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## Patients enjoy convenience of new catheter technology

*Safer, faster system uses ECG, not X-rays, to confirm drug-line placement*

LETHBRIDGE — A new way of doing intravenous therapy is saving time and eliminating the need for X-rays for certain patients at Chinook Regional Hospital.

Patients prescribed long-term chemotherapy, extended courses of IV antibiotics or other medications or blood products often require a thin tube known as a Peripherally Inserted Central Catheter — or PICC line — to administer the drugs directly into their circulatory system.

At Chinook Regional Hospital, these patients see their PICC lines inserted by a team of four highly-skilled registered nurses who make up the Advanced Vascular Access Team (AVAT) in the Day Procedures unit. The tip of the line needs to be placed precisely in a large chest vein on the right side of the heart. The local AVAT team is the first in the province to use a new system that relies on ECG (electrocardiogram) technology and magnetic tracking to confirm positioning of the line, which is threaded into the body from a vein in the upper arm.

Previously, it could take multiple X-rays to verify placement of the PICC line, adding significantly to the procedure's completion time. The new method, using the Sherlock 3CG Tip Location System, takes less than an hour. Once in place, the line remains as a portal for medication for weeks, months or even years, depending on the patient's needs.

Under the previous method, says AVAT team member Gwen Warkentin, “the line would be placed and an X-ray would be called to verify. If it wasn't correct, it would have to be re-positioned, then X-rayed again. It could double the time of the procedure and expose the patient to more radiation.

“The wall of a vein is one-cell thick. If a line is misplaced and needs to be placed again, it risks potential trauma to the vein. With the new system, once all the preparation is done, the actual procedure takes about five minutes. If there is a way of doing something safer, faster and more accurately with the added benefit of saving health care dollars, why wouldn't you use it?”

Now, with the new Sherlock system, nurses place two electrical cardiac leads on the patient's chest, and then feed the catheter into a vein, typically in the right arm. A tip-location device that resembles a video-game handset is put on the patient's chest to pick up signals from a magnetized wire inside the line. Once the catheter is verified in place, the wire is withdrawn.

Alberta Health Services is the provincial health authority responsible for planning and delivering health supports and services for more than four million adults and children living in Alberta. Its mission is to provide a patient-focused, quality health system that is accessible and sustainable for all Albertans.

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