

Surgical Drain Sutured-in-Place Prevention Kit

Summary

After a surgical procedure, a surgical drain is placed within the operative field for proper postoperative drainage of fluids. Complications occur when the sutures used to close the wound encircle or capture the drain, sewing the drain into the patient. Currently, there is no method to assure that a drain is not sewn into a patient until a drain removal is attempted several days post-surgery. Removal of a sewn in drain requires a secondary surgery. This technology is a method of use and surgical drain design that contains a removal sheath to safeguard against accidental suturing of the drain during surgical procedures.

Key Investigator

Douglas J. Turner

Field

Healthcare Device

Technology

Surgical drain

Advantages

- Prevents/reduces additional surgery to remove sewn-in drain
- Decreases length of hospital stay and morbidity due to additional surgery
- Decreases the number of medical mistakes/reportable incidents
- Low production cost

Status

Available for licensing

Patent Status

US Patent Application 15/127,082

UMB Docket Reference

DT-2013-129

Market

Surgical drains are considered a wound management technology. The global market for wound management totaled \$8.6 billion in 2013 and is expected to reach \$11.3 in 2018 at a CAGR of 5.6%. Common uses of surgical drains include plastic surgery, chest surgery, orthopedic surgery, neurosurgery, and removal of infected cysts. A confirmation of a correctly inserted drain would allow for an easy and prompt removal, lowering the risk of infection, tissue damage. Furthermore, sutured drains are considered medical mistakes and effective methods to prevent their occurrence would help to lower the number of medical mistakes/incidents reported to insurance companies and regulators.

Technology

This technology is a surgical drain that contains a removable sheath and a method to use this drain to safeguard against unintentional suturing of the drain into the patient's surgical site. The surgical drain is positioned and closed normally during the surgical procedure and after the sutures are placed internally, the surgeon removes the sheath, sliding it out over the drain by pulling the sheath toward the proximal end of the drain. If the sheath is removed with ease, it confirms that none of the internal sutures are sewn into the drain. Resistance against the removal of the sheath from the surgical drain indicates that the drain has been sewn into the surgical wound. This allows the surgeon to correct the drain placement during the surgical procedure. These surgical drains/sheaths can be of varying sizes and be used in percutaneous, minimally invasive, surgical, open surgical, or other interventional procedures from any body cavity. The sheath may also contain markings to confirm it has been removed in its entirety and modified to include pull strings to aid removal.

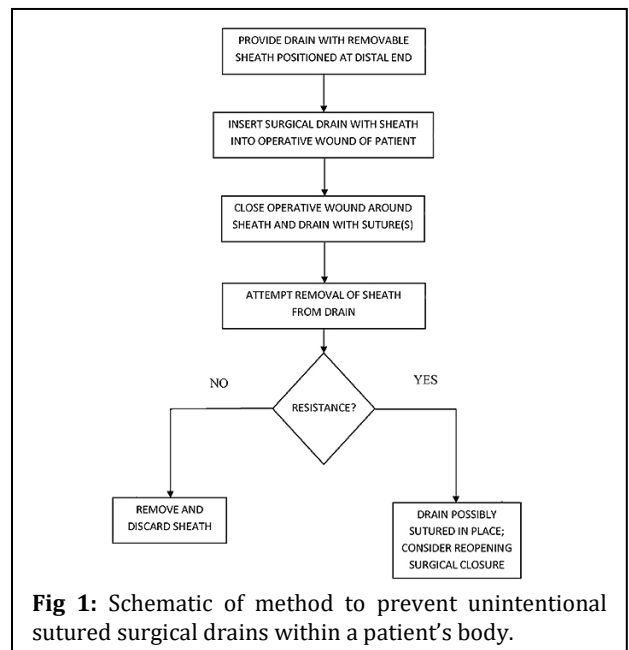


Fig 1: Schematic of method to prevent unintentional sutured surgical drains within a patient's body.