The Calypso® Surface Beacon® transponder expands the utility of the Calypso System for real-time motion tracking during external beam radiotherapy. Cleared by the FDA for general use, the Surface Beacon can be used anywhere on the body where intrafraction motion may be a concern.

First adopted for prostate treatment, the Calypso system allows clinicians to track target motion in real time through the use of implantable Beacon transponders that detect slight movements and continuously transmit accurate target location. With the addition of the Surface Beacon transponder, the Calypso system becomes a flexible solution for additional patients.

INCREASED CONFIDENCE IN TREATMENT PRECISION AND ACCURACY

The Calypso Surface Beacon gives clinicians greater confidence that radiation treatments are being delivered as planned. Clinicians can achieve their treatment objectives, such as reducing margins, escalating dose, or sparing critical structures, with greater confidence because they can see movement in real time and make instant, objective decisions about pausing the radiation beam or continuing treatment delivery.

EXPANDED MOTION MONITORING

The Calypso Surface Beacon gives you more motion-monitoring options

- Monitor patient motion during treatment
- Monitor breath hold; for example, Deep Inspiration Breath Hold (DIBH)
- Monitor range of free breathing respiratory motion

Figure 1: Surface Beacon transponder

CLINICAL ADVANTAGES

The Calypso Surface Beacon provides many benefits for clinicians and patients.

- Real-time motion monitoring. Uncertainty about target location is reduced.
- Instantaneous objective decisions. Intuitive graphical interface informs the therapist when to start and pause the radiation beam.
All radiosurgery and radiotherapy potentially may cause side effects, varying with the area of the body being treated. Systemic side effects can include fatigue, nausea, or low blood counts. Localized side effects can include skin erythema, hair loss, mucositis, shortness of breath, irritation of bowel and bladder function, or diminished sexual function. Radiation treatment is not appropriate for all cancers. Treatment sessions may vary in complexity and time.

CLINICAL USE CASE: LEFT BREAST TREATMENT

The Calypso Surface transponder can be helpful in treating a significant number of patients with left breast cancer. Patients treated with whole-breast radiation for left breast cancer show an increased risk of developing heart disease. Chest wall monitoring during treatment of the left breast can correlate with the position of the heart. The Calypso Surface transponder monitors this position in real-time, enabling clinicians to design treatments that can eliminate or significantly reduce dose to the heart.

ABOUT THE CALYPSO SURFACE BEACON

- Non-site specific; FDA-cleared for general use
- Temporary external placement on skin
- Indicated for single-patient, multiple use