

# CyberKnife® System

## What is the CyberKnife® System?

The CyberKnife Robotic Radiosurgery System is a viable, non-invasive alternative to surgery for the treatment of tumors anywhere in the body. The treatment — which delivers high dose radiation to tumors with extreme accuracy — offers new hope to patients who have inoperable or surgically complex tumors, or who may be looking for an alternative to surgery.

The CyberKnife System uses image-guidance and computer controlled robotics to deliver multiple beams of high-energy radiation to the tumor from virtually any direction. Designed to treat tumors anywhere in the body with sub-millimeter accuracy, the CyberKnife System tracks the tumor's position, detects any tumor or patient movement and automatically corrects the treatment delivery. This outpatient procedure does not require anesthesia or invasive stabilizing frames. Most patients experience minimal recovery time and can return to normal activities almost immediately.

CyberKnife patient benefits:

- Pain-free
  - Non-surgical procedure
  - No anesthesia required
  - Outpatient procedure
  - No recovery time
  - Immediate return to normal activity
  - No invasive head or body frame
  - No breath holding during treatment
  - Fiducial free\* — no implanted markers
- (\* for most procedures)



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**Accuray Incorporated**

[www.cyberknife.com](http://www.cyberknife.com)

Accuray, the manufacturer of  
the CyberKnife System

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## CAPITAL HEALTH CYBERKNIFE® CENTER

*A Patient's Guide*



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## What Makes CyberKnife® Unique?

Capital Health offers patients another treatment option with the world's first and only dedicated radiosurgery device: the CyberKnife Robotic Radiosurgery System. The CyberKnife System is a viable, non-invasive alternative to surgery and is capable of treating tumors anywhere in the body with pin-point accuracy minimizing damage to surrounding healthy tissue and nearby critical structures, such as the spinal cord or the optic nerve.

**Accurate** — Enables clinicians to confidently treat tumors with minimal harm to surrounding healthy tissue by delivering high doses of radiation with sub-millimeter accuracy (within the width of a hair).

**Flexible** — Offers maneuverability and versatility that is unsurpassed by traditional radiation systems. By delivering radiation beams from virtually unlimited positions, the CyberKnife System can treat tumors anywhere in the body from any angle including the brain, spine, lung, liver, pancreas and prostate.

**Robotic** — Continually tracks tumor position, detects any tumor or patient movement and automatically corrects the treatment delivery.

**Beneficial** — Provides a pain-free, non-invasive alternative for patients, including those diagnosed with previously inoperable or surgically complex tumors, or for patients who are looking for an alternative to surgery.

## Treatment Process

**Scanning** — Prior to treatment with the CyberKnife® System, the patient undergoes imaging procedures to determine the size, shape and location of the tumor. The process begins with a standard high-resolution CT scan, or for certain tumors other imaging techniques, such as MRI, angiography or PET, may also be used.

**Planning** — Following the scanning, the image data is then digitally transferred to the CyberKnife System's treatment planning workstation, where the treating physician identifies the exact size, shape and location of the tumor. Your CyberKnife physicians and a medical physicist then uses the CyberKnife software to generate a treatment plan to provide the desired radiation doses to the identified tumor location while avoiding damage to the surrounding healthy tissue. The patient does not need to be present during this step in the process.

**Treatment** — During a CyberKnife procedure, a patient lies comfortably on the treatment table, which automatically positions the patient. Anesthesia is not required, as the procedure is painless and non-invasive. The treatment generally lasts between 30 and 90 minutes and is typically completed in one to five visits.

**Follow-up** — Follow-up imaging, generally performed with a combination of CT, MRI and/or PET scanning, is usually performed in the months following treatment to assess the tumor's response to the delivered radiation.