Cerebrospinal Fluid Drainage Protocol

Intraoperative Considerations:

**SCPP=MAP- (CSFP of CVP whichever is greater)**

1. Maintain MAP ≥ 80-90 mmHg as much as possible
2. Avoid CVP >15 mmHg or acute increase of CVP
3. CSF drainage system zeroed at the level of RA (not tragus)
4. CSF drain connected to both transducer and drainage system (set up at 10 mmHg), continuously monitored, either passively or actively drained
5. Cut the blue rubber of the CSF transducer to eliminate the risk of flushing CSF line by mistake
6. Adequate label CSF catheter
7. If 150 ml CSF drained and CSF pressure still high reassess: check the CSF spinal drain position (consider pulling back 2-3 cm), re-zero CSF transducer

Postoperative Considerations:

1. For CSF pressure higher than 10 mmHg open to passive drainage
2. Reassess CSF pressure after each 15 ml CSF drained
3. Do not drain more than 250 ml CSF/day
4. If 150 ml CSF drained and CSF pressure still high reassess: check the CSF spinal drain position (consider pulling back 2-3 cm), re-zero CSF transducer
5. If sign of spinal cord ischemia increase MAP > 90 mmHg and drain CSF to < 10 mmHg
6. If no signs of spinal cord ischemia, clamp the drain after 24-36 hrs and monitor the patient for 12-24hrs
7. Remove the CSF catheter at 48 hrs if: platelet count >100K, INR < 1.3 and normal aPTT. If patient on SQ heparin wait 2-4 h after last dose of heparin or 12 Hrs after last dose of Lovenox.
8. Brain imaging for persistent bloody CSF drainage (more than 4 hrs)