REAL-TIME

INTRAOPERATIVE

bk5000 NEUROSURGERY

NEUROSURGICAL IMAGING

bk medical

- Dedicated neurosurgical ultrasound system with a simple workflow and small footprint
- Fully sterilizable neurosurgery transducers that can make direct contact with the brain and dura
- Immediate, auto-optimized imaging using the No-touch Autogain and Auto Focus features
- Exclusive digital integration with Brainlab neuronavigation systems for full plug & play experience

PREMIUM, REAL-TIME NEUROSURGICAL ULTRASOUND FOR COMPLETE OVERVIEW AND GUIDANCE

Ultrasound can improve neurosurgical procedures by helping you navigate and identify lesions and anatomical structures in real-time.
The bk5000 provides immediate, auto-optimized images that allow you to see the information you need, faster.

VISUALIZATION AND PLANNING

Neurosurgical intraoperative ultrasound:

- works in real-time to help provide a complete overview of brain/lesion anatomy and lesion localization.
- can assist in the identification of brain shift after pre-operative scans.

Tumors shown using the burr-hole transducer from a small insertion diameter and with an extended field of view.

Outstanding details of brain anatomy shown using the craniotomy transducer.

TUMOR RESECTION: EVALUATION AND MAPPING

Neurosurgical intraoperative ultrasound:

- helps surgeons spare eloquent areas of the brain during tumor resection surgery.
- allows real-time guidance on extent of resection during surgery, while brain tissue characterization can assist in the assessment of residual tumor.

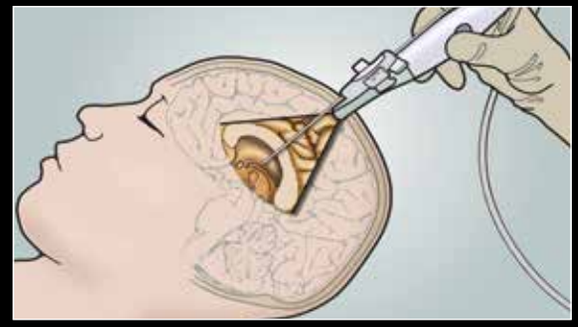
Acquiring intraoperative ultrasound images of the extent of resection takes only a few seconds.

Partially resected glioblastoma shown using the craniotomy transducer.

SHUNT PLACEMENTS

Neurosurgical intraoperative ultrasound:

- helps to guide safe and quick shunt placements, with accurate detection and targeting of the ventricle in question.
- allows shunt placements to be performed by one person using the burr-hole transducer and single-use needle guides.



The burr-hole transducer's extended field of view gives a wide view of brain anatomy and assists with safe shunt placement.

Ventriculoperitoneal shunt placement shown using the burr-hole transducer with needle guidance.

REAL CLINICAL IMPACT
WITH HIGH-RESOLUTION REAL-TIME IMAGING

Falx meningioma with color Doppler
N13C5 craniotomy transducer

High-grade tumor
N13C5 craniotomy transducer

Highly detailed brain tissue
N13C5 craniotomy transducer

Metastatic lesion
N13C5 craniotomy transducer

Glioblastoma
N13C5 craniotomy transducer

Intradural spinal cord lesion
X18L5s intraoperative hockey stick transducer[1]

Tethered spinal cord
N13C5 craniotomy transducer

Low-grade glioma. Transverse view.
N11C5s burr-hole transducer

Benign spinal cord lesion. Sagittal plane
N13C5 craniotomy transducer

DEDICATED NEUROSURGICAL ULTRASOUND SOLUTION

FUNCTION AND SIMPLICITY IN DESIGN - bk5000

- High-resolution, real-time images with outstanding anatomical details.
- Intuitive keyboard design.
- Immediate, auto-optimized imaging using the No-touch Autogain and Auto Focus features.
- Rapid boot time and up to two hours of plug-free imaging.
- Sterilizable remote control for convenient control of the system in the sterile field.

SPECIALIZED TRANSDUCERS DESIGNED FOR NEUROSURGERY

- Specialized, sterilizable neurosurgery transducers provide detailed images of the brain and spinal cord.
- Convenient Smart button™ activates the transducer, as well as freezes, stores, and prints images.
- Disposable, easy-to-use needle guides assist with shunt placement procedures.
- Long transducer cables (2.2 m / 7.3 ft) allow flexible movement in the OR.

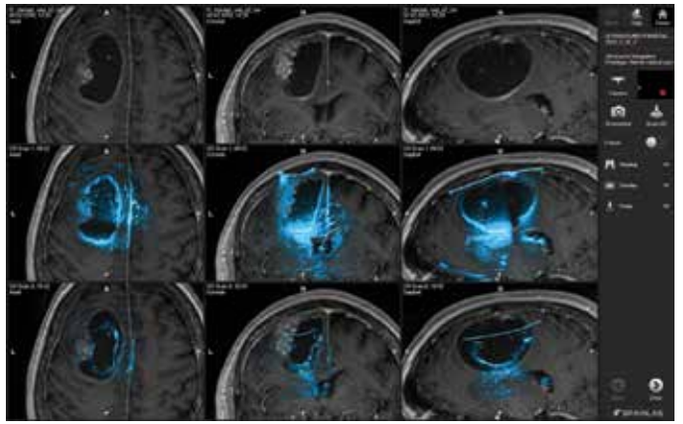
The small footprint burr-hole transducer (N11C5s) is designed to image the brain and guide procedures with precision.

The craniotomy transducer (N13C5) is ideal for guiding biopsy procedures, determining the adequacy of a resection, and differentiating vascular malformation from adjacent hematoma.

The 'Hockey Stick' transducer X18L5s (9009)[1] provides excellent resolution in the extreme near-field. Its flexible tip gives access to hard-to-reach areas and can be adjusted to 0°, 30°, 60°, and 90° positions.

EXCLUSIVE DIGITAL INTEGRATION WITH BRAINLAB

- Brainlab Ultrasound Navigation Software provides updated and accurate images for instant navigation.
- Real-time overlay of ultrasound imaging on pre-operative MRI/ CT provides immediate information about brain shift.
- Facilitates scanning and reconstruction of 3D ultrasound data faster than intraoperative MR and CT.
- Digital transmission ensures no loss of ultrasound image quality.



Ultrasound Navigation Software showing two different intraoperative ultrasound scans reconstructed in axial, coronal, and sagittal planes and overlaid onto pre-operative MR (rows 2 and 3). The navigated 3D ultrasound scans (blue) provide up-to-date information on the actual extent of resection.

[1]Use of the 'Hockey Stick' transducer for intraoperative (neuro) has not been CE-marked.

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