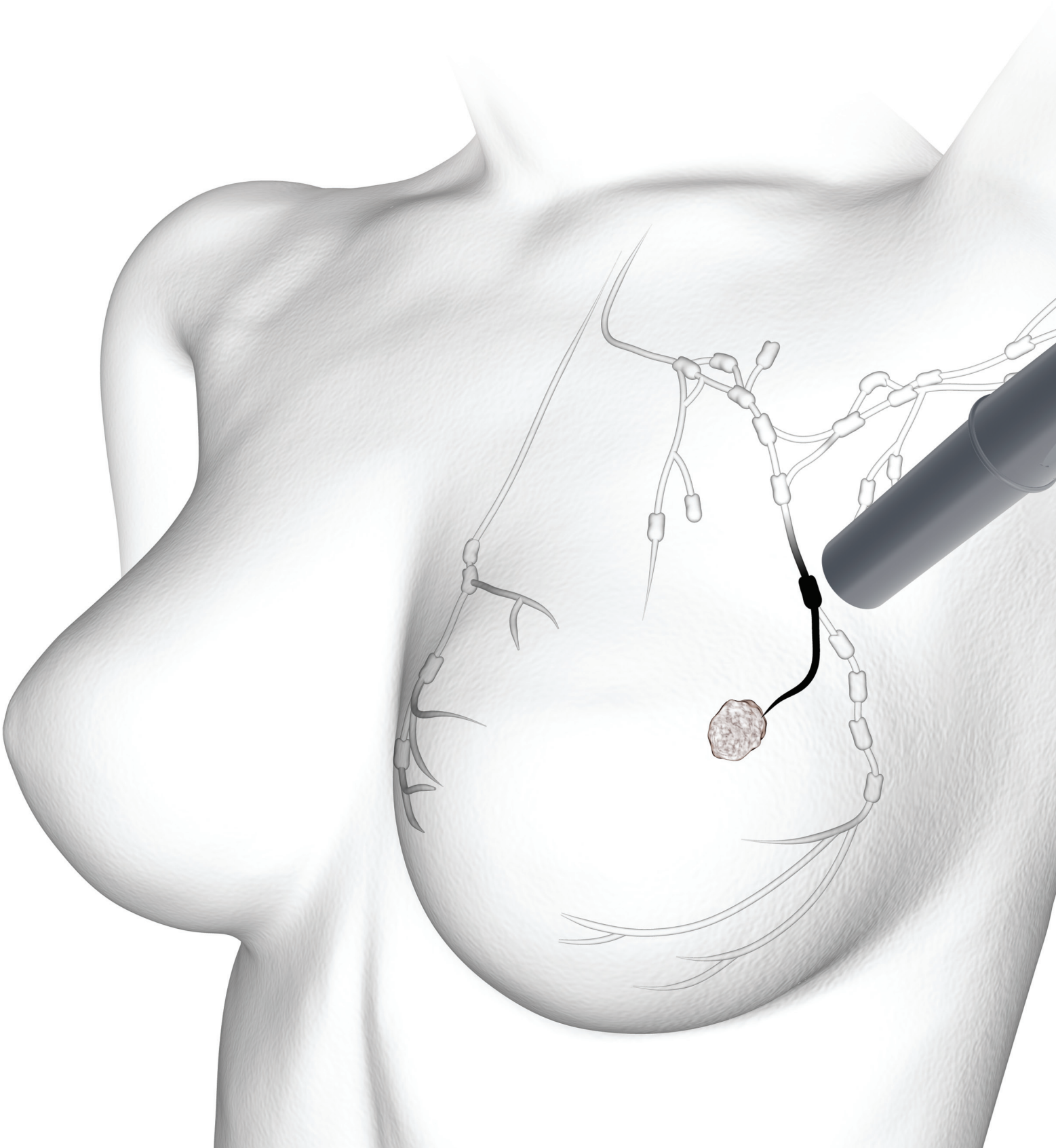
ENDOMAGNETICS

SYSTEMS FOR BETTER HEALTHCARE



A NEW STANDARD OF HEALTHCARE

Around the world the incidence of cancer is growing, and with it the demand for better, faster and cheaper solutions to diagnosis and treatment.

Globally, 1.6 million new cases of breast cancer are diagnosed each year. In practically all of these cases, surgery is required to remove the tumour. In addition to this surgery, the current standard of care involves 'sentinel lymph node biopsy' (SLNB) to determine the stage of the cancer and allow informed decisions to be taken regarding post-operative care. This procedure spares the patient unnecessary pain, and the hospital unnecessary expense, by eliminating the over-treatment of patients.

While the incidence of cancer is increasing, the growth of the sentinel lymph node biopsy procedure has plateaued - in part due to issues with the required radioactive tracer. Of more than 500,000 patients in the West that could benefit from the procedure, only around 50% have access to SLNB. This figure drops to 5% in China, and is minimal in most of the rest of the world.

Endomagnetics has introduced an exciting new technology to overcome this issue with a system based on magnetic materials rather than radioisotopes. The SentiMag® and its magnetic tracer, Sienna+™, allow for best practice to be used globally, with lower costs and reduced workflow complexity, and leaving surgeons fully in control of the procedure. Sienna+™ magnetic tracers require no special preparation and handling, making for more efficient workflow.

The Endomagnetics solution provides much-needed flexibility and control in the fight against breast cancer. Melanoma and colorectal cancer sufferers are also likely to benefit from this exciting technological advance.

THE FUTURE OF CANCER STAGING

Endomagnetics is revolutionising the sentinel node biopsy procedure by removing the reliance on scarce radioactive isotopes.

Following safe and proven medical practice, a magnetic tracer called Sienna+™ is injected near the tumour to provide a trackable signal. The SentiMag® is then used by surgeons to locate the lymph node closest to the tumour - a vital step to determining how far the cancer has spread.

SentiMag® and Sienna+™ together represent an effective and valuable alternative to radioisotopes for lymph node detection, and enable the standard of care to be offered in more hospitals and clinics.

The SentiMag® method puts the surgeon in control as they can inject Sienna+™ without the need for special licensing, helping to improve workflow and making best practice available to all. SentiMag® requires minimal clinician re-training, and patient anxiety about radioactive materials is also eliminated with the use of Sienna+™.

ENDOMAGNETICS

SYSTEMS FOR BETTER HEALTHCARE

Increased workflow efficiency and superior economics

Suitable for both pre- and post-incision use

Delivers ultrasensitive detection and location of sentinel lymph nodes

Ultrasensitive hand-held magnetic probe offers unprecedented discrimination

Sienna+™ magnetic tracer designed for rapid transport to the sentinel lymph nodes

A NEW STATE-OF-THE-ART APPROACH

- Allows best practice SLNB to be performed anywhere, by any trained practitioner
- Builds on established working practice
- Radioactive materials issues are eliminated
- Delivers ultrasensitive detection and location of lymph nodes
- Sienna+™ tracer is safe, easily transported and has a long shelf life
- Increased workflow efficiency and superior economics
- SentiMag® and Sienna+™ are a CE-approved system for SLN localization

TRACER OPTIMIZED FOR SLN LOCALIZATION

Sienna+™ magnetic tracer is safe and has a long shelf life, allowing it to be used universally – not just near centers that have access to nuclear medicine. Since clinicians can perform the injections of Sienna+™, it helps to optimize the workflow and scheduling of SLNB.

Sienna+™ is a dark brown fluid that contains a solution of tiny, coated iron oxide particles, each a few tens of nanometers in diameter. Particles of this size are easily absorbed into lymph capillaries and are ultimately trapped in lymph node sinuses for detection by the SentiMag®.

Sienna+™ is CE approved for marketing and sales in Europe. Endomagnetics is currently seeking marketing authorization in other territories to deliver its technology to global markets.

CLINICAL EQUIVALENCY TRIALS

Endomagnetics has supported clinical trials with SentiMag® that indicate strong concurrence with the gamma probe technique.

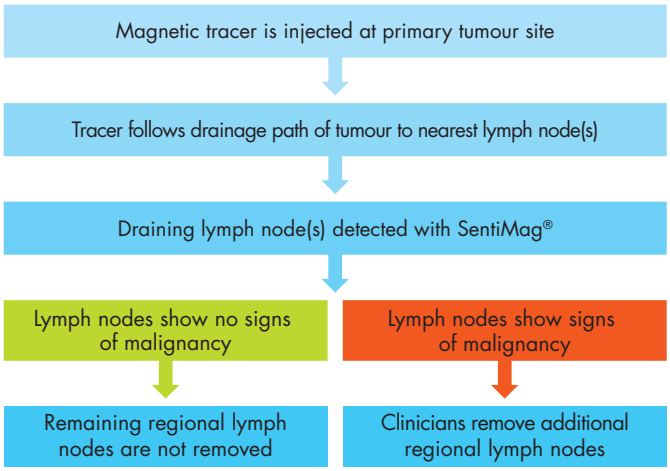
To compare the efficacy of the SentiMag® method against current methods, early trials injected each patient with (a) Patent Blue optical tracer, (b) 99mTc radioactive tracer and (c) 2 ml of Endorem/Feridex® magnetic tracer. The sentinel nodes were localized using both a gamma probe and SentiMag®. A total of 53 patients were recruited and the results indicated an overall ex-vivo SLN detection rate for SentiMag® of 86%. The detection rate was 93% in patients who received Endorem/Feridex® more than 1 hour prior to surgery indicating that Endorem/Feridex®, with its ~150 nanometer particle diameter, may reduce transport speed in the lymphatic system.

Therefore, with Sienna+™ having received European marketing authorization, a multi-site, pan-European trial has been launched to establish statistical equivalence to the gamma- based SLNB technique using an optimized tracer.

COMPARISON WITH COMPETITIVE SYSTEMS

Technique/Advantage	SentiMag®	Gamma Probe	Fluorescent Probe
Avoids Radiation	✔	✘	✔
Surgeon Controlled	✔	✘	✔
Established Working Practice	✔	✔	✘
Suitable for both pre- and post-incision use	✔	✔	✘
Inexpensive Consumables	✔	✘	✔
Spatial Imaging	✔ (MRI - high res)	✔ (Scintigraphy - low res)	✘

SENTIMAG® PROTOCOL OVERVIEW



ABOUT ENDOMAGNETICS

Endomagnetics was founded to solve cancer staging and healthcare challenges through the application of advanced magnetic sensing technology and nanotechnology.

Endomagnetics is developing a portfolio of medical device products based on a patented ability to detect magnetic materials in the human body with exceptional sensitivity. The technology was originally developed at University College London and the University of Houston.

The company's first products are the SentiMag® and Sienna+™. The SentiMag® is an ultrasensitive hand-held probe for detecting a magnetic tracer called Sienna+™ in the human body. By tracking the presence of injected Sienna+™, the SentiMag® can be used to locate lymph nodes for the treatment of breast cancer, head and neck cancer, colorectal cancer and melanoma.

SentiMag® and Sienna+™ are approved for marketing and sales in Europe. Endomagnetics is currently seeking marketing authorisation in other territories to deliver its technology to global markets. For the USA, this material should be considered informational only and does not constitute an offer to sell.

ENDOMAGNETICS
SYSTEMS FOR BETTER HEALTHCARE

ENDOMAGNETICS LTD
23 CAMBRIDGE SCIENCE PARK
MILTON ROAD, CAMBRIDGE
CB4 0EY, UNITED KINGDOM

T +44 1223 437131
F +44 1223 437135
E info@endomagnetics.com
W www.endomagnetics.com