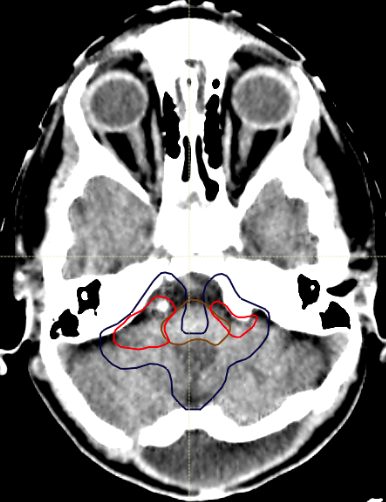
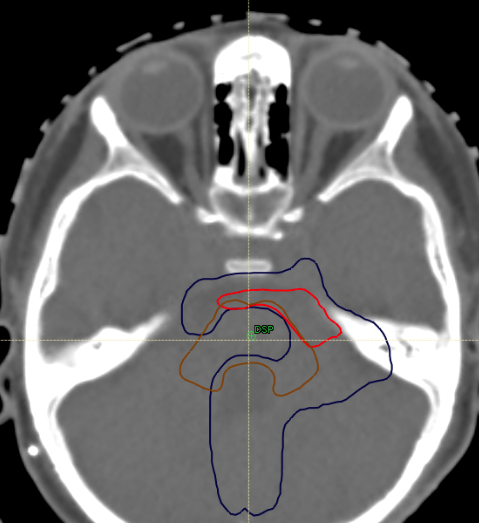
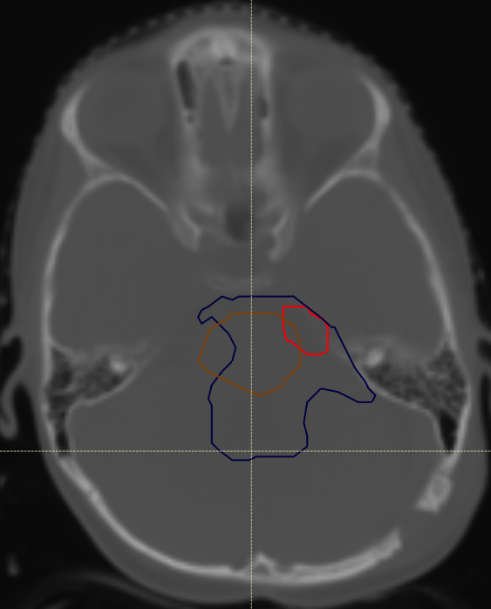
**Supplemenatry materials**

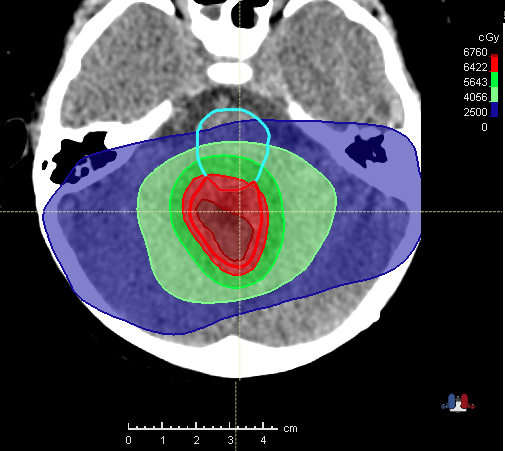
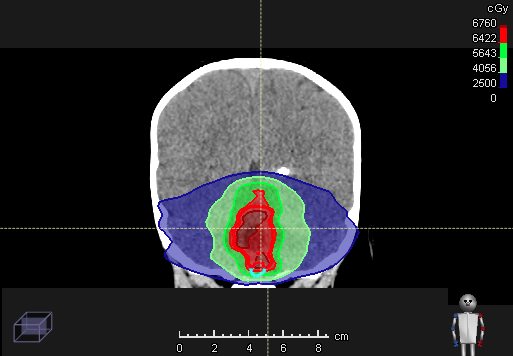
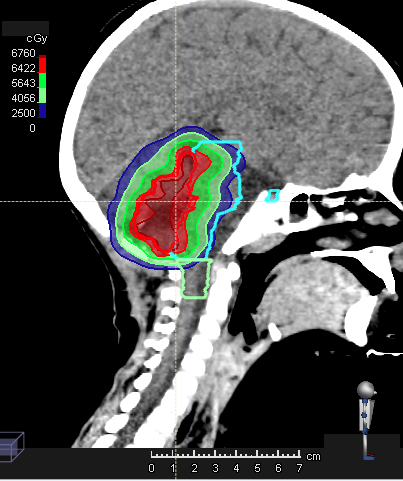
Supplementary Fig.1

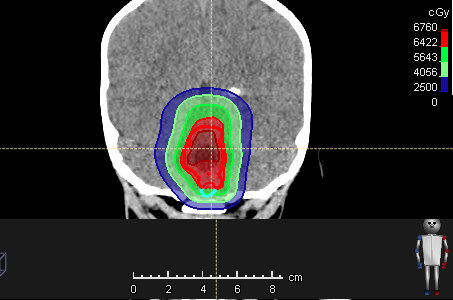
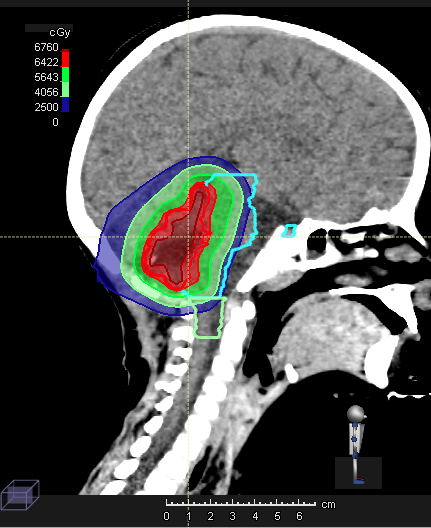
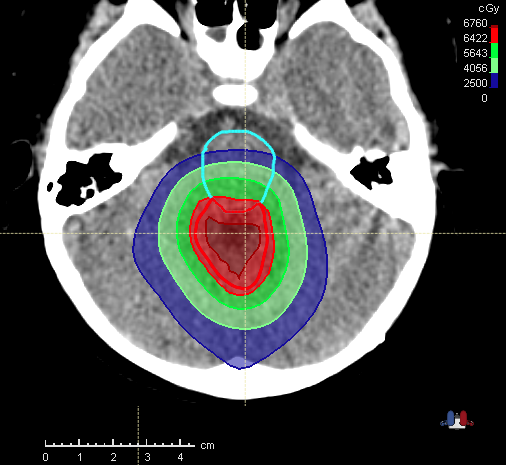


*Three examples of patients who were not replanned and were not eligible for dose escalation, as their tumour was too large to allow a boost to be delivered in the vicinity of the brainstem: tumour residue outlined in red, tumor bed in blue, and brainstem in brown.*

**Supplementary Fig.2**

*Dose distribution for one representative patient with VMAT (top) and one with IMPT (bottom). Red outline: PTV67.6. This colour-washed figure shows the dose distribution from 25 Gy to 67.6 Gy. Better sparing of some OARs was observed with IMPT than with VMAT.*



**Supplementary Fig.3**

*Dose‑volume histogram of PTV67.6 Gy, PTV59.4 Gy, brainstem, right and left inner ear, and spinal cord, for one representative patient with VMAT or IMPT*.

