InVision-Plus Benefits Shown by Study
Presented at European Oncology Nursing Society

_RyMed Technologies’ Needleless IV Connector Is Associated with Lower Catheter-Related Bloodstream Infection Rates_

GENEVA, Switzerland – InVision-Plus® with Neutral Advantage™ Technology outperformed a negative pressure, split-septum needleless IV connector in a prospective study that examined the association of different IV connector types with catheter-related bloodstream infection (CR-BSI) rates.

InVision-Plus is made by RyMed Technologies, Inc. (Franklin, Tenn.)

The infection rates were observed to drop dramatically when two oncology departments, at a major U.S. cancer hospital, both switched from a negative pressure, split-septum needleless IV connector to the RyMed InVision-Plus. After the switch to InVision-Plus, the incidence of CR-BSI dropped 96.5% in one of the departments and 89.2% in the other.

The results were reported in a scientific poster presented at the recent 8th European Oncology Nursing Society (EONS) Spring Convention.

The authors of the poster are Cynthia Chernecky, Ph.D., RN, AOCN, FAAN, of Georgia Health Sciences University, Augusta, Ga.; William R. Jarvis, M.D. of Jason & Jarvis Associates, LLC, Hilton Head Island, S.C.; and Denise Macklin, BSN, RN-C, Marietta, Ga.

InVision-Plus is referred to as an “intraluminal protection device (IPD)” in the poster.

“The message here is clear: the needleless IV connector type matters,” said Chernecky. “The biggest advantages of the IPD connector design are its zero fluid displacement, straight fluid pathway and the absence of dead space in the fluid pathway.”

Fluid pathway issues pose problems for other types of IV connectors. Chernecky says: “The complicated fluid pathways, blood reflux issues and dead space of other IV connectors promote biofilm formation. This helps explain why those connectors are associated with higher CR-BSI rates, in our studies and
elsewhere. The advantages of the IPD appear to be so great that similar IV connectors should be considered central to any CR-BSI prevention initiative.”

The same poster also reported results from a second study, in which InVision-Plus significantly outperformed two other needleless IV connector types. This study, performed *in vitro*, compared the ability of three IV connector types, including InVision-Plus, to resist bacteria that commonly cause CR-BSI.

During the 96-hour test period, enough bacteria to cause a CR-BSI were found on 65% of the negative pressure split-septum IV connectors tested and on 30% of the positive pressure IV connectors tested.

InVision-Plus has numerous characteristics designed to prevent infections including double microbial barrier, excellent septum seal integrity, zero fluid displacement, a straight fluid pathway and no dead space. Thus, it is easier to completely flush blood from the IV connector/catheter when InVision-Plus is used.

The [FDA](https://www.fda.gov) has issued an alert requiring all manufacturers of positive pressure connectors to assess whether their devices do not increase CR-BSI risk. This is because numerous studies already associate positive pressure connectors with higher rates of CR-BSI.

Dr. Jarvis has noted in a previous publication that studies also associate negative pressure [IV connectors](https://www.cdc.gov) with higher CR-BSI rates, due in part to greater rates of occlusion.

The 8th European Oncology Nursing Society (EONS) Spring Convention was held April 26-27 in Geneva, Switzerland.

**Resources:**

* **Video:**
  * [Needleless IV Connector Virtual Tour](https://www.youtube.com)

* **Text:**
  * [CR-BSI bundle](https://www.cdc.gov) (recommended evidence-based practices and devices to prevent CRBSI)
  * Scientific poster comparing effectiveness of different [IV connector](https://www.cdc.gov) types
  * Summary of Infection Control Today article by William Jarvis, M.D. on different types of [needleless IV connectors](https://www.cdc.gov)
About RyMed Technologies, Inc.

Founded in 1994, RyMed Technologies, Inc. specializes in the development and marketing of innovative safety products in the field of intravenous catheter care management. The company's products are designed to help reduce catheter occlusions, catheter-related bloodstream infections, and biofilm development commonly associated with vascular access devices. More than 10 years of research and development have gone into the InVision-Plus product line. Numerous studies regarding the efficacy of the InVision-Plus Needleless IV Connector have been published in the last six years—which is particularly important in light of the growing incidence of catheter-related bloodstream infections (CR-BSI).

For more information on the product and published studies, access www.rymedtech.com or call (615) 790-8093. The company is headquartered in Franklin, Tenn.

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