

Clinical Background

There are many situations when finding a vein for cannulation can be particularly challenging. These range from babies and small children to the elderly, including cancer patients suffering the effects of repeated cannulation^{1, 2, 3}. There are further factors that can compound the problem, such as obesity, hypovolaemia, patients with dark skin and emergency situations^{2, 3, 4, 5}.

Transilluminators have been used to help the process and are well established. However these have historically suffered from a number of shortcomings such as inability to detect deeper or smaller veins and unclear imaging due to non-uniform illumination characteristics⁶. Some also need two handed operation requiring a second staff member to assist. Other types of device have even more limitations⁶.



Product Information

The Veinlite transilluminators supplied by Delta Medical International use the latest high intensity LEDs, with two different illumination colours for optimal vein viewing. The patented technology uses a combination of red and orange light to ensure that both superficial and deeper veins can be localised, increasing efficacy and giving best chance of successful cannulation.

The light from each set of LEDs has specific characteristics selected for optimal vein visualisation in different patient groups. Orange light has properties optimal for viewing superficial veins and for patients with pale skin, whereas red light penetrates darker skin and illuminates deeper veins better. The circular, angled arrangement of the LEDs, designed with focus point under the skin, optimises performance. The user can simply illuminate either set of LEDs or both together to give best vein identification for each individual patient.



The use of Veinlite transilluminators ensures fewer needle sticks, saving time and giving better patient experience. The new side-transillumination technique used gives much enhanced imaging without any shadow effect, especially when compared to traditional devices. The uniformity of illumination allows smaller veins to be viewed with greater clarity.

The units are designed for single-handed use, allowing staff to cannulate the patient unaided. The unique C shape design helps stabilise the vein and stretch the skin for easier needle insertion. The shape of the Veinlite units also allow the user to apply gentle pressure and create a local tourniquet effect to further increase efficacy.

Ordering Information

A range of transilluminators are available to suit different clinical situations as outlined below. In addition disposable covers are recommended to simplify infection control.

Part No.	Product Name	Application
IVS100	Veinlite LED	General purpose venous access in patients of all ages
IVS101	Veinlite LEDX	Venous access in challenging situations (obese patients, sclerotherapy, etc)
IVS102	Veinlite EMS	Venous access in emergency situations for patients of all ages
IVS103	Veinlite EMS Pro	Venous access in emergency situations for patients of all ages, with additional examination light
IVS104	Veinlite PEDI	Venous access in neonates and small infants
IVS110	LED Covers	Prevention of cross-infection and simplification of infection control process
IVS111	LEDX Covers	
IVS112	EMS Covers	
IVS114	PEDI Covers	

Technical Specifications

Parameter	LED	LEDX	EMS	EMS Pro	PEDI
Patented design with bright light LEDs	12 red 12 orange	16 red 16 orange	4 red 12 orange	4 red 12 orange 8 white	4 red 8 orange
Power	Li-ion, 3.7V, 1,000mAh	Li-ion, 3.7V, 1,000mAh	Alkaline, 2 x AA	Alkaline, 2 x AA	Lithium, 1 x CR2
Rechargeable	✓	✓	✗	✗	✗
Size (mm)	95x55x21	102x65x24	115x55x21	115x55x21	67x40x22
Weight	71g	83g	89g	89g	43g

References

1. Lamperti M, Pittiruti M. Difficult peripheral veins: turn on the lights. *J. Anaesth.*, 2013.
2. Katsogridakis Y, Seshadri R, et al. Veinlite Transillumination in the Pediatric Emergency Department. *Pediatric Emergency Care*, 2008.
3. Waitt C, Waitt P, Pirmohamed M. Intravenous therapy. *Postgrad Med J*, 2004.
4. Nafiu, O, Burke, C, Cowan, A, et al. Comparing peripheral venous access between obese and normal weight children. *Paediatr. Anaesth.*, 2010.
5. Emergency Nurses Association. Difficult Intravenous Access. www.ena.org, 2012.
6. Lindsey J. No more stab-in-the-dark I.V. sticks. *JEMS*, 2005.