

**STERILE WATER INJECTIONS FOR RELIEF OF LOW BACK PAIN IN LABOUR**

*This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.*

**1. AIM**

- Provide woman in labour with back pain the option of intradermal sterile water injections for pain relief

**2. PATIENT**

- Woman in labour requesting sterile water injections (SWIs) for pain relief

**3. STAFF**

- Registered midwives
- Student midwives under direct supervision of a registered midwife

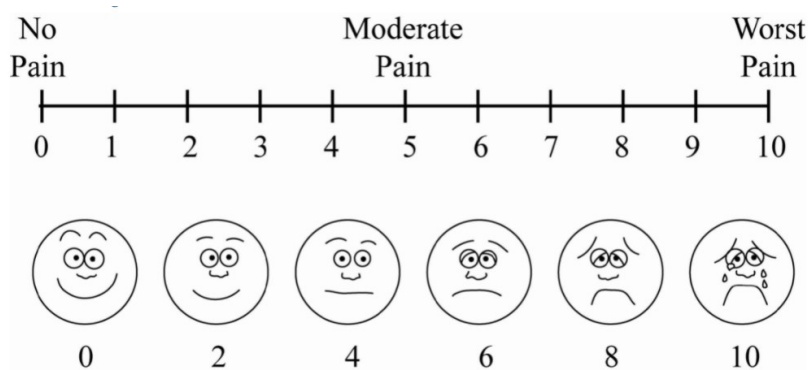
**4. EQUIPMENT**

- 4 x 1mL syringes
- 4 x 25g needles
- Sterile water for injection (5mL)
- Alcohol wipes
- Nonsterile gloves
- Injection tray
- Sharps disposal container

**5. CLINICAL PRACTICE**

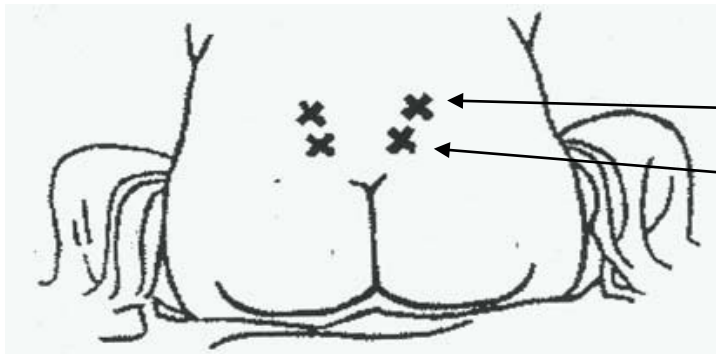
- Provide pregnant woman with the information sheet 'Sterile water injections for low back pain in labour' antenatally (see appendix 1)
- Discuss procedure and assess need with woman, answering any questions. Use Visual Analogue Scale (VAS) to discuss effect of SWIs which is most useful with score  $\geq 6$  but not contraindicated when  $\leq 6$

**Visual Analogue Score (VAS) – Assessment of pain using a scale**



**STERILE WATER INJECTIONS FOR RELIEF OF LOW BACK PAIN IN LABOUR**  
cont'd

- Explain the procedure to the woman, informing her the injections cause an intense stinging sensation, akin to a wasp sting, for approximately 20-30 seconds and this feeling is essential to the effectiveness of the treatment
- Obtain verbal consent and document, along with VAS score, in medical record
- Position the woman sitting or leaning on the bed, allowing easy access to the sacral region of the back
- Adhere to usual pre-procedural aseptic preparation, including hand hygiene, personal protective equipment (PPE), and clean procedural field
- Draw up 0.5mL of sterile water into each of the four syringes, attach a 25 gauge needle
- Identify the four anatomical landmarks on the woman's lower back as indicated and mark with a pen:



**First Injection points**

- a. Posterior superior iliac spines (PSIS)

**Second injection points**

- b. 2-3cm below and 1cm medial to the PSIS

- a. Over each posterior superior iliac spine (PSIS)
  - b. Approximately 2-3cm below and 1cm medial to the PSIS
- Clean injection sites with alcohol wipe allowing to dry
  - Ensure the area is free from open wounds, infection, or bruising
  - Provide support for the woman to hold onto e.g. her partner, pillow
  - Offer injections during a contraction by two midwives simultaneously as this may help reduce stinging sensation
  - Inject 0.1- 0.3mL of sterile water intra-dermally until a visible 'bleb' is raised under the skin
  - Provide the first two injections on opposite sides (in case the woman declines further two injection)
  - Proceed with the further two injections. If possible, aim for all four injections over a single contraction.

## STERILE WATER INJECTIONS FOR RELIEF OF LOW BACK PAIN IN LABOUR cont'd

### Post procedure

- Dispose of equipment appropriately
- Avoid touching, rubbing, massaging or counter pressure to the injection sites following the procedure for 90-120 minutes as it may reduce the effect
- Repeat procedure after 30 minutes, or as often as necessary

## 6. DOCUMENTATION

- Medical record

## 7. EDUCATIONAL NOTES

- Approximately 30% of labouring women experience severe and often constant lower back pain which is thought to be referred pain. Pain from the cervix, uterus or surrounding structures is often felt in the back <sup>2,12,13</sup>. Back pain is also frequently linked to fetal malposition, although there is little evidence to support or refute this <sup>13</sup>.
- Back pain is often perceived as more difficult for women to cope with than abdominal contraction pain alone and is associated with a greater use of pharmacological pain relief <sup>12,13</sup>. Where epidural anaesthesia is not available, or for women wishing to avoid pharmacological pain relief or wishing to experience physiological labour, it is important to have access to a range of non-pharmacological pain relief options <sup>1,5</sup>.
- Other forms of pain relief can be used in conjunction with SWIs, heat or TENS machine over the site may reduce treatment effectiveness
- Unlike pharmacological analgesia, SWIs do not alter physiological labour functions or cognitive ability and enabling a woman to work with labour by relieving intense lower-back pain (it does not relieve abdominal contraction pain) <sup>11,14</sup>.
- 66.8% of women in a recent, large, multicentre RCT reported SWIs as being 'very' or 'rather effective', 69.8% reported they were 'very satisfied' or 'satisfied' with the treatment and most reported they would use SWIs again or recommend them to a friend <sup>2</sup>.
- Other studies have also shown SWIs were effective for the relief of back pain in labour, with up to 85% of women reporting a significant decrease in pain intensity from the earliest measurement, usually at 10 minutes and increasing over time to 90 or 120 minutes <sup>6,7,8,9,10</sup>.
- Qualitative studies of both midwives and women have confirmed these results <sup>11</sup>
- Repeat injections have shown to be successful in re-establishing analgesia <sup>3,11,12</sup>
- Other than the sting of the procedure, SWIs have no known side effects for either a woman or fetus<sup>2</sup>
- Four injections are superior to two injections however two will provide some pain relief for most women <sup>3</sup>

## STERILE WATER INJECTIONS FOR RELIEF OF LOW BACK PAIN IN LABOUR cont'd

### 8. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP

- Australian College of Midwives (ACM) Guidelines for consultation and referral
- First Stage Labour Care for Women with a Low-Risk Pregnancy
- Second Stage Labour - Recognition of Normal Progress and Management of Delay

### 9. RISK RATING

- Low

### 10. NATIONAL STANDARD

- Standard 2 – Partnering with Consumers
- Standard 5 – Comprehensive Care

### 11. REFERENCES

1. Chaillat N, Belaid L, Crochetière C, Roy L, Gagné GP, Moutquin JM, and Bonapace J (2014). Nonpharmacologic approaches for pain management during labor compared with usual care: a meta-analysis. *Birth*, 41(2), 122-137.
2. Lee N, Gao Y, Collins SL, Mårtensson LB, Randall, W., Rowe, TM, and Kildea, S. (2020). Caesarean delivery rates and analgesia effectiveness following injections of sterile water for back pain in labour: A multicentre, randomised placebo-controlled trial. *EClinicalMedicine*, 25, 100447.
3. Lee N, Webster J, Beckmann M, Gibbons K, Smith T, Stapleton H, and Kildea S. (2013). Comparison of a single vs. a four intradermal sterile water injection for relief of lower back pain for women in labour: a randomised controlled trial. *Midwifery*, 29(6), 585-591.
4. Lee N, Kildea S, and Stapleton H. (2017). “No pain, no gain”: the experience of women using sterile water injections. *Women and Birth*, 30(2), 153-158.
5. Whitburn LY, Jones LE, Davey MA, and McDonald S. (2019). The nature of labour pain: An updated review of the literature. *Women and Birth*, 32(1), 28-38.
6. Farag A, Khaled M, and Mohammed M. (2015). Intracutaneous sterile water injections for relief of back pain during labor. *Medical Journal of Cairo University*, 83(1), 401-8.
7. Fouly H, Herdan R, Habib D, and Yeh C. (2018). Effectiveness of injecting lower dose subcutaneous sterile water versus saline to relief labor back pain: Randomized controlled trial. *European Journal of Midwifery*, 2(3), 1-9.
8. Koyucu RG, Demirci N, Yumru AE, Salman S, Ayanoğlu YT, Tosun Y, and Tayfur C. (2018). Effects of intradermal sterile water injections in women with low back pain in labor: a randomized, controlled, clinical trial. *Balkan Medical Journal*, 35(2), 148.
9. Marzouk T, Abd-Elftah H, and Nabil H. (2015). Effect of subcutaneous sterile water injection at the lumbosacral region on labour back pain. *Journal of Nursing Education and Practice*, 5(10), 98.

**STERILE WATER INJECTIONS FOR RELIEF OF LOW BACK PAIN IN LABOUR  
cont'd**

10. Rai R, Uprety DK, Pradhan T, Bhattarai BK, and Acharya S. (2013). Subcutaneous sterile water injection for labor pain: A randomized controlled trial. *Nepal Journal of Obstetrics and Gynaecology*, 8(2), 68-70.
11. Lee N, Kildea S, and Stapleton H. (2017). 'Tough love': The experiences of midwives giving women sterile water injections for the relief of back pain in labour. *Midwifery*, 53, 80-86.
12. Mårtensson LB, Hutton EK, Lee N, Kildea S, Gao Y, and Bergh I. (2018). Sterile water injections for childbirth pain: An evidenced based guide to practice. *Women and Birth*, 31(5), 380-385.
13. Lee N, Kildea S, and Stapleton H. (2015). 'Facing the wrong way': Exploring the Occipito Posterior position/back pain discourse from women' s and midwives perspectives. *Midwifery*, 31(10), 1008-1014.
14. Thomson G, Feeley C, Moran VH, Downe S, and Oladapo OT. (2019). Women's experiences of pharmacological and non-pharmacological pain relief methods for labour and childbirth: a qualitative systematic review. *Reproductive Health*, 16(1), 1-20.

**REVISION & APPROVAL HISTORY**

Endorsed Maternity Services LOPs group 24/8/21

**FOR REVIEW: SEPTEMBER 2026**





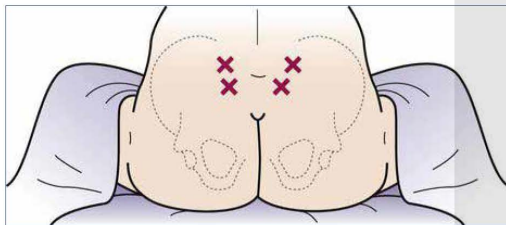
# What are sterile injections and how do they work?

## What are sterile water injections?

- About one in three women will experience continuous low back pain in labour. You may hear this called 'back labour'. The pain can be very difficult to manage and may be severe enough to influence your plans and decisions about pain relief.
- Sterile water injections can be an effective way to treat your back pain in labour. With your permission, we inject a small volume of sterile water (0.1-0.2mL) under the skin at four different places on your lower back (sacrum).

## How do they work?

The injections cause a brief but intense stinging sensation at the site of the injection. The stinging lasts for about 30 seconds and then wears off completely. As the stinging eases, relief from the back pain is felt. To distract from the stinging sensation the injections are done during a contraction by two midwives at the same time. It can help if you have some support and encouragement as the injections are given.



The crosses show the four places on the lower back where the injections will be given.

# How long will pain relief last and will it help my labour pain?

## How long will the pain relief last?

Sterile water injections can provide effective pain relief for 8 in 10 women with low back pain in labour. The effect can last for up to 90 minutes and can be repeated as often as necessary.

## Advantages of sterile water injections

- They often have immediate effect
- No side effects for mother
- No effect on baby
- They do not limit your ability to move around in labour
- Do not affect labour progress
- A simple procedure that can be administered by your midwife

## Will sterile water injections help my labour pain?

Sterile water injections are an excellent choice for women who would prefer non-pharmacological pain management choices for labour and birth.

While the injections will not take away the pain of contractions, once the back pain has gone you may be better able to relax and cope with the normal pain of labour.

Sterile water injections can be used at the same time as other pain relief methods except heat packs and massage on the lower back or a TENS machine.

# What other pain relief options and strategies are there?

## Some other strategies to manage low back pain in labour may be:

- Staying upright and active
- Getting into a warm bath or shower
- Breathing and relaxation techniques
- Massage and acupressure
- TENS machine
- Medications such as nitrous oxide 'gas', morphine injection or epidural anaesthesia.

## What else do I need to know?

After having the injections, it is important to avoid rubbing, touching, or putting pressure on the injected area as this may reduce the effectiveness of the injections.

If you are happy to have the injections, you will need to give your permission (consent).

Before and again after, being given the injections, you will be asked to tell us about your pain on a scale from 1 to 10. The pain relief gained from the injections is better for women when their pain score is 7 or more.

