Supplemental Digital Content Table 1. Internal Volumes of Central Venous Catheters

|  |  |  |  |
| --- | --- | --- | --- |
| **Catheter Type\*** | **Volume of lumen (ml)** | **Total volume: lumen + injection cap + connector tubing**  **(mL)** | **Recommended volume for occlusion medication: 110% total volume (mL)** |
| **PICCs** |
| L-Cath 1.1 Fr (28 Ga) 14 cm | 0.06 | 0.10 | 0.11 |
| L-Cath 1.9 Fr (24 Ga) 30 cm | 0.10 | 0.14 | 0.16 |
| Med Comp 2.6 Fr Dual Lumen (21 Ga/23 Ga) | 0.18/0.15 | 0.22/0.19 | 0.24/0.21 |
| MedComp 4 Fr Double Lumen  (19 Ga/19 Ga) | 0.45/0.45 | 0.49/0.49 | 0.54/0.54 |
| Argon 2.8 Fr | 0.20 | 0.6 | 0.66 |
| Argon 3.5 Fr Double Lumen (20 Ga/21 Ga) | 0.3/0.28 | 0.34/0.32 | 0.37/0.35 |
| BioFlo 3 Fr | 0.8 | 0.84 | 0.92 |
| BioFlo 4 Fr | 1.0 | 1.04 | 1.14 |
| BioFlo 5 Fr Double Lumen | 0.8/0.8 | 0.84/0.84 | 0.92/0.92 |
| BioFlo Valved 6 Fr Triple Lumen | 1.1(center lumen) 0.6/0.6 | 1.14(center lumen)/0.64/0.64 | 1.33 (center lumen)/0.7/0.7 |
| Cook TurboFlo 4 Fr | 0.9 | 0.94 | 1.03 |
| Cook TurboFlo 5 Fr | 1.3 | 1.34 | 1.47 |
| Bard Power PICC 4 Fr | 0.67 | 0.67 | 0.74 |
| Bard Power PICC 5 Fr | 0.66 | 0.66 | 0.73 |
| Bard Power PICC 5 Fr Double Lumen | 0.57/0.57 | 0.57/0.57 | 0.63/0.63 |
| Bard Power PICC 6 Fr Double Lumen | 0.62/0.62 | 0.62/0.62 | 0.68/0.68 |
| Bard Power PICC 6 Fr Triple Lumen | 0.76/0.47/0.47 | 0.76/0.47/0.47 | 0.84/0.52/0.52 |
| **Non-Tunneled CVCs** |
| Cook 4 Fr Double Lumen 8 cm | 0.30/0.25 | 0.34/0.29 | 0.37/0.32 |
| Cook 4 Fr Double Lumen 13 cm | 0.31/0.25 | 0.35/0.29 | 0.39/0.32 |
| Cook 4 Fr Double Lumen 30 cm | 0.38/0.3 | 0.42/0.34 | 0.46/0.37 |
| Cook 5 Fr Triple Lumen 8 cm | 0.2/0.2/0.3 | 0.24/0.24/0.34 | 0.26/0.26/0.37 |
| **Tunneled CVCs** |
| Broviac 2.7 Fr | 0.15 | 0.19 | 0.21 |
| Broviac 4.2 Fr | 0.30 | 0.34 | 0.37 |
| Broviac 6.6 Fr | 0.7 | 0.74 | 0.81 |
| Hickman 7 Fr Double Lumen | 0.8/0.6 | 0.84/0.64 | 0.92/0.7 |
| Hickman 9.6 Fr | 1.8 | 1.84 | 2 |
| Hickman 9 Fr Double Lumen | 1.3/0.6 | 1.34/0.64 | 1.47/0.7 |
| Leonard 10 Fr Double Lumen | 1.3/1.3 | 1.34/1.34 | 1.47/1.47 |

\*If not specified, CVC is single lumen

Adapted from: Children’s Hospital Colorado Clinical Policy and Procedure Manual (“Central Venous Catheter – Treating Catheter Occlusions”), 2019.