

> Otorhinolaryngologists

As a head and neck surgeon, you are likely familiar with radiosurgical treatment of tumors. For example, radiosurgery is often used by neurosurgeons working with head and neck surgeons to treat acoustic neuromas. In fact, neurosurgeons have been successfully treating intracranial tumors with radiosurgery since the 1960s.

At CyberKnife of Southern California at Vista, we're innovating how you treat head and neck tumors by enabling you to effectively remove and shrink localized, solid-mass tumors with radiosurgery. CyberKnife® tracks a tumor's true location during treatment and continually adjusts for movement. This makes a stereotactic frame unnecessary, enabling treatment anywhere on the head and neck (and the entire body) and giving you a proven, effective method for treating inoperable patients and unresectable and marginally resectable tumors.

While radiotherapy irradiates both normal and cancerous tissues, CyberKnife delivers an ablative dose to the tumor with submillimeter accuracy and minimal exposure of normal tissue. As a result, CyberKnife of Southern California at Vista can treat inoperable patients, shrink tumors for less radical resections, destroy radioresistant tumors and treat patients previously treated with radiation. In addition, patients experience short, painless treatments with far fewer side effects, limited (if any) downtime and an immediate return to activities.

CLINICAL INDICATIONS FOR CYBERKNIFE.

With CyberKnife, the range of head and neck tumors treatable with stereotactic radiosurgical ablation is unprecedented. Which patients can benefit from this advanced method of tried-and-true radioablation? As the head and neck surgeon, that determination rests with you. Here are some of the clinical situations for which CyberKnife may serve as a viable and/or less risky alternative to surgery for head and neck tumors...

- **Localized, solid-mass tumors** – While conventional radiation therapy doesn't do as well in the treatment of these kinds of lesions, CyberKnife's ablative radiation dose is quite effective in destroying or shrinking them. Although CyberKnife is contraindicated for widespread metastatic disease, it is effective in nonsurgical treatment of certain metastatic tumors or tumors that need to be treated for palliative reasons.
- **Medically inoperable patients** – Because CyberKnife is noninvasive, it can treat patients who can't endure surgery or who have a high risk for postoperative complications. With CyberKnife, treatment occurs in one to five short sessions, after which patients can immediately return to their lives. All with far less risk, side effects, recovery period, pain, scarring and hospital stay than surgery.
- **Unresectable & marginally resectable tumors** – Many localized solid-mass tumors that are not resectable may still be treatable – and effectively – by CyberKnife. The same is true for those that are marginally resectable. CyberKnife often is used alone to treat these lesions but can also be combined with surgery and other treatments to maximize treatment benefit. CyberKnife can also be used preoperatively to reduce tumor volume to make it more easily resected.
- **Tumors adjacent to critical structures** – CyberKnife's submillimeter precision means we're able to destroy or shrink tumors near to or involved with critical structures. In some cases, critical structures may be the reason a tumor is considered unresectable or only marginally resectable. Tumor proximity to critical structures also increases risk of surgical complication. With significantly less irradiation of surrounding tissues, CyberKnife can even treat tumors untreatable with convention radiotherapy because of nearby critical anatomy.
- **Prior radiation treatment** – With conventional radiation therapy, previous treatment often precludes future radiotherapy. With CyberKnife, however, high-dose, short-course, focused treatment is so precise that cumulative exposure is significantly less. Therefore, previous radiation treatment is not a contraindication for CyberKnife.
- **Tumors with high risk of recurrence** – For tumor types known to have a high likelihood of recurrence, CyberKnife's low cumulative exposure makes it an ideal treatment option. If the tumor recurs, the patient can be treated with CyberKnife again (and perhaps multiple times) or be treated with other forms of radiation.
- **Radioresistant tumors** – It's true that some tumor types are resistant to the radiobiological effect of conventional radiation therapy. But they aren't resistant to radiosurgical ablation, which destroys the tumor while preserving surrounding tissue.
- **Palliation** – CyberKnife can destroy or shrink tumors for reasons of pain relief even if cure is no longer an option.