



S2 Fig. An example of craniospinal irradiation (CSI) plan with proton beam for 19-year-old male patient with medulloblastoma. The prescribed dose for CSI was 2,340 cGyRBE in 13 fractions. (A, B) The distributions of summed dose by total field and separated dose of portals with each iso-center, respectively. We developed the dose gradients near the junctions and overlapped them with adjacent fields to overcome the junctional problem and maintain robustness against uncertainty (B). The treatment plan was developed by RayStation (RaySearch Laboratories, Stockholm, Sweden).