

# Use of Infrared Light Fomentation for Pain Relief in Postpartum Mothers with Episiotomy

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## Abstract

**Background:** Post delivery is decisive period for post-partum women who had undergone episiotomy which is a throbbing and disquiet procedure during this time. So the aim of the study is to appraise the effect of infrared light fomentation therapy on episiotomy wound pain relief among postpartum women.

**Aim:** To asses the level of episiotomy wound pain among postpartum mothers before and after infrared fomentation.

### Methodology:

1. The study participants will be selected among postpartum mothers having normal vaginal delivery with episiotomy within 2 hours.
2. Accordingly 30 postpartum Women will be randomly selected and allocated into matched groups.
3. Written consent will be obtained from recruited Postpartum mothers.

### 4. Intensive Phase:

- a. Twice a day until the fourth day morning infrared lamp and normal episiotomy wound care (two spoons betadine in 4 glasses of water).
- b. Best and worst levels of pain will be measured using 10 pain scale from 0(none) – 10(severe).

**5. Technique of procedure:** Infrared light will be placed 45cm away from the perineum and heat emitted with 220V will be used for 10-15 minutes then pain will be assessed.

**6. Appraising phase:** The results will be compared for the 4 following days follow up of infrared fomentation therapy in postpartum mothers with episiotomy.

**Results:** The study show that the intensity of pain decreased with the infrared light fomentation on episiotomy had good results and pain relief is seen at the end of 4<sup>th</sup> day of follow up.

**Conclusion:** Post-partum women who apply infrared lamp therapy on episiotomy display faster pain relief than those who do not.

**Keywords:** *Episiotomy, infrared light lamp therapy, pain relief, postpartum mothers.*

## Introduction

Pregnancy is a transformative event in women's lives in which they experience to a great extent pain post-partum due to tender perineum<sup>[1]</sup>. Post-partum time may turn out to be further challenging when mother

suffers from perineal harm as a result of episiotomy can be delineated as the procedure in which vaginal orifice is enlarged through an incision of the perineum<sup>[2]</sup>. This procedure is commonly done for almost all women to help for a safety and easy labour particularly their first delivery.

This incision befalls either through the second phase of labour or right earlier the labour.

**Episiotomy comprises some types such as<sup>[3]</sup>:**

Medio-lateral

Median

Lateral

J-shaped

Of these, medio-lateral episiotomy is pain and tenderness.

The episiotomy inhibit more extensive child birth injury.

It is the only surgical procedure that is carried out without the patients contract.

The perceived advantages of episiotomy include:

Begin clean and clear incision

Easy to mending and recovered well than tears

They believed to maintain muscle relaxation of pelvic floor and perineum<sup>[1]</sup>

Less frequent problems related to episiotomy are<sup>[9]</sup>:

Discomfort

Oedema

Bleeding

Haematoma

Infection

Mental upset

INFRARED LIGHT therapeutic effect of aggregating the blood supply and releasing the pain<sup>[4]</sup>. This will increase the supply of oxygen and nutrient accessible to the tissues accelerate the removal of waste products and help bring about the resolution of inflammation when the heat is mild the relief of pain is almost certainly due to the sedative effect on the superficial sensory nerve endings. It is also aids to accomplish muscular relaxation and for the release of muscle spasm in injury and inflammation.

It has an appropriate substitute intervention for those with episiotomy injury and has the biological

outcome on cutaneous vasodilation due to release of chemical vasodilators, histamine and has potential direct consequence on blood vessels<sup>[10]</sup>.

So infrared light fomentation therapy for episiotomy wound becomes the way of preventing and reducing maternal morbidity as well as it is in affordable cost<sup>[12][13][14]</sup>.

**Methodology**

1. An official letter from the department of obstetrics and gynaecology of saveetha medical college, Chennai was obtained.
2. The study subjects were selected among the post-partum mothers having normal vaginal delivery with episiotomy.
3. Accordingly, 30 post-partum women were randomly selected.
4. Data collection: Written consent was obtained from the post-partum women after explaining the purpose of the study to gain their cooperation. A good relationship was established with the post-partum mothers.

**Data collection was carried out through four phases:**

- i. Interviewing
- ii. Assessment
- iii. Implementation
- iv. Appraising

**Interviewing Phase:** Visit all the postpartum women at Maternity ward and Then accordingly 30 post-partum women randomly selected with inclusion criteria having normal vaginal delivery with episiotomy.

**Assessment Phase:** In this phase the post-partum Mother's of Normal vaginal delivery with episiotomy wound are questioned and collect the baseline data of episiotomy wound pain required for number pain scale.

**Implementation Phase:** This phase done at the physiotherapist ward.

**Technique of Procedure:** The infrared lamp was used for the randomly selected 30 post-partum mother of normal vaginal delivery with episiotomy wound which sited at distance of 45 cm away from the perineum and the heat emitted with 220 volts used for 10-15 minutes then level of pain was assessed.

**Appraising Phase:** The pain relief of episiotomy wound is followed up till 4<sup>th</sup> day evening. Collected data were gathered over a period of 5 month (February 2020 to June 2020).

### Results

**Table 1: 30 women are participated in the study.**

Days	Mean±SD
Day 1	6.53±1.94
Day 2	4.7±1.393
Day 3	2.1±1.061
Day 4	0.5±0.50

The above table show the decrease of pain intensity from 6.53±1.94 at the first day of assessment to 0.5±0.50 at the 4<sup>th</sup> (last day) of assessment.

**Table 2: Comparison of day 2 with day 1**

<b>95% CI</b>	<b>-2.708 to -0.95</b>
Standard Error	0.436
P Value	0.0001

Those women applied the infra-red lamp on day 2 attained good pain relief when compared day 1.

There is a statically significant data observed in table 2 where p value is 0.0001.

**Table 3: Comparison of day 3 with day 1**

<b>95% CI</b>	<b>-5.23 to -3.62</b>
Standard Error	0.404
P Value	<0.0001

Those women applied the infra-red lamp on day 3 attained good pain relief when compared day 1.

There is a statically significant data observed in table 3 where p value is <0.0001.

**Table 4: Comparison of day 4 with day 1**

<b>95% CI</b>	<b>-6.762 to -5.29</b>
Standard Error	0.366
P Value	<0.0001

Those women applied the infra-red lamp on day 4 attained good pain relief when compared day 1.

There is a statically significant data observed in table 4 where p value is <0.0001

The study show the intensity of pain decreased with the infrared light fomentation on episiotomy had good results and pain relief is seen at the end of 4<sup>th</sup> day of follow up.

### Discussion

In obstetrics, episiotomy is one of the supreme common Procedures, which executes during the last part of the second Phase of delivery. The mother undergoing this procedure is categorised by greater blood loss in combining with labour, and there is a risk of improper wound restorative and increased pain during early postpartum. Pain causes stress and hampers the women’s ability to give care for their newborn. Infrared light can infiltrate 2-3 cm profound into our body and not only permits fast pain relief but also helps in absorption of moist, prevents growth of microorganisms, loosening tight muscles, aids in healing damaged tissue, and wound healing.

With similarity of the current study, an intervention study was conducted by Kaur (2013)<sup>[15]</sup> to compare the effect of dry heat versus moist heat on pain and wound restorative at episiotomy location among postnatal mothers admitted in Nehru Hospital, Chandigarh. Where, the subjects in group one (dry heat) had lesser pain intensity than those in group two (sitz bath) after the intervention. While results of the present study revealed that, the mean and standard deviation of episiotomy wound pain score is decreased by 4<sup>th</sup> day of follow up. Where infrared light fomentation is dry heat application. In this study we compared the days to show the effectiveness of infrared light fomentation therapy on pain relief.

Likewise, a quasi-experimental study done in Rural Hospital in India also (2010)<sup>[10]</sup> on postnatal mothers. The study results made known that the pain of postnatal mothers due to episiotomy wound is decreased by the application of dry heat. And this study shows the comparative way of decreased pain intensity for 4 days follow up in episiotomy wound in postpartum mothers and the effectiveness of infrared light fomentation therapy by the follow up days.

## Conclusion

It was obvious from the findings of study that the post-partum women who applied infrared lamp therapy on episiotomy display faster pain relief. So, infrared therapy can be applied as effective way of management by health personnel in their daily caring the post-partum mothers.

### Therefore the study recommended that:

1. Joining the infrared therapy as a main part of post-partum instructions for the women for its imperative role in improving quality of life during post natal period.
2. Developing and adopting appropriate cost effectiveness, easy to use method for relieving pain and eliminate women suffering as well as decrease spread of infection at this critical period.

**Ethical Clearance:** After IEC approved the post partum mothers were invited to take part in our study. Informed consent was obtained.

**Source of Funding:** There is no funding support for this study.

**Conflict of Interest:** There is no Conflict of Interest.

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