Lung Optimized Treatment

Offering Non-Invasive Treatment Options for Every Lung SBRT Patient, Regardless of Tumor Location.

The CyberKnife® System is uniquely able to detect and track the image intensity of the lung tumor itself as a landmark to guide beam targeting. By tracking the tumor directly, clinicians can use the CyberKnife System to confidently deliver SBRT treatment with high accuracy to lung tumors while minimizing dose to adjacent healthy tissue and critical structures – all in a non-invasive way.

In 2011, 35% of European CyberKnife extracranial treatments were lung treatments.

With Lung Optimized Treatment, physicians can choose the most appropriate tracking method for lung patients:
- non-invasive Xsight® Lung Tracking or 2-View Tracking when the target is clearly visible by both x-ray cameras,
- non-invasive 1-View Tracking when the treatment target is clearly visible and can be tracked in only one X-ray projection during treatment,
- or non-invasive Xsight Spine Tracking, when the target is not clearly visible in either X-ray projection, resulting in the need to track the bony anatomy of the vertebral column during treatment in which case fiducials might be implanted to have tight target margins.

What your colleagues think of Lung Optimized Treatment

Dr. C. Carrie, Head of Radiation Oncology department, Centre Léon Bérard, Lyon, France.

“[Lung Optimized Treatment] allows to track the tumor without fiducial even if it is only visible on one of the live x-ray images. Before we could only track 50% of lung tumors, now we have increased the number of lung tumor treated on the CyberKnife System with no fiducials using Synchrony Respiratory Tracking System by 30%.”

Dr C. Antypas, Chief Physicist, Iatropolis center, Athens, Greece

“According to our experience, Lung Optimized Treatment increases the number of lung cases that could be treated with CyberKnife SBRT. Indeed considering that 1-View cases could not have been treated without Lung Optimized Treatment, as a physicist I can say that there was approximately 30% increase in lung cases that we could treated with the CyberKnife System thanks to this product.”
Intelligent workflow streamlines the Lung Optimized Treatment planning process.

**Step 1:** Acquire CTs (inhale/exhale pair) & Make simulation plan

**Step 2:** Perform simulation

1. Spine Alignment
2. Lung Alignment
3. X-ray technique
4. Acquire images/ give offsets
5. Correlate and confirm
6. Review results

**Step 3:** Review simulation results: determine tracking mode

**Step 4:** Use same CTs to make treatment plan

**Step 5:** Deliver treatment plan
Ex.: 1-View Plan

Lung Optimized Treatment Utilization in EIMEA**

** Xsight® Lung Tracking **
Radiosurgical margins

** 1-View Tracking **
ITV expansion in non-tracked direction

** Xsight Spine Tracking **
ITV expansion in all direction

~34 %** of Patients  
~22 %** of Patients  
~44 %** of Patients

Taken together, the components of Lung Optimized Treatment help clinicians provide the best, most accurate treatment option for each luna SBRT patient.

Acquiring Lung Optimized Treatment enabled centers to treat 22% ** more lung patients without the need to implant fiducial whilst keep tight target margins.

* As of June 2011. Source: Accuray Incorporated data on file. Data is indicative of sites reporting, however not all sites report their data.

** Gathering data from our current EIMEA sites using Lung Optimized Treatment