Commissioning Policy (WM/38)

Stereotactic Radiosurgery/Fractionated Stereotactic Radiotherapy for Acoustic Neuroma (Vestibular Schwannomas)

Version 1 – July 2010

1. Definitions

*Designated provider* means a provider trust which has been assessed and approved by the West Midlands Strategic Commissioning Group to provide a particular specialised service. The assessment is conducted against known capacity requirements and quality standards.

*Nominated provider* means a provider trust which has been approved by the Specialised Commissioning Team (West Midlands) to provide a particular specialised service without a formal assessment. This label implies that the service area and/or the provider is still waiting formal comprehensive assessment.

*Prior Approval* means the prior approval by the responsible Primary Care Trust for an individual patient or a group of patients to access care or treatment, including diagnostics, under a Prior Approval Scheme as set out in paragraphs 3.3 to 3.8 of Schedule 3 Part 1 of the Standard NHS Acute Services Contract 2009/10.

*An individual funding request* is a request received from a provider, or a patient with explicit support from a clinician, which seeks funding for a single identified patient for a specific treatment.

*Exceptional clinical circumstances* refers to a patient who has clinical circumstances which, taken as a whole, are outside the range of clinical circumstances presented by a patient within the normal population of patients with the same medical condition and at the same stage of progression as the patient.

*Responsible Primary Care Trust* means the Primary Care Trust which discharges the Secretary of State’s functions under the National Health Service Act 2006 for an individual patient.
2. Treatment

Stereotactic radiosurgery is a form of radiation that enables the treatment of small lesions with pinpoint accuracy using three-dimensional ‘stereotactic’ imaging and the delivery of multiple, thin radiation beams through an arc or sphere with the target lesion as the focal point.

There are two types of stereotactic radiosurgery – Gamma Knife and LINAC (Linear Accelerator based). Both treatments are methods of radiotherapy, which aim to deliver ionising radiation to destroy cells or to alter cell function whilst minimising the risk to adjacent normal tissue.

The term stereotactic radiosurgery (SRS) is used to denote the delivery of a single dose of radiation treatment. Whereas fractionated stereotactic radiotherapy (FSRT) refers to the delivery of radiation therapy over multiple treatment sessions. Gamma knife is used to deliver SRS and LINAC can be used in either SRS or FSRT. The decision to use single or multiple treatments of radiation therapy is based on the size, type and location of the abnormal tissue.

Cyberknife is a recent development in the field of stereotactic radiosurgery, the LINAC based technology uses a robotic arm to position the linear accelerators allowing image guided targeting of treatment. This approach allows for the detection of body movements, eliminating the need to use a head frame to restrict the patients movement, as is necessary for Gamma Knife and LINAC.

3. Indication Covered by this Policy

An acoustic neuroma (or vestibular schwannoma) is a benign primary intracranial tumour arising from the Schwann cells surrounding the vestibular branch of the eighth cranial nerve, see figure 1. The majority of acoustic neuromas are sporadic tumours occurring on one side of the brain, less common are bilateral tumours known as neurofibromatosis type II (NF2), these tumours are usually hereditary and develop at an earlier age.

Patients with acoustic neuromas typically present with unilateral hearing loss due to compression or direct infiltration of the nerve. Other symptoms include tinnitus, vertigo and facial numbness.

Treatment options for acoustic neuroma will depend on the size and growth rate of the tumour, with many small, slow growing tumours not requiring intervention.

The three management options for patients with acoustic neuroma are;
- No intervention with interval scanning
- Surgical removal of the neuroma
- Stereotactic radiosurgery/fractionated radiotherapy (SRS/FSRT)
4. The policy

4.1. This policy applies to any patient for whom a West Midlands PCT is the responsible commissioner.

4.2. Activity will only be sanctioned at a nominated or designated provider of stereotactic radiosurgery/fractionated stereotactic radiotherapy (SRS/FSRT) for this indication. This policy will be updated following any designation decisions.

The current nominated centres for SRS/FSRT for West Midlands patients are:

- University Hospital Birmingham NHS Foundation Trust (adapted LINAC)
- Sheffield Teaching Hospitals NHS Foundation Trust (Gamma Knife)
- The London Gamma Knife Centre at St. Bartholomew Hospital (Gamma Knife)

4.3. Patients can be referred to the nominated providers, providing they meet the patient access criteria below and have had their case discussed and their referral supported by a multi-disciplinary clinical team.

4.4. SRS/FSRT will be commissioned by the West Midlands Specialised Commissioning Group for patients with Acoustic Neuroma in line with the following patient access criteria;

- Patient has a tumour size of less than 3.5cm in diameter AND
- Patient has no clinical signs of brainstem compression

Clinical opinion suggests that patients falling out with the above criteria would require surgical debulking to reduce pressure on the brain and brain stem. The above criteria also applies to patients with residual lesions post-surgical debulking.
4.5. SRS/FSRT will be commissioned at tariff price (HRG4: AA06Z - Intracranial procedures except trauma with brain tumours or cerebral cysts – category 4), regardless of the delivery modality (Gamma knife, LINAC or Cyberknife).

4.6. The standard commissioning pathway in operation by the West Midlands Specialised Commissioning Team is for the use of adapted LINAC and Gamma Knife technology.

4.7. Cyberknife technology does not currently form part of the standard commissioning pathway and its use would only be considered as part of a service development proposal. As such it is not normally commissioned for this indication due to lack of cost effectiveness evidence.

4.8. The evidence did not indicate any particular cohorts who would benefit to any greater extent or any exceptions or outliers. Therefore it is unlikely that any individual case would be supported through Individual Funding Requests since they are likely to be representative of the overall cohort of patients with this condition.

4.9. If a consultant does however have a patient who is outside of the clinical criteria set out in 4.3, or is requesting the use of cyberknife, AND they are able to set out exceptional circumstances as to why their patient is an outlier in terms of their clinical presentation and potential to benefit, then a request for funding should be submitted to West Midlands Specialised Commissioning Team via fundingrequest.wmsc@nhs.net. Please refer to the West Midlands Specialised Commissioning Team guidelines on Individual Funding Requests for further information.

4.10. If a request for cyberknife is supported following its review as an exceptional case it will only be funded at tariff price due to lack of cost effectiveness evidence, clinicians should be aware of this prior to making an exceptional funding request.

4.11. Each nominated / designated centre should ensure that all activity is audited annually and patient outcomes assessed. Providers should ensure that information for West Midlands patients is available to the Specialised Commissioning Group on request. Information which is gathered should include:

Minimum data set:
- age, GP, PCT of residence, ethnicity
- Details of Acoustic Neuroma
- Treatment regime
- Outcome

5. Evidence Base

The West Midlands Specialised Commissioning Team commissioning an evidence based review on the use of SRS/FSRT for acoustic neuroma, undertaken by Birmingham University’s Health Technology Assessment Collaboration.

The review, based on systematic reviews of case series and cohort studies, identified that SRS/FSRT appears to provide similar levels of tumour control to surgery. SRS/FRST also demonstrated better levels of facial nerve and hearing preservation and lower complication rates.
The evidence base did not demonstrate differing levels of clinical effectiveness between the different modes of delivering SRS/FRST.

There is some evidence of differential effectiveness from SRS/FSRT amongst different population subgroups, with those aged less than 60 and those with tumours of less than 1.5cm³ having better facial nerve preservation. However the differences were not deemed to be clinically significant enough to warrant restriction of the access criteria.

To-date estimates of the cost-effectiveness of SRS/FSRT in comparison with surgery have not been robustly determined from a UK NHS perspective.

6. Epidemiology

International studies have estimated the incidence rate of acoustic neuroma to be 1.1 per 100,000 [Gal, 2010]. Based on the current West Midlands population estimate of 5.4 million, we would expect 60 patients in the West Midlands to be diagnosed with acoustic neuroma each year.

Based on historic data, it is estimated that the total number of patients with acoustic neuroma for whom stereotactic radiosurgery might be appropriate is between 20 and 30 per year.

7. Documents which have informed this policy

- West Midlands Strategic Group Commissioning Policy 1: Ethical Framework to support priority setting and resource allocation within collaborative commissioning arrangements
- West Midlands Strategic Group Commissioning Policy 9: Individual funding requests
- Department of Health, World Class Commissioning Competencies, December 2007, 
- Department of Health, The NHS Constitution for England, July 2009, 
- The National Prescribing Centre, Supporting rational local decision-making about medicines (and treatments), February 2009, 
  http://www.npc.co.uk/policy/resources/handbook_complete.pdf
- NHS Confederation Priority Setting Series, 2008, 
  http://www.nhsconfed.org/publications/prioritysetting/Pages/Prioritysetting.aspx
- The clinical and cost-effectiveness of stereotactic radiosurgery and fractionated stereotactic radiotherapy for acoustic neuromas: an evidence based review, Birmingham University, 2010
- Amalgamated review of stereotactic radiotherapy and stereotactic radiosurgery services, London Specialised Commissioning Group, 2009
- Radiosurgery Practice Guideline Report #4-06: Stereotactic Radiosurgery in Patients with Vestibular Schwannomas

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| Date of next review | Any revisions to the policy will be based on local and national evidence of effectiveness and cost effectiveness together with recommendations and guidelines from local, national and international clinical professional bodies.  
Minimum 3 yearly |
| Acknowledgements | Hilary Sharpe                                     |