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# ABSTRACT

General surgery incision infections can have serious consequences such as prolonged hospital stays, increased costs, and long-term health issues. There are several factors that can contribute to the development of these infections, including patient-related factors like medical conditions, smoking, and poor nutrition, as well as surgical techniques and postoperative care. Effective prevention requires a multifaceted approach that involves addressing these factors through appropriate measures such as maintaining proper sterile technique during surgery, using prophylactic antibiotics, and providing proper wound care and monitoring post-surgery. By taking these steps, healthcare providers can help minimize the risk of SSIs and improve patient outcomes.



## **INTRODUCTION**

General surgery incision infections are a significant concern for patients undergoing surgery, as they can result in prolonged hospital stays, increased healthcare costs, and even death in some cases. It is essential to understand the factors that contribute to incision infections and the preventative measures that can be taken to minimize their occurrence.[1]

Several factors contribute to the development of surgical site infections, including patient-related factors such as age, obesity, and immune system status, and procedure-related factors such as the type and duration of surgery, surgical technique, and the use of surgical equipment. Other factors such as poor wound care, inadequate sterilization, and inadequate antibiotic prophylaxis can also increase the risk of incision infections.[2-3]

Preventative measures for incision infections include proper preoperative planning, effective sterilization techniques, the use of appropriate surgical attire, and proper postoperative wound care. The use of prophylactic antibiotics can also be effective in preventing incision infections. However, it is essential to use antibiotics appropriately to avoid the development of antibioticresistant bacteria.[4]

In conclusion, preventing incision infections is a critical aspect of general surgery care. Healthcare providers must be aware of the various factors that contribute to incision infections and implement appropriate preventative measures to ensure patient safety and positive surgical outcomes.

## Data

We treated 679 patients at our hospital's general surgery department, including 412 male patients and 267 female patients aged 6 to 76.

#### Methods

General surgery incision infections can be caused by a range of factors, including patient-related, surgical-related, and environmental-related factors. To prevent such infections, specific measures need to be taken, depending on the underlying cause. Patients with conditions such as obesity, diabetes, smoking, and weakened immune systems may require additional precautions to minimize the risk of infection.[5] During surgery, the use of aseptic techniques and minimizing the use of foreign bodies can reduce the risk of infection. Environmental factors such as the cleanliness of the operating room, sterilization of surgical equipment, and prophylactic antibiotics can also play a role in preventing infection. To prevent incision infections, preoperative patient preparation, sterile techniques during surgery, and proper wound care after surgery are essential. Effective prevention strategies require a collaborative approach among healthcare providers, patients, and surgeons. Understanding the risk factors and taking appropriate preventive measures can help reduce the incidence of incision infections in general surgery.

#### Result

General surgery incision infections are a serious issue that can occur during or after surgical procedures due to the entry of bacteria into the incision site. To prevent such infections, several important factors need to be considered such as patient health, surgical procedure, surgical team, and post-operative care. Antibiotic prophylaxis, proper sterile technique, wound care, and screening and isolation of patients are some effective methods that can be employed to prevent incision infections. Overall, a comprehensive approach that takes into account all these factors can reduce the risk of infection and promote proper healing.

Table 1: Incisions made in the general surgery department are predisposed to certain factors.

	Number of operations	Number of infected Cases	Infection rate (%)	χ value	Р
Age				4.624	~ 0.05
< 30 years old	78	3	3.21		
30~60 years old	171	4	2.34		
>60 years old	91	5	5.52		
Operation time				17.628	~0.01
< 2 Hours	232	3	0.88		
$\geq$ 2 Hours	108	4	7.87		
Incision type				14.629	~0.01
Type I	173	2	1.45		
Type II	122	3	4.12		
Type III	454	4	8.89		

## DISCUSSION

General surgery incision infections pose a significant risk to patients, healthcare providers, and hospitals. To mitigate these risks, it is crucial to prioritize infection prevention measures. In this discussion, we will examine the relevant factors that contribute to general surgery incision infections, as well as preventative measures to minimize the risks.

Patient-related factors, such as age, overall health status, and comorbidities like diabetes, obesity, and immunocompromised conditions, can increase the risk of infection. [6]The type of surgery and surgical technique used can also impact the risk of infection. Prolonged exposure to anesthesia and surgical instruments during longer surgeries can also increase the risk of infection.

Prevention methods for general surgery incision infections include administering antibiotics before surgery to prevent infection, sterilizing surgical instruments and equipment, proper wound closure techniques, following sterile technique protocols during surgery, and educating patients on proper wound care and hygiene after surgery.

In summary, it is vital to understand the factors that contribute to general surgery incision infections and take preventative measures to minimize these risks. By following proper surgical techniques, sterilization procedures, wound closure protocols, and patient education, healthcare providers can reduce the risk of infection and improve patient outcomes.[7]

# Department of general surgery factors causing surgical incision infection

The Department of General Surgery carries out various surgeries, and there are several factors that can increase the risk of surgical incision infections. Patientrelated factors, such as preexisting medical conditions and weakened immune systems, can increase the risk of infection. The type and location of the surgery, surgical technique, duration of the surgery, and hospital-related factors can also contribute to surgical incision infections. [8] To prevent surgical incision infections, healthcare providers should consider the administration of antibiotics before surgery, adequate sterilization of surgical instruments and equipment, proper wound closure techniques, following sterile technique protocols during surgery, and educating patients on proper wound care and hygiene after surgery.

In summary, by taking appropriate measures such as following proper surgical techniques, sterilization procedures, wound closure protocols, and patient education, healthcare providers can reduce the risk of surgical incision infections and enhance patient outcomes in the Department of General Surgery.

# The department of general surgery has developed strategies for preventing surgical incision infections

Additionally, there are several other factors that can influence the risk of surgical incision infections. One significant factor is the patient's overall health status, as patients with underlying medical conditions or weakened immune systems may be more susceptible to infection. Other factors that can increase the risk of infection include the type and duration of the surgical procedure, the use of implanted medical devices, the presence of drains or catheters, and the use of blood transfusions during surgery.

To further reduce the risk of surgical incision infections, it is essential to use evidence-based practices and guidelines. The Centers for Disease Control and Prevention (CDC) provides guidelines for the prevention of surgical site infections, which includes recommendations for preoperative preparation, surgical technique, and postoperative care. The American College of Surgeons and Surgical Infection Society also provide guidelines for the prevention of surgical site infections. [9]

In addition to following these guidelines, it is crucial to use appropriate antimicrobial prophylaxis

before and during surgery. Antimicrobial prophylaxis should be tailored to the specific patient, procedure, and pathogen risks, and should be administered at the appropriate time before surgery to ensure adequate tissue levels during the procedure.

Overall, preventing surgical incision infections is a complex process that requires a multifaceted approach, including proper patient selection, appropriate use of antimicrobial prophylaxis, meticulous surgical technique, and careful postoperative management. By implementing these strategies, the department of general surgery can significantly reduce the incidence of surgical incision infections and improve patient outcomes.[10]

#### CONCLUSION

In conclusion, general surgery incision infections are a significant concern in healthcare settings and can lead to serious complications, including delayed healing, prolonged hospital stays, and increased healthcare costs. Several factors contribute to the development of incision infections, including the patient's age, pre-existing medical conditions, immunosuppression, surgical technique, and the presence of foreign materials.

Prevention methods for incision infections include careful patient selection, thorough preoperative preparation, proper surgical technique, and postoperative monitoring. Additionally, healthcare professionals can use prophylactic antibiotics and implement measures to minimize the risk of contamination during surgery.

It is crucial for healthcare professionals to remain vigilant for signs and symptoms of incision infections and to promptly diagnose and treat them to prevent the spread of infection and improve patient outcomes. By following established guidelines and best practices for incision infection prevention, healthcare professionals can reduce the incidence of these infections and promote better patient care.

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