

## Implementation of Wound Care with Simple Island Dressing Technique in Inguinal Hernia Lateralis Postoperative Patients

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### ABSTRACT

A Lateral inguinal hernia is a protrusion of the contents of the abdominal cavity that comes out of the peritoneal cavity through the weak part of the abdominal wall which contains the intestines, intestinal suspension or other abdominal organs. According to the category of causes of disease in Indonesia in 2020, hernia was ranked eighth. Lateral inguinal hernias result from weakening of the abdominal wall and are caused by increased intra-abdominal pressure. Lateral inguinal hernia requires immediate surgical treatment to prevent dangerous complications. This surgical procedure is called a herniotomy. After post-operative herniotomy, to avoid infection, post-operative wound care is required, namely by treating the wound with a simple island dressing technique. This case study aims to determine the results of implementation of wound care using the simple island dressing technique. This research uses a descriptive method of case study design with a nursing care approach, including assessment, diagnosis planning, implementation and evaluation. Data collection through interviews, observation, physical examination and documentation studies. The results of a case study after being given wound care using the simple island dressing technique to a post-operative patient, Mr. R the condition of the wound improved, there were no signs of infection or complications. Conclusion of post-operative care performed on post-operative patients with lateral inguinal hernia. The author planned and implemented the simple island dressing technique so that the wound improved and no signs of infection appeared.

## INTRODUCTION

Lateral inguinal hernia or abbreviated as HILS is a disease in the form of an organ protrusion or hernia that passes through the internal inguinal ring which is in the lateral part of the inferior epigastrium, along the canal and exits through the external inguinal annulus into the abdominal cavity (Sayuti & Aprilita, 2023). This bulge can occur when the patient screams, strains, or stands, but usually disappears by itself when the patient rests or lies down (Novriansyah et al., 2023). This condition can cause a variety of problems, including pain, worry, and discomfort, which can interfere with a person's basic need for safety and comfort. Nursing concerns related to lateral inguinal hernias include disturbed comfort, anxiety, and the danger of infection if surgery is performed (Hidayat, 2023).

Inguinal hernias (medial, lateral and indirect) are ten times more common and numerous than femoral hernias, accounting for 75-80% of all forms of hernia, with incisional hernias accounting for 10%, umbilical hernias accounting for 3%, and ventral hernias accounting for 10 %, and hernias for the remaining 10%. Inguinal hernias occur more frequently in men than women, with men having a prevalence of 13.9% compared to women 2.1% (Suprayogi, 2023).

According to the World Health Organization (WHO), individuals with lateral inguinal hernias in 2020 accounted for an average of 35% of people aged over 20 years, with 11% being overweight or obese globally and 14% overweight and 3% obesity in Southeast Asia (Asseghaf, 2023).

According to the data bank of the Ministry of Health of the Republic of Indonesia, based on the distribution of digestive system diseases in inpatients according to disease cause categories in Indonesia in 2020, hernias were ranked eighth with a total of 18,135 cases, 273 of which died due to failed hernia surgery. Meanwhile, according to Indonesian Basic Health Research Data (Riskesdas), cases of lateral inguinal hernia in West Java are above the national average, namely 49.9% of the 1000 population (Suprayogi, 2023).

Overall, 15,051 cases occurred in men and 3,094 in women, with hernias ranking eighth in outpatients. The total number of cases includes 41,526 visits, of which 23,721 were new visits, of which the number of male patients was 8,799 and female patients were 4,922. The number of cases in West Java is supported by data from cities and districts, including Tasikmalaya with 365 cases (Nur Safitri, 2023).

Symptoms of a lateral inguinal hernia include a lump in the groin or lower abdomen, which may get bigger if the patient strains or coughs. These symptoms will develop into acute pain, discomfort, and activity intolerance in the nursing environment (Dameria, 2023). Complications of inguinal hernia include strangulation, which can cause intestinal ischemia, obstructive ileus, and perforation. Hematomas, such as penile and scrotal ecchymoses, seroma, and wound infections, are the most frequently reported consequences after hernia repair (Yuliana, 2023). Hernias can cause various serious complications and disrupt health if not treated immediately, depending on the

condition experienced by the contents of the hernia itself, ranging from simple intestinal obstruction to perforation of the intestinal opening which can ultimately cause local abscesses or peritonitis, adhesions, irreversible hernias, ischemia, infection, and necrosis (Popy, 2023).

Hernias can only be treated surgically and all lateral inguinal hernias require surgical intervention. Side effects of this surgical procedure include pain and the need for post-operative wound care (Pranadinata et al., 2024). Therefore, surgical treatment for lateral inguinal hernia should include monitoring vital signs, eliminating or reducing pain, preventing fluid volume deficiency, reducing anxiety, providing adequate nutrition, and minimizing the risk of infection (Muchsin & Hidayat, 2023).

To avoid infection, careful postoperative wound care for lateral inguinal hernia is required. According to the assessment of the World Health Organization (WHO), ILO (Surgical Wound Infection) accounts for 5-34% of all nosocomial infections, with abdominal surgery having a risk of ILO 4.46 times higher than other surgical operations (Nicholas, 2023). Several variables contribute to infection, including the length of time exposed after the incident, greater damage to the surrounding skin, bacterial contamination, the presence of foreign objects, and poor and proper cleaning. To avoid increasing infection rates, wound care is needed to prevent cross-infection (Krismonika & Rohmah, 2023).

The appropriate and newest strategy for controlling wounds after lateral inguinal hernia surgery is to create a new wound care

treatment strategy. The aim of applying wound care is to control the moist condition of the wound. Wetting a wound that is managed well will speed up the healing process (Sayuti, 2023). The wound area will shrink quickly and is less likely to develop an infection. Wound problems after lateral inguinal hernia surgery can be overcome with standard wound care and wound dressings (Suprayogi, 2023).

The main purpose of wound dressing is to create an environment that facilitates the wound healing process. Wound dressings or wound dressings, like clothes, include sizes, patterns and colors that are tailored to the specific characteristics of the wound. Simple island dressing containing meloline is coated with a thin, adhesive polyurethane film. Permeable to gases, but impermeable to fluids and germs, retains moisture, including nerve endings, minimizing discomfort and, most importantly, minimizing wound infection (Yuliana, 2023). The polyester film coating on the simple island dressing prevents it from sticking to the wound and allows it to absorb light exudates. As a dressing for shallow, post-operative wounds or mild exudates. A simple way is to apply a bandage with a layer of film to the wound (Muchsin & Hidayat, 2023).

The use of simple island dressings for wound dressing ranges from simple or passive dressings, which essentially provide a contact layer to protect the wound bed from further damage and maintain a moist environment, to more sophisticated or interactive dressings, which can change the physiology of the wound (Suprayogi, 2023). Environment to optimize healing by, for example, granulation tissue formation

and re-epithelialization, managing exudate levels and bacterial counts. Bioactive dressings can also change the cellular or biological elements of a wound, such as topical antimicrobial agents (Suprayogi, 2023).

Based on the results of research conducted by Sciences et al., (2023) wound care using the simple island dressing technique has an effect on post-operative wound healing and is stated to be more effective than other methods. Therefore, the author is interested in implementing a simple island dressing for post-operative wounds of lateral inguinal hernia..

## METHOD

The method used is descriptive qualitative in the form of case study research using a nursing care process approach which includes assessment, diagnosis and evaluation stages which are carried out intensively. In this case study, the author took one client to be the subject of a case study of a post-herniotomy patient with the problem of damage to skin integrity due to surgery at Lingk. Siluman Baru, Banjar is conscious and the client is willing to be a respondent which was carried out for three days starting from the assessment on May 17 to May 20 2024 at the client's home in Lingk. Siluman Baru Rt 38/Rw 18, Purwaharja. The intervention used in this case study is wound care with a simple island dressing by paying attention to standard operational procedures.

Data collection techniques were carried out for three days including observation, interviews, physical examination, documentation study and physical examination. The tools used in the physical examination are a thermometer, stopwatch and sphygmomanometer. Meanwhile, the tools used to apply the simple island

dressing include: gauze, small compress, two pairs of tweezers, ointment, scissors, waterproof bag, plaster, 70% alcohol, 0.9% NaCl and bandages. The treatment in this case study is wound care using a simple island dressing, which is a dressing used to cover wounds that have been stitched, such as post-operative wounds. In the middle of this dressing contains cellulose which functions to absorb fluids that seep out of the wound during the first 24 hours after surgery (Pranadinata et al., 2024).

## RESULTS AND DISCUSSION

### Assessment

Based on the results of the study, data was obtained on a client named Mr. R, 71 years old, male from the Sundanese tribe with a medical diagnosis of lateral inguinal hernia. Mr.R with a final junior high school education works as a laborer.

The client's main complaint is post-operative wound pain. At the time of the assessment on May 17 2024, the client was on post-operative day 4, the client stated that there was pain in the surgical wound on the lower left side of the abdomen with a pain scale of 5 (1-10), the pain felt like being cut and the pain was felt to come and go. , pain is felt when doing activities and decreases when resting. The client said that he had previously been hospitalized with complaints of pain when urinating. The client said that his family did not have any hereditary or infectious diseases, and there were also no problems in his family like the client is currently experiencing.

During the physical examination, data was obtained that the client had composmentis consciousness, GCS: E4 V5 M6 = 15, BP: 130/70 mmHg, Pulse: 83 x/minute, Respiration: 20 x/minute, Temperature: 36.3°C, SPO2: 98 % and pain scale 5 (0-10). Examination of the respiratory, cardiovascular, digestive, nervous, vision, hearing, musculoskeletal, integument,

urinary and reproductive systems was within normal limits. There is a post-operative wound for a lateral inguinal hernia and there are signs of infection (rubor, calor, tumor, and dolor)

The results of the diagnostic examination carried out were an abdominal X-Ray examination which showed abnormal visceral fat coming out of the abdominal cavity.

### **Diagnosis**

**Table 1. Data Analysis**

<b>Symptom</b>	<b>Etiology</b>	<b>Problem</b>
<b>Subjective data :</b> The client states that there is a closed wound around the lower left abdomen, the pain is felt like being cut, the pain comes and goes, the pain is felt when doing activities and decreases when resting.	HIL ↓ <i>Herniatomy</i> ↓ Disconnection of skin and tissue ↓ Impaired skin integrity	Skin/tissue integrity disorders: related to mechanical factors (D.0129)
<b>Objective Data :</b> 1. There is a closed wound 2. There are signs of infection in the wound 3. Pain scale 5 (0-10) 4. Vital sign : Blood pressure : 130/70 mmHg Pulse: 83 x/minute Respiration: 20 x/minute Temperature: 36.3°C SPO2 : 98%		

The nursing diagnosis used is based on the results of data analysis which is adapted to the Indonesian Nursing Diagnosis Standards, PPNI Indonesia 2017 edition 1

print III revision in the case of Mr. R, namely : Disorders of skin integrity related to mechanical factors

### **intervention, implementation and evaluation**

Nursing interventions and activities need to be determined to increase, repair and maintain effective function of the client's wounds.

**Table 2. Nursing Interventions**

<b>Nursing diagnoses (Objectives and Result Criteria)</b>	<b>Intervention</b>
Impaired skin/tissue integrity After carrying out nursing actions for 3x24 hours, it is hoped that the integrity of the skin and tissue will increase (1.14125) with the following criteria: 1. Elasticity increases 2. Increased hydration 3. Decreased skin/tissue layer damage 4. Pain decreases	<b>Observation:</b> 1. Monitor wound characteristics 2. Monitor for signs of infection <b>Therapeutic :</b> 1. Remove the bandage and plaster slowly 2. Clean with Nacl 3. Apply appropriate ointment to skin/tissue 4. Apply simple island dressing 5. Maintain sterile technique when using wound care <b>Education :</b> 1. Describe the signs and symptoms of infection 2. Encourage consumption of food high in calories and protein <b>Collaboration :</b> Collaborative administration of antibiotics

*Source: Indonesian Nursing Intervention Standards Book (SDKI) PPNI Indonesia 2017 edition 1 print III (revised)*

In this implementation, there are procedures carried out for clients to increase, repair and maintain and which are effective for the wound healing process after lateral inguinal hernia surgery by implementing wound care nursing using simple island dressings. The implementation of nursing care was carried out over three meetings by the nurse and assisted by the family in its implementation.

The implementation provided is in accordance with nursing interventions that have been designed according to the client's needs. When implementing nursing, the author also involves the family in the implementation, this aims to ensure that the client's family is able to do it independently. In this case the author has monitored the characteristics of the wound, monitored signs of infection, removed the dressing and plaster slowly, cleaned with Nacl, applied appropriate

ointment to the skin/tissue, applied a simple island dressing, maintained sterile technique when using wound care, explained the signs and symptoms infections, and recommend consuming foods high in calories and protein. All plans can be implemented because the family and client are open and accepting of the actions and explanations given by the author.



**Table 3. Nursing Evaluation**

<b>Date</b>	<b>Evaluation</b>
Saturday, May 17, 2024, 9 AM	<b>S</b> : The patient said there was a post-operative wound in the lower abdomen and there were signs of infection <b>O</b> : There are closed wounds and signs of infection <b>A</b> : Impaired skin integrity is related to mechanical factors <b>P</b> : Continue interventions 1-10
Sunday, May 18, 2024, 9 AM	<b>S</b> : The patient said there was a post-operative wound in the lower abdomen and there were signs of infection <b>O</b> : There are closed wounds and signs of infection <b>A</b> : Impaired skin integrity is related to mechanical factors <b>P</b> : Continue interventions 1, 2, 3, 4, 5, 6, and 7
Monday, May 19, 2024, 5 PM	<b>S</b> : The patient said there was a post-operative wound in the lower abdomen and there were signs of infection <b>O</b> : There are closed wounds and signs of infection <b>A</b> : Impaired skin integrity is related to mechanical factors <b>P</b> : Continue intervention independently

## Discussion

Lateral inguinal hernia or abbreviated as HILS is a disease in the form of an organ protrusion or hernia that passes through the internal inguinal ring which is in the lateral part of the inferior epigastrium, along the canal and exits through the external inguinal annulus into the abdominal cavity (Sayuti & Aprilita, 2023). Hernias can only be treated surgically and all lateral inguinal hernias require surgical intervention. Side effects of this surgical procedure include pain and the need for post-operative wound care (Pranadinata et al., 2024).

To avoid infection, careful postoperative wound care for lateral inguinal hernia is required. According to the assessment of the World Health Organization (WHO), ILO (Surgical Wound Infection) accounts for 5-34% of all nasocomial infections, with abdominal surgery having a risk of ILO 4.46 times higher than other surgical operations (Nicholas, 2023). Several variables contribute to infection, including the length of time exposed after the incident, greater damage to the surrounding skin, bacterial contamination, the presence of foreign objects, and poor and proper cleaning. To avoid increasing infection

rates, wound care is needed to prevent cross-infection (Krismonika & Rohmah, 2023).

In this implementation, there are procedures carried out for clients to increase, repair and maintain and which are effective for the wound healing process after lateral inguinal hernia surgery by implementing wound care nursing using a simple island dressing. The implementation of nursing care was carried out over three meetings by the nurse and assisted by the family in its implementation.

Wound treatment using the simple island dressing technique on Mr. R shows effective results in accelerating wound healing and preventing signs of infection and complications. This is in line with research conducted by Mekarisce, (2020) that related interventions can speed up the wound healing process for post-operative patients, because basically wound care can speed up the wound healing process and prevent infection and complications (Mekarisce, 2020).

The results of the intervention are supported by the results of research conducted by Pranadinata et al., (2023) that wound care using the simple island dressing technique is able to speed up the healing

process of clients after herniotomy surgery. The results of statistical tests show  $p$  value 0.005 or  $p < \alpha$  so that wound care with The simple island dressing technique was stated to be significant in speeding up the healing process.

Apart from having an effect in speeding up the wound healing process, moist-based wound care is also able to increase epithelization, the infection rate is lower compared to dry wound care 2.6%:7.1%, the wound healing process is faster. This is supported by research conducted by Lina Agus Tina 2023 at Dr R Soeharsono Hospital that there is a significant relationship between post-operative wound care and increased epithelialization in post-operative patients, which means there is a significant effect of wound care using the simple island dressing technique on post-operative wound healing. lateral inguinal hernia.

Simple island dressing contains meloline coated with a thin, adhesive polyurethane film. Permeable to gases, but impermeable to fluids and germs, retains moisture, including nerve endings, minimizing discomfort and, most importantly, minimizing wound infection (Yuliana, 2023). The polyester film coating on the simple island dressing prevents it from sticking to the wound and allows it to absorb light exudates. As a dressing for shallow, post-operative wounds or mild exudates. A simple way is to apply a bandage with a layer of film to the wound (Muchsin & Hidayat, 2023).

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example, granulation tissue formation and re-epithelialization, managing exudate levels and bacterial counts. Bioactive dressings may also alter the cellular or biological elements of the wound, such as topical antimicrobial agents (Suprayogi, 2023).

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## CONCLUSIONS

The author provided nursing care for Mr. R with a post-operative wound for a lateral inguinal hernia on 17-19 May 2024, so the author concluded that there was improvement in the post-operative wound and there were no signs of infection in Mr. R with a nursing diagnosis of impaired skin and tissue integrity related to mechanical factors with simple island dressing intervention.

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