Wireless gamma probe for radioguided Sentinel lymph Node (SLN) Localization

WProbe: Exploring new frontiers in radioguided cancer surgery

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Since 2007 ONCOVISION has been fully committed to help you improve your high standards in Minimally Invasive Radio-guided Surgery (MIRS) with an innovative radioguided technological platform that is revolutionizing the surgical management of malignancies such as breast cancer, melanoma, gynecological, urological and colorectal cancers, and parathyroid diseases. Sentinella and WProbe provide you the perfect combination, to be used together or independently, to guide you through even the most complex Sentinel Lymph Node (SLN) localizations in the management of your cancer patients.
What is radioguided surgery and how does it work?

The concept of the Sentinel Lymph Node (SLN) as the first node to have metastatic involvement if there has been lymphatic spread was proposed by Dr. R. Cabanas in 1977. The first accepted technique to identify the SLN was using blue dye (intraoperative visualization); soon, however, the use of radionuclides and intraoperative gamma probes (intraoperative counting) came on board as a complementary yet more reliable technique.

The intraoperative gamma probe technology with WProbe, is based on the injection in the tumor site of a radiopharmaceutical agent that emits gamma rays while it drains towards the lymphatic system. With the help of the gamma probe, the surgeon expeditiously locates the hot sentinel node(s) or cancerous tissues to be pathologically analyzed as these locations accumulate the radiopharmaceutical agent and have a higher gamma count rate than the background. This technique has become widely accepted in surgical oncology.

However, the latest breakthrough in radiosurgery is Sentinella, an intraoperative portable gammacamera (intraoperative imaging) that brings real time imaging and greater sensitivity to the OR improving the SNL technique and allowing the surgeon to visualize and reach out even the most hidden and deep hot nodes in cancer procedures. The use of Sentinella is quickly expanding to additional sophisticated and complex indications.

What are the main benefits of performing radioguided surgery on cancer patients?

1. Provides vital and real time information to the surgeon regarding the location and extent of disease and resection margins.
2. Helps decrease the surgical time, the patient morbidity and improves the staging accuracy.
3. Allows the surgeon to minimize the surgical invasiveness of many diagnostic and therapeutic procedures, whilst maintaining the maximum benefit to the cancer patient.
CLINICAL APPLICATIONS

- Breast cancer, ROLL, and SNOLL
- Gynecological cancers (cervical, ovarian, uterine, vaginal and vulvar)
- Melanoma and other types of skin tumors
- Head & Neck
- Endocrine cancers (thyroid, parathyroid and gastrinomas)
- Urology cancers (prostate, bladder, testicular, kidney and penile)
- Nuclear Medicine (localization of gamma labeled areas)
The superb technical design of WProbe has been optimized after merging the best in class specifications of existing gamma probes and evaluating the feedback gathered from healthcare professionals and published technical data. The balance achieved by all the performance variables provides the best contrast during the surgical procedure, in other words, that is the ability of the gamma probe to distinguish activity within the target tissue and discriminate it from the lower background activity within the surrounding of the non-target tissue.

**WProbe gamma probe main advantages:**

1. **Wireless, ergonomic and light.** Comfortable to maneuver during intra-incision manipulation, with no cables interrupting your field of view.

2. **Friendly audible signal.** Ensures no distractions from other activities in the surgical field.

3. **One probe, multiple uses.** Compact probes that fit all surgical procedures without the hassle of extra removable parts.

4. **Waterproof.** It can be immersed in water and safely cleaned in a disinfecting solution not needing a sterile cover.

5. Available for open surgery and laparoscopy.

### WProbe Technical Specifications

<table>
<thead>
<tr>
<th>Aperture angle</th>
<th>Spatial resolution @ 1cm</th>
<th>Sensitivity @ 1cm</th>
<th>Maximum sensitivity</th>
<th>Shielding</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>40°</td>
<td>8.65 mm</td>
<td>&gt; 100 cps/uCi</td>
<td>&gt; 450 cps/uCi</td>
<td>1%</td>
<td>10.5 mm</td>
</tr>
</tbody>
</table>

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**Probe Specifications**

Energy range: 85-200 keVs  
Standard probe length: 112 mm.  
Laparoscopic probe length: 370 mm.  
Laparoscopic probe diameter: 10.5 mm.  
Probe tip material: Ti6Al4V titanium alloy + CsI (TI) crystal  
Battery Life 150 hrs. in continuous operative mode  
Battery 3.6V DC single-use Lithium  
Weights: 260 gr. (STD) to 400 gr. (LAP)

**Control Unit Specifications**

Connection via secure Bluetooth  
Large bright display of values  
Automatic detection of probe  
No calibration required  
Maximum counts: 25,000 cps.  
Battery life lasts up to 3 hrs.  
Volume control

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Reference</th>
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<tbody>
<tr>
<td>Wprobe wireless gamma probe STD (Open Surgery) and LAP (Laparoscopic Surgery)*</td>
<td>FP-0048</td>
</tr>
<tr>
<td>Wprobe wireless gamma probe STD for Open Surgery*</td>
<td>FP-0046</td>
</tr>
<tr>
<td>Wprobe wireless gamma probe LAP for Laparoscopic Surgery*</td>
<td>FP-0047</td>
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</tbody>
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*Includes Control Unit Table
References:
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