



Prioritisation of paediatric and TYA patients (with paediatric-type tumours) for radiotherapy during the COVID-19 pandemic

Author: Dr Henry Mandeville, on behalf of the CCLG Radiotherapy Group

Purpose

1. This document is designed to support paediatric cancer clinical teams to prioritise the provision of radiotherapy treatments for children, and teenagers and young adults (TYA) patients with paediatric-type tumours, in the event that capacity becomes constrained as a result of the COVID-19 pandemic.
2. This document should be read in conjunction with the following:
 - [COVID-19 Proton Beam Therapy Standard Operating Procedure](#)
 - [COVID-19 Proton Beam Therapy Framework](#)
 - [COVID-19 NICE rapid guideline: delivery of radiotherapy](#)

Principles

1. It is recommended that paediatric radiotherapy centres should closely monitor general anaesthesia capacity, especially for Priority Level 1 paediatric radiotherapy patients where deferral would likely compromise patient outcomes, to ensure that radiotherapy treatment can be safely and effectively delivered.
2. Only when standard radiotherapy regimens or referral to another specialist paediatric radiotherapy department are not possible due to restrictions relating to the COVID-19 pandemic should the following be considered by Paediatric Oncology Multidisciplinary Teams to aid their decision making:
 1. Hypo-fractionation regimens for highly selected paediatric patients, particularly those with very poor prognosis tumours e.g. diffuse midline glioma/ high grade glioma, unfavourable metastatic rhabdomyosarcoma or Ewing sarcoma, refractory neuroblastoma.
 2. Deferral of radiotherapy utilising additional chemotherapy, or other systemic therapies, where the MDT agrees that this is the optimal strategy in light of risks to the patient relating to COVID-19, and restrictions to radiotherapy departmental capacity e.g. medulloblastoma/ embryonal CNS tumours, RMS, Ewing Sarcoma, chemo-sensitive NRSTS, intracranial germ cell tumours, neuroblastoma, ependymoma.
 3. Deferral of radiotherapy wherever possible for benign/ slowly proliferative tumours (Priority Level 5) where active surveillance is an acceptable strategy.
3. Radiotherapy treatment interruptions should be managed as per The Royal College of Radiologists' [guidance on managing unscheduled treatment interruptions](#).

Table 1. Prioritising paediatric radiotherapy treatments (adapted from [NHS England's specialty guide for the management of cancer patients during the coronavirus pandemic](#)).

Priority level	Definition	Clinical indications
1	Radical treatment where delay or interruption of radiotherapy, or inability to dose escalate, likely to reduce cure.	<ul style="list-style-type: none"> • Medulloblastoma • Embryonal CNS tumours/ pineoblastoma • RMS/ Ewings - definitive treatment/ incomplete resection • Intracranial Germ Cell tumours • Ependymoma G2/G3 • Nasopharynx/ Head and neck • Total body irradiation • Retinoblastoma • ATRT
2	Urgent palliative radiotherapy to save loss of function/ life.	<ul style="list-style-type: none"> • Cord compression • Bleeding, haemorrhage • Pontine/ spinal diffuse midline or high grade glioma
3	Adjuvant radiotherapy for tumours with aggressive biology or with known residual disease ¹	<ul style="list-style-type: none"> • RMS/ Ewings- complete resection • Wilms' tumour • Neuroblastoma • Chordoma/ Chondrosarcoma • Bone tumours • NRSTS • Hodgkin Lymphoma • Salivary gland tumours/ Adenoid cystic carcinoma • Esthesioneuroblastoma • High grade/ diffuse midline glioma other than pontine or spinal • Metastatic RMS/ Ewings • Meningioma G3/ anaplastic • Pineal parenchymal tumours
4	Palliative radiotherapy for symptom control likely to improve quality of life.	<ul style="list-style-type: none"> • Symptomatic metastatic sites • Symptomatic local recurrence/ reirradiation
5	Radical radiotherapy for benign/ slowly proliferative tumours where active surveillance may be considered as alternative ^{1,2}	<ul style="list-style-type: none"> • Craniopharyngioma • Optic pathway & other Low grade glioma • Desmoid-type fibromatosis • Pituitary Adenoma • Meningioma- G1/G2 • Myxopapillary Ependymoma

¹where clinically significant symptomatic progression e.g. loss/ threatened loss of vision or neurological deterioration consider as Priority level 1

²where progression on imaging alone without clinically significant symptoms consider as Priority level 3