

**Studying the impact of 1% povidone-iodine solution if it is superior  
to normal saline for simple traumatic wound irrigation**

**Topic Consultation**

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## 1 Research Problem

The injuries and wounds need to be treated with an effective low concentration antiseptic to reduce infectious spread among patients suffering from wounds, or injuries are managed using the povidone-iodine solution (Ghafouri et al., 2016). Comparing povidone-iodine, iodine solution, and normal saline showed that the traumatic wound irrigation technique helps decrease the infection rate. The signs and symptoms of infection, like pus-forming infection, abscess, and cellulitis, are majorly contrasted to provide the efficacy of the two types of solutions among the patient treated with povidone-iodine and standard saline solution (Hu & West China Hospital, 2017).

## 2 Research Objective

The research aim of the study is given as follows

To evaluate the role of 1% povidone-iodine solution superior to normal saline for simple traumatic wound irrigation: the case of India

The objectives of the study are given as

- To contrast the properties of povidone-iodine and normal saline solution for wound irrigation
- To determine the significance of the wound management process for the patient care process for traumatic wound irrigation
- To explain the effectiveness of povidone-iodine solution for wound irrigation on infection rate and acute wound management

### **3 Motivation/Rationale**

Broad-spectrum antiseptic solutions are an essential part of wound management. The irrigation of wounds, infection and infection rate managed with the help of normal saline and povidone-iodine was initially used for cleansing purposes. It is considered to be The normal flora of the skin is not affected by the 0.9% saline solution. In contrast, the 1% povidone-iodine is an antiseptic solution that impairs blood flow and reduces the bacterial load (Sruthy et al., 2022). The multi-usage approach of traumatic wound injuries needed to be explained in context with the safety of using the povidone-iodine solution for controlling infection as motivation for the study.

### **4 Literature Review**

The study explained the importance of wound injuries and preventive strategies in patient safety management. The efficacy of the Povidone-iodine solution on the patient's wound and injury management is explained with the help of this study. With the wound contamination process, the random trial explained how to treat patients with wounds (Maemoto et al., 2021).

The study explained the comparison of the irrigation of povidone-iodine and saline solution on the wound infection of open appendectomy. It also explained the role of surgical site infections, wound injuries, and damage of non-viable tissues that could use saline and povidone-iodine solutions among the two groups of patients with irrigation subcutaneous tissue. The lowered infection rate by povidone-iodine resulted in this study (Owais et al., 2019).

### **5 Methodology**

The study follows the primary methodology comprising the approach to evaluate the firsthand experience of the healthcare workers, staff members, and patients regarding the wound management practices using the 1% povidone-iodine and standard saline solution. The traumatic

wound management process used by Indian healthcare management practices is majorly assessed with the help of primary analysis showing the significance of effective wound management approaches to treat infectious wounds.

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