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September 28, 2012

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RE: Draft Health Technology Assessment for Stereotactic Radiosurgery

Dear Mr. Morse:

On behalf of the American Association of Neurological Surgeons (AANS) and the Congress of Neurological Surgeons (CNS), we would like to thank the Washington State Health Care Authority for the opportunity to comment on the draft Health Technology Assessment (HTA) regarding the use of Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiotherapy (SBRT). As you may know, stereotactic radiosurgery was pioneered by neurosurgeons and we are the leaders in using SRS to treat patients with a variety of neurologic diseases. For years, the AANS and CNS have worked with policymakers to help ensure that neurosurgical patients have access to this important treatment when appropriate, and we appreciate the opportunity to reiterate our thoughts on this topic to you now.

Summary

Overall, the strength of the evidence supporting the use of stereotactic radiosurgery (SRS) for a diverse group of intracranial indications and spinal metastasis is high and overwhelming. Some level 1 and 2 evidence as well as a myriad of level 3, 4, and 5 evidence spanning 40 years demonstrates the efficacy and safety of stereotactic radiosurgery for appropriately selected patients with malignant and benign brain tumors, vascular malformations, functional disorders, and spinal metastases. At this point in time, clinical equipoise will preclude many randomized, prospective trials of SRS versus external beam radiotherapy (EBRT) or resection for various indications when there is four or more decade's worth of data supporting SRS. In addition, the higher cost effectiveness and improved quality of life afforded by SRS as compared to more invasive surgical procedures or broader field radiotherapy approaches have been demonstrated by numerous groups. It is clear that wider field fractionated radiation therapy techniques, which deliver radiation in larger volumes in many treatments to normal cerebral or spinal structures, negatively impact subsequent quality of life compared to the use of tightly confined, highly focused SRS. SRS remains one of the safest and most effective approaches in neurosurgery and radiation oncology. SRS technologies have resulted in a major paradigm shift in the use of both alternative surgical and radiation therapy techniques for a broad array of well-defined clinical indications. During the last 40 years more than 6,000 SRS publications provide this evidence in great detail.

Background

From a strict evidence based medicine standpoint, most of the evidence regarding stereotactic radiosurgery (SRS) is level III or higher. The majority of level I evidence for SRS exists for brain metastasis and glioblastomas. SRS was introduced more than 40 years ago, an era in which evidence based approaches were less of a priority. In 2012, if a prospective trial of patients with small to moderately sized meningiomas was designed to randomize patients to SRS, EBRT, and microsurgical resection, it would be unlikely to accrue secondary to clinical equipoise issues. While it may seem humbling that the majority of the practice of SRS is supported by class III evidence and a small amount of class I and II data, evidence based methodologies are useful to organize existing literature and to see if there is truly objective data to answer specific questions. However, there is overwhelming evidence derived from a broad array of institutions and hundreds of thousands of patients treated over more than 40 years to support the clinical benefits, cost effectiveness, and safety of SRS in patients who may be eligible for SRS, EBRT, and/or microsurgery. The clinical efficacy and safety of SRS and, to a lesser extent, the cost effectiveness and quality of life benefits of it compared to EBRT or resection are well documented by the report prepared by the Center for Evidenced-Based Policy at the Oregon Health & Science University.

Quality of Life Issues

From a quality of life standpoint, there is prospective evidence to support the use of stereotactic radiosurgery for patients with brain metastasis, acoustic neuromas, meningiomas, and pituitary adenomas. In a randomized, prospective trial of patients with brain metastasis, Chang and colleagues found significant benefit in terms of neurocognition in patients treated with SRS alone over SRS plus whole brain radiation therapy (WBRT) (Chang et al., 2009). In a study constituting level II evidence, radiosurgery afforded a higher quality of life for vestibular schwannoma patients as compared to microsurgery (Pollock et al., 2006). In a case controlled study of patients with small to medium sized meningiomas, SRS was also demonstrated to provide better neurological preservation than surgical resection for patients with small to moderately size meningiomas (Pollock et al., 2003). In a nonrandomized, prospective study of pituitary adenoma patients, SRS afforded neurocognitive preservation as compared to patients undergoing external beam radiotherapy (EBRT) or being left untreated for their pituitary adenoma (Tooze et al., 2012). With regard to spinal metastases patients, spinal radiosurgery has been demonstrated in a recently published phase 1-2 study to lead to significant reductions in pain and other symptoms and provide a high rate of progression free survival while at the same time resulting in a low rate of spinal cord toxicity (Wang et al., 2012).

Cost Effective Analysis

From an economic standpoint, SRS has been shown to be very cost-effective for multiple indications including brain metastases, acoustic neuromas, meningiomas, arteriovenous malformations, trigeminal neuralgia, and spinal metastases (Tarricone et al., 2008; Wellis et al., 2003, van Roijen et al., 1997). In a comparison of surgical and follow up costs associated with vestibular schwannoma patients, radiosurgery was shown to be less expensive than microsurgery even when factoring in long-term follow up expenses (Banerjee et al., 2008). In a cost-effectiveness analysis of the Chang et al. study (Lancet Oncology, 2009), SRS alone had a higher average effectiveness than when added to WBRT (Lal et al., 2012). This finding of a high cost-effectiveness of SRS for brain metastases patients is consistent with prior publications (Lee et al., 2009; Mehta et al., 1997). SRS has also been shown to be more cost effective than resection for patients with brain metastases (Vuong et al., 2012; Rutigliano et al., 1995). Cho et al. (2006) evaluated the socioeconomic costs of open surgery and SRS for 174 patients with benign skull based tumors. They found shorten hospital stays, reduced complications, improvements in return to work, and an overall better cost-effectiveness with SRS over resection for comparable groups of patients (Cho et al., 2006). It is also well accepted, as noted in recent meta-analyses, that radiosurgery provides a faster rate of endocrine remission compared to EBRT for patients with functioning pituitary adenomas thereby allowing radiosurgery patients to be removed from costly antisecretory medications much more quickly than comparable patients treated with EBRT (Loeffler et al., 2011; Sheehan et al., 2005). In an analysis of the cost-effectiveness of SRS for patients with spinal metastasis, spinal radiosurgery was found to be superior to conventional EBRT for appropriately selected patients (Papatheofanis et al., 2009).

Conclusion

Stereotactic Radiosurgery in the brain and spine is safe and effective when used in appropriately selected patients. The cost effectiveness and quality of life benefits are also well documented. We thank you again for the opportunity to present our views and are eager to answer any questions the panel may have about the use of SRS by neurosurgeons.

Sincerely,

Mitchel S. Berger, MD, President
American Association of Neurological Surgeons

Christopher E. Wolfla, MD, President
Congress of Neurological Surgeons

Attachments:

- AANS-CNS Statement on SRS Reimbursement and Coding
- January 2007 *Journal of Neurosurgery* article, “Stereotactic Radiosurgery—an Organized Neurosurgery-Sanctioned Definition”

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American Association of Neurological Surgeons and Congress of Neurological Surgeons

Statement on Coding and Reimbursement for

Stereotactic Radiosurgery

Background

Stereotactic Radiosurgery (SRS) is a multispecialty discipline pioneered by neurosurgeons, and the roles of the neurosurgeon, radiation oncologist and physicist are essential. As with other 90-day global cranial and spinal procedures performed by neurosurgeons, the neurosurgeon is responsible for the pre-operative assessment of the patient, treatment planning, oversight of the procedure itself, and health needs of the patient during the 90-day global period related to the SRS procedure. As the primary responsible health care provider, the neurosurgeon assumes responsibility for the patient's record and conducts follow up visits as deemed clinically appropriate following the SRS procedure.

Definition of Stereotactic Radiosurgery

The American Association of Neurological Surgeons (AANS) and the Congress of Neurological Surgeons (CNS) support the following definition of stereotactic radiosurgery developed by the AANS, CNS, and the American Society for Therapeutic Radiology and Oncology (ASTRO) in March 20, 2006:

> ***Stereotactic Radiosurgery is a distinct discipline that utilizes externally generated ionizing radiation in certain cases to inactivate or eradicate (a) defined target(s) in the head or spine without the need to make an incision. The target is defined by high-resolution stereotactic imaging. To assure quality of patient care the procedure involves a multidisciplinary team consisting of a neurosurgeon, radiation oncologist, and medical physicist.***
>
> ***Stereotactic Radiosurgery (SRS) typically is performed in a single session, using a rigidly attached stereotactic guiding device, other immobilization technology and/or stereotactic image-guidance system, but can be performed in a limited number of sessions, up to a maximum of five.***
>
> ***Technologies that are used to perform SRS include linear accelerators, particle beam accelerators, and multisource Cobalt 60 units. In order to enhance precision, various devices may incorporate robotics and real time imaging.***

Coding for Radiosurgery

As of January 1, 2009, CPT Code 61793, which was formerly used to report SRS, has been deleted from AMA *Current Procedural Terminology*, Fourth Edition (CPT®)[1] Current Procedural Terminology

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(CPT) and replaced with new codes[2]. The new codes are part of the 2009 CPT and beginning on January 1, 2009, the appropriate codes for reporting SRS are as follows:

CPT Code	Description
61796	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); 1 simple cranial lesion
61797	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); each additional cranial lesion, simple (List separately in addition to code for primary procedure)
61798	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); 1 complex cranial lesion
61799	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); each additional cranial lesion, complex (List separately in additional to code for primary procedure)
61800	Application of stereotactic headframe for stereotactic radiosurgery (List separately in addition to code for primary procedure)
63620	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); 1 spinal lesion
63621	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); each additional spinal lesion (List separately in addition to code for primary procedure)

With the new coding structure, one can report the work involved with treating more than one lesion. The maximum number of cranial lesions that can be treated at any one time is five and the maximum number of spinal lesions that can be treated at any one time is three. The primary code (61796, 61798 or 63620) should be reported for the first lesion. The cranial add-on codes (61797 or 61799) are used for each additional lesion and the spinal add-on code (63621) is used for each additional lesion in the spine.

This entire new code structure has also been incorporated into the 2009 Medicare Physician Fee Schedule and each of these codes is designated as an “Active” code.

The above SRS codes should be reported only once per lesion treated, regardless of the number of treatment delivery sessions that are used to treat that lesion. Note, however, that the definition of SRS states that SRS is delivered in one to five sessions. If a lesion is treated in more than five sessions then that procedure is, by definition, ***<u>not</u>*** radiosurgery – it is radiation therapy – and thus cannot be reported using the SRS codes. In addition, the SRS codes should be reported only once per lesion treated, regardless of the number of treatment planning sessions that are required to plan for the treatment of that lesion.

[2] See Stereotactic Radiosurgery Appendix for the complete code description for the Stereotactic Radiosurgery (Cranial) and Stereotactic Radiosurgery (Spinal) codes as published in CPT 2009.

With the new code structure, the neurosurgeon only bills for SRS using the above codes. The neurosurgeon should not report any of the radiation oncology codes (77XXX codes) in addition to the radiosurgery codes. The neurosurgeon should also not report SRS using any other codes in addition to the above codes.

For example, the following codes are bundled into the radiosurgery codes and therefore ***cannot*** be reported with the SRS codes:

61720 Creation of lesion by stereotactic method, including burr hole(s) and localizing and recording techniques, single or multiple stages; globus pallidus or thalamus

61735 Creation of lesion by stereotactic method, including burr hole(s) and localizing and recording techniques, single or multiple stages; subcortical structure(s) other than globus pallidus or thalamus

61770 Stereotactic localization, including burr hole(s), with insertion of catheter(s) or probe(s) for placement of radiation source

61790 Creation of lesion by stereotactic method, percutaneous, by neurolytic agent (eg, alcohol, thermal, electrical, radiofrequency); gasserian ganglion

61795 Stereotactic computer-assisted volumetric (navigational) procedure, intracranial, extracranial, or spinal (List separately in addition to code for primary procedure)

Summary

Neurosurgeons use SRS as a definitive or adjuvant modality for their patients, as deemed appropriate by the clinical needs of the individual patient. The procedure requires a collaborative effort, combining the neurosurgeon's expertise in neuroanatomy and physiology with the expertise in dose selection and radiation safety possessed by the radiation oncologist and radiation physicist. Beginning January 1, 2009, the neurosurgeon should report the procedure using the codes in the 2009 CPT book, as CPT Code 61793 has been deleted. All third party payers, including Medicare, Medicaid and private insurers should likewise reimburse neurosurgeons for SRS based on the new code structure.

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Stereotactic radiosurgery—an organized neurosurgery-sanctioned definition

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> Change is the law of life. And those who look only to the past or present are certain to miss the future.
>
> JOHN F. KENNEDY

Since its introduction five decades ago, stereotactic radiosurgery (SRS) has evolved from an investigational concept into a mainstream neurosurgical procedure for the management of a wide variety of brain disorders. Contemporary neurosurgeons routinely use radiosurgery either as a definitive or adjuvant treatment modality in the fields of neurooncology and cerebrovascular and functional neurosurgery. Stereotactic radiosurgery offers the surgical neurooncologist a precise and established treatment that, in combination with fractionated radiotherapy, chemotherapy, and conventional surgery, offers additional management options for the treatment of patients with brain tumors.[4,5,12] The role of SRS in the management of vascular malformations is also well established. Furthermore, this modality has had a significant impact on the treatment of patients with brain metastases;[4,26,51] in cases in which SRS is possible, these patients more commonly succumb to their uncontrolled extracranial disease than to their intracranial disease.

Recently there has been a spate of reports attempting to clarify or to (re)define the terms "stereotactic radiosurgery" and "stereotactic radiotherapy" (SRT).[1,48,66] It has become increasingly clear that the evolution of radiosurgery and radiotherapeutic techniques demands a reevaluation of the definition of radiosurgery by organized neurosurgery. These factors led the American Association of Neurological Surgeons (AANS) and the Congress of Neurological Surgeons (CNS) to form the Stereotactic Radiosurgery Task Force under the auspices of the AANS/CNS Washington Committee. Members of the Stereotactic Radiosurgery Task Force were directed to review, clarify, and recommend to their parent organizations a contemporary definition of SRS, which would take into account historical, current, and potential applications of SRS. The purpose of this paper is to express the position of the AANS as well as that of the CNS on the definition of SRS.

Historical Review

"Stereotactic radiosurgery" was defined by the Swedish neurosurgeon Lars Leksell in 1951.[57] At that time, Leksell sought to mimic destructive lesions in the brain produced by mechanically invasive stereotactic surgical procedures for movement and pain disorders by delivering a high dose of photon or proton energy to the intended target in a single session, while steep fall-off dose gradients protected the adjacent brain. Early efforts involving stereotactically applied ultrasound, orthovoltage x-ray, and accelerated particles such as protons proved inadequate to create these lesions deep in the brain or were otherwise too cumbersome. To overcome these shortcomings, Leksell, Liden, Larsson, and colleagues developed the Gamma Knife in 1967. This device focuses multiple beams of high-energy gamma rays to a common point directed by frame-based stereotactic guidance.[55,58] Contemporaries such as Kjellberg, Winston, Lutz, Loeffler, Fabrikant, and others also developed systems using x-rays or particles to achieve the same ends.[22,26,48,73,79]

For decades, stereotactic localization was limited to information derived from atlases, plain radiographs, pneumoencephalograms, and angiograms.[37,38,42,56,71] Throughout his life, Leksell remained active in advancing the state of the art of SRS and was one of several visionaries who developed methods of exploiting the spatial information provided by computed tomography and, later, magnetic resonance (MR) imaging, thereby creating the field of image-guided stereotaxy.[60] Although the radiosurgical treatment of intracranial malignancies became feasible, Leksell believed that SRS was best used for functional neurosurgery or to treat benign tumors and lesions such as arteriovenous malformations and not to treat malignant tumors.

Early neurosurgeons who performed radiosurgery found that collateral damage to adjacent structures occasionally occurred when treating benign disease; several strategies were devised to reduce complications.[47,50] Stereotactic MR imaging was used to provide better visualization and definition of targets and anatomical structures at risk.[23] Radiation doses directed to the lesion's margin were gradually reduced while maintaining therapeutic efficacy.[23,25] Computer-assisted planning systems aided the design of treatment plans that better conformed to the shape of the radiosurgery target.[23,25] Rigid skull fixation, the "gold-standard" for stereotactic accuracy, was supplemented by relocatable frames that allowed radiosurgery to be performed in multiple sessions.[13,16,18,24,39,43,59,63–65,69,70,77,78]

Stereotactic radiosurgery became established and accepted as an important neurosurgical technique in the 1980s and 1990s.[58,61] Its value transcended the original indications posed by Leksell to include proven efficacy for the most common central nervous system malignancy—metastatic disease.[4,26,51] Neurosurgeons wished to extend the reach of this technology beyond the limits of cranial disease. The use of extracranial radiosurgery with the aid of a frame was first reported by Hamilton in 1996.[41,72] Concurrently, conventional surgical stereotaxy was revolutionized by the neurosurgical development of frameless stereotactic techniques.[8,62,67,74] The notion that radiosurgery could also be delivered without a stereotactic frame was brought to fruition by Adler and others.[2,15,30,64,75] New linear accelerator (LINAC)–based radiosurgical instruments rely on image-guided stereotactic targeting and advanced beam delivery methods. In one system, radiosurgical delivery is performed by a lightweight LINAC that is robotically positioned,[15,30,75] and in another, by a LINAC whose output is modulated by computer-controlled multileaf collimators.[20] Today, radiosurgery can and has been performed on virtually any part of the body, and the fewer fixation requirements facilitate the performance of the procedure in multiple sessions.[9–11,13,19,27–29,31–36,40,47,52,68,69,76]

Recently developed alternative forms of energy include high-intensity focused ultrasound.[17,44,45] When delivered stereotactically to destroy or injure tissue, these other forms of energy could be interpreted by some as falling within the umbrella of SRS.

Role of the Neurosurgeon in SRS

These advances notwithstanding, SRS remains a "team" discipline in which the roles of the surgeon, radiation oncologist, and physicist are essential, regardless of the target organ or site of service. As in any surgical procedure involving the brain or spine, the neurological surgeon provides preoperative assessment of the patient and a review of pertinent imaging studies so that therapeutic alternatives can be presented to the patient and informed consent can be obtained. After the procedure, the neurosurgeon provides continued reevaluation and follow-up review at clinically appropriate intervals in order to assess outcomes on a long-term basis. During the radiosurgical procedure itself, the neurosurgeon serves as the primary responsible healthcare provider. Separate tasks of a radiosurgical procedure, including the treatment setup, planning, and delivery that are performed by or directly supervised by the neurosurgeon, comprise the following: delivery of agents for appropriate conscious sedation; application of the stereotactic coordinate frame (when pertinent) based on lesion location; selection and creation of the appropriate imaging data set (for example, computed tomography scans, MR images, angiograms, or positron emission tomography images) necessary for radiosurgical planning; computer-assisted delineation of target volumes and adjacent critical anatomical structures; creation of the 3D volumetric radiosurgical effect assisted by computer planning; setup, confirmation, and delivery of radiation; provision of additional sedation as required; monitoring of the patient's vital signs during radiation delivery; removal of the stereotactic frame followed by bandaging or other wound care as needed; and standard postradiosurgery 90-day follow-up care. As the primary responsible healthcare provider, the neurosurgeon assumes responsibility for chart completion as required by the patient's inpatient or ambulatory status after radiosurgery.

Recent Publications on the Role of Radiosurgery Versus SRT

Because new technology now enables radiosurgery to be delivered in more than one session and because "radiation therapy" is sometimes administered with the aid of stereotactic localization, there have been several attempts in the neurosurgical literature during the past few years to define, redefine, or clarify the term SRS.[1,48,66] At present there are "purists" who prefer the original definition of SRS offered by Lars Leksell some 50 years ago, while others subscribe to the concept of a procedure that has evolved with the emergence of new technology.

The Traditional Perspective

The principal argument made by authors espousing the traditional perspective is that the term radiosurgery must be restricted to a high dose of ionizing radiation delivered to a defined target in a single session.[48,66] Stereotactic radiosurgery derives its safety by its high degree of conformality and high selectivity (shown by the steep dose falloff in the adjacent normal tissue), such that dose homogeneity within the target area is irrelevant. On the other hand, these authors contend that the delivery of fractionated radiation delivered in multiple sessions by daily application of a non–skeleton-affixed guiding device (SRT) is usually less conformal and precise than conventional frame-based SRS. This presumably makes dose homogeneity desirable. This group also maintains that the rationale for SRT is primarily an attempt to reduce the risks of radiation damage to the surrounding normal tissue. Finally, they state that the term "(hypo-)fractionated stereotactic radiosurgery" is an oxymoron.

Alternative Perspectives

All will agree that a high dose of ionizing radiation delivered to a stereotactically defined target in a single session is (a form of) SRS. Contemporary controversies focus on two areas: can "radiosurgery" be delivered in more than one session, and, if so, where does SRS delivered in multiple sessions end and SRT begin?

The historical review presented earlier demonstrates the evolutionary process of thought and practice in SRS throughout the past five decades. We believe that a reasonable person will recognize that this evolution includes radiosurgery delivered in more than one session. In his original description of SRS in 1951, Lars Leksell did not specifically state that the procedure needed be performed in a single session. In 1983, Leksell described SRS as "a technique for the non-invasive destruction of intracranial tissues or lesions . . . [in which] the open stereotactic method provides the basis. . . ."[58]—again without explicitly restricting its use to a single session. Statements limiting SRS to a single session arose years later, in describing the state of practice at that time.[6,7,20,53] Today, the American Medical Association recognizes that SRS may be undertaken in one or more sessions according to Current Procedural Terminology,[3] as does the Centers for Medicare and Medicaid Services.[14]

Ionizing radiation has been used for longer than a century in medical therapy. Much has been made of the differential radiobiology of SRS and fractionated radiotherapy—the "Four Rs" of reoxygenation, reassortment, repopulation, and repair[1,20]—to distinguish SRS from SRT. In truth, little is known about the true radiobiology of radiosurgery and these arguments are theoretical at best.[49,54]

What is known is the intent of the treatment. Radiosurgery aims to injure or destroy tissue at the target and preserve adjacent critical tissue, primarily due to steep dose gradients. Homogeneity within the lesion is generally not considered important and can be a disadvantage for achieving tumor shrinkage when treating lesions that do not contain normal tissue or for treating internal tumor areas of necrosis or hypoxemia. Tumors that may be resistant to fractionated radiotherapy may respond well to radiosurgery. Multiple sessions may be used to further reduce injury to adjacent normal tissue while maintaining the efficacy of radiosurgery. In fractionated radiotherapy abnormal tissue is differentiated from normal tissue within the target site by the differential sensitivity of these tissues to fractionated ionizing radiation.[21] Dose homogeneity is desirable when the treatment volume contains sensitive normal tissue (either in the tumor or closely adjacent). Deleterious effects outside the treatment area may be further reduced by enhancing treatment conformality and by increasing the dose gradient. Either technique may be directed stereotactically (SRS and SRT).

Few would disagree that the precise stereotactic delivery of a high dose of radiation for the purpose of tissue inactivation or destruction in a single session is within the scope of SRS, and that the precise stereotactic delivery of radiation in 30 sessions is not SRS but is better described as SRT. Conversely, such a single-session delivery should fall outside the scope of SRT. Between these extremes, however, are cases of potential overlap between the techniques. We believe that these are best differentiated by the intended mechanism of action and that data in the literature, federal policy, and contemporary practice indicate that the upper limit of sessions in which SRS may be delivered is five.[14]

After considerable debate and discussions, on June 29, 2005, the members of the AANS/CNS Stereotactic Radiosurgery Task Force *(Appendix A)* met in Chicago and arrived at a contemporary definition of SRS, which has subsequently been approved by both parent organizations. Thereafter, on March 20, 2006, representatives of the AANS/CNS met with the corresponding body of the American Society for Therapeutic Radiology and Oncology (ASTRO; *Appendix B*) and refined this definition of radiosurgery, subsequently sanctioned by the AANS, CNS, and ASTRO:

> Stereotactic Radiosurgery is a distinct discipline that utilizes externally generated ionizing radiation in certain cases to inactivate or eradicate (a) defined target(s) in the head or spine without the need to make an incision. The target is defined by high-resolution stereotactic imaging. To assure quality of patient care the procedure involves a multidisciplinary team consisting of a neurosurgeon, radiation oncologist, and medical physicist.
>
> Stereotactic Radiosurgery (SRS) typically is performed in a single session, using a rigidly attached stereotactic guiding device, other immobilization technology and/or a stereotactic image-guidance system, but can be performed in a limited number of sessions, up to a maximum of five.
>
> Technologies that are used to perform SRS include linear accelerators, particle beam accelerators and multisource Cobalt 60 units. In order to enhance precision, various devices may incorporate robotics and real time imaging.

Appendix A

Members of the AANS/CNS Washington Committee Stereotactic Radiosurgery Task Force

Gene H. Barnett, M.D., Chair
Mark E. Linskey, M.D., Vice-Chair
John R. Adler, M.D.
Jeffrey W. Cozzens, M.D.
William A. Friedman, M.D.
M. Peter Heilbrun, M.D.
L. Dade Lunsford, M.D.
Michael Schulder, M.D.
Andrew E. Sloan, M.D.

Appendix B

Representatives at the March 20, 2006 Meeting of the AANS/CNS and the ASTRO

AANS/CNS

Gene Barnett, M.D., Chair, AANS/CNS Stereotactic Radiosurgery Task Force; Chair, AANS Representative Board of Directors
Mark Linskey, M.D., Vice-Chair, AANS/CNS Stereotactic Radiosurgery Task Force; Co-Chair, CNS Representative Executive Committee
Greg Przybylski, M.D., Chair AANS/CNS Coding and Reimbursement Committee; Member, AANS Relative Value Update Committee
Jeff Cozzens, M.D., Member, AANS/CNS Coding and Reimbursement Committee; Advisor, AANS Current Procedural Terminology
Troy Tippett, M.D., Chair, AANS/CNS Washington Committee; Member, AANS Board of Directors
Cathy Hill, Senior Manager for Regulatory Affairs, AANS/CNS
Katie Orrico, Director, AANS/CNS Washington Office

ASTRO

K. Kian Ang, M.D., Ph.D., President, ASTRO
Michael Steinberg, M.D., Member, ASTRO Board of Directors; Chair, Health Policy Council; Advisor, Current Procedural Terminology
Louis Potters, M.D., Member, ASTRO Board of Directors; Vice-

Chair, Health Policy Council; Member, Ambulatory Payment Classification Panel
Timothy Williams, M.D., Co-Chair, Health Policy Committee
David Beyer, M.D., Co-Chair, Health Policy Committee; Advisor, Current Procedural Terminology
Najeeb Mohideen, M.D., Chair, Code Utilization, Application, Development and Valuation Committee; Representative, Relative Value Update Committee
Joel Cherlow, M.D., Chair, Regulatory Committee
Trisha Crishock, Director of Health Policy, ASTRO
Debra Lansey, Assistant Director of Health Policy, ASTRO

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