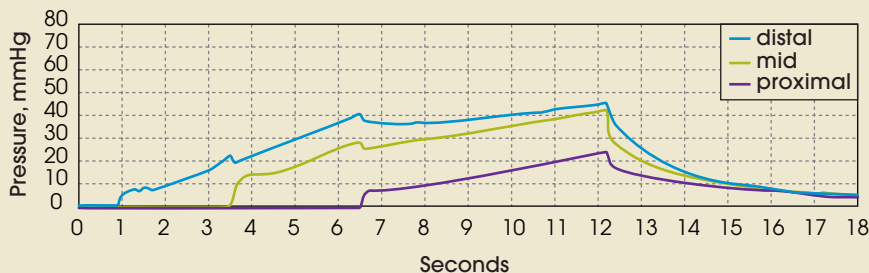
### How does VenaFlow Elite deliver normal inflation and how does it compare to slow inflation?

The VenaFlow Elite System reaches settle pressures in less than ½ second. Slow inflation devices, however, reach settle pressures in approximately 4–12 seconds depending on the device.<sup>5</sup>

#### VenaFlow Elite pressure curve



#### Slow inflation SCD device pressure curve



### Why is normal inflation better?

- “(Slow inflation devices) do not mimic normal physiologic venous pump action. They may be ineffective in preventing the more dangerous proximal deep venous thrombosis.” (Gardner and Fox)<sup>6</sup>
- “Intermittent pneumatic compression with a faster inflation rate dramatically increases blood flow, generates greater shear stress on the vascular wall, stimulates greater nitric oxide release, and consequently results in stronger responses of vasodilation when compared with intermittent pneumatic compression with a slower inflation rate.”<sup>1</sup> (Kang Liu et al)<sup>7</sup>
- “Roberts et al established that devices with a greater rate of inflation produced improved flow augmentation as compared with those with a slower rate of inflation... (VenaFlow) produced the greatest increase in peak venous velocity compared with all the other devices” (Westrich, 1998)<sup>8</sup>

## References

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