Bubble-Free IV Line Port

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Technology description

Invention Summary

The Bubble-Free IV Line Port is a modified needle port used for an Intravenous Line (IV), which is one of the most commonly used devices in the medical field. This invention will allow nurses and anesthesiologists to prepare IV lines more quickly by not allowing air bubbles to enter the fluid flow. The proposed invention accomplishes this simply by reorienting needles port slightly and by using a rubber material as a split septum to seal the port at the needle insert (see figure 1 (b)). This effectively eliminates any chance of air bubbles entering the flow through the port. This also eliminates any residual medicine left over in the needle port which allows for a more precise dosage. Another useful feature of this device is that it allows for one-handed operation. Medical device manufacturers are likely to be the purchasers of a technology such as this, while nurses and anesthesiologists are the end users.

The Bubble-Free IV Line Port is a universal port and an upgrade to the current design. One of the shortcomings of the current design is the accumulation of air bubbles in the "Y" design of the port. The port is angled and has a significant amount of space between the needle and the flow of saline solution. When the medicine is injected, the air in the port enters into the solution and forms an air bubble that must then be removed. To do this, a nurse must spend time priming the IV line by tapping, flicking, and shaking the equipment to remove all of the air bubbles. Furthermore, the currently used design requires two hands to be used when giving an injection. This creates a problem for anesthesiologists who have to keep one hand on the patient's mask at all times, as well as simply being a time consuming process.

Value Proposition

This technology creates value primarily by improving work flow for nurses and anesthesiologists. This technology is able to improve workflow in the following ways:

Easier, faster, and more ergonomic IV preparation

Eliminates residual medicine for a more precise dosage

Institution

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