

> Medical Oncologists

As a medical oncologist, a critical part of your role in patient care is directing and overseeing the treatment and management of a patient's cancer. For this reason, your understanding of the available treatment options is as vital as your knowledge of the various types of cancers.

At CyberKnife of Southern California at Vista, we provide you more opportunities to treat cancer than have previously existed. As a result, we're helping you provide new hope for patients who traditionally have been challenging to treat or have had few alternatives for successful treatment. With the latest and most powerful CyberKnife® system, we can dramatically reduce the number of radiotherapy sessions... and avoid delaying the start of chemotherapy or disrupting chemotherapy cycles. We also provide an alternative to surgery and conventional radiotherapy. The key is a level of precision far beyond what can be provided by conventional radiation therapy... and the ability to treat tumors virtually anywhere in the body.

CyberKnife tracks a tumor's true position during treatment and readjusts to ensure the most precise dose conformity available for extracranial radiation. The result is less exposure to normal structures, one to five treatments instead of 30 or more, less impact on patients and the potential to treat medically inoperable patients, previously irradiated patients and radioresistant tumor types.

CLINICAL INDICATIONS FOR CYBERKNIFE.

With CyberKnife, the range of tumors treatable with stereotactic radiosurgical ablation is unprecedented. Here are the clinical indications for which CyberKnife treatment can benefit your patients and increase the options you're able to present to them...

- **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.
- **Metastases to brain, spine & bone** – Metastatic tumors in the brain and spine are particularly treatable with CyberKnife, as are osseous metastases. This includes those that are contraindicated for surgical resection and conventional radiotherapy.
- **Medically inoperable patients** – Because CyberKnife is noninvasive, it can treat patients who can't endure surgery, have a high risk for postoperative complications or are too sick for chemotherapy. With CyberKnife, treatment takes 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 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** – While it isn't indicated for cases of obstructive viscera, CyberKnife can destroy or shrink tumors for reasons of pain relief even if cure is no longer an option.
- **Tumors that move** – For tumors in the chest and abdomen, respiratory motion complicates radiation treatment. CyberKnife tracks the tumor's location and movement, and its ablative beam moves in synchrony with the patient's respiratory pattern and responds to any shifts in the target's position, maintaining precision throughout treatment.
- **Adjunct therapy** – With its comparatively low cumulative dose and significantly reduced impact on patients, CyberKnife radiosurgery can be used in combination with other treatments to maximize treatment success.