



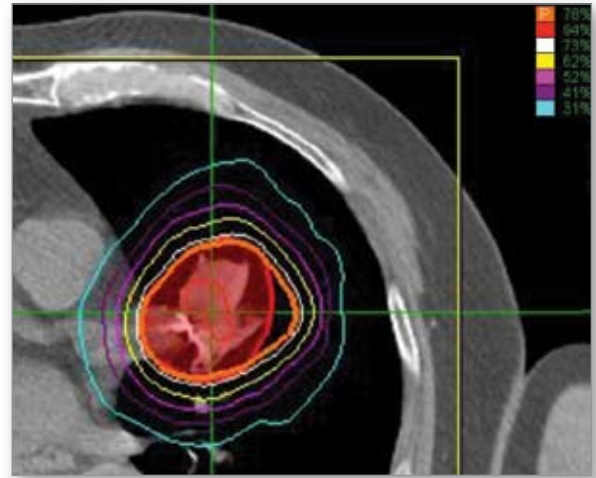
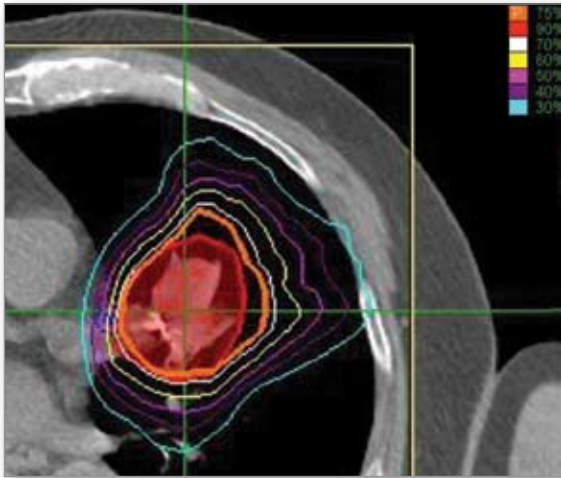
# IRIS™

## VARIABLE APERTURE COLLIMATOR



# IRIS™ VARIABLE APERTURE COLLIMATOR

## CyberKnife® System Lung Treatment Comparison 60 Gy delivered in 3 fractions



### Fixed Collimator Treatment

Collimator Size.....	25 mm
Homogeneity Index.....	1.33
Conformality Index.....	1.43
Total MU.....	48,297
Aprox. Treatment Time.....	90 minutes

### Iris Collimator Treatment

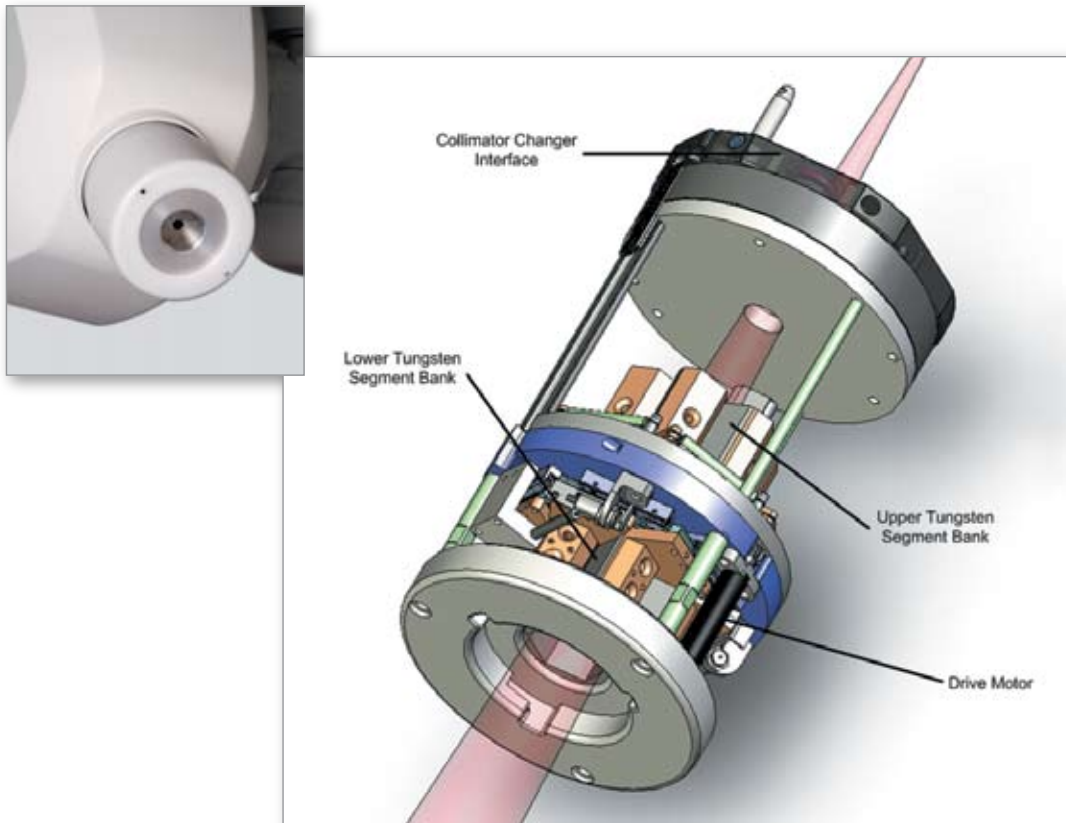
Collimator Size.....	All 12 unique sizes
Homogeneity Index.....	1.28
Conformality Index.....	1.24
Total MU.....	31,187
Aprox. Treatment Time.....	60 minutes

**Intricate dose sculpting often requires the use of multiple collimators. With the Iris™ Variable Aperture Collimator, multiple collimator treatments have been streamlined for routine use in daily clinical practice.**

Developed to optimize clinical workflow and improve the quality of delivered treatment plans, the Iris Collimator supports the sub-millimeter accuracy requirements of full-body radiosurgery while enabling the ability to significantly reduce treatment times and total Monitor Units delivered.

Capitalizing on the robotic mobility and non-isocentric beam capabilities unique to the CyberKnife System, the Iris Collimator efficiently delivers large beams to the center of the target, while using smaller beams to intricately sculpt delivered dose to the target's periphery.

ACCURAY®  
**CyberKnife®**  
Iris™ Collimator



*The Iris Collimator includes two banks of six tungsten segments capable of rapidly manipulating beam geometry to deliver up to 12 unique beam sizes from each LINAC position.*

### **Unrivaled Dose Conformality**

Using tungsten segments to rapidly manipulate beam geometry, the Iris Collimator can deliver up to 12 beam sizes from each LINAC position. With beam characteristics virtually identical to that of fixed circular collimators, the Iris Collimator enables treatments of unrivaled dose conformality with unparalleled preservation of healthy tissue.

### **Faster Treatment Delivery**

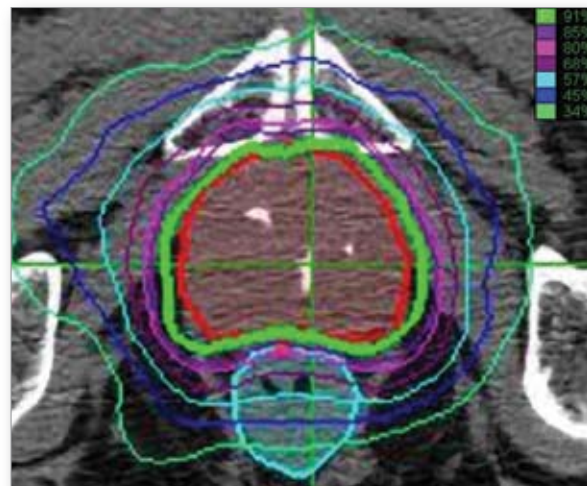
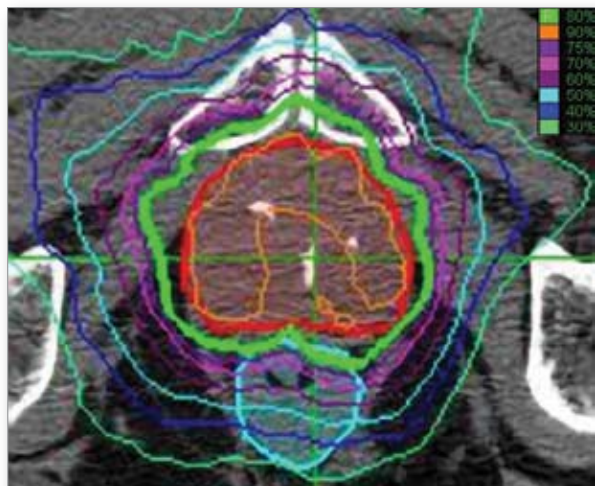
The Iris Collimator consolidates multiple-path sets and multiple-collimators into a single path set to significantly reduce treatment times. In addition to shortening treatment time, the Iris Collimator enables treatments that have proven to reduce the total dose delivered to the patient by up to 60%<sup>1</sup>. Driven by a single motor with minimal moving parts, the sophisticated, yet simple design ensures robust reliability and precision.

1. J.J. Poll, et al. Erasmus MC – Daniel den Hoed Cancer Center, Radiation Oncology, Rotterdam, The Netherlands. "Reducing Treatment Time for Extracranial Robotic Radiosurgery"; ESTRO 2006.

# IRIS™ VARIABLE APERTURE COLLIMATOR

## CyberKnife® System Prostate Treatment Comparison

35 Gy delivered in 5 fractions



### Fixed Collimator Treatment

Collimator Size.....	30 mm
Homogeneity Index.....	1.25
Conformality Index.....	1.62
Total MU.....	35,385
Aprox. Treatment Time.....	50 minutes

### Iris Collimator Treatment

Collimator Size.....	All 12 unique sizes
Homogeneity Index.....	1.10
Conformality Index.....	1.29
Total MU.....	25,325
Aprox. Treatment Time.....	35 minutes

### Intuitive Treatment Planning

Combined with the MultiPlan® Treatment Planning System's new Sequential Optimization algorithm, multiple collimator treatment plans of unrivaled dose conformity can be developed both easily and quickly.

#### Clinical Benefits Include:

- Facilitates routine delivery of highly conformal, multiple collimator treatments
- Produces beam characteristics virtually identical to fixed cones
- Enables faster treatments
- Enables ability to significantly reduce total delivered MU



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*Above treatment plans generated for research and evaluation purposes only. The Iris Collimator treatment plans utilized Sequential Optimization and Optimized Path Traversal capabilities. Estimated treatment times reflect patient positioning, beam-on time, robot traversal, and possible patient repositioning during treatment delivery. The Iris Collimator requires 800 MU/Minute LINAC, Sequential Optimization and Xchange® Robotic Collimator Changer.*



## A COMPLETE ROBOTIC RADIOSURGERY SYSTEM

*The Accuray CyberKnife® System allows clinicians to provide patients with more accurate treatments and an improved quality of life:*

### **Synchrony® Respiratory Tracking System**–

Continuously synchronizes beam delivery to the motion of the tumor, allowing clinicians to significantly reduce margins while eliminating the need for gating or breath-holding techniques.

**Xsight® Lung Tracking System**–Tracks the movement of the lung tumors directly, without fiducials, with accuracy, reliability and self-adjusting repeatability.

**Xsight Spine Tracking System**–Eliminates the need for surgical implantation of fiducials by using the bony anatomy of the spine to automatically locate and track tumors with sub-millimeter accuracy.

### **Iris™ Variable Aperture Collimator**–

Using tungsten leaves to rapidly manipulate beam geometry, the Iris Collimator enables treatments of unrivaled conformality and unparalleled preservation of healthy tissue.

### **Xchange™ Robotic Collimator Changer**–

Automatically exchanges collimator sizes, allowing for highly conformal treatments to be delivered more efficiently.

### **RoboCouch® Patient Positioning System**–

Robotically aligns patients accurately with six degrees of freedom, reducing patient setup times and enabling faster treatments.

**Linear Accelerator**–Light weight 6MV X-band linear accelerator with an output of 800 MU/min, accurately delivers highly collimated beams of radiation providing superior conformality when treating patients.

### **MultiPlan® Treatment Planning System**–

This intuitive workflow-based workstation designed for radiosurgery, enables the creation of plans that have excellent conformality and coverage with steep dose gradients.

**Sequential Optimization**–With our user-defined, sequentially prioritized planning objectives, treatment plans are custom tailored to the unique clinical characteristics of each patient.

### **4D Treatment Optimization and Planning System**–

Takes into account not only the movement of the target but also the movement and deformation of the surrounding tissue.

**Monte Carlo Dose Calculation**–Often considered the gold standard dose calculation, the CyberKnife System's Monte Carlo Dose Calculation produces results in minutes compared to what typically requires hours or days with other systems.

## CYBERKNIFE® SYSTEM HIGHLIGHTS

- **Continual image guidance**

Without the need for staff intervention or treatment interruption, the CyberKnife's revolutionary image guidance technology continuously works in concert with the treatment delivery system to automatically track, detect and correct—managing even the slightest target movements throughout the entire treatment.

- **Flexible robotic maneuverability**

Driven by continual imaging and intelligent motion corrections, the CyberKnife's robotic manipulator automatically positions the linear accelerator to an unprecedented range of positions—allowing for access to virtually any tumor from any direction.

- **Dynamic motion targeting**

With constant updates of target position throughout the respiratory cycle, the CyberKnife System delivers beams synchronized in real-time to targets that move with respiration while adapting to changes in breathing patterns—delivering highly conformal radiation with considerably smaller margins and unprecedented accuracy.

- **Unrivaled dose conformality**

Unconstrained by clockwise/counter-clockwise gantry rotations, the robotic mobility of the CyberKnife System delivers diverse non-coplanar and non-isocentric treatments to precisely sculpt radiosurgical doses to the unique contours of the target.

# ACCURAY INCORPORATED

*Our Business Begins with Patients™*

**Accuray's philosophy, *Our Business Begins with Patients™*, drives the company's commitment to advancing the field of robotic radiosurgery through innovation, while also establishing its products as the standard of care.**

Accuray's success is measured by the success of its customers in delivering the most advanced care to their patients. Medical institutions worldwide have expanded their clinical programs using Accuray's CyberKnife® Robotic Radiosurgery System by treating patients that may have been considered untreatable, while building a more comprehensive oncology practice.

To this end, Accuray has developed collaborative partnerships with clinicians, researchers and patients. These partnerships help educate clinicians and patients on the benefits of robotic radiosurgery, enabling Accuray to refine and upgrade its technology based on user and patient feedback. This feedback allows Accuray to develop innovative programs that improve clinician's success while differentiating Accuray from traditional medical device companies.

The result, the CyberKnife Robotic Radiosurgery System, a pain-free treatment alternative for patients that eliminates invasive surgery and results in a significantly improved quality of life for cancer patients the world over.



#### **Accuray Worldwide Headquarters**

1310 Chesapeake Terrace  
Sunnyvale, CA 94089 USA  
Tel: +1.408.716.4600  
Toll Free: 1.888.522.3740, ext 4760  
Fax: +1.408.716.4601  
Email: sales@accuray.com

#### **Accuray Europe**

Tour Atlantique 25<sup>e</sup>  
1 Place de la Pyramide  
92911 Paris La Défense Cedex  
France  
Tel: +33.1.55.23.20.20  
Fax: +33.1.55.23.20.39

#### **Accuray Asia Ltd.**

Suites 1702-1704, Tower 6  
The Gateway, Harbour City  
9 Canton Road, T.S.T.  
Hong Kong  
Tel: +852.2247.8688  
Fax: +852.2175.5799