National Patient Safety Goal #13: 
Patients’ Active Involvement 
in Their Own Care: 
Preventing Chemotherapy Extravasation

Lisa Hartkopf Smith, RN, MS, AOCN®, CNS

The most important aspect of managing chemotherapy extravasation is prevention. The Oncology Nursing Society has developed guidelines to prevent extravasation, including patient education.

The Joint Commission National Patient Safety Goal #13 is to encourage patients’ active involvement in their own care as a patient safety strategy (Joint Commission, 2009). The U.S. Department of Health and Human Services, Agency for Health Care Research and Quality (2009) agrees that the single most important way to prevent errors is for patients to be active members of the healthcare team. For patients receiving vesicant chemotherapy, playing an active role in promoting safety can help prevent chemotherapy extravasation.

Vesicant extravasation is one of the most feared complications of chemotherapy (Schrijvers, 2003) because of resultant tissue destruction and potential long-term complications. The most important aspect of managing chemotherapy extravasation is prevention (Schrijvers, 2003). The Oncology Nursing Society (Polovich, White, & Kelleher, 2005) has developed guidelines to prevent extravasation, including patient education. The National Quality Forum (2006) has developed a set of 30 safe hospital practices to reduce the risk of patient harm. A key practice that focuses on patient education is Safe Practice #2, which states that healthcare professionals should ask each patient to “teach back” in his or her own words important information about the proposed treatment or procedure.

Information to teach patients to prevent harm from extravasation includes: (a) the risk of extravasation, (b) signs and symptoms to report, (c) interventions to prevent dislodgement of IV access, and (d) the availability of central venous access devices if peripheral access is poor (Schulmeister, 2008). Examples of teaching handouts that include this information are depicted on the next page.

By ensuring that patients understand information to prevent extravasation, such as the patient education sheets in appendices 1 and 2, nurses can empower patients to help prevent and detect harmful chemotherapy extravasation.

References

Lisa Hartkopf Smith, RN, MS, AOCN®, CNS, is an oncology clinical nurse specialist at Riverside Methodist Hospital in Columbus, OH. Mention of specific products and opinions related to those products do not indicate or imply endorsement by the Clinical Journal of Oncology Nursing or the Oncology Nursing Society.

Digital Object Identifier: 10.1188/09.CJON.233-234
Patient Education: Receiving Peripheral Vesicant Chemotherapy (Into a Vein in the Arm)

Your cancer treatment includes one or more chemotherapy drugs called vesicants. Vesicants are intended to be given into a vein, but for various reasons, they sometimes leak outside the vein into the tissue and cause tissue damage. The degree of tissue damage depends on the vesicant (some cause minor tissue damage, whereas others can cause major damage), the amount of the vesicant that goes into the tissue, and the location of the IV site.

Your nurse will do everything possible to carefully administer your chemotherapy. You can do the following things to help reduce the chance that a vesicant will leak outside the vein into the tissue and cause tissue damage.

Before treatment starts, place things you may need, such as tissues or water, near your arm that does not have the IV inserted into it. Use this arm to reach for items you need.

- Do not move your hand or arm while a vesicant is being administered.
- Tell your nurse right away if the IV site or surrounding area feels uncomfortable, painful, itchy, or in any way unusual. Let your nurse know as soon as your IV site starts feeling differently. Do not wait to see whether the symptoms continue or worsen.
- If you are receiving fluids or a vesicant by IV infusion (dripping in from a bag), make sure the IV tubing is taped to your arm and place it across your lap instead of having it hang off the side of a bed or chair. If your tubing is accidentally pulled or tugged, let your nurse know immediately so he or she can check your IV.
- Wear clothes with short sleeves or sleeves that can be pushed up easily to keep the area from the elbow to the wrist visible.
- Sometimes more than one “stick” (attempt) is needed to place an IV device properly and securely into a vein. If there is any doubt about your IV, your nurse will restart it in another area. This is done for your safety.
- Because chemotherapy is harsh on the veins, sometimes another type of IV catheter must be inserted into the arm or chest area to complete planned chemotherapy treatments. Your nurse and doctor will discuss this with you if needed.
- Look at your IV site a few hours after you have received your chemotherapy treatment, and look at it again the next day. If you see any swelling or redness, or if the IV site feels warm, tender, or uncomfortable, contact your nurse or doctor right away. Tissue damage from vesicant chemotherapy might not be apparent when chemotherapy is given but can appear hours or days later.

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Patient Education: Receiving Bolus or Short-Duration Vesicant Chemotherapy Through an Implanted Port

Your cancer treatment includes one or more chemotherapy drugs called vesicants. Vesicants are intended to be given into a vein, but for various reasons, they sometimes leak outside the vein into the tissue and cause tissue or organ damage. The degree of damage that can occur depends on the vesicant (some cause minor tissue damage, whereas others can cause major damage), the amount of the vesicant that goes into the tissue, and the location on the body where it leaks from the vein. Implanted ports help reduce the chance that vesicants will leak from the vein.

In rare instances, however, the devices may break, malfunction, or not work as intended. If that happens, vesicants can infuse into the surrounding area and cause damage. Your nurse will do everything possible to carefully administer your chemotherapy. You can do the following things to help reduce the chance that a vesicant will leak and cause tissue or organ damage.

- Know the name of the port that was inserted into your arm or chest area. You may have received a small card with that information and the date it was inserted; if so, carry the card with you. If not, write the name of your port along with the date it was inserted on a piece of paper and carry it with you. Some ports have one lumen (one area that connects to the vein), whereas others are dual-lumen ports that have two areas that can connect to a vein. Your surgeon likely told you which type of port you have; if not, ask your doctor or nurse.
- Wear clothes that are comfortable and provide easy access to your port on the days you receive chemotherapy.
- Most ports are placed in the upper chest area, and a few are placed in the arm or abdomen. Your nurse will cleanse the skin and insert a special needle into your port so it can be used for chemotherapy. You may feel slight pressure or feel your nurse pressing down as the needle is inserted. You should not feel pain or excessive probing as the port needle is inserted.
- When your nurse checks for a blood return and flushes your port, focus for just a minute on how that feels to you. If you feel an odd sensation in your neck, around the port and flushes your port, focus for just a minute on that feeling. If you feel an odd sensation in your neck, around the port needle site, or anywhere else, let your nurse know.
- Your nurse should obtain a blood return from your port. If a blood return does not appear and you are seated upright in a chair or bed, you will be placed in a flat position or in a position with your head a little lower than the rest of your body. Usually a blood return can then be obtained. If a blood return cannot be obtained, your nurse will manage the situation according to the policies of your treatment facility. You may need an x-ray or dye study of the port, you might have a small clot at the end of your port that needs to be dissolved, or you may need to have something else done. Your nurse will tell you what needs to be done and why. For your safety, a vesicant chemotherapy drug is not given unless your nurse confirms that the port needle is securely and correctly placed into the port and that your port is in the right place and functions correctly.
- As you receive a vesicant, tell your nurse right away if the port needle site or surrounding area feels uncomfortable, painful, itchy, or in any way unusual. Let your nurse know as soon as your port site starts feeling differently. Do not wait to see if the symptoms continue or worsen.
- If you are receiving fluids or a vesicant by IV infusion (dripping in from a bag), make sure the tubing is taped to your arm and place it across your lap instead of having it hang off the side of the bed or chair. If tubing is pulled or tugged, let your nurse know immediately so your port and tubing can be checked.
- During the few minutes that it takes for your vesicant chemotherapy to be given, avoid moving around. Do not raise your arms over your head, and do not touch or rub the dressing that has been placed over the port. Avoiding unnecessary movement helps reduce the chance that the port needle will dislodge, which allows the vesicant to leak into the tissue and cause damage.
- Look at the skin over your port a few hours after you have received your chemotherapy treatment, and look at it again the next day. If you see any swelling or redness, or if the port site feels warm, tender, or uncomfortable, contact your nurse or doctor right away. Tissue damage from vesicant chemotherapy might not be apparent when chemotherapy is given but can appear hours or days later.

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