Swedish Radiosurgery Center

TREATMENT THAT SOUNDS LIKE SURGERY BUT ISN’T
One location — two technologies

The Swedish Radiosurgery Center is the only medical facility in the Pacific Northwest that offers both CyberKnife® and Gamma Knife® under one roof. Having both of these highly sophisticated radiation technologies in one location means our world-class team of experts is able to select the most appropriate treatment to produce the best patient outcomes. Since stereotactic treatment can often be delivered in one to five days, patients come to us from all over the world. We see patients from all of the major hospital systems in the Puget Sound region. For our out-of-town patients, we work with your local medical oncologist, neurologist or surgeon to create the optimal follow-up treatment plan.

What is stereotactic radiosurgery?

Although the word radiosurgery suggests scalpels, operating rooms and recovery time, it involves no cutting and no hospital stay. CyberKnife and Gamma Knife are both platforms used to treat cancerous and noncancerous tumors.

Each week, a multidisciplinary team of specialists at Swedish meets to consider various treatment options for patients who might benefit from radiosurgery. These patients then meet with our doctor(s) to discuss the risks and benefits of each option.

Whether you receive CyberKnife or Gamma Knife treatment, the basic concept is the same. Both systems use imaging and computer software to identify the area of the body that requires treatment and to create a three-dimensional (3-D) picture of the target. The radiation oncologist, neurosurgeon and physicist use this model to create a treatment plan that precisely focuses beams of radiation from many different angles on the target.

What does it mean?

**Stereotactic:** To precisely locate a specific object in the body, such as a tumor, based on three-dimensional imaging.

**Radiosurgery:** A treatment that uses multiple beams of radiation from a variety of directions to destroy a tumor or benign structure. This treatment is very precise and avoids injury to surrounding, normal structures.

What is SRS?

The term stereotactic radiosurgery refers to delivering radiation treatment to the brain in one day, as opposed to several weeks. Gamma Knife treatment for brain tumors and benign brain disorders is a primary example.

What is SBRT?

Stereotactic body radiation refers to “stereotactic” (very precise) radiation treatment delivered outside of the brain. With this approach, treatment is usually delivered in one to five days. Also called SABR (stereotactic ablative radiotherapy), an example would be CyberKnife treatment of a small lung tumor.
From our physicians

We welcome you to The CyberKnife and Gamma Knife Program at Swedish. Our center is a unique niche within radiation therapy — utilizing technological and scientific advances that allow us to provide you with optimal non-invasive treatment. We are proud of our history as early adopters of stereotactic radiosurgery (SRS) and stereotactic body radiation therapy (SBRT). We were pioneers in the Pacific Northwest having the first Gamma Knife in 1993. This system was developed to treat conditions of the brain, including brain tumors (benign and malignant), essential tremor, trigeminal neuralgia, arteriovenous malformations and acoustic neuromas. Now 25 years later, over one million patients have been treated worldwide. In 2006 we opened Seattle CyberKnife — the only CyberKnife operating in Seattle. The CyberKnife system is a fully robotic radiation delivery system. It is used to treat conditions throughout the body, including tumors of the prostate, lung, brain, spine, head & neck, liver, kidney and complex cancer situations. The CyberKnife’s real-time imaging enables us to deliver a maximum dose of radiation directly to the tumor — minimizing radiation exposure to healthy organs and tissues.

During the past few decades, the results of this technology have been nothing short of astounding; however, the technology is only half the story. Our skilled and dedicated team of providers and caregivers match this technology with providing unparalleled personalized treatment plans and compassionate care. We are committed to patient-focused care — partnering with the patient and their families to understand and respect their wishes. We then outline the ideal treatment options and tailor the treatment plans specific to each individual.

Our entire team feels fortunate to have the opportunity to care and connect with each patient. Patient surveys consistently give our center the highest of rankings. We are grateful to continually receive survey comments such as: “Everyone on the team was focused, professional and helpful. It was a pleasure to be treated — their care, compassion, knowledge and positive energy was greatly appreciated during such a sensitive experience.” “In every step of my procedures, every person on the staff made me feel like one of their loved ones. I felt I was in the right place for treatment.”

We look forward to meeting and caring for our new and established patients every day. Please feel free to contact us if you would like more information or have any questions at 206-320-7130.

Robert Meier, M.D. Sandra Vermeulen, M.D. Christopher Loiselle, M.D. Daniel Landis, M.D., Ph.D.
CyberKnife

Precision radiation treatment anywhere in the body

The CyberKnife system is the only fully robotic radiation delivery system. The robotic design, coupled with real-time imaging, enables the CyberKnife to deliver a maximum dose of radiation directly to the tumor from many different angles with sub-millimeter precision. The CyberKnife does this by tracking and automatically adjusting for tumor or patient movement during treatment to minimize radiation exposure to surrounding healthy organs and structures. During the procedure, the patient lies comfortably on the treatment table while the computer-controlled robotic arm moves around the patient and the CyberKnife delivers beams of radiation from a variety of angles and positions. Each highly-focused beam is precisely directed on the planned target. This robotic arm-system, used widely in the automotive industry, coupled with the high-energy miniaturized X-ray machine, can be used to target small cancers, benign tumors and some non-cancerous conditions.

Benefits of CyberKnife

- Treats small and complex tumors throughout the body
- Unmatched precision and versatility
- Tracks and automatically corrects for motion during treatment
- No anesthesia, no incisions, no scalpels
- Short treatment courses — delivered in 20-40 minutes daily, typically one to five days
- No hospital stay — minimal recovery time
- Minimal impact on quality of life during and after treatment

Conditions treated

CyberKnife is a curative treatment option for patients with prostate, lung and liver cancers. It is also used to treat tumors of the brain, spine, head & neck, pancreas, kidney, and other complex and rare cancers. Ideally suited to treat metastases from virtually any primary cancer site. CyberKnife is also highly effective in the treatment of benign brain and spine lesions such as meningiomas and acoustic neuromas.
Gamma Knife

**Precision treatment — designed specifically for treating conditions of the brain**

The Gamma Knife is an advanced stereotactic radiosurgery system developed to treat patients with brain tumors, abnormal blood formations called arteriovenous malformations, trigeminal neuralgia, essential tremor and other neurological conditions. It is a minimally invasive surgical treatment that uses radiation energy, rather than scalpels and incisions. Gamma Knife was first developed over 40 years ago, and has been steadily refined ever since.

Despite its name, the Gamma Knife isn’t a knife but a machine that delivers a single, finely focused, high dose of radiation to its target while sparing surrounding tissue. Gamma Knife uses 192 beams of radiation each at relatively low intensity; however, when focused together from many different angels and concentrated, the gamma rays destroy the abnormal tissue with pinpoint accuracy.

**Benefits of Gamma Knife**

- Gamma Knife can treat small or complex, cancerous and non-cancerous tumors in the brain
- Gamma Knife can treat brain tumors that cannot be removed surgically
- Gamma Knife’s precision and accuracy preserves healthy tissue surrounding the target area
- No general anesthesia, no scalpels, no incisions
- No hospital stay, no lengthy recovery
- No head shaving

**Conditions treated**

The Gamma Knife system was specifically engineered to treat the brain. To date over one million patients worldwide have been treated with the Gamma Knife. It is ideal for indications in the brain ranging from very small target sizes of a few millimeters to several centimeters. Conditions include brain metastases, vestibular schwannoma, glioblastoma, meningioma, arteriovenous malformations, essential tremor, trigeminal neuralgia and acoustic neuroma.
Notice of nondiscrimination and accessibility rights

We comply with applicable federal civil rights laws and do not discriminate on the basis of race, color, national origin, age, disability or sex. Swedish does not exclude people or treat them differently because of race, color, national origin, age, disability or sex. Swedish:

1. Provides free aids and services to people with disabilities to communicate effectively with us, such as:
   a. Qualified sign language interpreters; and
   b. Written information in other formats (large print, audio, accessible electronic formats, other formats).

2. Provides free language services to people whose primary language is not English, such as:
   a. Qualified interpreters; and
   b. Information written in other languages.

If you need any of the above services, please contact the appropriate civil rights coordinator below. If you need Telecommunications Relay Services, please call 1-800-833-6384 or 7-1-1.

If you believe that Swedish has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability, or sex, you can file a grievance with Swedish by contacting the civil rights coordinator for your service location as listed below:

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<th>Service location</th>
<th>Civil rights coordinator</th>
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<tr>
<td>All locations except</td>
<td>Civil rights coordinator, 101 W. 8th Ave., Spokane, WA 99204</td>
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<tr>
<td>Swedish Edmonds</td>
<td>Telephone: 1-844-469-1775; Interpreter line: 1-888-311-9127</td>
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<td>Email: <a href="mailto:Nondiscrimination.WA@providence.org">Nondiscrimination.WA@providence.org</a></td>
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<tr>
<td>Swedish Edmonds</td>
<td>Civil rights coordinator (Bed Control), 21601 76th Ave. W. Edmonds, WA 98026</td>
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<td></td>
<td>Telephone: 1-844-469-1775; Interpreter line: 1-888-311-9178</td>
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<td>Email: <a href="mailto:Nondiscrimination.SHS@providence.org">Nondiscrimination.SHS@providence.org</a></td>
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<tr>
<td>Senior Services</td>
<td>Civil rights coordinator, 2811 S. 102nd St., Suite 220, Tukwila, WA 98168</td>
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<td>Telephone: 1-844-469-1775; Interpreter line: 1-888-311-9127;</td>
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You can file a grievance in person or by mail, fax or email. If you need help filing a grievance, one of the above-noted civil rights coordinators is available to help you.

You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically through the Office for Civil Rights Complaint Portal, available at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:

U.S. Department of Health and Human Services
200 Independence Ave. SW
Room 509F, HHH Building
Washington, DC 20201
1-800-368-1019, 800-537-7697 (TDD).

We do not discriminate on the basis of race, color, national origin, sex, age, or disability in our health programs and activities.

ATENCION: Si habla español, tiene a su disposición servicios gratuitos de asistencia lingüística. Llame al 888-311-9127 (Swedish Edmonds 888-311-9178) (TTY: 711).

注意：如果您讲中文，我们可以给您提供免费中文翻译服务，请致电 888-311-9127 (Swedish Edmonds 888-311-9178) (TTY: 711)

CHÚ Ý: Nếu bạn nói Tiếng Việt, các dịch vụ hỗ trợ ngôn ngữ miễn phí có sẵn dành cho bạn. Gọi số 888-311-9127 (Swedish Edmonds 888-311-9178) (TTY: 711).

PAUNAWA: Kung nagsasalita ka ng Tagalog, maaari kang gumamit ng mga serbisyo ng mga serbisyo ng wika nang walang bayad. Tumawag sa 888-311-9127 (Swedish Edmonds 888-311-9178) (TTY: 711).

주의: 한국어를 사용하시는 경우, 언어 지원 서비스를 무료로 이용하실 수 있습니다. 888-311-9127 (Swedish Edmonds 888-311-9178) (TTY: 711) 번으로 전화해 주십시오.

ВНИМАНИЕ: Если вы говорите на русском языке, то вам доступны бесплатные услуги перевода. Звоните 888-311-9127 (Swedish Edmonds 888-311-9178) (телетайп: 711).

το έργο αποκλειστικά έχει θεσπιστεί για να βοηθήσει τους αναπήρους στην εκπαίδευση και την επαγγελματική προοπτική τους. Μπορείτε να απευθυνθείτε στην τηλεφωνική υποστήριξη του Swedish Edmonds (888-311-9178) (TTY: 711).

ئُرجِى الانتِباهُ: إذا كنت تتكلَّم أَنث棠 لُغة عَرَبِية، فَأَعْلَمُ أَن خَدَمَاتُ المَسَاانِدُ اللُّغِيّة مُتَوَّرِة مَجَانًا. تَمُرُّّ النَّظَامُ سَائِرًا 888-311-9178 (أَوْ بِنَطُقَ المَهْدَى الكَتِبِيّ) لَضَعُّ مَسْعَمٍ وَنَطْلَةً (888-311-9178) على الرقم (TTY: 711).

توجه: أَفْرَك يُ بِنُم فَلَانَ صَحْبَة مَيْ كَنْدَ، تمُهِيلْ مَا زَيْبَ يَبْصُرْ رَكَانَ بِرائَة مَشْهُرَ مَيْ بَاشْدَ. بَأْ شَمَشَ 888-311-9178 (888-311-9178) (TTY: 711).

注意事項：日本語を話される場合、無料の言語支援をご利用いただけます。888-311-9127 (Swedish Edmonds 888-311-9178) (TTY:711)まで、お電話にてご連絡ください。

মিনার দিকে, মুর্শিদকে মেসন দিলে, র অন্তর্ভুক্ত উচ্চতা মেনে দুইটো স্তর অর্থ যবজ জানিয় (888-311-9127 (Swedish Edmonds 888-311-9178) (TTY: 711) তে উপস্থ থাকবে।

泰国人民: การเข้าถึงการศึกษาและการพัฒนาอาชีพของคนพิการเป็นสิทธิที่สำคัญ 888-311-9127 (Swedish Edmonds 888-311-9178) (TTY: 711)

ध्यान दे: यदि आप हिंदी सोचते हैं तो आपके लिए सुपर के भाषा सहायता सेवाएं उपलब्ध हैं 888-311-9127 (Swedish Edmonds 888-311-9178) (TTY: 711) पर कॉल करें।


โปรดทราบ: หากคุณพูดภาษาไทย คุณสามารถใช้บริการความช่วยเหลือทางภาษาได้โดยไม่ต้องใช้ภาษาไทย 888-311-9127 (Swedish Edmonds 888-311-9178) (TTY: 711)
Our CyberKnife and Gamma Knife certified physicians can offer you the best advice on treatment options. For more information or to talk with one of our experts, please call us at 206-320-7130.