

Iv therapy case study essay sample



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Intravenous therapy or IV therapy is the infusion of liquid substances directly into a vein. The word intravenous simply means “ within a vein”. Therapies administered intravenously are often called specialty pharmaceuticals. It is commonly referred to as a drip because many systems of administration employ a drip chamber, which prevents air from entering the blood stream (air embolism), and allows an estimation of flow rate. * Intravenous therapy may be used to correct electrolyte imbalances, to deliver medications, for blood transfusion or as fluid replacement to correct, for example, dehydration. Intravenous therapy can also be used for chemotherapy. When compared with other routes of administration, the intravenous route is the fastest way to deliver fluids and medications throughout the body. Types of IV access

The Hickman catheter is softer than a simple triple-lumen catheter, and is usually inserted in an operating room. The actual access to the subclavian vein is still by puncture under the clavicle, but the distal end of the catheter is pulled under the skin for 2-4 inches and comes out of the chest close to the nipple. This creates a “ tunnel” which decreases the risk of infection. The Hickman catheter, which is made of silastic (a silicone elastomere), comes in double-lumen and triple-lumen varieties. These catheters can stay in place for weeks to months; some patients have had the same Hickman catheter for years! * The Groshong catheter is very similar to the Hickman catheter, but has a valve at the tip of the catheter which makes it unnecessary to leave a high concentration of heparin in the catheter (see below). The Broviac catheter is also similar to the Hickman catheter, but is of smaller size. This catheter is mostly used for pediatric patients. * Pheresis catheters are larger

and sturdier than Hickman catheters. Pheresis catheters can also be used for hemodialysis, and are often called “ dialysis catheters”. The Hickman catheters are not designed to handle high-flow blood withdrawals; they are so soft that the walls of the catheter collapse (pull vacuum) when the dialysis, or pheresis, machine attempts to pull blood into the machine (see also Apheresis).

These dialysis/pheresis catheters can either be inserted without a tunnel (e. g., Arrow Catheter?) at the bedside, or with a tunnel (e. g., PermCath?) in the operating room. Such tunneled pheresis catheters can serve both for the collection of stem cells and for support of the patient during the transplant episode. * Implantable Ports are catheters which are inserted completely under the skin. The distal end of the catheter is formed by a small metal “ drum” or reservoir, which has on one side a membrane for needle access. This drum is surgically placed under the skin, just below the clavicle, with the membrane immediately below the skin. The catheter runs from the drum into the subclavian vein. Access is always with a special needle that is pushed through the skin and the membrane into the reservoir inside the drum. Such ports come in different sizes, and can have either one or two lumens. Since the entire catheter is under the skin, the risk of infection is smaller than with external catheter

Gone Wrong !

Infiltration and extravasation are complications that can occur during intravenous therapy administered via either peripheral or central venous access devices. Both can result in problems with the siting of future venous access devices, nerve damage, infection and tissue necrosis. The nurse is

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the key to reducing the risk of infiltration and extravasation, through her knowledge and skill in cannulation and the intravenous administration of drugs (by bolus injection or infusion). The nurse must also be able to recognize the early signs and symptoms of infiltration and extravasation and act promptly and effectively to limit tissue damage. The first sign of possible leakage of drugs into the tissues is pain and discomfort, so patients must be informed of what symptoms to look out for and be asked to report any change in sensation as soon as they are aware of it. Finally, accurate documentation of the event is vital to facilitate patient care and in case of litigation.

http://faculty.mercer.edu/summervill_j/iv.htm

<http://www.ivteam.com/iv-therapy-extravasation-and-infiltration/>