NHS
Kent and Medway
Cancer Collaborative

Oncological Treatment of Primary Brain and CNS Tumours

Pathway of Care

Kent & Medway Cancer Collaborative

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TABLE OF CONTENTS

1.0 INTRODUCTION

- This document has been written to provide guidance on the treatment of primary brain tumours in the Kent & Medway Cancer Collaborative (KMCC).
- Radiotherapy schedules are as defined in the Kent Oncology Centre Quality System Clinical Protocols.
- See network chemotherapy prescribing protocols for details of chemotherapy / anti-cancer regimens.
- All patients will be considered for entry into a clinical trial where appropriate (see appendix A).
- All patients should be discussed within a multidisciplinary team meeting (MDM) before commencing initial treatment.
- All chemotherapy regimens listed within this document are delivered at either Maidstone and Tunbridge Wells NHS Trust or East Kent Hospitals University NHS Foundation Trust.
- Please note some of the drugs/doses recommended within this document are outside of the U.K. licensed marketing authorisation.
- When using performance status scores (appendix 1 and 2) clinicians will bear in mind that people with disabilities may have difficulties with activities of daily living that are unrelated to their prognosis for malignant glioma. Clinicians will make judgements about performance status taking into account the person's usual functional capacity and need for assistance with activities of daily living.
- Inform patients they have a legal obligation to notify the Driver and Vehicle Licensing Agency (DVLA) if they have a brain tumour, and that this may have implications for their driving.

1.1 Overview

Patients are referred in to KMCC following discussion at the network neuro-oncology MDT.

All pathology, imaging and imaging reports will be sent to KMCC at the time of referral.

Typically patients will have had a biopsy or debulking surgery. Subsequent treatment intent will depend on diagnosis and performance status, but early input of palliative care services should be considered where appropriate.

In keeping with Improving Outcomes Guidance (IOG) recommendations, KMCC does not provide a cranio-spinal radiotherapy service.

2.0 GLIOMAS

2.1 Imaging

- All patients should have a standard structural MRI (defined as T2 weighted, FLAIR, DWI series and T1 pre- and post-contrast volume) as the initial diagnostic test for suspected glioma, unless MRI is contraindicated.
- Advanced MRI techniques, such as MR perfusion and MR spectroscopy should be considered to assess the potential of a high-grade transformation in a tumour appearing to be low grade on standard structural MRI at the neurosurgical centre.

2.2 Use of Molecular Markers to Determine Prognosis or Guide Treatment for Glioma (1)

All glioma specimens will be reported by King's neuropathology according to the latest version of the World Health Organization (WHO) classification. As well as histopathological assessment, evaluation will often include molecular markers will be included such as:

- IDH1 and IDH2 mutations
- ATRX mutations to identify IDH mutant astrocytomas and glioblastomas
- 1p/19q codeletion to identify oligodendrogliomas
- MGMT promoter methylation to inform prognosis and guide treatment.

Additional tests may include:

- IDH-wildtype glioma specimens for TERT promoter mutations to inform prognosis.
- histone H3.3 K27M mutations in midline gliomas
- BRAF fusion and gene mutation to identify pilocytic astrocytoma.

2.3 Low Grade Glioma

- Patients should be considered for surgical resection or biopsy to obtain a histological and molecular diagnosis.
- Active monitoring without a histological diagnosis should be considered for lesions with radiological features typical of very low grade tumours, ideally this should be done at the neurosurgical centre.
- In cases where pathological diagnosis is not medically or surgically possible or not appropriate, the neuro-oncology MDT should agree a radiological diagnosis of low grade glioma.

2.3.1 Further Management of Low Grade Gliomas

- After surgery, **offer** Radiotherapy and up to 6 cycles of PCV if:
  - IDH mutant, 1p/19q co-deleted (Oligodendroglioma) **AND**
  - Aged ~40 years or over **OR** have residual tumour on post-operative MRI

- After surgery, **consider** Radiotherapy and up to 6 cycles of PCV if:
  - IDH mutant, 1p/19q non co-deleted (Astrocytoma) **AND**
  - Aged ~40 years or over **OR** have residual tumour on post-operative MRI

- Consider active monitoring for patients ~40 years or under who have an IDH mutated low grade glioma with no residual tumour on post-operative MRI. This will typically take place at the neurosurgical centre.

- Consider radiotherapy and up to 6 cycles of PCV for people with IDH mutated low grade glioma who have not had surgery if they have:
  - Progressive disease on radiological follow up
  - Intractable seizures

The prognosis of patients with IDH-wildtype grade II tumours may be similar to that of glioblastoma if other molecular features are in keeping with glioblastoma. This should be taken into account when considering management.

2.3.1.1 Radiotherapy Dose for Low Grade Gliomas

- 54Gy in 30# over 6 weeks(2)
- 50.4Gy in 28# over 5.5 weeks(2) for spinal or tumour near critical visual structure according to OAR tolerances

2.3.2 Palliative Radiotherapy

At progression patients will be reviewed at the neuro-oncology MDM to look for evidence of transformation to high grade disease, to consider whether further surgical de-bulking is possible chemotherapy and radiotherapy options.

2.4 Grade III Glioma (Anaplastic)

2.4.1 Management of Newly Diagnosed Grade III Glioma Following Surgery or if Surgery is not Possible or has been Declined

- All patients should be considered for surgical debulking or biopsy to obtain a histological and molecular diagnosis.
- In cases where pathological diagnosis is not medically or surgically possible, the neuro-oncology MDT should agree a radiological diagnosis of high grade glioma

2.4.1.1 Anaplastic Oligodendroglioma

- After surgery offer sequential radiotherapy and 4-6 cycles of adjuvant PCV chemotherapy(3,4) to patients with:
  - Newly diagnosed anaplastic grade III glioma with 1p/19q co-deletion (Anaplastic Oligodendroglioma) **and**
  - A Karnofsky performance status of 70 or more
- Discuss with the patient the side effects and benefits of the order of PCV chemotherapy and radiotherapy with the aim of delaying late radiotherapy toxicity.

2.4.1.2 Anaplastic Astrocytoma

- After surgery offer sequential radiotherapy followed by up to 12 cycles of adjuvant temozolomide chemotherapy(1,5) to patients with:
  - Newly diagnosed IDH wildtype or mutated anaplastic grade III glioma without 1p/19q co-deletion (Anaplastic Astrocytoma) **and**
  - A Karnofsky performance status of 70 or more
- Patients ≥65years with MGMT promotor methylated tumours may be considered for 100 mg/m² temozolomide, given on days 1–7 of a 1 week on, 1 week off schedule as an alternative to radiotherapy.

2.4.1.3 Radiotherapy Dose for Grade III Gliomas

- 59.4Gy in 33# over 6.5 weeks(3–5)

2.5 Grade IV Glioma (Glioblastoma)

Management of newly diagnosed grade IV glioma (Glioblastoma) following surgery or if surgery is not possible or has been declined.

- All patients should be considered for surgical debulking or biopsy to obtain a histological and molecular diagnosis.
- In cases where pathological diagnosis is not medically or surgically possible, the neuro-oncology MDT should agree a radiological diagnosis of glioblastoma.
- Offer radiotherapy using 60Gy in 30# with concomitant temozolomide (see section 3.6) followed by up to 6 cycles of adjuvant temozolomide, for people aged ~ 70 or under who have:
  - A Karnofsky performance status of 70 (see appendix 1) or more **and**
  - Have had a maximal safe resection or biopsy when resection is not possible, for a newly diagnosed grade IV glioma(6)
- Exceptionally patients may be offered radiotherapy using 60Gy with concomitant lomustine plus temozolomide for 6 x 42 day cycles post resection.
  - For patients who are PS0-1,
  - Aged 18-70 years
  - With methylated MGMT promotor tumours
- Offer radiotherapy using 40Gy in 15# with concomitant temozolomide (see section 3.6) and up to 12 cycles of adjuvant temozolomide (see section 2.6) for people aged around 70 or over who have:
  - A newly diagnosed grade IV (glioblastoma) with or without MGMT methylation or for which methylation status is unavailable(7)
  - Adequate performance status (0, 1 or 2).
- Treatment should not be offered to patients with a performance status of 4.
- For people with an initial diagnosis of grade IV glioma (glioblastoma) who do not fall into categories above consider options of;
  - Radiotherapy using 60Gy in 30# with concomitant temozolomide followed by up to 6 cycles of adjuvant temozolomide
  - Radiotherapy alone using 60Gy in 30#
  - Hypofractionated radiotherapy alone
    - 40Gy in 15# over 3 weeks(8)
    - 34Gy in 10# over 2 weeks(9)
    - 30Gy in 6# over 2 weeks
  - Temozolomide monotherapy as palliative treatment if the tumour has MGMT methylation. The strongest evidence for this is in the population aged 65 or over. (9).
  - Patients ≥65years with MGMT promotor methylated tumours may be considered for temozolomide 1 week on, 1 week off schedule as an alternative to radiotherapy.
  - Best supportive care alone

All patients should be considered for entry into trials at this or other institutions.

2.5.1 Palliative Management of High-Grade Glioma (Recurrent Grade III and Grade IV Glioma)

At disease progression patients should be considered for further treatment. Treatment decisions should take into account the following:

- Prognosis
- Performance status
- Patient and preferences
- Time from last treatment
- Tumour molecular markers
- Previous treatments

Cases with focally recurrent disease should be reviewed at the neuro-oncology multidisciplinary meeting for consideration of surgical resection or further radiotherapy.

All other patients should be considered for palliative chemotherapy if performance status is 0-3.

Patients should be fully informed of the likelihood of response to treatment to allow an informed decision.

Involvement of palliative care services should be considered.

All patients should be considered for entry into trials at this or other institutions.

2.6 Systemic Anticancer Therapy for Glioma

2.6.1 Radical Regimes

2.6.1.1 Concomitant Temozolomide (+/- lomustine)

- Radiotherapy with concomitant temozolomide (75mg/m² daily with PCP prophylaxis)
- For exceptionally fit patients with highly methylated tumours up to six courses of lomustine 100 mg/m² on day 1 plus temozolomide 100–200 mg/m² per day on days 2–6 of the 6-week course commencing concurrently with radiotherapy (60 Gy in 30#).

2.6.1.2 Adjuvant Temozolomide

- Adjuvant temozolomide (150mg/m^2 to 200mg/m^2 per day, days 1-5 every 28 days)
  - 6 cycles following concomitant Chemo-radiotherapy (60Gy/30#) for grade IV glioma
  - 12 cycles following concomitant chemo-radiotherapy (40Gy/15#) for grade IV glioma
  - 12 cycles following radiotherapy alone for grade III anaplastic astrocytoma.

2.6.1.3 Adjuvant PCV

- Lomustine 100mg/m^2 PO stat day 1, procarbazine 100mg/m^2 PO OD for 10 days, vincristine 1.4mg/m^2 iv maximum dose 2mg stat day 1. Every 6 weeks for 4-6 cycles in anaplastic oligodendroglioma

2.6.2 Palliative Regimes

2.6.2.1 First and Second Line Palliative Chemotherapy Options Include

2.6.2.1.1 Temozolomide

- Palliative Temozolomide (150- 200mg/m^2 per day, days 1-5 every 28 days) if no prior exposure to temozolomide or prolonged response to prior exposure (>6 months)
- Patients ≥65years with MGMT promotor methylated tumours may be considered for temozolomide 100 mg/m², given on days 1–7 of a 1 week on, 1 week off schedule as an alternative to radiotherapy.

2.6.2.1.2 PCV

- Lomustine 100mg/m² PO stat day 1
- Procarbazine 100mg/m² PO OD for 10 days
- Vincristine 1.4mg/m² iv maximum dose 2mg stat day 1 every 6 weeks

2.6.2.1.3 Lomustine

- Lomustine – 100-120mg/m^2 PO stat day 1 every 6 weeks.

2.6.2.2 3rd Line Pallative Chemotherapy

2.6.2.2.1 Carboplatin and Etoposide

- Carboplatin AUC 5 day 1, etoposide 100mg/m² iv day 1, etoposide 200mg/m²(maximum dose 400mg) po day 2 and 3 every 3 weeks.

For patients not suitable for carboplatin and etoposide consider:

- Etoposide 25mg/m2 po bd on days 1-21 followed by a 7 day rest (maximum total daily dose 100mg). Repeat every 28 days for up to 6 cycles.

2.6.3 Gliadel® Implant in Glioblastoma

The Brain NOG do not support the use of concurrent chemoradiation for patients with Glioblastoma who have Gliadel® implants inserted into the tumour resection cavity as there is currently no data to support this. These patients will be considered for radiotherapy alone.

2.7 Follow up Protocols for Glioma Patients

- Perform a baseline MRI 3 months after completion of radiotherapy for all grades of glioma.
- Regular clinical review should be offered to patients with glioma to assess for recurrent disease, to identify patient and carer needs and for late effects of treatment.
- Follow up will be arranged as per Table 1 and may occur locally or at neurosurgical centre.
- Perform standard structural MRI (T2W, FLAIR, DWI series and T1 pre and post-contrast imaging as part of regular clinic review to assess for progression or recurrence unless MRI is contraindicated.
- Consider review of imaging at the neuro-oncology MDT if imaging findings are indeterminate or advanced MRI techniques such as perfusion, diffusion tensor or MR spectroscopy will aid identification of recurrence and early intervention is clinically useful.
- Arrange clinical review and/ or imaging if patients with glioma develop new or changing neurological symptoms or signs.

Table 1: Follow up protocol for patients with Grade II to IV Glioma(1).

	Years After Treatment			
	0 to 2	**2 to 4**	**5 to 10**	**>10 (for the rest of life)**
Grade II 1p/19q non-codeleted, IDH mutated	Scan at 3 months, then every 6 months	Annually	Every 1 - 2 years	Consider ongoing imaging every 1 to 2 years
Grade II 1p/19q codeleted IDH mutated				
Grade III 1p/19q codeleted				
Grade II IDH wildtype	Every 3 to 6 months	Every 6 to 12 months	Annually	Consider ongoing imaging every 1 to 2 years
Grade III 1p/19q non-codeleted				
Grade IV (glioblastoma)				

3.0 MENINGIOMA

3.1 Management of Meningioma after Surgery, or if Surgery is not Possible or if Surgery Declined

Initial management should be based on the extent of any surgery (Simpson grade- see Appendix D) and grade of meningioma, as described in table 2.

Table 2: Treatment choices after surgery or if surgery was not possible for different kinds of Meningioma (1)

Grade	Extent of surgery			Recurrent
	Completely excised (Simpson 1-3)	**Incompletely excised (Simpson 4 to 5)**	**No excision (radiological only diagnosis)**	
I	Offer active monitoring	Consider further surgery (if possible), radiotherapy or active monitoring	Consider active monitoring or radiotherapy	Consider further surgery or radiotherapy (if not previously used)
II	Offer a choice between active monitoring and radiotherapy	Consider further surgery (if possible). Offer radiotherapy if surgery is not possible, including if the person declines surgery, or if the tumour is incompletely excised afterwards		Consider further surgery and offer radiotherapy (if not previously used)
III	Offer radiotherapy	Consider further surgery (if possible) and offer radiotherapy		Consider further surgery and offer radiotherapy (if not previously used)

Before a decision is made on radiotherapy for meningioma, factors to be taken into account include:

- Co-morbidities
- Life expectancy
- Neurological function
- Oedema
- Performance status
- Rate of tumour progression
- Grade, size and location of tumour
- Surgical and radiotherapy morbidity
- The person's preferences
- Previous treatment

Small volume WHO grade 1 meningiomas away from critical structures may also be considered for referral to other institutions for radiosurgery. Multiple series confirm long term local control rates in excess of 80% for both radiosurgery and fractionated radiotherapy in this group.

Meningiomas of the optic nerve sheath should be considered for primary radiotherapy to achieve tumour control and prevent visual deterioration and proptosis.(10)

3.2 Radiotherapy Doses for Meningioma

Radiotherapy given as follows:

- G1 meningiomas: 50Gy - 54Gy in 30-33 fractions
- G2 meningiomas: 54Gy in 30 fractions
- G3 meningiomas : 54Gy- 60Gy in 30 fractions

3.3 Follow up for Meningioma Patients

Clinical and radiological follow up will be arranged as per Table 2 and may occur locally or at neurosurgical centre.

Table 3: Follow up protocol for meningioma patients

<table>
<tr><td></td><td colspan="10">Years after treatment</td></tr>
<tr><td></td><td>0 to 1</td><td>1 to 2</td><td>2 to 3</td><td>3 to 4</td><td>4 to 5</td><td>5 to 6</td><td>6 to 7</td><td>7 to 8</td><td>8 to 9</td><td>>9 (for rest of life)</td></tr>
<tr><td>Grade 1: no residual tumour</td><td>scan at 3 months</td><td colspan="2">Annually</td><td colspan="6">Once every 2 years</td><td>Consider discharge</td></tr>
<tr><td>Grade 1:residual tumour</td><td>scan at 3 months</td><td colspan="3">Annually</td><td colspan="4">Once every 2 years</td><td>Consider discharge</td></tr>
<tr><td>Grade 1: after radiotherapy</td><td>Scan 6 months after radiotherapy</td><td colspan="2">Annually</td><td colspan="6">Once every 2 years</td><td>Consider discharge</td></tr>
<tr><td>Grade II</td><td>Scan at 3 months, then 6 to 12 months later</td><td colspan="3">Annually</td><td colspan="4">Once every 2 years</td><td>Consider discharge</td></tr>
<tr><td>Grade III</td><td colspan="3">Every 3 to 6 months</td><td colspan="2">Every 6 to 12 months</td><td colspan="5">Annually</td></tr>
<tr><td>Asymptomatic incidental meningioma</td><td colspan="10">Scan at 12 months. If no change consider discharge or scan at 5 years</td></tr>
</table>

4.0 PITUITARY / CRANIOPHARYNGIOMA

Patients will be referred by the King's Pituitary MDT in the post-operative period.

4.1 Postoperative Primary Treatment

- Radiotherapy
- Benign non-functioning pituitary: 45Gy in 25 fractions
- Benign functioning pituitary or bulky residual disease: 50Gy in 30 fractions
- Craniopharyngioma: 54Gy in 30 fractions

5.0 PRIMARY BRAIN LYMPHOMA / ALL

CNS lymphoma is predominantly treated at Guys/Kings by haemato-oncology teams with systemic therapies. Radical radiotherapy for CNS lymphoma should be led and delivered at Guys Cancer Centre lymphoma team.

If any patient is to be treated in Kent, case-by-case discussion with the Guys lymphoma team is required and treatment may be supervised by the lymphoma clinical oncology team with local neuro-oncology input as appropriate.

6.0 APPENDIX A: CLINICAL TRIALS

Refer to the local research team who will provide on request an orientation handbook, list of current trials and associated trial protocols and summaries. We are keen to support any trials supported by the NCRI locally within Kent but also refer to outside centres.

Contact numbers

MTW – Clinical Trials Office	01622 225 033
Darent Valley Hospital – Clinical Trials Office	01322 428 100 ext 4810
Medway Hospital – Clinical Trials Office	01634 825 094
East Kent Hospitals – Clinical Trials Office:	
Solid Tumours	01227 866 393

7.0 APPENDIX B: KARNOFSKY PERFORMANCE STATUS

Value	Level of functional capacity	Definition
100	Normal, no complaints, no evidence of disease	Able to carry on normal activity and to work; no special care needed
90	Able to carry on normal activity, minor signs or symptoms of disease	
80	Normal activity with effort, some signs or symptoms of disease	
70	Cares for self, unable to carry on normal activity or to do active work	Unable to work; able to live at home and care for most personal needs; various degrees of assistance needed
60	Requires occasional assistance but is able to care for most needs	
50	Requires considerable assistance and frequent medical care	
40	Disabled, requires special care and assistance	Unable to care for self; requires equivalent of institutional or hospital care; disease may be progressing rapidly
30	Severely disabled, hospitalization is indicated although death is not imminent	
20	Hospitalization is necessary, very sick, active supportive treatment necessary	
10	Moribund, fatal processes progressing rapidly	
0	Dead	

8.0 APPENDIX C: EASTERN COOPERATIVE ONCOLOGY GROUP (ECOG, ZUBROD, WORLD HEALTH ORGANIZATION) PERFORMANCE SCALE

Performance status	Definition
0	Fully active; no performance restrictions.
1	Strenuous physical activity restricted; fully ambulatory and able to carry out light work.
2	Capable of all self-care but unable to carry out any work activities. Up and about >50% of waking hours.
3	Capable of only limited self-care; confined to bed or chair >50% of waking hours.
4	Completely disabled; cannot carry out any self-care; totally confined to bed or chair.

Adapted from: Oken MM, Creech RH, Tormey DC, et al. Toxicity and response criteria of the Eastern Cooperative Oncology Group. AmClin Oncol 1982; 5:649.

9.0 APPENDIX D: SIMPSON GRADING SYSTEM OF MENINGIOMA RESECTION

Simpson Grade	Definition
I	Macroscopically complete tumour resesction with removal of affected dura and underlying bone
II	Macroscopically complete tumour resection with coagulation of affected dura only
III	Macroscopically complete tumour resection without removal of affected dural or underlying bone
IV	Subtotal tumour resection
V	Decompression with or without biopsy

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11.0 PERSONNEL AND CONTACT INFORMATION

A comprehensive, up to date list of MDM contact details can be requested by NHS professionals by contacting the Kent & Medway Cancer Collaborative. Their contact telephone number is 01233 651905.

12.0 GLOSSARY

Acronyms in common usage throughout KMCC documentation

BNF	British National Formulary
BOPA	British Oncology Pharmacist Association
CNB	Cancer Network Board
COSHH	Control of substances hazardous to health regulations.
CYP	Children & Young People (in relation to the IOG)
DCCAG	Diagnostic Cross Cutting Advisory Group
DOG	Disease Orientated Group (NSSG/TSSG/TWG)
DVH	Darent Valley Hospital
DGT	Dartford and Gravesham NHS Trust
EK	East Kent
EKHUFT	East Kent Hospitals University Foundation Trust
EPS	Electronic Prescribing System
FP10(HNC)	Prescriptions issued by hospital doctors for dispensing in the community
GP	General Practitioner
HoP	High Level Operational Policy
IOSC	Improving Outcomes: A Strategy for Cancer
IV	Intravenous
K&C	Kent & Canterbury Hospital, Canterbury, (EKHUFT)
KMCC	Kent & Medway Cancer Collaborative
KMCRN	Kent & Medway Cancer Research Network
KOMS	Kent Oncology Management System
LSESN	London & South East Sarcoma Network
MFT	Medway Foundation Trust
MTW	Maidstone & Tunbridge Wells NHS Trust
NHS	National Health Service
NMP	Non-medical prescriber
NPSA	National Patient Safety agency
NOG	Non Surgical Oncology Group *(Permanent oncologist sub group of the DOGs with a specific responsibility for chemo/rad pathways and advice to the DOG, Network and GEOGRAPHICAL LOCATIONs on new drugs)*
PoC	Pathway of Care *(Network agreed disease site specific clinical guidelines)*
QEQM	Queen Elizabeth the Queen Mother Hospital, Margate (EKHUFT)
QoL	Quality of life
QSIS	Quality service information system
QST	Quality Surveillance Team
RAT	Research and Trial Group *(Permanent sub-group of the DOGs with a specific responsibility for taking*

	forward the clinical trials agenda)
RMH	Royal Marsden Hospital
RNOH	Royal National Orthopaedic Hospital
SACT	Systemic Anti-Cancer therapy
SACT regimen	Systemic Anti-cancer prescription on the electronic prescribing system
SACT protocol	Systemic Anti-cancer protocol on KMCC website
TTO	Treatment to take home
QVH	Queen Victoria Foundation Trust Hospital East Grinstead
UCLH	University College Hospital London
WHH	William Harvey Hospital, Ashford (EKHUFT)
WK	West Kent

13.0 DOCUMENT ADMINISTRATION

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Date of revision	New Version Number	Nature of Revision	Confirmation of Accuracy by
October 2009	0.1	Draft	C Waters
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February 2012	1.1	Draft	Revision of document and change of title to capture treatment of benign tumours
February 2012	2	Published	
March – July 2013	2.1	Addition of bevacizumab as palliative treatment option for glioma Addition of temozolomide for palliative treatment of glioma for elderly patients. (section 3)	
August 2013	3	Published	K Nathan
June 2014	4	Final – removal of bevacizumab as 3rd line palliative treatment option for glioma Minor amendments to section 3 for Glioma	K Nathan
April 2015	4.1	Addition of:	K Nathan

		PCV as possible for adjuvant therapy for glioma. Single agent Lomustine as a palliative treatment option for glioma	
June 2015	5	Published	
January 2017	6	Updated guidelines with new practise recommendations and discussed NOG Dec 16	K Nathan
June 2017	6	Published	
May 2018	7	Updates to section 3.0 and 6.0	Brain NOG 8/5/18
November 2018	7.1	Updates to section 3.0, 4.0, 5.0 and 6.0 Guidelines updated in line with NICE guidelines discussed at NOG Nov 2018 Ref: Brain tumours (primary) and brain metastases in adults NICE guideline Published: 11 July 2018 nice.org.uk/guidance/ng99	M.Archer
June 2019	7.2	Updated by Meeta Durve; formatting by Michelle Archer.	
December 2020	7.5	Reformatted by Roshny Patel	
Jan 2021	7.6	Upated as per J.Glendenning comments	M.Archer
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