Standard Risk Medulloblastoma

- Treat craniospinal axis to 23.4 Gy in 13 fractions followed by tumor bed boost to 54 Gy in a total of 30 fractions
Simulation

- CT simulation without contrast is performed. CT with contrast may be performed if MRI is not performed.
- MRI with contrast is obtained and fused to CT
- Remember: fusion is often imperfect
Tumor Bed Boost

• GTV:
  – tumor bed + gross residual disease, including T1 signal abnormality with and without contrast
  – Surgical defects visible on MRI that did not contain disease on pre-op MRI are not included

• CTV:
  – GTV + 1 – 1.5 cm
  – excluding bone, tentorium, and entirety of brainstem (brain stem immediately adjacent to tumor bed should be included)

• PTV:
  – CTV + 3 – 5 mm
GTV = red
CTV = orange (GTV + 1.5 cm)
GTV = red
CTV = orange (GTV + 1.5 cm)
CT Sim

Post-op MRI (T1 post) fusion

GTV = red
CTV = orange (GTV + 1.5 cm)
GTV = red
CTV = orange (GTV + 1.5 cm)
GTV = red
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GTV = red
CTV = orange (GTV + 1.5 cm)
GTV = red
CTV = orange (GTV + 1.5 cm)
CT Sim

Post-op MRI (T1 post) fusion

GTV = red
CTV = orange (GTV + 1.5 cm)
CT Sim

Post-op MRI (T1 post) fusion

GTV = red

CTV = orange (GTV + 1.5 cm)
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GTV = red
CTV = orange (GTV + 1.5 cm)
CT Sim

Post-op MRI (T1 post) fusion

GTV = red
CTV = orange (GTV + 1.5 cm)
CT Sim

Post-op MRI (T1 post) fusion

GTV = red
CTV = orange (GTV + 1.5 cm)
GTV = red
CTV = orange (GTV + 1.5 cm)
GTV = red
CTV = orange (GTV + 1.5 cm)
PTV = green (CTV + 5 mm)