Intraabdominal pressure (IAP)

Patients with a high Body Mass Index are prone to elevated IAP and hence an increased propensity for abdominal catheter migration. A positive, linear relationship between BMI and IAP has previously been reported (r = 0.52, slope 0.31), and IAP should be considered when determining shunt valve pressure selection in nonadjustable valves to prevent underdrainage of CSF [1) 2)].

Furthermore, in the setting of a VPS, the distal catheter tip passing through the anterior abdominal wall might serve as a one-way “ratchet” for abdominal pressure. That is, IAP may push the distal catheter out of the abdominal cavity with no opposing force or mechanism serving as a counterforce. Over time, the sum of many subtle migrations in the distal catheter tubing, initiated by excess IAP, results in retropulsion

1)
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2)
Sanchez NC, Tenofsky PL, Dort JM, Shen LY, Helmer SD, Smith RS: What is normal intra-abdominal pressure? Am Surg 67:243–248, 2001