

Leksell® Vantage™ Stereotactic System



Advancing
stereotactic
neurosurgery

Innovation built on strong foundations

Since the founding of our company by Lars Leksell more than 45 years ago, Elekta has delivered more than 1,800 stereotactic arc systems and more than 4,000 coordinate head frames to leading neurosurgical clinics around the world. The constant search for the very best treatments places new demands on the equipment used for these procedures.

Leksell® Vantage™ Stereotactic System, which builds on our strong principles and foundations, provides clinicians with another powerful and versatile tool to ensure a high level of user confidence and a greatly improved patient experience.

Innovative material in the head frame and accessories provide less image distortion and artifacts, potentially allowing clinicians to see more anatomy.

“The tools used by the surgeon must be adapted to the task and, where the human brain is concerned, they cannot be too refined.”

The late Professor Lars Leksell

Elekta Founder, 1907–1986



Surgical certainty

The Leksell Vantage Stereotactic System is based on the proven and well-known Leksell® coordinate system and center-of-arc principle. These principles are implemented in an even more intuitive and user-friendly workflow.

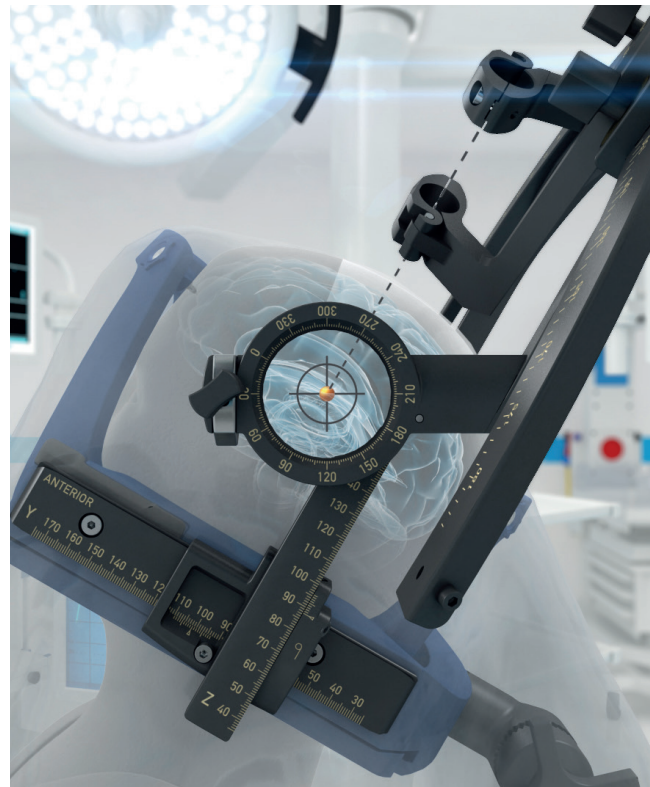
Designed for excellence

Fewer components to keep track of during assembly helps shorten preparation time and lessens the risk of losing parts during cleaning and sterilization. The system consists of four key elements:

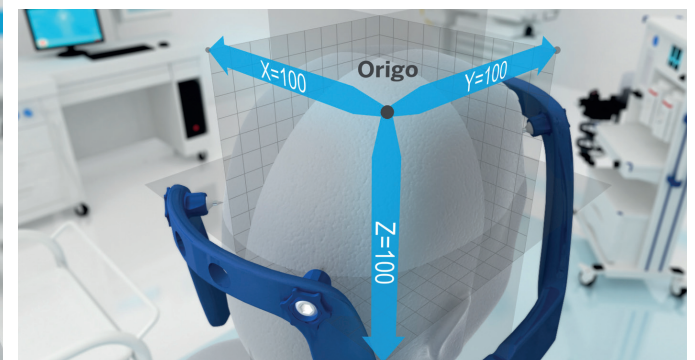
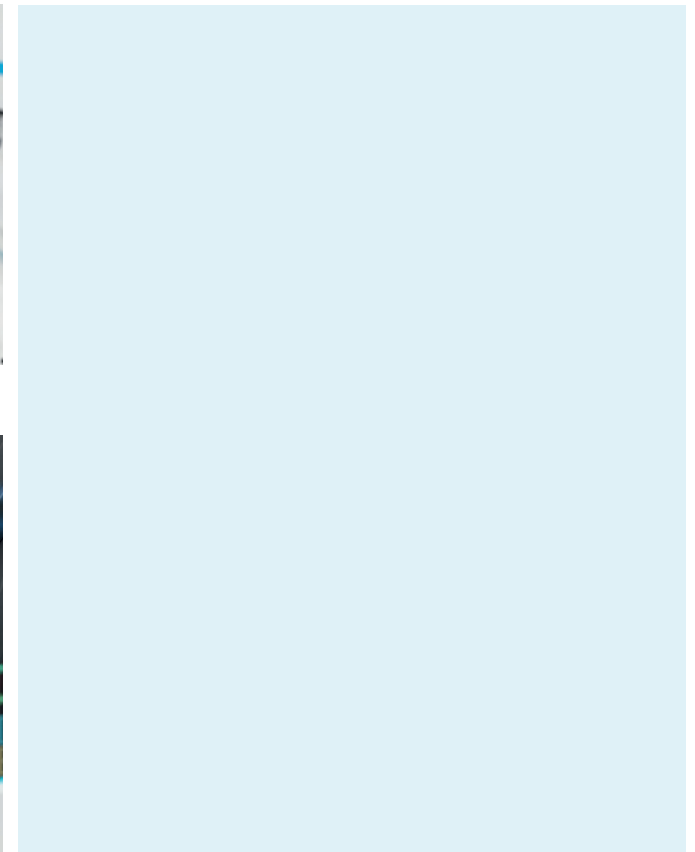
1. Leksell® Vantage™ head frame
2. MR accessories
3. CT accessories
4. Leksell® Vantage™ Arc System



The system utilizes the established center-of-arc principle, for confidence in accuracy and ease of use



The intact sterile interface clearly separates the non-sterile head frame and its Frame Holder from the sterile arc system

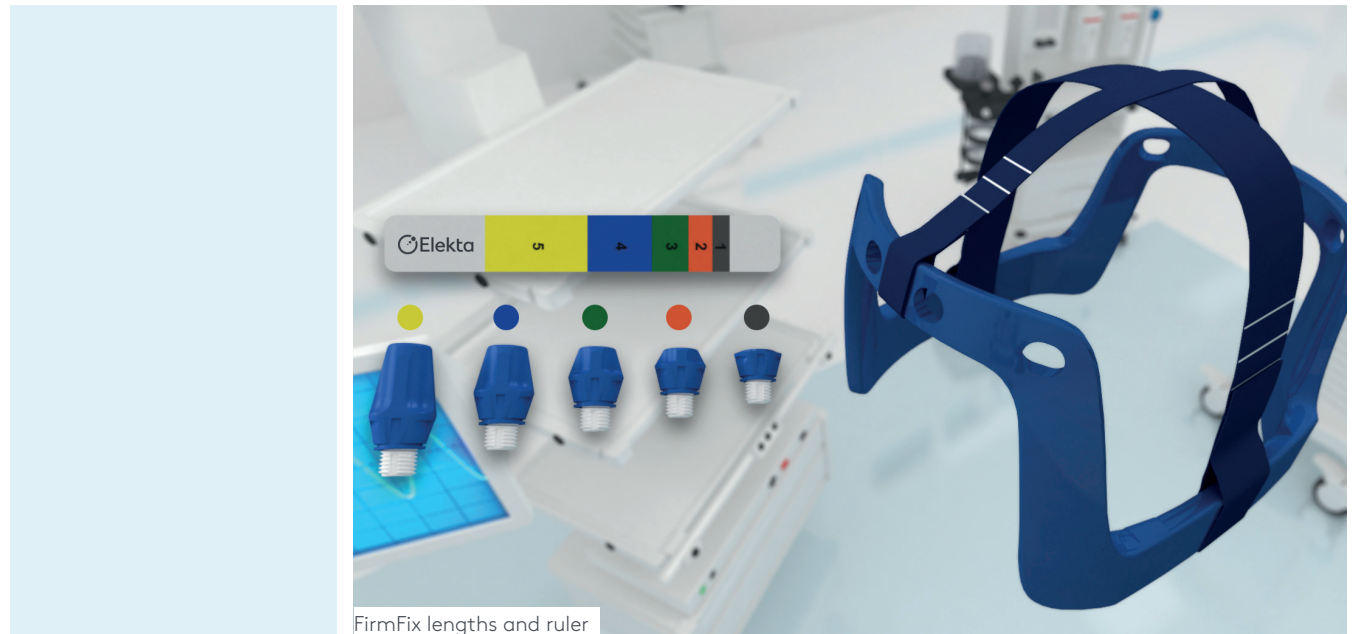


The proven Leksell coordinate system is applied to the Leksell Vantage head frame

1. Leksell Vantage head frame

The Leksell Vantage head frame has an open-face design and is non-metallic, made of glass fiber reinforced epoxy. The innovative design makes it patient friendly and easy to use. Presterilized, disposable FirmFix™ head fixing pins are provided so the head frame can be fitted to different head shapes and sizes.

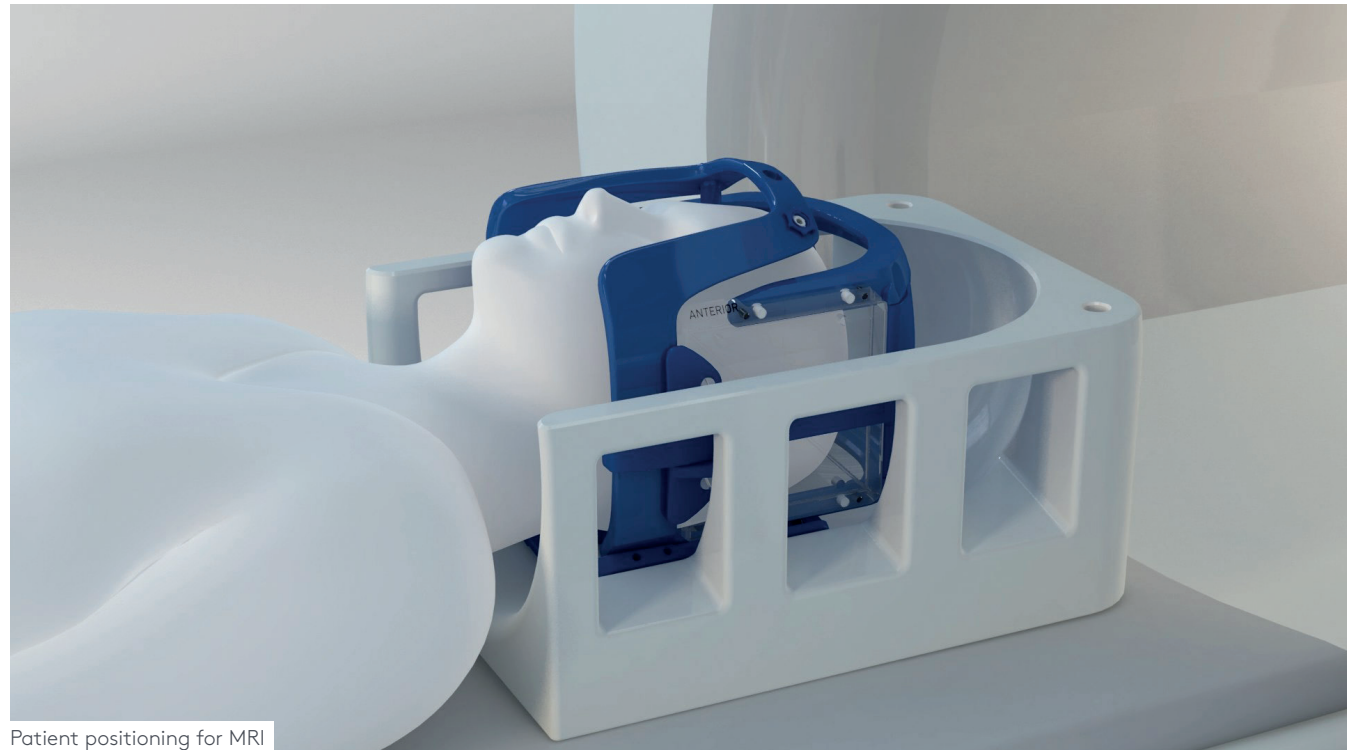
The frame is easily positioned with a biocompatible and comfort-supporting Velcro band.



2. MR accessories

User-friendly MR accessories and PEEK polymer fixation pins with a small aluminium tip provide fiducial-based MR imaging with few restrictions. Chosen materials ensure that there is no head frame induced radio frequency heating during imaging. The MR accessories set includes a fiducial box and four coil adapters with different shapes.

The MR accessories give the potential for higher resolution 3D stereotactic neuro imaging, visualizing more of the clinically relevant anatomy e.g. by potentially fitting inside multichannel coils.



Patient positioning for MRI



Coil adapters



Frame with fiducial box



Frame with coil adapter

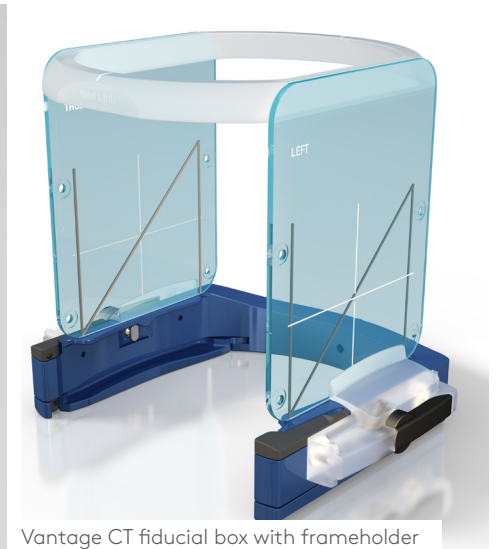
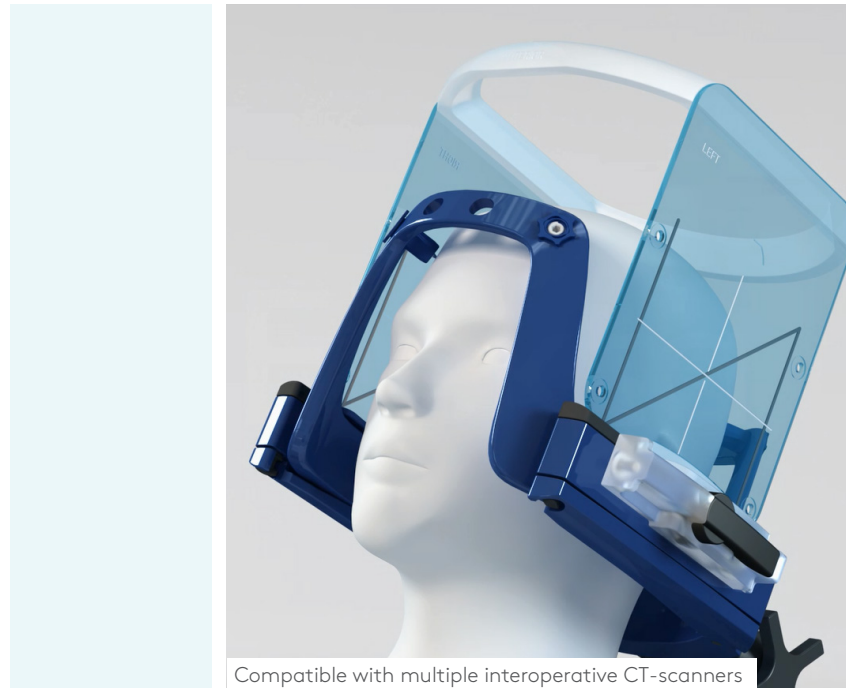
3. CT-accessories

Expanding stereotactic neuroimaging capabilities.

Leksell Vantage CT-accessories enable stereotactic coordinate referencing in imaging with intraoperative CT as well as radiology department based CT-scanners.

Our CT-accessories are compatible with the existing Leksell CT table fixations for interfacing with various models of CT-scanner tables.

The Leksell Vantage operating table interface is used when acquiring stereotactic CT intraoperatively. By utilization of the Frame Holder interface for CT scanning, the same patient positioning is applied during stereotactic CT scanning as during surgery.



4. Leksell Vantage Arc System

The Leksell Vantage Arc System is made of aluminum and has an elegant click-on mechanism for confidence and control during surgery. The X-scale is easily visible on the back and front of the arc, allowing for a smooth setting and use of the X-coordinate during surgical procedures. Vernier scales enables target coordinate setting with sub-millimeter accuracy.

The Leksell Vantage Arc design places all X-, Y- and Z-scales sterile outside of draping enabling smooth coordinate changes during procedures.

During surgery, Leksell Vantage Stereotactic System is fixed to the operating table by the Frame Holder, which is made of glass fiber laminate with glass fiber-reinforced polyamide details.

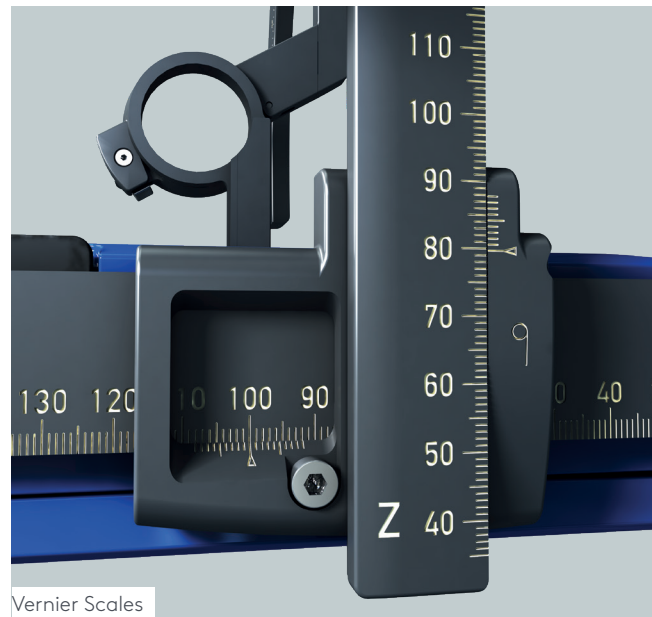
“Mounting the arc feels solid and robust—it is beautifully engineered!”

Dr. Ludvic Zrinzo

National Hospital of Neurology and Neurosurgery
Queen Square, London, UK



The click-on arc enables easy automatic docking to the rings of the Z-scales



Vernier Scales



The X-scale is visible both on the front and back of the arc

Powerful simplicity

The new Leksell Vantage Stereotactic System is designed to meet the most exacting demands of today's clinicians, enabling a smooth workflow and offering a broad range of benefits.

“Lars Leksell would have liked this.”

Professor Emeritus
Björn Meyerson

Karolinska University Hospital
Stockholm, Sweden

- **Intuitive and user-friendly**

Integrating proven and trusted Leksell principles with intuitive setup and operation make the system easy to use

- **Greater overall control**

Reduced artifact and distortion in stereotactic images together with workflow enhancements support clinician confidence

- **Shorter treatment times**

Easy to set up and operate means procedure can potentially be done in a shorter time frame



Treatment planning

Metal-free head frame and PEEK polymer fixation pins with a small aluminium tip enable MR imaging with potential for clinicians to see more clinically relevant anatomy and vasculature during treatment planning



Flexibility

The frame is suitable for some multichannel neuro head coils, allowing clinicians additional flexibility and confidence



Sterile field easily prepared

In the operating room, the sterile interface is easily secured by the draping. The setting of the X-, Y- and Z-scales is done in the sterile field, enabling smooth coordinate changes during procedures. In addition, the disposable pins are delivered sterile and the head frame does not require on site sterilization.



Reduced time

Fewer pieces enable shorter assembly times and reduced risk of losing parts during cleaning and sterilization. Non-metallic properties support reduced MR imaging time



Open-face design

Patient facial expressions are continuously visible and airways are accessible should intubation be required



Less distortion

No material induced limitations in 1,5 and 3 Tesla imaging enabling less distortion in MRI and higher signal-to-noise ratio by using more powerful MR sequences



Click-on arc

The well-engineered and fast arc docking system is efficient and reduces the risk of human-induced forces applied to the arc



Easily visible X-scale

Clearly visible on the back and front of the arc, setting and use of the X-coordinate during surgical procedures is easy, offering control and confidence



Less artifacts

Coordinate referencing with less artifacts in diagnostic and interoperative CT imaging

Patient confidence

The Leksell Vantage Stereotactic System was designed keeping the needs and treatment experience of the patient in mind.



Setup

Easy mounting of the frame on the patient's head supports a positive patient experience



Comfort

Smaller MRI adapters support patient comfort



Treatment time

Fewer frame components with easier assembly and disassembly support shorter overall treatment times



Reassurance

Open-face design exposes the patient's eyes, nose and mouth for unrestricted visibility and access

Compatibility supports seamless integration

Leksell Vantage Stereotactic System is fully compatible with Elekta neurosurgical instruments.

1. Injection/Aspiration needle kit

The kit contains a set of neurosurgical instruments designed for injection as well as for diagnostic and therapeutic punctures, aspirations and evacuations. The cannula is equipped with a Luer lock connector to accommodate the use of auxiliary components.

2. Biopsies

Leksell Vantage Stereotactic System provides the neurosurgeon with reusable and disposable biopsy instrumentation.

3. Elekta MicroDrive™

A variety of instruments are available for DBS electrode implantation. The Elekta MicroDrive™ provides exact positioning of electrodes in the brain when performing Micro Electrode Recording (MER), macrostimulation and lead electrode implantation.

4. DBS lead implantation

The insertion cannula kit is designed to obtain safe, accurate guidance of implants, electrodes or catheters using stereotactic technique. A stylet is used to seal the inner cannula during insertion in the patient's brain.

5. Salzman Twist Drill kit

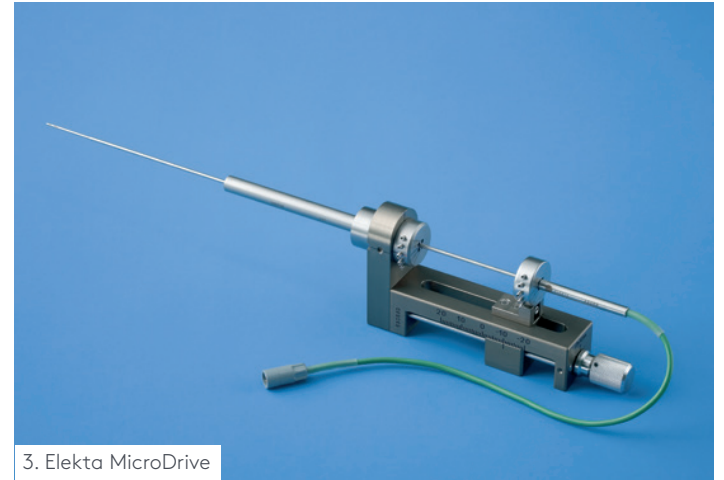
The Salzman Twist Drill kit enables the surgeon to place a twist drill hole with a suitable diameter at a predetermined place and angle. This may be useful for taking multiple biopsies from different targets in one trajectory, electrode implantation and other minimally invasive neurosurgical procedures.



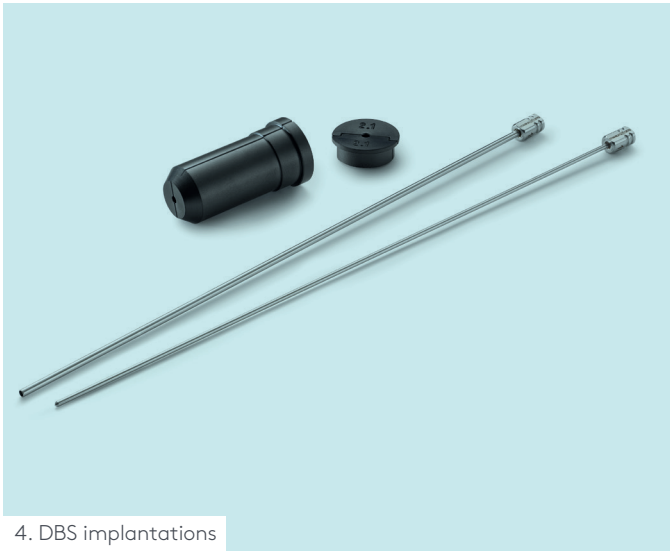
1. Injection/Aspiration needle kit



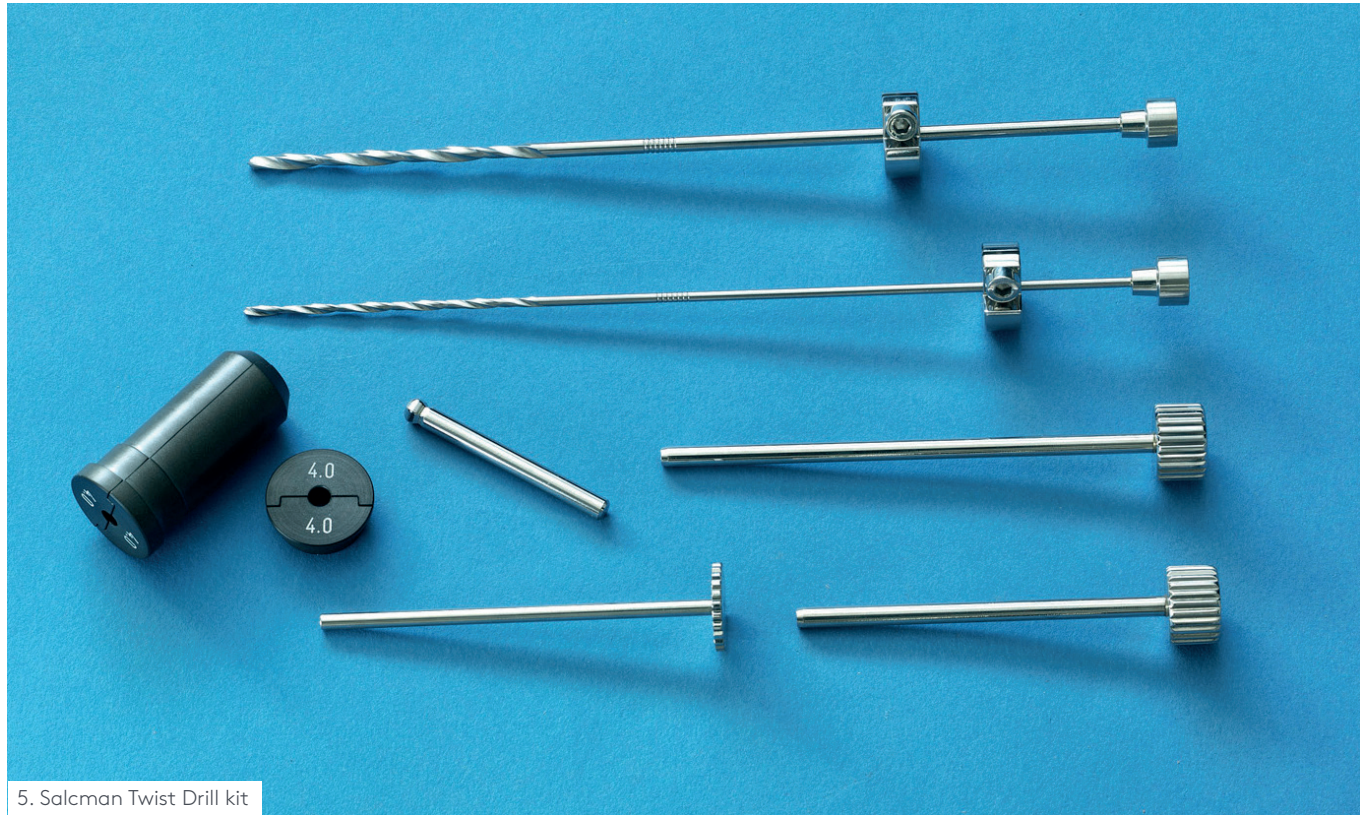
2. Biopsies



3. Elekta MicroDrive



4. DBS implantations



5. Salcman Twist Drill kit

For almost five decades, Elekta has been a leader in precision radiation medicine.

Our nearly 4,000 employees worldwide are committed to ensuring everyone in the world with cancer has access to—and benefits from—more precise, personalized radiotherapy treatments.



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Leksell Vantage Stereotactic System and accessories are not commercially available in all countries.

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