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## PHYSIOTHERAPY MANAGEMENT OF ULCUS DECUBITUS AT RSU 'AISYIYAH PONOROGO HOSPITAL – A CASE STUDY

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### Abstract

**Introduction:** Ulcus Decubitus is a condition that is serious with figures of morbidity and mortality in the age of advanced and would be a burden for families with the cost of high care. Ulcer sores can occur at any stage of the age, but the case is a matter which specifically on advanced age due to immobilization. Specificity lies in the incidence of even those that are closely related to immobilization which is a problem major in patients geriatric<sup>1</sup>. The patient slipped about 8 months ago, since then the patient has been unable to walk and move. The left leg hurts to move, and until now it's getting stiffer and can't be straightened, then a wound appears on the top of the left leg. At first it was just red and like a blister, but as time went on the wound became wet,

**Case Presentation:** The method used in this study is a *case report* of one patient at RSU 'Aisyiyah Ponorogo Hospital with identity Mrs.P with the age of 98 years.

**Management and outcome:** The provision of positioning, active passive exercise and TENS is one of the effective methods to reduce complaints of pain due to ulcus decubitus.

**Discussion:** One of the actions to reduce the incidence of pressure sores is by giving the side position. The reason for giving the tilted position is because this position is able to prevent the skin from rubbing and tearing the tissue, thereby reducing the incidence of pressure sores<sup>2</sup>. According to the researcher, the tilted position also has advantages, namely it does not take much time and is easy to implement, tools and materials are easy to obtain and the patient's waiting family can carry out their own in reducing the patient's pressure sores<sup>3</sup>.

**Conclusion:** Handling physiotherapy in the form of positioning, active passive exercise and TENS can reduce pain complaints that Mrs.P.

**Keyword:** *Positioning, active passive exercise, TENS, Ulcus Decubitus*



## Introduction

Provide a context for the case and describe any similar cases previously reported.

## Case Presentation

This case *study* was carried out at the RSU 'Aisyiyah Ponorogo Hospital with the patient Mrs. P is 98 years old, Muslim with a job as a farmer.

Case Description. Subjective Examination. The patient fell and slipped for about 8 months, since then the patient was unable to walk and move. The left leg hurts to move, and until now it's getting stiffer and can't be straightened, then a wound appears on the top of the left leg. At first, it was just red and like a blister, but as time went on the wound became wet, and finally, he was examined at the Surgical Clinic at RSU 'Aisyiyah Ponorogo Hospital. Patients undergo daily wound care ( Alternating Home care and Surgical Clinics ). The patient does not have a history of co- morbidities and also the patient does not have a history of previous diseases. The goal to be achieved is to reduce pain and reduce movement limitations, as well as increase functional activity in patients.

Physical examination. The physical examination carried out here starts from general examinations such as vital signs, to examinations that are specific to the case. Physical examination here is an important examination because it will help to establish a physiotherapy diagnosis.

This vital sign examination is also an important examination because from this examination it can see how the general condition of a patient is and to evaluate whether therapy can be carried out or not.

Tabel 1. Vital Sign

Inspection	Results	Category
Blood Pressure	120/80 MmHg	Normal
Pulse Nadi	72 x/ min	Normal
Breathing	24 x/ min	Normal
BMI	20	Normal

IPPA examination or inspection inspection palpation percussion and auscultation. But the examination is carried out on the patient according to the needs or symptoms of the patient. For this patient only inspection and palpation were performed. Inspection check; Static : Looks like a wound on the heel of the left foot; The position of the patient tends to curl up in the top brancart; the patient looks thin and weak. Dynamic: Limited left leg movement; tight; knee, and ankle foot pain and stiff to move inspection on dynamic. When do checks inspections dynamic in patients with the position of running appears to face the patients as pain and patients seen walking in slow slow and cautious like withstand pain. Examination palpation; local temperature feels warm, pain



press on left foot; spasm in the stomach.

Furthermore, a basic movement examination is carried out to determine the movement ability of the patient. For active movement examination, the patient is able to move the left ankle a little, but not full ROM due to pain, stiffness, and injury. Then to move passively Not full ROM on Hip, Knee and ankle (*end feel: firm*) There is pain when all extremities are moved left early. Below is a table for basic motion checks.

Tabel 2. Examination of muscle strength with *Manual Muscle Testing* (MMT)

Region	Movement	Dextra	Sinistra
Hip	Flexion	3	3
	Extension	3	3
	Abduction	3	3
	Adduction	3	3
Knee	Flexion	3	3
	Extension	3	3
Ankle	Dorsiflexion	3	2
	Plantarflexion	3	2
	Inversion	3	2
	Ever	3	2

It can be seen from the results of the examination above that the value of muscle strength is 2 and 3, which means that the patient still has limited range of motion for full ROM.

Tabel 3. Examination ROM

Region	Normal	Dextra	Sinistra
Hip	S = 20 – 0 – 120	S = 20 – 0 – 120	S = 0 – 20 – 40
	T = 40 – 0 – 25	T = 40 – 0 – 25	T = 30 – 0 – 15
Knee	S = 0 – 0 – 135	S = 0 – 0 – 135	S = 0 – 60 – 90
Ankle	S = 20° – 0° – 40°	S = 20° – 0° – 40°	S = 10° – 0° – 10°
	T = 10° – 0° – 20°	T = 10° – 0° – 20°	T = 5° – 0° – 5°

Integumentary Check; Wound area :  $\pm 10\text{cm}$ ; Wound depth :  $\pm 0.5\text{cm}$ ; Type : Grade 3 ulcer decubitus.

In addition, from the beginning the patient had complained of pain in the part that had a ulcer decubitus so it was necessary to do a pain examination to determine the value of pain and be able to evaluate it. Pain examination here using NRS with the results of pain examination with *Numeric Rating Scale (NRS)* :

Tabel 4. Pain Examination

Inspection	Results	Category
Silent Pain	3 / 10	Light
Tenderness	4 / 10	Currently
Motion Pain	7 / 10	Heavy



In examining the patient's functional activity using the Functional Examination with the Barthel Index :

Tabel 3. Barthel Index

Activity	Score
Eat 0 = not able 5 = need help 10 = independent/without assistance	5
Bath 0 = depends 5 = independent	0
Neatness/appearance 0 =needs help to make up one's appearance 5 = able to independently brush teeth, wipe face, style hair, and shave	0
Dress up 0 = dependent / unable 5 = need help but can do some 10 = independent (capable of buttoning clothes, closing zippers, tidying up)	0
Release my self 0 = incontinence 5 = sometimes have difficulty 10 = normal	10
Urination 0 = incontinence, must be catheterized, or unable to control urination independently 5 = sometimes have difficulty 10 = normal	10
Use of bathroom/toilet 0 = depends 5 = need help but not fully dependent 10 = independent	0
Changing places (from bed to seat, or vice versa) 0 = unable, has balance disorders 5 = requires a lot of help (one or two people) to sit up 10 = needs little help (verbally directed only) 15 = independent	5
Mobility (walking on a flat surface) 0 = unable or walking less than 50 yards 5 = can only move in a wheelchair, more than 50 yards 10 = walk with assistance more than 50 yards 15 = independent (despite using assistive devices)	0
Up/down stairs 0 = not able 5 = need help 10 = independent	0
<b>Amount</b>	<b>30</b>

interpretation:

0- 20 = Full dependency

21- 61 = Heavy dependency



62- 90 = Moderate dependence

91- 99 = Light dependency

100 = Independent

The result of this functional activity examination is 30. Interpretation of disability is 21-61 with a classification of severe dependence, so the patient still needs assistance to perform functional activities.

## Management and Outcome

The physiotherapy program given to the patient while in the physiotherapy poly is in accordance with the complaints felt by the patient after that the patient is given exercises to do at home to reduce complaints from the patient. The goal of the physiotherapy program is to reduce pain. Increase the range of motion of the joints and increase the patient's functional activity. The table below is a plan for the physiotherapy program given to the patient.

Tabel 4. Physiotherapy Program

Intervention	Dose	Information
Active and passive exercise	F: Every day I : 8x/set of 2 sets T: 15 minutes	The patient was instructed to actively and passively move the left AGB to the maximum point of the patient's ROM.
Positioning	F: Every day I : Every 2 hours T: 30 minutes T : Passive	The patient's family is asked to position the patient routinely on the right-left side
TENS	F : 60 Hz I : T oleransi patients T: 15 minutes	For electrical stimulation in wound repair, electrodes for therapeutic purposes are placed on or around the wound

Education; Patients and families be educated in order to do exercise at home, Patients and families are educated to do *Positioning*, Families are educated to always maintain cleanliness in the bandaged wound area.

The patient's complaint was pain and stiffness in the left leg area about 8 months ago, then the physiotherapist gave a therapy program and exercises in the form of active passive exercise, positioning, and stretching for 3 times therapy. Evaluation was done after therapy for 3 meetings. From the therapy program that has been given to the patient, the following evaluation results are obtained:

The results of the evaluation of pain tests using the NRS can be seen in the image below.



Tabel 5. Evaluation of pain

Pain Classification	T1	T2	T3
Shut Up	3	3	2
Press	4	4	4
motion	7	7	6

For the silent pain of patients there is a change in therapy to 3 with a decrease in the level of pain one is painful light. Then related to the tenderness that occurred in these patients there was no change. As for motion pain, the patient experienced a decrease in pain on the 3rd therapy.

The next evaluation is the patient's functional activity using the Barthel index. Similar to pain evaluation, this patient's functional activity was evaluated 3 times after therapy. The results of the evaluation can be seen in the image bar below.

Tabel 6. Evaluation of barthel index

Total Barthel . Index Score	T1	T2	T3
	30	30	30

From the results of the evaluation has been done for 3 times the patient has not experienced peningkatkan activities at the beginning of the first to come to the meeting to 3 with a value of 30, which means the patient is still dependent. Judging from the patient's own age, which is already 98 years old, it is very difficult for the patient to increase their functional activities.

For the evaluation of the ROM is not there is a change that is significant, only the part of the knee of the left only that there is a change in therapy is the first to therapy three with the results :

$$S = 0^{\circ} - 60^{\circ} - 90^{\circ} \quad S = 0^{\circ} - 60^{\circ} - 90^{\circ} \quad S = 0^{\circ} - 55^{\circ} - 95^{\circ}$$

Tabel 7. Evaluation of ROM

Region	T1	T2	T3
Hip S	$S = 0^{\circ} - 20^{\circ} - 40^{\circ}$	$S = 0^{\circ} - 20^{\circ} - 40^{\circ}$	$S = 0^{\circ} - 20^{\circ} - 40^{\circ}$
	$T = 30^{\circ} - 0^{\circ} - 15^{\circ}$	$T = 30^{\circ} - 0^{\circ} - 15^{\circ}$	$T = 30^{\circ} - 0^{\circ} - 15^{\circ}$
Knee S	$S = 0^{\circ} - 60^{\circ} - 90^{\circ}$	$S = 0^{\circ} - 60^{\circ} - 90^{\circ}$	$S = 0^{\circ} - 55^{\circ} - 95^{\circ}$
Ankle S	$S = 10^{\circ} - 0^{\circ} - 10^{\circ}$	$S = 10^{\circ} - 0^{\circ} - 10^{\circ}$	$S = 10^{\circ} - 0^{\circ} - 10^{\circ}$
	$T = 5^{\circ} - 0^{\circ} - 5^{\circ}$	$T = 5^{\circ} - 0^{\circ} - 5^{\circ}$	$T = 5^{\circ} - 0^{\circ} - 5^{\circ}$

## Discussion

Several studies have shown that electrical stimulation can promote tissue healing. There in<sup>7</sup> union has approved a payment for the use of TENS in healing wounds chronic, ulcers chronicles



the leg below which did not given a response to therapeutic wound standard. For electrical stimulation to repair the wound, the electrode for the purpose of therapy in placed on or around the wound. Monophasic currents should be used when electrical stimulation is used for tissue healing purposes. HPVC the polarity of the electrodes above or near at the wound been selective in accordance with the type of cell involved in each stage of wound healing and the presence of absence of infection of inflammation in the wound. The duration of pulse are encouraged to use HPVC that happen repair healing wound is between 40 and 100  $\mu$ s. The pulse frequency is preferably at 60-125 pps in order to proceduce an improvementin tissue healing. Stimulation of electricity continues ro constantly as a wholw during therapy for the healingof tissue. The amplitude of the currents amplitude of the floe should be enough to thrill comfortably patients without response motor. When this research is generally recommended therapy is performed five times in a week for 45-60 minutes<sup>5</sup>.

One of the physiotherapeutic measures to reduce the incidence of pressure sores is by giving the oblique position. The reason for giving the tilted position is because this position is able to prevent the skin from rubbing and tearing the tissue, thereby reducing the incidence of pressure sores<sup>2</sup>. According to the researcher, the tilted position also has advantages, namely it does not take much time and is easy to implement, tools and materials are easy to obtain and the patient's waiting family can carry out their own in reducing the patient's pressure sores<sup>3</sup>. Position slant that position lateral between the hips and a place to sleep that is accompanied by the use of a in the area between the knee right and knee left, between the eyes of the legs, behind his back, as well as under the head to prevent the occurrence of pressure sores<sup>8</sup>. The position of the body laterally to the angle of maximum 300 helpful to prevent skin from friction and tearing of tissue (shear). Friction will lead to abrasion and damage the surface of the epidermis of skin, while tearing of tissue can lead to occlusion of the vessels of the blood, as well as damage to the tissue section in like muscles that often decubitus.

The appropriate steps to take can then be determined based on the patient's individual risk, with an emphasis on two main principles: active movement and passive reduction of pressure with frequent position changes. Risks for the development of pressure ulcers include advanced age, immobility, incontinence, inadequate nutrition and hydration, sensory deficiencies, skin pressure associated with devices or devices, multiple comorbidities and circulatory abnormalities. Skin exposure to pressure in excess of arteriolar pressure (32 mmHg) can inhibit the delivery of nutrients and oxygen to the tissues, while pressures of more than 70 mmHg for two hours can cause irreversible tissue damage<sup>9</sup>.



## Conclusion

Ulcers decubitus it self is necrotic cell localized that tend to occur as a result of compression of prolonged on network software between the protrusion of the bone and the surface of the solid. The most commonly as a result of immobilization are too long<sup>3</sup>. Physiotherapy program in the form of positioning, active passive exercise and TENS can reduce pain and increase the patient's ROM.

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