

Clinical practice guidelines for breast cancer implantable intravenous infusion ports: Chinese Society of Breast Surgery practice guidelines 2021.

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Chin Med J (Engl) Chin Med J (Engl) 2337 chinesemj 7513795 CM9 Chinese Medical Journal 0366-6999 2542-5641 Wolters Kluwer Health PMC8382480 PMC8382480.1 8382480 8382480 34133358 10.1097/CM9.0000000000001522 CMJ-2021-483 1 Consensus Statements Clinical practice guidelines for breast cancer implantable intravenous infusion ports: Chinese Society of Breast Surgery practice guidelines 2021 Ma Li 1 Ge Zhi-Cheng 2 Xin Ling 3 Wang Ying-Xin 3 Zhang Yan-Shou 1 Tang Tian-Tian 1 Gao Guo-Xuan 2 Liu Qian 3 Zhao Xuan 3 Liu Yun-Jiang 1 Qu Xiang 2 Chinese Society of Breast Surgery Yin Yan-Jie Hao Xiu-Yuan 1 Department of Breast Center, The Fourth Hospital of Hebei Medical University, Shijiazhuang, Hebei 050035, China 2 Department of General Surgery I, Beijing Friendship Hospital of Capital Medical University, Beijing 100050, China 3 Department of Center for Breast Diseases, Peking University First Hospital, Beijing 100034, China. Corresponding to: Dr. Yun-Jiang Liu, Department of Breast Center, the Fourth Hospital of Hebei Medical University, Shijiazhuang, Hebei 050035, China E-Mail: wylyj123456@163.com Dr. Xiang Qu, Department of General Surgery I, Beijing Friendship Hospital of Capital Medical University, Beijing 100050, China E-Mail: cqx3968@sina.com 20 8 2021 16 6 2021 134 16 388515 1894 1896 19 2 2021 20 08 2021 01 09 2021 02 09 2021 Copyright © 2021 The Chinese Medical Association, produced by Wolters Kluwer, Inc. under the CC-BY-NC-ND license. 2021 <https://creativecommons.org/licenses/by-nc-nd/3.0/> This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 3.0 License, where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially. <http://creativecommons.org/licenses/by-nc-nd/3.0> pmc-status-qastatus 0 pmc-status-live yes pmc-status-embargo no pmc-status-released yes pmc-prop-open-access yes pmc-prop-olf no pmc-prop-manuscript no pmc-prop-legally-suppressed no pmc-prop-has-pdf yes pmc-prop-has-supplement yes pmc-prop-pdf-only no pmc-prop-suppress-copyright no pmc-prop-is-real-version no pmc-prop-is-scanned-article no pmc-prop-preprint no pmc-prop-in-epmc yes pmc-license-ref CC BY-NC-ND OPEN-ACCESS TRUE To standardize the clinical application of implantable intravenous (IV) ports, the Chinese Society of Breast Surgery (CSBrS) of the Chinese Medical Association has identified the key clinical issues through literature research and expert discussion and evaluated the relevant evidence with reference to the grading of recommendations assessment, development, and evaluation. The CSBrS formulated the clinical practice guidelines to provide a reference for physicians specializing in breast cancer and other fields.

A total of 84 members of the voting committee of this guideline, including 71 breast surgeons (84.52%), four oncologists (4.76%), four radiologists (4.76%), two pathologist (2.38%), two radiation therapist (2.38%), and one epidemiologist (1.19%).

Recommendation 3: Catheter tip position in infusion port.

Recommendation 4: Catheter tip positioning method.

Recommendation 5: Prevention and management of common complications.

Recommendation 6: Infusion port maintenance.

IV ports have changed the paradigm of care for patients receiving long-term infusions of cytotoxic or hyperosmolar, viscous drugs. In the literature, the long-term use of internal jugular vein implantation for the infusion port is more effective and safer than that for the subclavian vein. [3] Femoral vein placement may be appropriate in cases of obstructed compression of the superior vena cava or other special circumstances. [4] The arm port provides a better patient experience than the chest wall port because the placement site is hidden and there are no problems with changing the patient's dressing habits and exposing the implanted port site.

The American Society for Intravenous Infusion Nursing recommended that the tip of the central venous catheter be placed in the lower third of the superior vena cava, adjacent to the junction of the superior vena cava and the right atrium. [5] The European Society for Medical Oncology guidelines recommended the ideal location of the tip at the junction of the superior vena cava and the right atrium. [8]

Guidelines for the implantation and management of central venous access require imaging equipment. [9] Randomized controlled trial studies have shown that intra-operative X-ray fluoroscopy significantly reduces the rate of central venous catheter tip ectasia and the need to adjust catheter tip position compared to blind penetration. [10] Prospective controlled studies have shown that the application of ECG positioning significantly reduces the risk of tip ectasia and is efficient and economical. [11 , 12]

Ultrasound-guided internal jugular vein puncture is relatively easy to perform, has fewer complications, and is a safer procedure compared to that in other veins. [8]

The main cause of catheter-associated bloodstream infection pathogenesis is bacterial colonization of intravascular catheters. The typical presentation is chills and hyperthermia with elevated leukocyte counts. When infection is suspected, the use of the IV port should be suspended and intra-port and peripheral blood samples should be drawn for blood culture and drug sensitivity testing. Sensitive antibiotics should be selected for systemic treatment based on these test results. The IV port should be removed immediately upon anti-infective therapy failure. [8 , 14] IV port catheter-associated thrombosis is primarily guided by the formation of blood clots in the external wall of the tube or intra-catheter access. Once thrombosis is established, anticoagulation is preferred [8 , 14] ; furthermore, thrombolytic therapy is generally not recommended.

The implantation and maintenance of IV ports should be performed by individuals and/or teams with educational backgrounds in infusion therapy. The use of non-invasive needles can protect against the puncturing of the silicone septum of the injection seat. Health industry standards state that non-invasive needles should be changed every 7 days.

The non-invasive needle wing must be fixed and protected using sterile dressings. Sterile transparent dressings should be changed at least every 7 days and sterile gauze excipients should be changed at least every 2 days. The 10-mL syringe is recommended to assess the function of the device, as larger-diameter syringes produce lower injection pressure and help to protect the catheter. Pulsatile maneuvers can create a vortex in the lumen and increase the flushing effect and positive-pressure sealing can prevent blood reflux from the catheter tip. Our health industry standards state that IV ports should be maintained at least every 4 weeks between treatments.

Infusion ports that do not need to be retained or are not suitable for continued retention may be removed. After the removal, the device should be checked for integrity.

The Expert Committee for this guideline declares no conflict of interest. This guideline is intended to serve as a reference for the clinical work of physicians specializing in breast disease. It does not serve as a basis for medical evaluation, nor does it arbitrate on any medical disputes or controversies, nor does it serve as a reference for patients or non-breast specialists. The Chinese Society of Breast Surgery of the Chinese Medical Association does not assume any responsibility for any results involving the inappropriate application of this guideline and reserves the right to interpret and revise this guideline.

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