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► NEEDLETRAINER





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Peripheral Nerve Block







Needle Trainer is a simulation system, which facilitates non-invasive practice of ultrasound-guided needle insertion. It is designed to support the acquisition of this skill in two ways:

- Overlays a realistic real-time virtual needle image on the ultrasound image when scanning in real time.
- Assistance in acquisition and interpretation of optimal ultrasound images is provided through an AIpowered colour overlay of key anatomical structures.









Realistic, safe & effective training in ultrasound-guided needling

NeedleTrainer[™] provides an all-in-one training solution to teach ultrasound-guided needling safely and effectively, using non-invasive needle insertion during real-time scanning on a real subject.



"The classroom to clinic package includes NeedleTrainer plus with PNB procedure mode, and ScanNav Anatomy PNB, licensed for clinical use.

Safe & Effective

NeedleTrainer™ uses a retractable needle and virtual image overlays to simulate needling non-invasively on a live participant in a safe but realistic clinical environment.

True-to-Life

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Simulate needling non-invasively on a live participant. Augmented reality overlays the simulated needle onto the live uitrasound feed, allowing a highly realistic scanning experience.

Quantitative Metrics

Needle visualization measurements aid proficiency and competence assessment in needle probe coordination skills.

Complete Solution

The new generation of NeedleTrainer™ incorporates the wireless GE Healthcare Vscan™ Air handheld ultrabound to provide a comprehensive education system for image acquisition and needling co-ordination skills.

Flexible and Versatile

Customize the echogenicity and gauge of the virtual needle, according to the procedure and specialty requirements.

Adaptive Learning

Extend learning to include image interpretation along with needle-probe coordination, with full classroom-toclinic learning package*, specifically designed for regional anaesthesia.









NeedleTrainer benefits



- **Real-time image of a virtual needle** in both in-plane and out of plane views on an ultrasound image
- Metrics for proficiency of needle probe co-ordination
- Real-time image of a virtual needle **alongside real-time coloured overlay of key anatomical structures** of 9 superficial blocks
- Allows the use of live models to create the high **fidelity simulation of UGRA** in a in realistic clinical environment (ergonomics of working with a patient)
- Needle probe co-ordination in an intuitive and user friendly platform
- Allows for multiple probe and needle placements for user to assess and learn optimum needle angle and placement along side optimum probe position in relation to target
- Designed to **support the learning curve of ultrasound-guided needling** in a risk-free environment





NeedleTrainer practice modes





Free Practice mode

• Virtual needle overlay over real time ultrasound image

Procedure mode PNB

• Virtual needle overlay together with real-time Artificial Intelligence (AI) anatomical highlighting of key anatomical structures for nine common peripheral nerve blocks







Version 2

Master ultrasound-guided needling safely and effectively, using non-invasive needle insertion during real-time scanning on a real subject.

NeedleTrainer Version 2 provides an all in one training solution for ultrasound guided needling and is compatible with select Sonosite ultrasound machines or the GE 'Vscan Air' ultrasound probe.

The NeedleTrainer Plus Version 2 is additionally equipped with Peripheral Nerve Block trainer software for livehighlighting of key sono-anatomical structures.

Get in touch to book your demonstration:

hello@intelligentultrasound.com intelligentultrasound.com

		NeedleTrainer	NeedleTrainer Plus*
Software Options	Probe Orientation Skills		
	High-fidelity virtual needle	0	0
	3 x echogenicity settings	0	0
	4 x needle gauge options	0	0
	Proficiency metrics	0	0
	Live ultrasound mode	0	0
	Offline mode	0	0
	Anatomy Recognition Skills		
	PNB procedure mode	-	0
	Anatomy highlighting	-	 Image: A start of the start of



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ANATOMY Peripheral Nerve Block





Ultrasound Guided Regional Anaesthesia (UGRA) is rapidly growing alternative to blind and general anaesthesia



- Real- time ultrasound guidance allows qualified healthcare professionals to visualize and identify both the target structures (nerve and surrounding fascial planes) and the advancing block needle.
- Emergence of UGRA has led to improvements in several nerve block techniques, expanded use of peripheral nerve block, which in turn has propelled adoption among several clinical practices.

^{*} https://www.emergenresearch.com/industry-report/ultrasound-guided-regional-anesthesia-market



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ANATOMY Peripheral Nerve Block







"ScanNav Anatomy PNB will help tip the balance of safety and confidence in favour of performing regional anaesthesia."

> Dr David Burckett-St.Laurent, Consultant Anaesthetist, Royal Cornwall Hospitals, NHS Trust

ScanNav Anatomy Peripheral Nerve Block (PNB) is a licensed medical device in the UK and Europe. ScanNav Anatomy PNB Trainer is available in the USA for training in a non-clinical environment only. It is not licensed for clinical use in the USA. 1912

ANATOMY Peripheral Nerve Block

Real-time Al-Assistance for **Regional Anesthesia**

ScanNav Anatomy PNB is designed to enhance the accuracy and standardisation of ultrasound image interpretation by providing a real-time colour overlay of key sonoanatomical structures.

This enables qualified healthcare professionals to perform more ultrasoundguided regional anaesthesia with safety and enhanced accuracy.



Expert Advice

Developed with leading experts in regional anecthesia, ScanNav Anatomy PNB supports 9 key, peripheral nerve blocks.







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Artificial Intelligence

Sophisticated Al provides real-time expert support to clinicians whilst they are scanning.

Clinically Validated ScanNav Anatomy PNB is clinically validated to enable scanning on patients during clinical practise.

Real-time key anatomical structures visualisation for 9 Peripheral Nerve Blocks



<u>Upper Limb</u>





Sc= Supraclavicular



<u>Upper Trunk</u>





RS= Rectus Sheath



Lower Trunk

SFIC= Suprainguinal Fascia Iliaca



Lower Limb

Add= Adductor Canal









ScanNav Anatomy PNB-Trainer benefits

Meeting a need: **Optimisation and Confirmation of the optimal ultrasound view**: Provides a real-time digital second-opinion, to help view the correct sono-anatomy and to also achieve an optimum view.

> Assist in the identification of key anatomical structures: Support in the correct identification of structures in an ultrasound image.

Consistent support: Provides a consistent and standardised level of support, regardless of user

Learner autonomy: Aids the professional autonomy of clinicians to practise acquisition and interpretation of optimal ultrasound images for UGRA

Teaching: Support experts in training through creating a coloured easily communicated and therefore a more easily negotiated display of sono-anatomy decreasing the cognitive load of trainer to trainee



Real-time AI assistance to support the training and practice of ultrasound-guided regional anaesthesia with safety and confidence

