



Pain Management during Vaccine Injections

A Clinician's Guide: Children ≤ 3 years

Vaccine injections can be painful and stressful for children and parents, but you can really make a difference. Read the 5 P's of vaccination pain management below and combine these strategies to improve pain relief. For more information and to see a video, visit <http://immunize.ca/en/health-care-providers/painmgt.aspx>

These are scientifically proven ways of reducing pain in children during vaccination. Talk with parents and plan ahead to make the next vaccination less painful.

PROCESS STRATEGIES

EDUCATION

- Parents should be provided with educational materials such as pamphlets, videos or verbal instruction prior to and on the day of vaccination. When providing resources to parents, be sure to consider health literacy and cultural sensitivity. Free materials can be obtained at immunize.ca/en/parents/pain.aspx

PREPARATION

You may also ask parents to prepare ahead of time:

- 1) Apply topical anaesthetics at home or at the clinic to numb the skin – these can be purchased at a pharmacy without a prescription.
- 2) Make sucrose solution at home or at the clinic by mixing 1 teaspoon of sugar with 2 teaspoons of water.
- 3) Bring the child's immunization record and download the free ImmunizeCA app at immunize.ca/app to track and plan their child's next vaccination.

Ahead of time

PHYSICAL STRATEGIES

BREASTFEED

- Encourage mothers to breastfeed their child starting right before vaccination, and continue during and after vaccination.
- If 1 vaccination is planned, have the parent position the child to expose 1 leg; expose both legs for 2 or more vaccinations.
- If the child cannot be breastfed, parents may bottle feed their child or give their child a pacifier before, during and after vaccination.

HOLD

- Have parents hold the child on their lap or hug them during vaccination. This helps the child stay still and feel secure. Advise parents not to hold their child too tightly – this can increase pain and distress. Parents may rock, cuddle, and sing or talk after injections.

PHARMACOLOGICAL STRATEGIES

TOPICAL ANAESTHETICS

- Available products: lidocaine (Maxilene™), tetracaine (Ametop™), lidocaine-prilocaine (EMLA™).
- Apply to injection site between 30 and 60 minutes before vaccination, according to manufacturer instructions.
- Two doses may be needed (one for each arm or leg) if 2 or more vaccinations are being given.
- May cause temporary reddening or whitening of skin – this is normal. If a rash appears, it could be an allergic reaction – be aware of this.
- Instruct parents to avoid acetaminophen or ibuprofen before vaccination – these have not been proven to reduce injection pain. After vaccination, acetaminophen or ibuprofen may be used to relieve fever or discomfort.

Before and during vaccination



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Before and during vaccination

SUCROSE SOLUTION

- If the child is not breastfeeding during vaccination, a sucrose solution (also known as sugar water) may be given (0-2 years). Sucrose solution is safe for children, even newborns.
- Give the child some sucrose solution 1 to 2 minutes before vaccination, using a dropper (or syringe) and placing the sucrose solution into the side of the child's mouth between the cheeks and gums.
- If the child uses a soother, the soother can be dipped into the sucrose solution and given to the child during vaccination. Combining sucrose solution with a soother and holding the child can simulate aspects of breastfeeding.
- If the child is receiving the oral rotavirus vaccine, give it before injectable vaccines and instead of sucrose solution.

PSYCHOLOGICAL STRATEGIES

COMMUNICATION

- Use neutral words when communicating the vaccine procedure (e.g., "Here I go") instead of warning words (e.g., "Here comes the sting"). Warning words can cause distress, even in infants that may not understand the words because of non-verbal signs (e.g., facial expression and tone) that can be associated with them.
- Use true suggestions when talking with parents about pain-relieving interventions. Be honest and accurate about the interventions and do not overstate their effectiveness.
- Direct parents to stay calm and use a normal speaking voice. This will help the child stay calm. If they are nervous, prompt parents to take slow, deep breaths before and during vaccination, while holding the child. They should breathe so their stomach expands, not their chest.
- Direct parents to avoid using reassuring statements like "It'll be over soon" and "You're OK". Reassurance can increase distress and pain.

DISTRACT

- Some distractions that can be used: videos (e.g. mobile devices), toys and music. Start distracting the child before vaccination but distract only when the child is calm enough to do so; otherwise, distress may be increased.

Before & during vaccination

PROCEDURAL STRATEGIES

NO ASPIRATION

- Perform all intramuscular injections without prior aspiration. Aspiration is unnecessary because the sites used for vaccination are devoid of large blood vessels.

MULTIPLE INJECTIONS

- If multiple injections are given sequentially, then inject the most painful last.
- If more than one immunizer is available, two separate injections can be given simultaneously in alternate limbs in infants (< 1 year). Position to gain access to site of injection for infants (thigh) without interfering with other pain management interventions.

