

The Effect of Perioperative Normothermic Maintenance on Wound Healing.

A Thesis

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Alexandria University
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Of

Doctor of Nursing

In

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By

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ASSESSMENT SHEET

Tool 1: Perioperative assessment sheet for patients with major abdominal surgery :

Part (1):Biosociodemographic and clinical data:

* Patient's name:

* Serial No of patient:

* Age:

* Sex: - Male ()
 - Female ()

[illegible]

* Level of education:

- Illiterate.	()
- Read and write.	()
- Basic education.	()
- Secondary education.	()
- Diplom.	()
- University education.	()

* Occupation:

- Free work	()
- Employee	()
- Retirement.	()

* Cause of admission:

* Medical history:

* Smoking:

- Yes	()
- No	()

* Diagnosis:

* Type of surgery:

* Type of anesthesia:

- General	()
- Combined	()

* Duration of surgery (hours):

* Amount of intravenous fluids:

Period	Type	Amount (L)
Intraoperative		
Postoperative		

Part (۲): Anthropometric measurements:

	Preoperative	Postoperative	
		3 rd day	7 th day
Weight (Kg)			
Height (Cm)			
Mid arm circumference (Cm)			
Triceps skin fold (Cm)			
Body mass index Kg/m ²			

Part (3): Laboratory investigations:

	Pre operative	Postoperative						
		1 st day	2 nd day	3 rd day	4 th day	5 th day	6 th day	7 th day
<u>I-blood analysis</u>								
W.B.Cs /mm ³								
Hemoglobin (gm/dl)								
Serum albumin (gm)								
Blood urea (mg/dl)								
Serum creatinine (mg/dl)								
<u>II- Amino acid analysis:</u>								
Hydroxyproline (mg/dl)								
Proline (mg/dl)								
Glycine (mg/dl)								

Part (4) Vital signs:

[illegible]

- Time to return to baseline temperature (minutes):
Degree of pain using (Visual Analogue pain Scale):

0		10
No pain		Worst pain

Degree of pain - 30 minutes
 - 60 minutes
 - 90 minutes
 - 120 minutes

- * 0 —————> No pain.
- * 1-3 —————> Mild pain.
- * 4-6 —————> Moderate pain.
- * 7-9 —————> Severe pain.
- * 10 —————> Worst pain.

Part 5: Shivering Scale:

- Shivering 1) Present
 2) Absent

If shivering present:

- Shivering severity:
 - 1= Mild fasciculation of face or neck in absence of voluntary activity of the arms.
 - 2= Visible tremors involving more than one muscle group.
 - 3= Gross muscular activity involving the entire body, bed shaking.

Onset	Duration	Severity	Frequency

--	--	--	--

Tool 2: Wound healing clinical assessment sheet:

	1 st day	2 nd day	3 rd day	4 th day	5 th day	6 th day	7 th day
<u>Wound description</u> Edges: - Coapted (attached) - Gaped (not attached) - Edematous							
Color: - Pink - Red - Black							
Surrounding area: - Red - Tender - Hot - Swelling - All - None							
<u>Wound discharge</u> Type: - Serum - Blood - Serosanguinous - Purulent							
Color: - Clear - Pink - Red - Yellowish - Brown - Greenish							
Amount : - None - Scant - Small - Moderate - Large							
Odor: - yes - No							

Protocol of nursing interventions for patients undergoing major abdominal surgery to evaluate the effect of perioperative normothermic maintenance on wound healing

In the assessment phase:

The following parameters were measured in the assessment phase:

1-Anthropometric measurements:

A- Measurement of the height:

Equipment: a centimeter tape

Steps:

- 1- Each patient was asked to stand erect, barefoot with his feet together, head held up looking straight ahead, heels and back against the wall.
- 2- The height was measured using a centimeter tape. The reading was recorded to the nearest half centimeter starting from the top of the head to the foot of the patient.
- 3- Recording was done.

B-Measurement of the body weight:

Equipment: a weighing scale.

Steps:

- 1- Each patient was asked to stand barefoot on the center of a weighing scale.
- 2- Weight was measured and recorded to the nearest half kilogram.

C- Calculation of the body mass index (BM1):

$$\text{BMI} = \text{Weight/Heights}^2 = \text{Kg} / \text{m}^2$$

This calculation was done to determine the grade of obesity, ranged from 0 to 3⁽⁶¹⁾.

- | | | |
|-----------|-------------------|---------------------|
| - Grade 0 | BMI = 20 - 24.9 | Kg / m ² |
| - Grade 1 | BMI = 25 - 29.9 | Kg / m ² |
| - Grade 2 | BMI = 30 - 39.9 | Kg / m ² |
| - Grade 3 | BMI = 40 and over | Kg / m ² |

Patients had grade zero to one was included in the study.

D- Measurement of triceps skin folds thickness:

Equipment: skin fold caliper.

Steps:

- 1- With a grease pencil, mark the point on the back of the arm midway between the tip of the elbow and the shoulder.
- 2- Pick up skin fold with thumb and forefinger of left hand.
- 3- Apply jaws of the caliper to the skin fold so that the grease mark is midway between the jaws.
- 4- Release your thumb from the caliper handle, so that tips of the caliper have full exertion on skin fold. Take reading immediately after the first rapid fall.
- 5- Repeat steps 2 through 4 three times. Average of the three readings is skin fold measurement of this site.

E- Measurement of mid arm circumference (MAC):

Equipment: Flexible, non-stretchable tape.

Steps:

- 1- Specify the midpoint of the acromion and olecranon process. (Flexed at 90°), and position the forearm horizontally.
- 2- Place the measurement tape at the midpoint of the upper arm (midway between the acromion process and olecranon process) gently and firmly without compressing
- 3- Recording was done.



Measurement of triceps skin folds thickness



Measurement of Mid Arm Circumference

2- Vital signs:

- Core body temperature using tympanic thermometer was taken.
- Pulse, respiration and blood pressure was taken.

In the implementation phase:

1- In the intraoperative period:

A- Environment:

Maintain the ambient temperature of the operating room within 21-24°C using air conditioner throughout the operation.

B- Intravenous fluids (I.V):

Equipment: intravenous fluid container, IV line, water bath and IV warmer device

Steps:

- 1- Warm the intravenous solution by IV warmer device.
- 2- Close the clamp of IV line.
- 3- Connect sterile IV line to intravenous solution.
- 4- Open the clamp of the line to remove the air from it by allowing the solution to flow through the entire length of the tube.
- 5- Close the clamp after all the air is removed from the line.
- 6- Connect IV line to cannula.
- 7- Open the clamp and allow the flow in according to doctor order.
- 8- Change the intravenous fluid container, when it becomes empty.
- 9- Maintain warmth of the intravenous fluid to be within 37-38 °C throughout the procedure using I.V warmer.

C- Patient:

- 1- Position patient in supine position.
- 2- After the induction of anesthesia (general or combined); Cover the upper trunk of patient with forced air warmer device, and set it at medium setting (36-40°C).
- 3- Drape the patient with sterile drapes.