

Radiosurgery DICOM Interface

Providing connectivity to the Oncology Information System

Oncology Information Systems (OIS) rely on standard interfaces such as DICOM to gather information from multiple systems throughout the clinic. Using industry-standard interface protocols, the CyberKnife® Robotic Radiosurgery System completes the OIS electronic medical record with a comprehensive export of the radiosurgery treatment history.

Radiosurgery-Specific Digital Charting

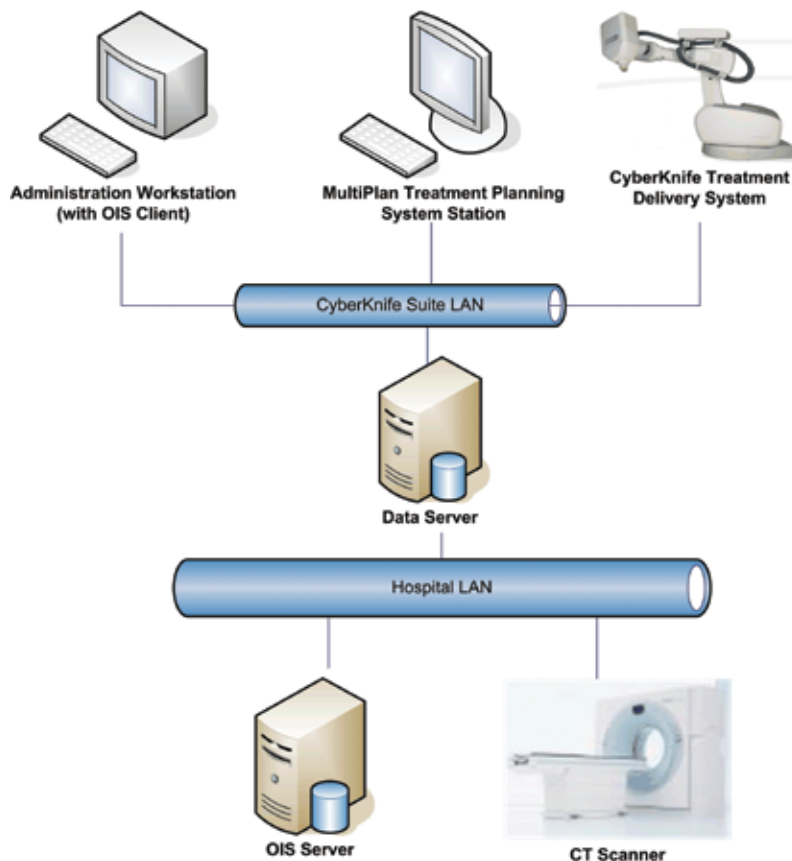
There are two components of CyberKnife radiosurgery treatment recorded in the digital record.

- The radiosurgery treatment plan, which includes not only the radiosurgery prescription but also information on the planned fractions, paths and beams
- The radiosurgery treatment delivery record, which includes not only the monitor units delivered but also detailed information on the delivered fraction, path and beams, as well as the status of the delivery

Centralized Patient Record-Keeping

Centralization of the patient's oncology treatment record into a single digital record provides a comprehensive view of a patient's care in a single location. Access to that comprehensive record is then just a few clicks away. This easy access provides clinical benefits that can be realized immediately.

- The elimination of redundant manual data entry – a common work-around for non-integrated systems – frees up department staff to spend time on more critical tasks
- An 'up to the moment' record of the delivered treatment is instantly available for the physician during patient exams and consultations, eliminating the need to search for information in multiple paper charts



Example of network connectivity between the CyberKnife System and the Oncology Information System.

Once the CyberKnife® radiosurgery treatment information is communicated to the OIS it becomes integrated in the digital chart and is included in the automated workflows.

- Scheduling for radiosurgery treatment planning and treatment delivery is integrated
- Charge capture for radiosurgery treatment planning and treatment delivery is automated
- A single report documenting the complete record of the patient's oncology care can be generated



CyberKnife System DICOM Export

The CyberKnife Data Management System (CDMS) data server controls the flow of patient information into and out of the CyberKnife System. In addition to standard DICOM import and export interfaces for images (CT, PT, MR and 3D Angiography), the following radiosurgery data can be managed using the DICOM v3.0 Standard:

- Export authorized CyberKnife System treatment plans using the DICOM RT Plan export function
- Export delivered fraction details using the DICOM RT Beams Treatment Record export function, including
 - Details of a partially delivered fraction
 - Notification when a treatment plan fraction will not be delivered



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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°
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

Accuray Japan K.K.

Level 28, Shinagawa Intercity Tower A
2-15-1 Konan, Minato-ku
Tokyo 108-6028
Japan
Tel: +81.3.6717.2895
Fax: +81.3.6717.4545