Regional Anesthesia Guidance

B BRAUN | PHILIPS

Onvision® Needle Tip Tracking

Accurate | Predictable | Empowering

Reimagining Regional Anesthesia with On**vision**

To optimize patient care while performing regional anesthesia, anesthesiologists want to feel in control and be confident in accurately positioning the needle during the procedure. Constant needle tip visualization is challenging – especially when the nerves are positioned in deep anatomical structures, when steep needle angles are used or when using out of plane technique.

To deal with these challenges, B. Braun and Philips have formed a strategic alliance with the goal to take regional anesthesia to the next level. This is driven by our shared belief that patients should be at the heart of healthcare innovation. Our ambition is to make Peripheral Nerve Blocks (PNBs) more straightforward for healthcare workers, and safer for patients. This goal is now becoming a reality with Onvision, our breakthrough ultrasound guidance system for needle tip tracking.

Onvision, enabled by the Xperius Ultrasound System, is designed to help anesthesiologists perform PNBs confidently and safely. In doing so, it reaffirms our commitment to reimagining regional anesthesia.

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Xperius was honored with two prestigious design awards: the **iF Design Award Winner 2018** and the **Core77 Notable Commercial Equipment Award 2018**.

Onvision Needle Tip Tracking

Know where you are in real-time

Accurate

Onvision is an ultrasound based needle tip tracking technology for peripheral nerve blocks which works exclusively with the Xperius Ultrasound System and the dedicated Stimuplex Onvision Needle.

In real-time, Onvision accurately indicates where the needle tip is inside the body, both in and out of plane. It helps users align the needle with the probe in an intuitive and easy to use manner – to improve pain relief and the avoidance of unintended nerve puncture or collateral damage to surrounding tissue or vessel.

Onvision is an ultrasound based technology for reliable needle guidance.
The dedicated Stimuplex Onvision Needle is embedded with a tip sensor, which allows accurate detection of the tip location and displays this information in real-time on the live ultrasound image.

» Onvision has the potential to improve patient safety as it realigns the operator focus and concentration to the most important aspect of the procedure, the confirmation of needle tip position at all times. «

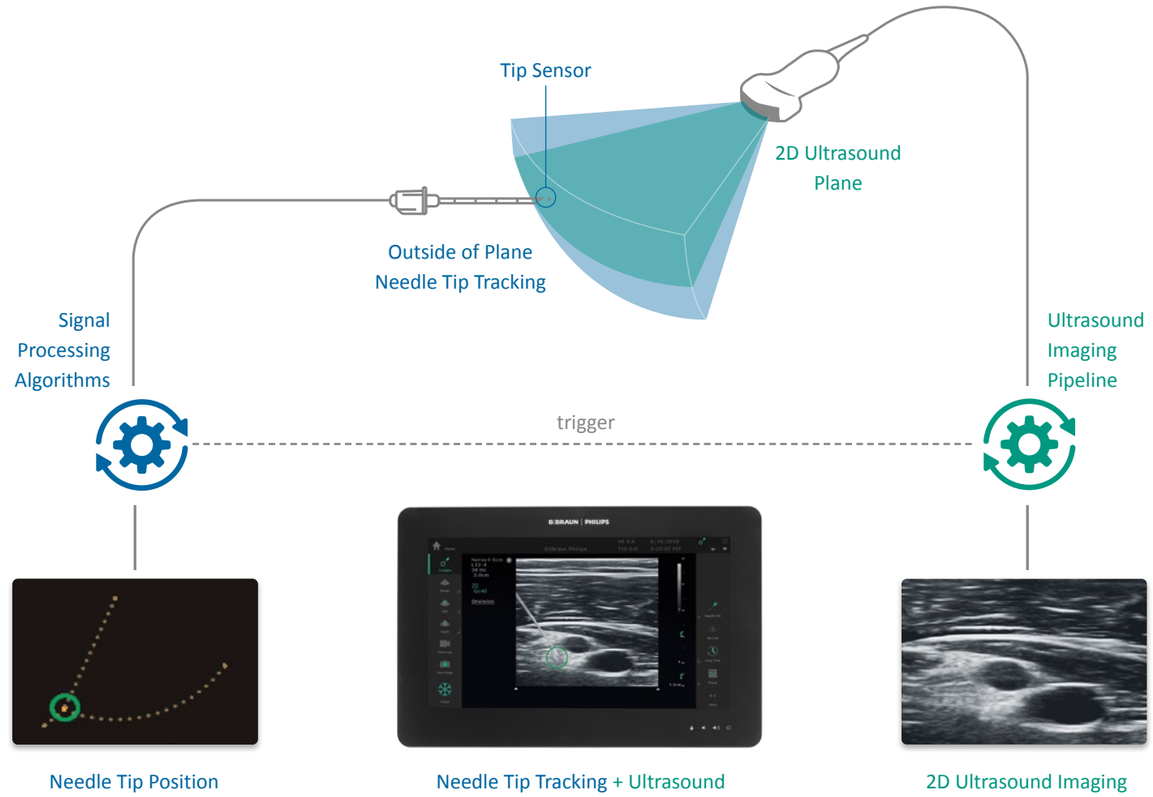
Prof. G. McLeod

- Tip visualization in both superficial and deeper blocks[1,4]
- Ultrasound based detection and accuracy
- Can reduce complications during PNB placement[2,5]
- Designed to prevent unintended overshooting

Technical working principle

The Onvision technology combines ultrasound image data from the ultrasound system with signals from the needle to accurately locate the position of the sensor on the Stimuplex Onvision Needle.

The position of the sensor is then displayed on the ultrasound image in real-time by overlaying a circle to it.



Ultrasound based technology to improve accuracy

- Onvision works up to at least 10 cm depth[1,4]
- Onvision is shielded against external electromagnetic interferences (EMI)[3]
- Onvision remains accurate even when the needle bends[4]

On**vision** Needle Tip Tracking

First-time-right can be the new standard

Predictable

» Onvision is very accurate and robust. With Onvision, for the first time we have the opportunity to use ultrasound based needle tip tracking in everyday clinical practice. «

Prof. P. Kessler

Your benefits at a glance

FIRST-TIME-RIGHT[2,6]

TIME SAVING[2,6]

PROCESS EFFICIENCY

Onvision allows users to accurately position the needle tip with less insertion attempts, thus reducing the procedure time and making the process more efficient.

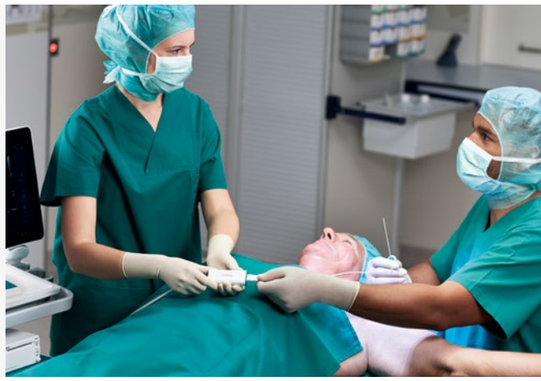
- Confidently perform local anesthetics injection[5]
- Reduction in overall procedure time[2,6]
- Fits in to current workflow (no workflow disruption)[7]

Tip-to-target principle

Onvision provides users the freedom to operate the needle from different angles. This means finding the shortest route to the target. Being in-plane is not a restriction anymore.

Point-and-shoot Regional Anesthesia

Just plug and play. Onvision does not disrupt the current workflow. It is designed to seamlessly fit the steps of the procedure – no extra hardware set-up and no calibration is required. The Onvision Needle Tip Tracking technology is automatically activated when a Stimuplex Onvision Needle is connected to the Onvision System cable.



Onvision System components

The Onvision System is composed of a system cable, a module which is embedded in your Xperius Ultrasound System. The system cable includes a connection port for Stimuplex Onvision Needle and the Stimuplex HNS 12 Nerve Stimulator.

On**vision** Needle Tip Tracking

More anesthesiologists can carry out regional anesthesia

Empowering

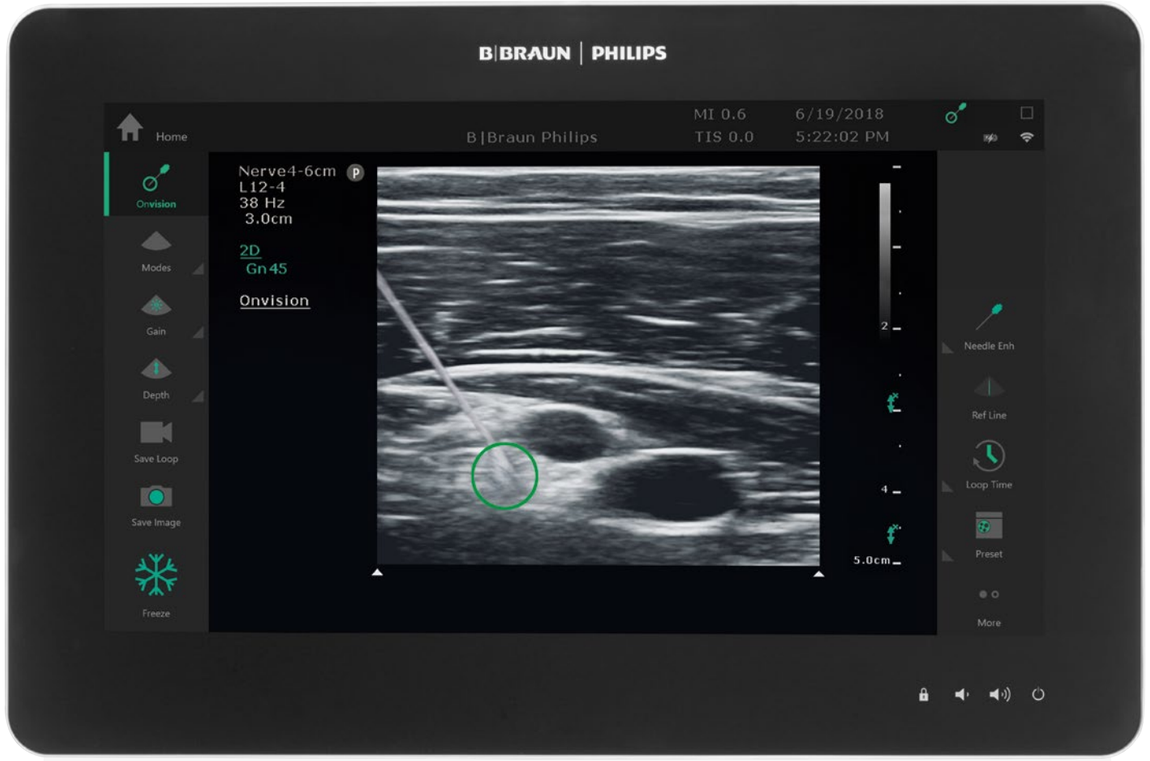
» Onvision not only gives confidence to beginners, but also to supervisors as they right away have confirmation of the needle tip location. «

Dr. C. Ilies

To the point

Visualizing and identifying the needle tip during both superficial and deeper blocks can be challenging, leading to unwanted risks to the patient. Onvision helps identify the needle tip and supports mastering of needle-beam alignment in an intuitive and easy to use manner. With Onvision, users experience real-time guidance to empower them to quickly adopt and integrate PNB into their daily practice.

- Intuitive User Interface[7]
- Easy to adopt[7]
- Can increase proficiency level[5]



User Interface – less is more.

With Onvision, identifying the needle tip location becomes less complicated. Spotter graphics (colored circles) superimposed on the ultrasound image, appear automatically when the sensor enters the imaging plane.

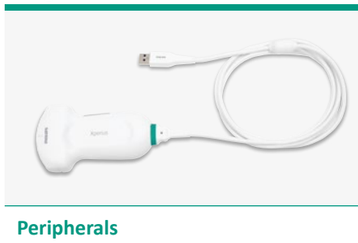
○	Green circle displays the needle tip location. When green, the needle tip is in the ultrasound plane and receives a strong signal.
◎	Inner red circle displays the needle tip location. The needle tip is near the ultrasound plane and receives a signal. As the needle tip moves towards from ultrasound plane, the radius of the blue circle reduces. As the needle tip moves away from ultrasound plane, the radius of blue circle increases.
	If no circle is seen, the needle tip is far from the ultrasound plane and the sensor receives no signal.

Product Information

Equipment

The Onvision System works exclusively with the Xperius Ultrasound System and the Stimuplex Onvision Needles.

Xperius	Description	Units per box	Code no. (REF)
Xperius Cart System with Onvision			
	• **Type of unit:** Ultrasound System with Onvision Technology, fully articulating arm, Linear L12-4 • **Dimensions:** 132.5 cm x 56.0 cm x 66 cm (H/W/D) • **Weight:** 34.0 kg • **Display:** 39.6 cm (15.6 in) flat-panel touch-screen • **Imaging mode keys:** 2D, Color Doppler, Color Power Doppler, M-Mode • **Image Processing:** AutoSCAN, XRES, Duplex Imaging, 5x Pan/Zoom, Dynamic range up to 170 dB (full time input) • **Onvision Needle Tip Tracking Technology** • **Gray shades:** 256 (8 bits) in 2D • **Needle Visualization Software:** Needle Vis • **Image enhancement controls:** SonoCT, XRES • **Patient-specific optimization keys:** AutoSCAN, iSCAN • **Data:** 256 GB Hard Drive, loop length up to 50 seconds, Data Drive Encryption (Patient Data), Cine review • **Connectivity:** HDMI, Speakers, 5 USB ports on Cart, Ethernet, WiFi, DICOM, MWL Philips Remote Services • **Power Supply:** Rechargeable lithium ion battery, AC Adapter • **Battery operating time:** up to 3 hours	1	989605476951

Xperius Upgrade Items	Description	Units per box	Code no. (REF)
Single Transducer Linear			
	**L12-4 broadband linear array transducer** • 12 to 4 MHz extended operating frequency range • Aperture size: 34 mm • High resolution imaging for shallow applications • Center line marker • USB transducer with replaceable cable	1	989605451171
Single Transducer Curved			
	**C5-2 broadband curved array transducer** • 5 to 2 MHz extended operating frequency range • 50 mm radius of curvature • High resolution imaging for deeper applications • Center line marker • USB transducer with replaceable cable	1	989605451181
Peripherals			
	**Printer Sony UP-D711MD** • High-quality digital graphic printer • Easy to connect within dedicated Xperius printer slot • Dimensions: 7 cm × 14 cm × 12.5 cm (H/W/D) • Weight: 1 kg • Monochrome, black/white, A7 paper size	1	989605452822

Product Information

Needles

Available needles vary between 50-150 mm length and 20 to 22 Gauge in diameter.

Stimuplex® Onvision® Single Shot Needles	Description	Units per box	Code no. (REF)
Luer Version			
	Stimuplex Onvision 30°, 22G x 50 mm	10	4892705-01
	Stimuplex Onvision 30°, 22G x 80 mm		4892708-01
	Stimuplex Onvision 30°, 20G x 100 mm		4892710-01
	Stimuplex Onvision 30°, 20G x 120 mm		4892712-01
	Stimuplex Onvision 30°, 20G x 150 mm		4892715-01
NRFit Version			
	Stimuplex Onvision NRFit 30°, 22G x 50 mm	10	4892705NR-01
	Stimuplex Onvision NRFit 30°, 22G x 80 mm		4892708NR-01
	Stimuplex Onvision NRFit 30°, 20G x 100 mm		4892710NR-01
	Stimuplex Onvision NRFit 30°, 20G x 120 mm		4892712NR-01
	Stimuplex Onvision NRFit 30°, 20G x 150 mm		4892715NR-01

References

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7. Usability Test Report – NTT for PNB, Document Number: D000232122, Philips Medical Systems Nederland B.V.

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