

## NCCP advice for medical professionals on the treatment of patients with CNS tumours with radiotherapy in response to the COVID-19 pandemic

---

**This document relates to patients who do not have COVID-19 or are not suspected of having COVID-19.**

**Current events surrounding the COVID-19 pandemic are challenging and all public health bodies are placing the safety of patients, staff and communities first in all decisions.**

**This is an evolving situation. This advice is based on current information, it is additional to the advice of the NPHE, the HSE and the DoH, and will be updated as necessary.**

**The NCCP acknowledges that each hospital is working under individual constraints, including staff and infrastructure, and as a result will implement this advice based on their own unique circumstances.**

**The purpose of this advice is to maximise the safety of patients and make the best use of HSE resources, while protecting staff from infection. It will also enable services to match the capacity for cancer care to patient needs if services become limited due to the COVID-19 pandemic.**

**Any clinician seeking to apply or consult these documents is expected to use independent medical judgement in the context of individual clinical circumstances to determine any patient's care or treatment.**

### 1 NPHE, HSE and DoH advice

Hospitals will operate under the overarching advice of the National Public Health Emergency Team (NPHE), the HSE and the DoH. Information is available at:

- HSE HPSC - <https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/>
- HSE Coronavirus (COVID-19) - <https://www2.hse.ie/conditions/coronavirus/coronavirus.html>
- DoH Coronavirus (COVID-19) - <https://www.gov.ie/en/campaigns/c36c85-covid-19-coronavirus/>
- Ireland's National Action Plan in response to COVID-19 (Coronavirus) - <https://www.gov.ie/en/campaigns/c36c85-covid-19-coronavirus/>

### 2 Purpose

This guidance document provides guidance on the appropriate treatment of CNS tumours with radiotherapy during the COVID-19 pandemic taking into account projected capacity impact levels.

### 3 Projected impact levels

For each of the clinical departments, the following are suggested impact levels as measured against normal roster staffing levels:

Level 1	Minimal capacity impact
Level 2	Less than 80% capacity
Level 3	Less than 50% capacity
Level 4	Less than 25% capacity
Level 5	Less than 10 % capacity

Please refer to 'NCCP advice on radiation therapy capacity escalation plan in response to the current COVID 19 pandemic' for more information.

### 4 Recommendations for patients with high grade gliomas<sup>1-7</sup>

Level	Recommendation
Level 1	Standard dose fractionation prescriptions as per standard protocols for High Grade Gliomas

Level	Recommendation			
	< 70 years		>70 years	
	Biopsy	Debulked	Biopsy	Debulked
Level 2	40 Gy/15 fr with TMZ	60 Gy/30 fr with TMZ (or Gr 3 Dis ) to Hi Gr Dis and SIB 50 to 54 Gy / 30fr to Low Gr Dis	40 Gy/15 fr with concurrent TMZ Good PS	40Gy/15 fr with concurrent TMZ
	If No TMZ, 34 Gy/10 fr	If No TMZ, 60 Gy/30 fr (Good PS)	If No TMZ 34 Gy/10 fr	If No TMZ 34 Gy/10 fr
	<b>Or</b>	<b>Or</b>	<b>Or</b>	<b>Or</b>
	25 Gy/5 fr	34 Gy/10 fr	25 Gy/5 fr	25 Gy/5 fr
		<b>Or</b>		25 Gy/5 fr
Level 3	40 Gy/15 fr with concurrent TMZ	40 Gy/15 fr with concurrent TMZ	No TMZ 25 Gy/5 fr	40 Gy/15 fr with concurrent TMZ
		<b>Or</b>		
		No TMZ, 25 Gy/5 fr (Poor PS)		
	If No TMZ, 25 Gy/5 fr			If No TMZ, 25 Gy/5 fr
Level 4	Defer RT 1 to 2 weeks	Defer RT 2 to 4 weeks		Defer RT 2 to 4 weeks
	<b>Or</b>	<b>Or</b>		<b>Or</b>

Version: 1

Last updated: 08/05/2020

Department

Code:

NCCP Radiation Oncology Working Group

RO\_COVID19\_13

Level	Recommendation			
	< 70 years		>70 years	
	Biopsy	Debulked	Biopsy	Debulked
	RT If symptomatic 25 Gy/5 fr  <b>Or</b>  Symptomatic management only	RT If symptomatic 25 Gy/5 fr  <b>Or</b>  Symptomatic management only	RT If symptomatic 25 Gy/5 fr  <b>Or</b>  Symptomatic management only	RT If symptomatic 25 Gy/5 fr  <b>Or</b>  Symptomatic management only
Level 5	Palliative Care  <b>Or</b>  RT if very symptomatic and RT is feasible 25 Gy/5 fr	Defer RT  <b>Or</b>  RT if very symptomatic and RT is feasible 25 Gy/5 fr  <b>Or</b>  Palliative Care	Palliative Care  <b>Or</b>  RT if very symptomatic and RT is feasible 25 Gy/5 fr	Palliative Care  <b>Or</b>  RT if very symptomatic and RT is feasible 25Gy/5 fr

RT = radiotherapy, TMZ = temazolamide, Gy = Gray, fr = fractions , Hi = High, Gr = grade , PS = performance status

## 5 Recommendations for Low Grade Gliomas

Level	Recommendation
Level 1	Standard dose fractionation prescriptions as per standard protocols for Low Grade Gliomas
Level 2	Standard Dose fractionation prescriptions (54 Gy/30 fr) <sup>8-9</sup> as per standard protocols for Low Grade Gliomas but consider 45 Gy/25 fr or 46Gy/23 fr or 50.4/28 fr  Defer RT if patient fits criteria of EORTC TRIAL 22945 <sup>10</sup>
Level 3	Defer RT 1 to 3 months <b>or</b> RT if symptomatic (25Gy/5fr)
Level 4	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic (25Gy/5fr) and feasible
Level 5	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic (25Gy/5fr) and feasible

## 6 Recommendations for meningioma

Level	Grade	Recommendation
Level 1	Grade 1	Standard dose fractionation prescriptions as per standard protocols for Meningiomas
	Grade 2	Standard dose fractionation prescriptions as per standard protocols for Meningiomas
Level 2	Grade 1	Defer RT 1 to 3 months or RT if symptomatic
	Grade 2	RT if not debulked or minimally debulked <b>or</b> Defer RT 1 to 3 months if well debulked <b>or</b> RT if symptomatic
Level 3	Grade 1	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic
	Grade 2	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic
Level 4	Grade 1	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic
	Grade 2	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic
Level 5	Grade 1	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic
	Grade 2	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic

## 7 Recommendations for Other Low Grade Tumours

For example Ependymoma Gr 1 or 2 in Spine or Brain

Level 1	Standard Dose fractionation Prescriptions as per standard protocols for Low Grade Tumours
Level 2	Standard Dose fractionation Prescriptions as per standard protocols for Low Grade Tumours if capacity permits <b>or</b> Defer RT 1 to 3 months
Level 3	Defer RT 1 to 3 months <b>or</b> RT if Symptomatic
Level 4	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic
Level 5	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic

## 8 Recommendations for benign diseases

### 8.1 Craniopharyngioma

Level 1	Standard Dose fractionation Prescriptions as per standard protocols for Craniopharyngioma.
Level 2	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic (Surgery is not feasible)
Level 3	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic (Surgery is not feasible)
Level 4	Defer RT 1 to 3 months
Level 5	Defer RT 1 to 3 months

### 8.2 Pituitary tumours

Level 1	Standard Dose fractionation Prescriptions as per standard protocols for pituitary tumours
Level 2	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic (Surgery is not feasible)
Level 3	Defer RT 1 to 3 months <b>or</b> RT if very symptomatic (Surgery is not feasible)
Level 4	Defer RT 1 to 3 months
Level 5	Defer RT 1 to 3 months

### 8.3 Arteriovenous malformations (AVM)

Level 1	Standard Dose fractionation Prescriptions as per standard protocols for AVMs
Level 2	Defer RT 1 to 3 months
Level 3	Defer RT 1 to 3 months
Level 4	Defer RT 1 to 3 months
Level 5	Defer RT 1 to 3 months

### 8.4 Vestibular Schwannomas

Level 1	Standard Dose fractionation Prescriptions as per standard protocols for Vestibular Schwannomas
Level 2	Defer RT 1 to 3 months
Level 3	Defer RT 1 to 3 months
Level 4	Defer RT 1 to 3 months
Level 5	Defer RT 1 to 3 months

### 8.5 Trigeminal Neuralgia

Level 1	Standard Dose Fractionation Prescriptions as per standard protocols for Trigeminal Neuralgia
Level 2	Defer RT 1 to 3 months
Level 3	Defer RT 1 to 3 months
Level 4	Defer RT 1 to 3 months
Level 5	Defer RT 1 to 3 months

## 9 Symptomatic Patients

All symptomatic patients with CNS tumours should be considered for RT regardless of level except for level 5 where it may not be feasible and palliative care alone may have to be considered. Consider discussion with other Consultant Radiation Oncologists and/or with SRS MDT and/or Neuro Oncology MDT

## 10 Gaps in RT

Gaps in patients on Radiotherapy treatment should be avoided due to patients becoming COVID-19 positive or suspected of being COVID-19 positive due to symptoms of COVID-19 and where a test result is waited. These gaps should be compensated for where possible.

## 11 Complex CNS Tumour Cases

Complex CNS tumour cases can be discussed with fellow CNS consultant radiation oncologists and / or at SRS MDT and/or neuro oncology MDT.

## 12 References

1. Jastaniyah, N., Murtha, A., Pervez, N., Le, D., Roa, W., Patel, S., Mackenzie, M., Fulton, D., Field, C., Ghosh, S. and Fallone, G., 2013. Phase I study of hypofractionated intensity modulated radiation therapy with concurrent and adjuvant temozolomide in patients with glioblastoma multiforme. *Radiation Oncology*, 8(1), p.38.

2. Reddy, K., Damek, D., Gaspar, L.E., Ney, D., Waziri, A., Lillehei, K., Stuhr, K., Kavanagh, B.D. and Chen, C., 2012. Phase II trial of hypofractionated IMRT with temozolomide for patients with newly diagnosed glioblastoma multiforme. *International Journal of Radiation Oncology\* Biology\* Physics*, 84(3), pp.655-660.
3. Panet-Raymond, V., Souhami, L., Roberge, D., Kavan, P., Shakibnia, L., Muanza, T., Lambert, C., Leblanc, R., Del Maestro, R., Guiot, M.C. and Shenouda, G., 2009. Accelerated hypofractionated intensity-modulated radiotherapy with concurrent and adjuvant temozolomide for patients with glioblastoma multiforme: a safety and efficacy analysis. *International Journal of Radiation Oncology\* Biology\* Physics*, 73(2), pp.473-478.
4. Hingorani, M., Colley, W.P., Dixit, S. and Beavis, A.M., 2012. Hypofractionated radiotherapy for glioblastoma: strategy for poor-risk patients or hope for the future? *The British Journal of Radiology*, 85(1017), pp.e770-e781.
5. Stupp, R., Hegi, M.E., Mason, W.P., Van Den Bent, M.J., Taphoorn, M.J., Janzer, R.C., Ludwin, S.K., Allgeier, A., Fisher, B., Belanger, K. and Hau, P., 2009. Effects of radiotherapy with concomitant and adjuvant temozolomide versus radiotherapy alone on survival in glioblastoma in a randomised phase III study: 5-year analysis of the EORTC-NCIC trial. *The Lancet Oncology*, 10(5), pp.459-466.
6. Perry, J.R., Laperriere, N., O'Callaghan, C.J., Brandes, A.A., Menten, J., Phillips, C., Fay, M., Nishikawa, R., Cairncross, J.G., Roa, W. and Osoba, D., 2017. Short-course radiation plus temozolomide in elderly patients with glioblastoma. *New England Journal of Medicine*, 376(11), pp.1027-1037.
7. Malmström, A., Grønberg, B.H., Marosi, C., Stupp, R., Frappaz, D., Schultz, H., Abacioglu, U., Tavelin, B., Lhermitte, B., Hegi, M.E. and Rosell, J., 2012. Temozolomide versus standard 6-week radiotherapy versus hypofractionated radiotherapy in patients older than 60 years with glioblastoma: the Nordic randomised, phase 3 trial. *The Lancet Oncology*, 13(9), pp.916-926.
8. Karim, A.B., Maat, B., Hatlevoll, R., Menten, J., Rutten, E.H., Thomas, D.G., Mascarenhas, F., Horiot, J.C., Parvinen, L.M., van Reijn, M. and Jager, J.J., 1996. A randomized trial on dose-response in radiation therapy of low-grade cerebral glioma: European Organization for Research and Treatment of Cancer (EORTC) Study 22844. *International Journal of Radiation Oncology\* Biology\* Physics*, 36(3), pp.549-556.
9. Shaw, E., Arusell, R., Scheithauer, B., O'fallon, J., O'neill, B., Dinapoli, R., Nelson, D., Earle, J., Jones, C., Cascino, T. and Nichols, D., 2002. Prospective randomized trial of low-versus high-dose radiation therapy in adults with supratentorial low-grade glioma: initial report of a North Central Cancer Treatment Group/Radiation Therapy Oncology Group/Eastern Cooperative Oncology Group study. *Journal of Clinical Oncology*, 20(9), pp.2267-2276.
10. Van den Bent, M.J., Afra, D., De Witte, O., Hassel, M.B., Schraub, S., Hoang-Xuan, K., Malmström, P.O., Collette, L., Piérart, M., Mirimanoff, R. and Karim, A.B.M.F., 2005. Long-term efficacy of early versus delayed radiotherapy for low-grade astrocytoma and oligodendroglioma in adults: the EORTC 22845 randomised trial. *The Lancet*, 366(9490), pp.985-990.