

ABSTRACT

Neuroradiology. 2022 Jul 22. doi: 10.1007/s00234-022-03008-6. Online ahead of print.

2021 WHO classification of tumours of the central nervous system: a review for the neuroradiologist.

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The fifth edition of the World Health Organization Classification of Tumours of the Central Nervous System (WHO CNS5) published in 2021 builds on the 2016 edition and incorporates output from the Consortium to Inform Molecular and Practical Approaches to CNS Tumour Taxonomy (cIMPACT-NOW). WHO CNS5 introduces fundamental changes to brain tumour classification through the introduction of new tumour families and types, especially in the paediatric population, and a revision of diagnostic criteria for some of the existing neoplasms.

Neuroradiologists are central to brain tumour diagnostics, and it is therefore essential that they become familiar with the key updates. This review aims to summarise the most relevant updates for the neuroradiologist and, where available, discuss the known radiophenotypes of various new tumour types to allow for increased accuracy of language and diagnosis. Of particular importance, WHO CNS5 places greater emphasis on organising tumours by molecular type to reflect biology, as well as to allow for better planning of treatment.

The principal updates in adult tumours concern the molecular definition of glioblastoma, restructuring of diffuse gliomas, and the introduction of several new tumour types. The updates to the paediatric classification are protean, ranging from the introduction of new types to establishing separate tumour families for paediatric-type gliomas. This review summarises the most significant revisions and captures the rationale and radiological implications for the major updates.

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DOI: 10.1007/s00234-022-03008-6
PMID: 35869291