

# Reducing pain during vaccination: New guideline to help manage pain in children and adults

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Credit: National Cancer Institute

A new Canadian guideline aims to ensure that pain during vaccination is minimized in both children and adults. The guideline, published in *CMAJ* (*Canadian Medical Association Journal*), is targeted at all health care providers who administer vaccines.

"Pain from vaccinations is common and can make people hesitate about getting future vaccines even as adults," states Dr. Anna Taddio, Senior Associate Scientist at The Hospital for Sick Children (SickKids), Toronto, Ontario, and Leslie Dan Faculty of Pharmacy, University of Toronto. "This can put people at risk of contracting [infectious diseases](#) that are largely preventable through vaccination."

This expanded and updated guideline includes recommendations for both children and adults; the 2010 guideline focused on children only. A multidisciplinary group of 25 people from across the country (HELPinKids&Adults team) with

expertise in [pain](#), fear, vaccines, nursing, epidemiology and other related fields reviewed the literature to develop the guideline.

"Many of these recommendations can be used in a variety of settings where vaccines are delivered, whether in a physician's office, a public health setting such as a school or a workplace," states Dr. Taddio.

## Key recommendations:

### All ages:

- Aspiration should not be used during intramuscular injections in people of all ages. (Aspiration is pulling back on the syringe to make sure the needle is not in a blood vessel.)
- Inject the most painful vaccine last during visits for more than one vaccination.

### Children:

- Breast- or formula-feed infants under age 2 years during vaccination or give sugar solutions before injection.
- Hold children aged 0-3 years during injections to provide comfort.
- An upright position is recommended for children and adults over age 3 years because it provides a sense of control and can decrease fear. Restraining children is not recommended.
- Apply topical pain analgesics before injection in children under age 12 years.
- Parents of children aged 10 years and under should be present during vaccination to lower the child's distress levels.

The authors also recommend educating parents,

older children and [adults](#) about what to expect with a vaccination, how it might feel and what they can do to manage any pain.

"No single intervention in this guideline is expected to prevent all pain (i.e., achieve a level of pain of "0"), write the authors. "Individual interventions can be combined, as appropriate, to improve pain relief. For young and school-aged children, because of the high levels of distress with vaccine injections and higher potential for long-term harm (i.e., development of needle fear and health care avoidance), a more comprehensive and consistent approach is recommended."

However, evidence for specific groups is lacking.

"There was a noticeable gap in research evidence for adolescent and adult populations, and mass immunization settings, even though concerns about pain and fear are well documented and contribute to [vaccine](#) hesitancy," write the authors.

Efforts should focus on making school vaccination campaigns a more positive health care experience for children.

**More information:** *Canadian Medical Association Journal*,  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.150391](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.150391)

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