

Bolus: A one-time or intermittent dose of IV fluid or medication given to rapidly achieve a physiologic effect (see Principles of Infusion Therapy, IV Bolus Administration).

Bridge: Alternative terminology for a Manifold.

Buretrol: A type of infusion container that holds limited quantities of IV fluids or medications to minimize the impact of free-flow or rate-related errors. IV fluids are attached above the buretrol and refilled manually as the volume decreases. Buretrols are used primarily in pediatric settings, because the impact of free-flow and rate-related errors can be more severe than in adult patients.

Call-back alarm: A feature common to large-volume infusion pumps that alerts nurses to the completion of a secondary infusion.

Central venous catheter: A short tube inserted into a large vein in the patient, which allows IV fluids/medication to be infused directly into the patient's bloodstream. Central venous catheters are placed close to the superior or inferior vena cava, or to the right atrium of the heart, where a large volume of blood can dilute the contents of the infusion(s). Fluids/medications are rapidly distributed throughout the body because of their immediate uptake by the heart.

Central venous pressure line: An IV line connected to a central venous catheter that facilitates the use of a pressure-monitoring transducer.

Concurrent infusions: The administration of two or more infusions simultaneously, each at its own flow rate, through the same IV line. Each infusion must be individually controlled by its own infusion pump or pump channel.

Continuous infusion: An infusion administered on an ongoing (continuous) basis. Some patients require a constant intake of fluids for hydration, and therefore have a continuous, maintenance infusion started (see Maintenance line).

Chaser: See Maintenance line.

Dead volume: The total volume of the catheter and all associated IV tubing and connecting components from the point where two or more IV fluids/medications meet up until they reach the patient's bloodstream.

Dose Error Reduction System (DERS): A software feature found in "smart" infusion pumps that contains a library of medications and concentrations for nurses to select from when administering IV infusions. Each medication and concentration is associated with dosing limits, so

that nurses are warned or prevented from starting the infusion if the dose exceeds the limits. The drug library and its associated dosing limits can be tailored to different clinical care areas and their unique requirements.

Drug-dose calculator: A feature common to large-volume infusion pumps, in which nurses enter parameters such as the concentration, intended dose, and volume to be infused such that the infusion pump calculates the correct flow rate for the infusion.

Head height differential: The distance between the fluid height of two IV containers. This term is commonly used to refer to the distance between the fluid level in a secondary infusion container and the fluid level of the primary infusion container.

High-alert medications: Medications that bear a heightened risk of causing significant patient harm when they are used in error.

Intermittent infusion: An infusion administered on a periodic basis. For example, an intermittent infusion of antibiotics may require a short IV dose to be administered every eight hours. Typically, each dose is contained in its own IV bag.

Intravenous (IV): Means "within vein." Any equipment prefaced with the term IV refers to its intended use for administering fluids or medications intravenously (e.g., IV infusion pump)

IV agent: Any fluid or solution intended to be administered to a patient via the IV route; may include hydration fluids, blood and blood products, total parenteral nutrition, IV medications, IV chemotherapy, or others.

IV tubing: A tubular pathway for IV agents to travel from one location to another.

Large-volume infusion pump: A programmable device that controls the rate and volume of an infusion. Large-volume infusion pumps can control the flow of IV agents from containers of various sizes, provided the containers are hung above the pump such that gravity encourages them to flow towards the pump.

Line/IV line: A pathway for IV agents to enter a peripheral or central venous catheter. In some cases, catheters may consist of multiple lumens (see Triple-lumen catheter) so that several IV agents can infuse through the same catheter without mixing until they reach the bloodstream; each of these lumens is considered a separate IV "line."

Luer lock: A “push and twist” connector system that allows IV components to securely connect together (e.g., IV tubing, catheters, syringes). Screw-like threads and the precise tapering of the male/female ends facilitate a tight fit between the components.

Lumen: The tubular space inside IV tubing or catheters in which IV agents can flow and be contained. Some IV catheters have multiple lumens (e.g., see Triple lumen-catheter).

Manifold: A rigid IV component with multiple ports that facilitates the joining of multiple IV components together. Manifolds usually possess only 1 lumen, so all connected infusions mix together.

Maintenance line: A line reserved for maintaining hydrating or line patency, often used to “push” or “carry” the contents of other infusions connected downstream, thereby minimizing variations in dead volume concentration and ensuring the patency of the IV catheter. This line is sometimes also referred to as a Chaser.

Med line: A maintenance line reserved for the coadministration of medication.

Peripheral IV (PIV) line: An IV line connected to a peripheral venous catheter.

Peripheral venous catheter: A short tube placed into a patient’s vein somewhere other than his/her chest, abdomen or femoral vein. Veins in these areas tend to be smaller and farther from the heart than central venous catheters, and they carry smaller volumes of blood.

Piggyback infusion: See Secondary infusion.

Primary infusion: An infusion connected directly to an infusion pump via primary IV tubing (i.e., not connected via a medication port).

Primary IV tubing: IV tubing intended for use with a primary infusion. Primary infusion tubing (primary infusion “sets”) designed for large-volume infusion pumps typically features a Y-site upstream of the connection to the pump where secondary IV tubing can be connected. Primary IV tubing intended for syringe pumps typically does not feature Y-sites.

Secondary infusion (commonly referred to as piggyback infusion): An infusion designed to temporarily interrupt the primary infusion so that a second IV fluid/medication can be attached and flow through the primary IV tubing. This process

requires a separate programming sequence on the infusion pump to control the secondary infusion. When the secondary fluid/medication has infused, the primary infusion resumes at the appropriate flow rate (see Principles of Infusion Therapy, Secondary Infusions).

Secondary IV tubing: IV tubing intended for use with a secondary/piggyback infusion. This tubing tends to be shorter than primary IV tubing.

Smart infusion pump: An electronic infusion pump equipped with a DERS. A central element of all smart pumps and their DERS software is the ability to provide nurses with an alert when specific dosing limits are exceeded during the infusion programming process. Smart pumps may offer the ability to display clinical advisories (depending on the infusion programmed), communicate wirelessly with a pump server, and record timestamp logs of programming keystrokes. Smart pumps may also employ barcode and/or radio frequency identification technology to reconcile medication, patient, nurse, and prescriber order information.

Syringe pump: An electronic or mechanical device that administers the contents of a syringe at a controlled flow rate.

Three (3)-way stopcock: An IV connector that joins three IV tubes together (usually two infusions joining into one). It is functionally similar to a Y-site, with the added functionality of being able to stop the flow of one of its connections with a handle.

Triple-lumen catheter: A catheter that has three lumens, or tubes, inside the catheter. This allows three different pathways for IV agents to infuse without interacting until they reach the patient’s bloodstream. The lumens exit the catheter at different points inside the patient’s vein, minimizing immediate mixing once they leave the catheter.

Vesicant: An IV agent that can cause severe chemical burns and tissue necrosis.

Volume to be infused: The volume of fluid or medication that is intended to be administered to the patient.

Y-site: A luer lock entry point into IV tubing. Due to the fact that it protrudes from the IV tubing at an angle, the combination of two IV tubes into one resembles the letter Y.