

“GEMINI” CONNECTOR DEVICE TO PREVENT PERIPHERAL VENOUS CATHETERS FROM DISLODGING AND LEAKING

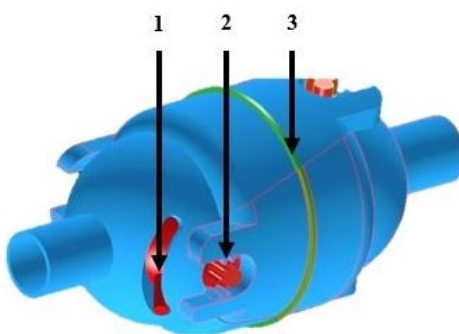
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Technology Description

A team of researchers at Washington University in St. Louis have developed the patented “Gemini” breakaway connector to turn peripheral venous catheter (PVC) fluid flow on and off without leaking. In addition, this easy-to-use device is designed to prevent PVC dislodging to reduce nursing time and cost associated with reconnecting IV lines.



Features of Gemini breakaway connector: 1) spherical shape with sliding pin to turn fluid flow on and off; 2) clamp that attaches connector to counterpart to prevent unintentional dislodging; 3) indicator to display when clamp is in place and the seal is secure.

Virtually every patient in the hospital has a PVC to deliver IV fluids (e.g., saline, blood, medication) to the circulatory system. Traditional PVCs often pull away from the patient and become disconnected, resulting in complications for the patient (infections, embolism, blood loss) in addition to extra nursing time needed to reconnect the IV line. The Gemini breakaway connector is designed to solve these problems at a cost similar to conventional connectors. It consists of two valves which clamp together to prevent unintentional dislodging. Its breakaway mechanism ensures that the fluid lines do not leak and remain sterile when they are disconnected and connected. Finally, its spherical shape and sliding pin enables caregivers to easily turn fluid flow on and off. This device could potentially save staff time, increase patient comfort and ultimately reduce hospital costs.

Stage of Research

The inventors built a working 3D prototype that demonstrates the function of the mechanism.

Applications:

- Peripheral venous catheter connector

Key Advantages:

- **Prevents leaking and dislodging:**
 - self-seals and maintains sterility when detached
 - reduces nursing time spent reconnecting and restarting IV lines
 - improves patient comfort
- **MRI-compatible** – no ferromagnetic materials
- **Similar cost to current connectors**

Patents: [Breakaway connector](#) (U.S. Patent No. 10,625,068)

Related Web Links: [Bayly Lab](#), [Dacey Profile](#), Leuthardt [Profile](#) and [Lab](#), Singamaneni [Soft Nanomaterials Laboratory](#), [Zipfel Profile](#)