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TITLE: Intradermal Sterile Water Injections for the Relief of Back Pain in Labour

1. Statement/Purpose/Description

To inform and guide midwives and nurses on the use of intradermal water injections for the relief of back pain in labour. To be used as a reference for correct and appropriate administration of this form of non pharmacological pain relief.

2. Scope

Core Midwives, Nurses and Lead Maternity Carers

3. Definitions

Intradermal sterile water injections:
Injections of 0.1ml sterile water into the dermal layer of the skin at 4 locations on a woman's lower back.

Dermal Layer:
"the layer of the skin just below the epidermis containing blood and lymphatic vessels, nerves and nerve endings, glands, and hair follicles".

4. Procedure/Management

4.1 What the research says

- Intradermal water injections to relieve back pain in labour are a well researched topic. Several high quality randomised controlled trials found them to significantly reduce back pain in labour when compared to the control.
- Reduction in Visual Analogue Scale (VAS) scores (where 0 is no pain and 10 is the worst pain imaginable) continued for up to 3 hours post administration.
- The most effective pain relief was achieved at 45-90 mins. post administration. At 90-120 mins. pain scores began to increase but were still significantly lower than pain scores given prior to the procedure.
- The majority of women stated they would use this pain relief technique again in a subsequent birth despite the pain of administration. From this it can be

inferred that the analgesic effects outweighed any discomfort felt during administration and that the pain was worth it for the outcome.

Advantages

- Analgesic effects are immediate (takes approx 30 seconds).
- They are clinically proven to provide significant pain relief.
- They have no effect on women's state of consciousness.
- They are non pharmacological so carry no risk of allergy or adverse effects.
- They can be repeated as desired.
- They do not affect mobility.
- They do not interfere with natural labour or active birthing.
- They are cheap and simple for midwives to administer.
- They can be used during homebirths.
- They have no adverse effects on babies.

Disadvantages

- A severe stinging/burning sensation is felt during administration that lasts for 20-30 secs (Ader et al, 1990). This feeling is thought to be essential to achieve an analgesic effect.
- As with any injections there is a small risk of site infection. It is essential to use aseptic techniques and observe the injection sites postnatally for signs of infection.

When they can be used

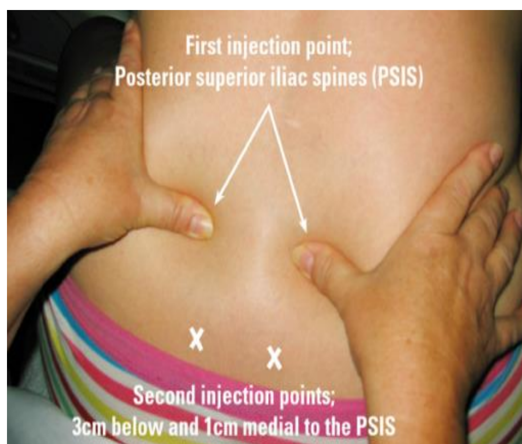
- For women with severe back pain in labour with a Visual Analogue Scale (VAS) score of 7+.
- At home, in a primary care unit, in a secondary or tertiary hospital.

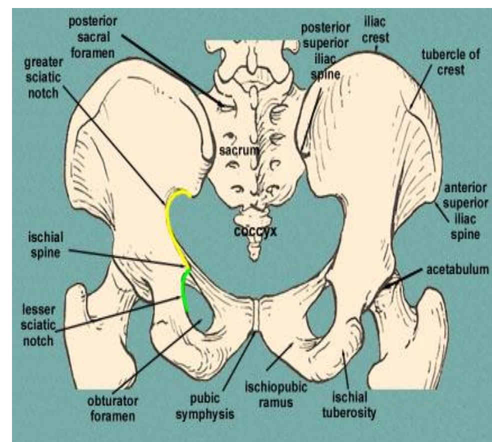
Equipment Required

- 4x1ml syringes with 4x25g or smaller needles – insulin syringes and tuberculin syringes can be used.
- Sterile swabs.
- Fine point marker to mark the skin.
- 2 Midwives (or a nurse working at the maternity unit). This is preferable but not essential.

5. Technique

- Discuss the procedure with the woman (ideally this will have been done antenatally). Inform her about how the procedure works and part of this involves a severe burning/stinging sensation that usually lasts 20-30 seconds. As the sensation of the injections subside the severe back pain should also dissipate.
- Gain informed consent from the woman and make a plan with her whether the injections will be given during a contraction (speculated to reduce the pain from injections as the woman is distracted by the pain of the contraction) or between contractions (better for women who cannot stay still during contractions).
- Enlist the assistance of a colleague (LMC, core midwife or nurse) who will perform the injections simultaneously with you to speed up the procedure and therefore lessen the duration of discomfort.
- Injections are administered with the woman in a standing, kneeling or seated position, leaning over a bed or couch. Have her birth partner stand facing her holding her hands.
- Identify the areas to be injected and mark just above these points with a fine point marker.

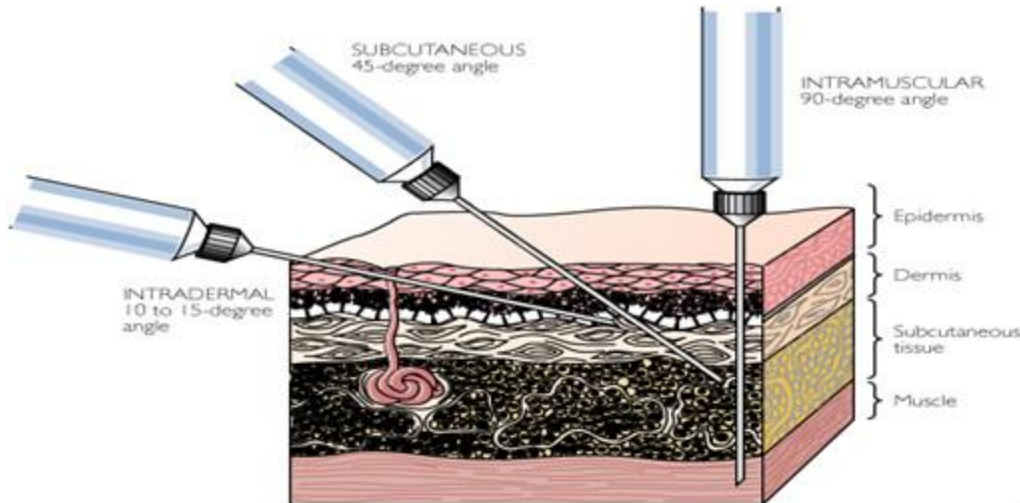




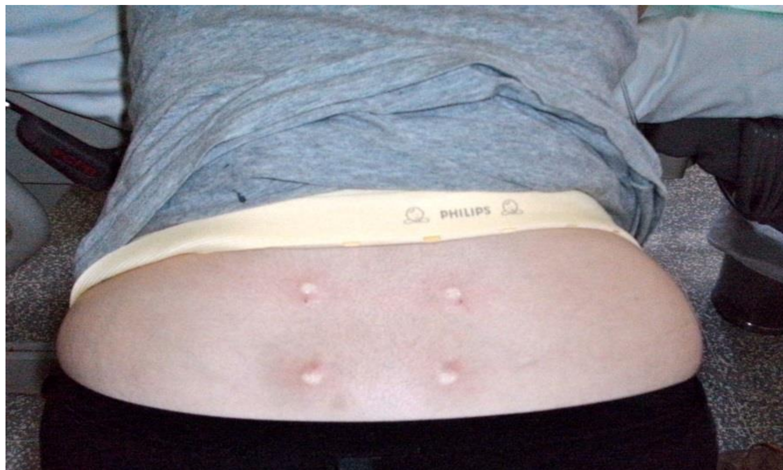
- Swab the areas below these marks with alcohol wipes.
- Draw up 0.1ml sterile water into each syringe.
- Ask the birth partner to count backwards from 30 – 0.
- Both health professionals simultaneously inject the sterile water into the dermal skin layer at the upper injection points (see intradermal injection technique instructions).
- Repeat this procedure for the dermal skin layer below your second marks.
- Do not rub or massage the area as this can reduce the effectiveness of the injections.
- The injections can be repeated as per the woman's request.
- Observe the injection sites in the postpartum period for signs of infection
- This alternative method of pain relief will be audited, so please complete an audit form. See Appendix 1

5.1 Intradermal Injection Technique

- Use a 25g needle at the largest.
- Ensure the bevel is facing up before you insert it into the skin.



- Insert the needle at a 10 – 15 degree angle to access the dermis.
- Inject the sterile water just below the skin, resistance should be felt and a blister (“bleb”) should form.



- Withdraw the needle and discard safely.

5.2 Ideas to cope with the pain of administration

- Several studies recommend the injections to be given during a contraction to distract from the pain of the injection, though this aspect of care has not been investigated or proven as best practise. Therefore it is recommended to discuss with the woman whether she would prefer it to be given during or between contractions. If she is finding it difficult to stay still during contractions it may be better to administer them between.
- Some women find it helpful to breathe entonox during the injections.
- Getting a support person to hold her hands and count aloud backwards from 0 to 30 during the injections is a technique also used. This allows the woman to focus on the voice of her support person and know that the burning sensation will soon stop and the pain relieving benefits will soon commence.

6. Associated Documents

- Intradermal Sterile Water Injections Audit Form. Appendix 1

7. References

- Mosby. Mosby's Medical Dictionary, 8th Edition, Elsevier, 2009.
- Bahasadri S, Ahmadi-Abhari S, Dehgani-Nik M, Habibi GR. Subcutaneous Sterile Water Injection for Labour Pain: a Randomised Controlled Trial. Aust NZ J Obset Gynaecol 2006; 46:102-6
- Kushtagi P, Bhanu BT. Effectiveness of Subcutaneous Injection of Sterile Water to the Lower Back for Pain Relief in Labour. Acta Obstet Gynaecol Scand 2009; 88:231-3
- Labrecque M, Nouwen A, Gergeron M, Rancourt J F. A Randomised Controlled Trial of Nonpharmological Approaches for Relief of Low Backpain during Labour. J Fam Pract 1999; 111:1484-7
- Martensson L, Wallin G. Labour Pain Treated with Cutaneous Injections of Sterile Water: A Randomised Controlled Trial. Br J Obstet Gynaecol 1999; 106:633-7
- Martensson L, Stener-Victorin E, Wallin G. Acupuncture Versus Subcutaneous Injections of Sterile Water as Treatment for Labour Pain. Acta Obstet Gynecol Scand 2008;87:171-7
- Trolle B, Moller M, Kronborg H, Thomsen S. The Effect of Sterile Water Blocks on Low Back Labour Pain. Am Journal Obstet Gynaecol 1991;164:1277-81
- Wiruchpongsanon P. Relief of Low Back Pain by Using Intracutaneous Injections of Sterile Water: a Randomised Clinical Trial. J Med Assoc Thai 2006; 89:571-6

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Intradermal Sterile Water Injection Audit Form

MATERNITY SERVICES

Demographics

Age:

Ethnicity:

Gravida/Para:

Birth History (Normal/LSCS?)

Labour Details

Spontaneous/IOL/Augmented:

Pain relief techniques already used:

Visual Analogue Scale (VAS) score **prior** to administration of SWI
(0 = no pain & 10 = the worst pain imaginable)

0 1 2 3 4 5 6 7 8 9 10

VAS score 15 mins after injections

0 1 2 3 4 5 6 7 8 9 10

VAS Score 30 mins after injections

0 1 2 3 4 5 6 7 8 9 10

VAS Score 60 mins after injections

0 1 2 3 4 5 6 7 8 9 10

VAS Score 90 mins after injections

0 1 2 3 4 5 6 7 8 9 10

VAS Score 120 mins after injections

0 1 2 3 4 5 6 7 8 9 10

Were the Injections repeated? Yes ☐ No ☐

If repeated, How many times?

How long after the initial injections were they repeated?

Did the woman choose to use any further pain relief after the sterile water injections?

If so, what?

Please continue overleaf

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Intradermal Sterile Water Injection Audit Form

MATERNITY SERVICES

What was the outcome of this birth?			
Normal	☐		
Ventouse	☐	Indication:	
Forceps	☐	Indication:	
Caesarean	☐	Indication:	

On a scale of 0-10 where 0 = "not satisfied" and 10 is "very satisfied", how satisfied was the woman with this technique of back pain relief in labour?

0 1 2 3 4 5 6 7 8 9 10

On a scale of 0-10 where 0 = "definitely would not" and 10 is "definitely would", how likely is the woman to use this technique in a subsequent labour if they were needed?

0 1 2 3 4 5 6 7 8 9 10

Any Other comments:

Thank you for taking the time to complete this audit. Please put it in the envelope on the office note board.

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