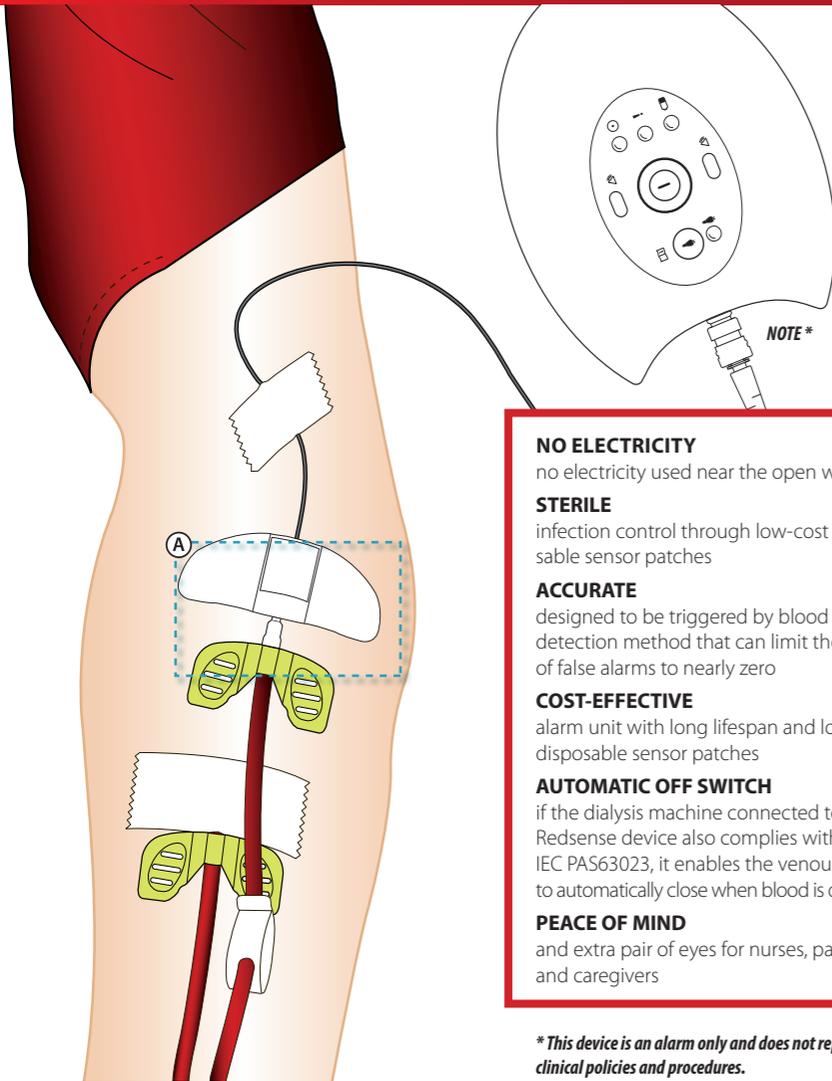


DEVELOPED WITH YOU, FOR YOU



NO ELECTRICITY

no electricity used near the open wound

STERILE

infection control through low-cost disposable sensor patches

ACCURATE

designed to be triggered by blood - only detection method that can limit the number of false alarms to nearly zero

COST-EFFECTIVE

alarm unit with long lifespan and low-cost disposable sensor patches

AUTOMATIC OFF SWITCH

if the dialysis machine connected to the Redsense device also complies with IEC PAS63023, it enables the venous clamp to automatically close when blood is detected

PEACE OF MIND

and extra pair of eyes for nurses, patients, and caregivers

**This device is an alarm only and does not replace existing clinical policies and procedures.*

Testimonial

"The first clinically tested monitoring system to effectively sound the alarm on venous needle dislodgement." -Jarl Ahlmén MD PhD-

In the spotlight

Cleveland Clinic provides both inpatient and outpatient hemodialysis for high-acuity patients with a higher than average risk for Venous Needle Dislodgement (VND). In February 2010 a quality improvement project was introduced to reduce VND rates. In the prior 3 months, internal data review showed 3 undetected VND episodes (2 class IV hemorrhages), incidence of 1 VND per 538 HD treatments.

The project introduced Redsense blood detection device alongside the standard policies and procedures for cleaning, disinfecting, and securing the venous access wound and the venous needles. Zero undetected VND episodes were recorded between February 15 and December 30 2010. The overall occurrence dropped from 13 in 2009 to 4 in 2010, incidence of 1 VND per 1750 HD treatments. Redsense helped in achieving a relative risk reduction of 70% in the Cleveland Clinic.⁴

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References

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4. Dr. Martin E. Lascano, Michael Bradley Andersen RN, Cleveland Clinics; Venous Needle Dislodgement Prevention in Hospital Based Hemodialysis. Abstract ASN November 2011

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Redsense Venous Needle Sensor



- Reduce risk and cost

www.redsensemedical.com

HELP SAVE LIVES

Venous needle dislodgement poses a threat to every hemodialysis patient during every treatment. Massive blood loss may occur before the notoriously unreliable venous pressure alarms detect changes of pressure within the dialysis machine. An average size patient can lose up to 50% of their total blood volume within 5 minutes of a venous needle dislodgement.¹

21 patients die due to VND every week

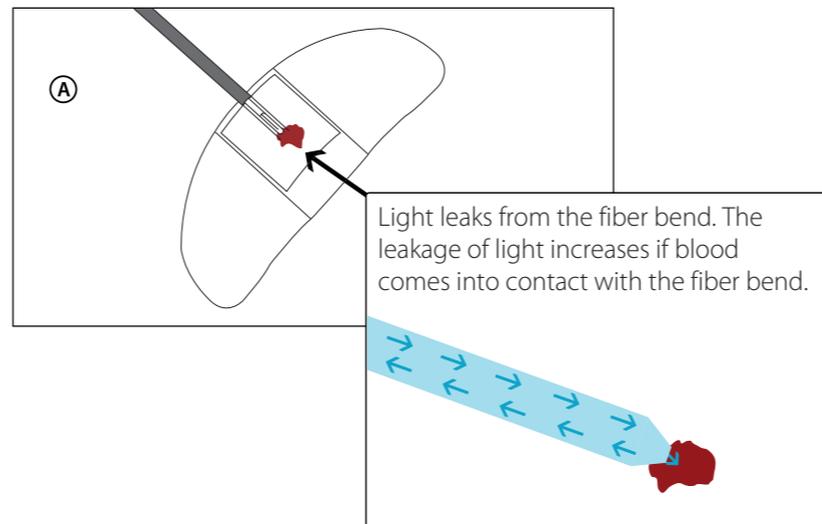
21 patients are seriously injured every day due to VND ^{*2}

21 | 21 | 2100

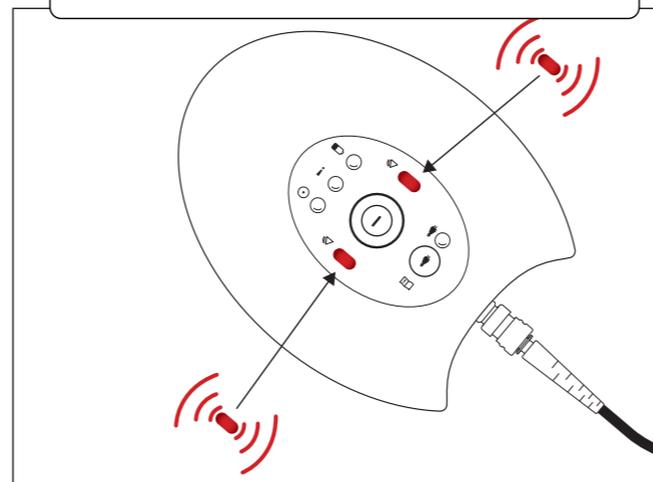
2100 needles are dislodged every day

No one is immune to the risk of VND
Any facility • Any nurse • Any patient

Advanced technology embedded in an easy to use patch



The Alarm Unit measures the returning level of light. If the level of light is suddenly reduced, the Alarm Unit sounds the alarm immediately.



REDUCE COST

Avoid Unnecessary Risk by Saving Cost in Healthcare

Healthcare Savings

Reduce the risk and reduce costs, the use of Redsense can save millions.

Cost savings, the use of Redsense can save millions:

- » Estimating the cost of Redsense USD 2,98 per treatment (3 patients per device).
- » By using Redsense on 20% of the HD patients healthcare savings close to USD 221 million can be made annually.

Cost for a VND incident:³ VND minor

Limiting intervention to blood transfusion and extra EPO dose which all can be carried out at the dialysis clinic and an extra day for observation:

Blood transfusion	USD 1 071
Extra EPO	USD 823
Extra day in hospital*	USD 3 290

Total USD 187 631

Serious event with hospitalization:

Regular hospitalization for blood loss anemia (4 days) USD 187 631

1 day of anemia therapy includes EPO, blood transfusion, iron and possibly plasma expanders or albumin** USD 46 908/day

Emergency Room (ER) USD 24 668 or more

Intensive Care Unit (ICU), hospitalization (1 day) USD 16 445 – USD 32 891

Thus cost range from:

USD 187 631 to USD 246 680 and up

* Based on Ahlmén study about 40% of the VND's need blood transfusion and two extra days in the hospital⁷

** Example: A patient in the ER for 4 h received oxygen at 2 L/min, blood drawn for routine panel, an abdominal CT scan; the bill was USD 27 262

