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IV Needleless Connector Design Can Help Prevent CR-BSI, Says Nursing Journal

Intraluminal Protection Connector Design Advantages Highlighted

FRANKLIN, Tenn. – A recently published article on the care and maintenance of ccentral venous access devices describes the benefits of intraluminal protection connectors for preventing catheter-related bloodstream infections (CR-BSI).

The article, titled "Catheter Management," appears in the May 2010 issue of *Seminars in Oncology Nursing*.

In the article, author Denise Macklin, RN, BSN, notes that there are two categories of IV connectors: "needle-free" and "intraluminal protection." Macklin writes that from the standpoint of preventing CR-BSI, intraluminal protection connectors have several design advantages over simple needle-free connectors.

"Connectors are the gateway to the intraluminal pathway," says Macklin. "The design of the intraluminal protection connector helps prevent biofilm formation and fibrin adhesion, which are the preconditions for CR-BSI. By comparison, needle-free connectors that have too many moving parts and hard-to-reach surfaces are difficult to properly disinfect. They also place a large educational and practice burden on nurses, which increases the opportunity for misuse."

The *Seminars in Oncology Nursing* article describes several connector design features for healthcare facilities to evaluate when selecting IV connectors:

- **Smooth septum**. A smooth septum surface can be 99.9% decontaminated when swabbed with alcohol using appropriate technique. Gaps in the septum surfaces of certain needle-free connectors are hard to reach when swabbing.

- **Straight fluid pathway**. Straight fluid pathways have been shown to reduce catheter occlusions and CR-BSI in the clinical setting. Tortuous

fluid pathways cannot be thoroughly flushed, causing fibrin deposits in the pathway's dead space and increasing CR-BSI risk.

- **Zero fluid displacement.** When disconnecting the catheter and connector, most connectors require nurses to employ special clamping sequences to prevent blood reflux into the catheter, a source of fibrin adhesion, occlusion and infection. Connectors with zero fluid displacement and therefore no blood reflux eliminate the need for clamping.

"Proper catheter management is essential if potentially fatal CR-BSI are to be minimized," said Cynthia Chernecky, PhD, RN, AOCN, FAAN, guest editor of the issue in which Macklin's article appears. "Denise Macklin has performed a valuable service by emphasizing the important role that connector selection plays in infection prevention. Connectors must be appropriately disinfected and flushed, and blood reflux must be prevented to achieve optimal results. It's crucial that facilities keep these factors in mind when choosing the connectors they make available to their clinical staff."

About RyMed Technologies, Inc.

RyMed Technologies, Inc., founded in 1994, specializes in the development and marketing of innovative safety products in the field of intravenous catheter care management, addressing a $1 billion-plus market. The company's products are designed to help reduce catheter-related infections associated with vascular access. More than 10 years of research and development have gone into its unique needleless connector, InVision-Plus® with Neutral Advantage™ technology, and related products. The company is headquartered in Franklin, Tenn.

For more information, call (615) 790-8093 or access www.rymedtech.com.

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