

Table 6: Practice Notes from the Expert Panel

COMPONENTS OF ASSESSMENT	DETAILS OF ASSESSMENT
<p>Vascular assessment</p>	<ul style="list-style-type: none"> ■ Determine the clinical indication for the device. ■ Vascular assessment, including determination of clinical indication, is to include (25): <ul style="list-style-type: none"> □ intended frequency and duration of therapy; □ prescribed therapy (e.g., osmolality^G, pH, and vesicant and irritant properties); □ history of vascular access, including previous history of vascular access complications; □ comorbidities (e.g., renal status); □ age and developmental stage; □ anatomy; □ activity level; □ skin integrity; □ patient’s preference and lifestyle; and □ available resources for VAD care and maintenance. ■ Vascular assessment is to include an assessment of current medications, including those that may increase complication risk, such as anticoagulants and immunosuppressant medications. ■ VAD assessment and planning is an ongoing process through the person’s course of treatment (25). ■ Depending on the planned therapy and person receiving the VAD, the assessment may be more focused or more comprehensive.
<p>Psychosocial assessment</p>	<ul style="list-style-type: none"> ■ Psychosocial assessment is to include: <ul style="list-style-type: none"> □ age and developmental stage; □ mental health status (including substance use); □ presence of needle phobia; □ presence of family or caregiver support; □ cognition; and □ need for pain management strategies (see Recommendations 7.1 and 7.2).

RECOMMENDATIONS

COMPONENTS OF ASSESSMENT	DETAILS OF ASSESSMENT
<p>Device selection and vesicant medications</p>	<ul style="list-style-type: none"> ■ Determine if the planned therapy poses an infusate risk or if the medication is a vesicant. <ul style="list-style-type: none"> □ Do not use peripheral catheters for continuous vesicant therapy or infusates with an osmolality greater than 900 mOsm/L (37). Use caution with parenteral nutrition. □ Consultation with a pharmacist may be required for high risk or vesicant medications. ■ See Appendix H for a list of vesicant medications. ■ It is important to select the least invasive device for the duration and type of treatment, and one that promotes vessel preservation (25). When selecting a VAD (25): <ul style="list-style-type: none"> □ Use a device with the minimum number of lumens. □ Select the smallest gauge catheter that will accommodate the prescribed therapy. □ See further details in Appendix F for considerations for different types of VADs and Appendix G for the right line decision tool (as included in the UK Vessel Health Preservation Framework) (38).
<p>Site selection</p>	<ul style="list-style-type: none"> ■ To select the site for VAD insertion, assess the person's vascular structure and integrity at and above the insertion site (25). ■ The following sites should be avoided for vascular access (25): <ul style="list-style-type: none"> □ area of flexion [except where this is not possible in trauma or emergency cases]; □ chest wall, digits or breast; □ lower legs, except in a non-walking child; □ insertion area that is painful on palpation; □ vein that is obviously compromised (e.g., thrombosis, redness, cording, bruising, infiltration, phlebitis or engorgement); □ extremity with a planned or actual arteriovenous fistula/graft site; and □ extremity affected by lymphedema, paralysis, extravasation, acute infection, tissue injury or acute trauma. ■ When selecting sites, health providers also must consider any previous history of breast cancer surgery and any potential sites for tissue donation. ■ If a short PVAD is deemed appropriate based on a comprehensive assessment of the person—and the health provider has the knowledge, skill and judgement to perform PVAD insertions—the health provider will select an insertion site appropriate for the required therapy that has the least risk of complication.

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<p>Psychosocial assessment</p>	<ul style="list-style-type: none"> ■ Psychosocial assessment is to include: <ul style="list-style-type: none"> □ age and developmental stage; □ mental health status (including substance use); □ presence of needle phobia; □ presence of family or caregiver support; □ cognition; and □ need for pain management strategies (see Recommendations 7.1 and 7.2).

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Supporting Resources

RESOURCE	DESCRIPTION
Canadian Vascular Access Association. Canadian vascular access and infusion therapy guidelines. Pembroke (ON): Pappin Communications; 2019.	<ul style="list-style-type: none"> ■ Canadian Vascular Access Association guideline. ■ Includes details on assessment and device selection. ■ Note: this is a resource for which there is a fee.
Gorski LA, Hadaway L, Hagle ME, et al. Infusion therapy standards of practice, 8th Edition. J Infus Nurs. 2021; 44(1S), S1–S224. doi: 10.1097/NAN.0000000000000396	<ul style="list-style-type: none"> ■ Infusion Nurses Society standards of practice. ■ Includes details on assessment and device selection. ■ Note: this is a resource for which there is a fee.
Paterson RS, Chopra V, Brown E, et al. Selection and insertion of vascular access devices in pediatrics: a systematic review. Pediatrics. 2020 Jun;145(Suppl 3):S243-68. doi: 10.1542/peds.2019-3474H	<ul style="list-style-type: none"> ■ Systematic review of selection and insertion of VADs in pediatrics. ■ Provides an overview of guidelines in children and infants. ■ Includes considerations for special populations (e.g., those who are critically ill or with congenital cardiac conditions or DiVA).
Ullman AJ, Bernstein SJ, Brown E, et al. The Michigan Appropriateness Guide for Intravenous Catheters in pediatrics: miniMAGIC. Pediatrics. 2020;145(s3):e20193474I.	<ul style="list-style-type: none"> ■ Provides further details and considerations for device selection in children. ■ Provides a detailed device selection algorithm for use in neonates, infants and children/adolescents.