

ABSTRACT

Cancer Radiother. 2021 Dec 27:S1278-3218(21)00308-5. doi: 10.1016/j.canrad.2021.11.018. Online ahead of print.

Guide for paediatric radiotherapy procedures.

Laprie A(1), Bernier V(2), Padovani L(3), Martin V(4), Chargari C(5), Supiot S(6), Claude L(7).

Author information:

(1)Département d'oncologie radiothérapie, Institut universitaire du cancer de Toulouse-Oncopole (IUCT-oncopole), université Paul-Sabatier Toulouse III, 1, avenue Irène-Joliot-Curie, 31059 Toulouse cedex 9, France. Electronic address: laprie.anne@iuct-oncopole.fr.

(2)Département d'oncologie radiothérapie, Institut de cancérologie de Lorraine centre Alexis-Vautrin, 6, avenue de Bourgogne, CS 30519, 54519 Vandœuvre-lès-Nancy cedex, France.

(3)Département de cancérologie radiothérapie, CHU, 13000 Marseille, France; Université Aix-Marseille, 13000 Marseille, France.

(4)Département de cancérologie radiothérapie, institut Gustave-Roussy, 114, rue Édouard-Vaillant, 94805 Villejuif cedex, France.

(5)Département d'oncologie radiothérapie, institut Gustave-Roussy, 114, rue Édouard-Vaillant, 94805 Villejuif cedex, France; Service de santé des armées, 75000 Paris, France.

(6)Département de radiothérapie, Institut de cancérologie de l'Ouest (ICO) centre René-Gauducheau, 44800 Saint-Herblain, France; Université de Nantes, 44000 Nantes, France.

(7)Département d'oncologie radiothérapie, centre Léon-Bérard, 28, rue Laennec, 69373 Lyon cedex 08, France.

A third of children with cancer receive radiotherapy as part of their initial treatment, which represents 800 paediatric irradiations per year in France carried out in 15 specialized centres approved on the recommendations of the French national cancer institute in decreasing order of frequency, the types of cancer that require irradiation are: brain tumours, neuroblastomas, Ewing's sarcomas, Hodgkin's lymphomas, soft tissue sarcomas including rhabdomyosarcomas, and nephroblastomas. The treatment guidelines follow the recommendations of the French society for childhood cancers (SFCE) or the French and European prospective protocols. The therapeutic indications, the technical and/or ballistic choices of complex cases are frequently discussed during bimonthly paediatric radiotherapy technical web-conferences. All cancers combined, overall survival being 80%, long-term toxicity logically becomes an important concern, making the preparation of treatments complex. The irradiation methods include all the techniques currently available: 3D conformational irradiation, intensity modulation radiation therapy, irradiation under normal or hypofractionated stereotaxic conditions, brachytherapy and proton therapy. We present the update of the recommendations of the French society for radiation oncology on the indications, the technical methods of realization and the organisation and the specificities of paediatric radiation oncology.

Copyright © 2021. Published by Elsevier Masson SAS.

DOI: 10.1016/j.canrad.2021.11.018

PMID: 34969622