

# Improving the vaccination experience: What **CARDS** will you play?



Dr. Anna Taddio, University of Toronto  
[anna.taddio@utoronto.ca](mailto:anna.taddio@utoronto.ca)

# Acknowledgements

## Funding & support:



Public Health  
Agency of Canada

Agence de la santé  
publique du Canada

## Trademark:



UNIVERSITY OF TORONTO  
LESLIE DAN FACULTY OF PHARMACY

## Partners:



Anxiety  
CANADA

AboutKidsHealth.ca



CAN VAX

# Learning objectives

1. Identify the consequences of poorly managed needle pain
2. Describe evidence-based strategies to reduce needle pain
3. Apply evidence-based strategies to reduce needle pain

# 1. Vaccine hesitancy and pain



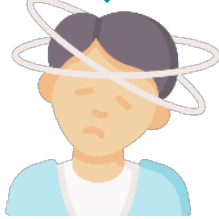
Delay in acceptance or refusal of vaccines despite the availability of vaccination services

- **complex** and **context specific**, varying across **time**, **place** and **vaccine**
- influenced by such factors as **confidence**, **convenience** and **complacency**

# Needles



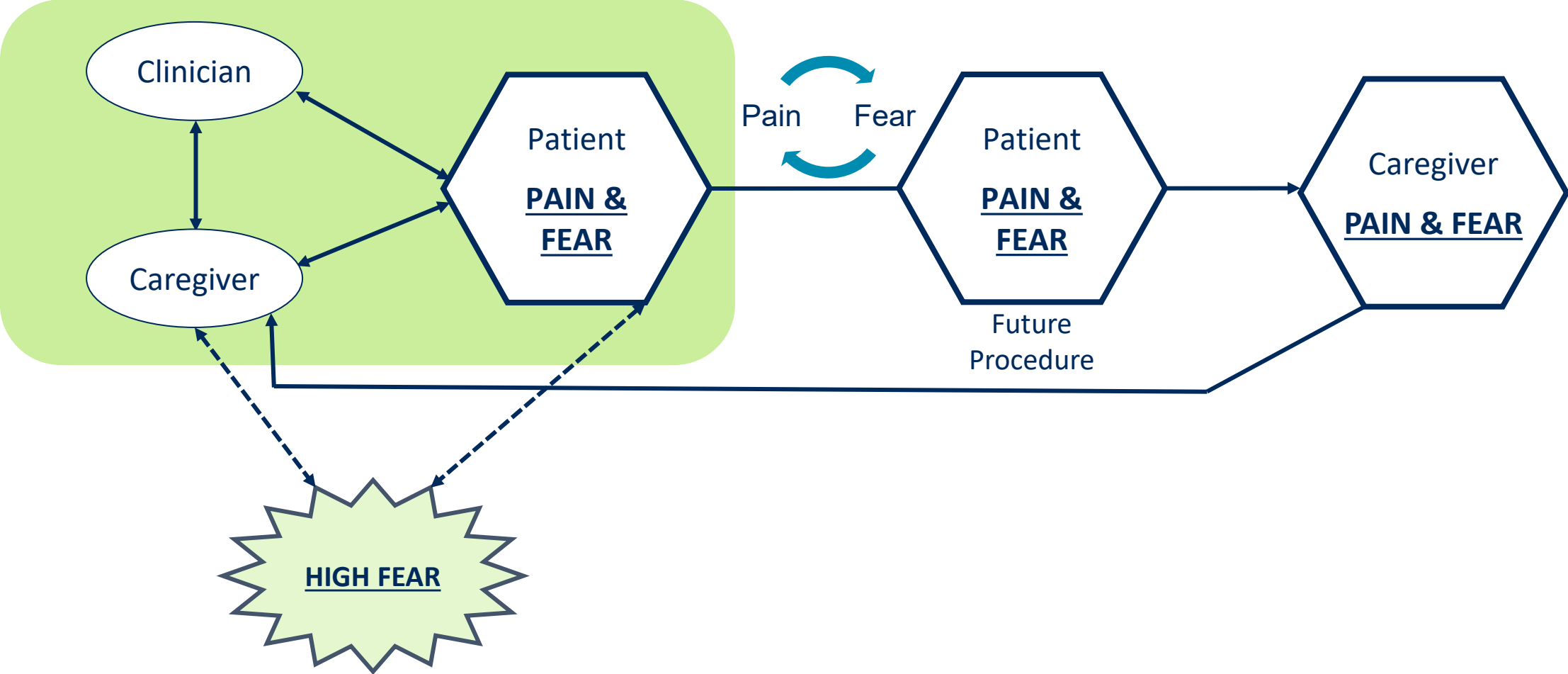
- Vaccines are the most common reason why people receive needles.
- Pain is the most common adverse event associated with immunization.
- 2/3 children and 1/4 adults are afraid of needles.
- Fear can fuel pain and lead to immunization stress-related responses (dizziness, headache, nausea, fainting).
- Negative vaccination experiences contribute to negative attitudes about vaccination and vaccine hesitancy.
- Up to **1 person in every 10** refuse vaccinations because of fear/pain.



[Taddio et al. \(2012\)](#) ; [McMurtry et al. \(2015\)](#); [McMurtry \(2020\)](#)

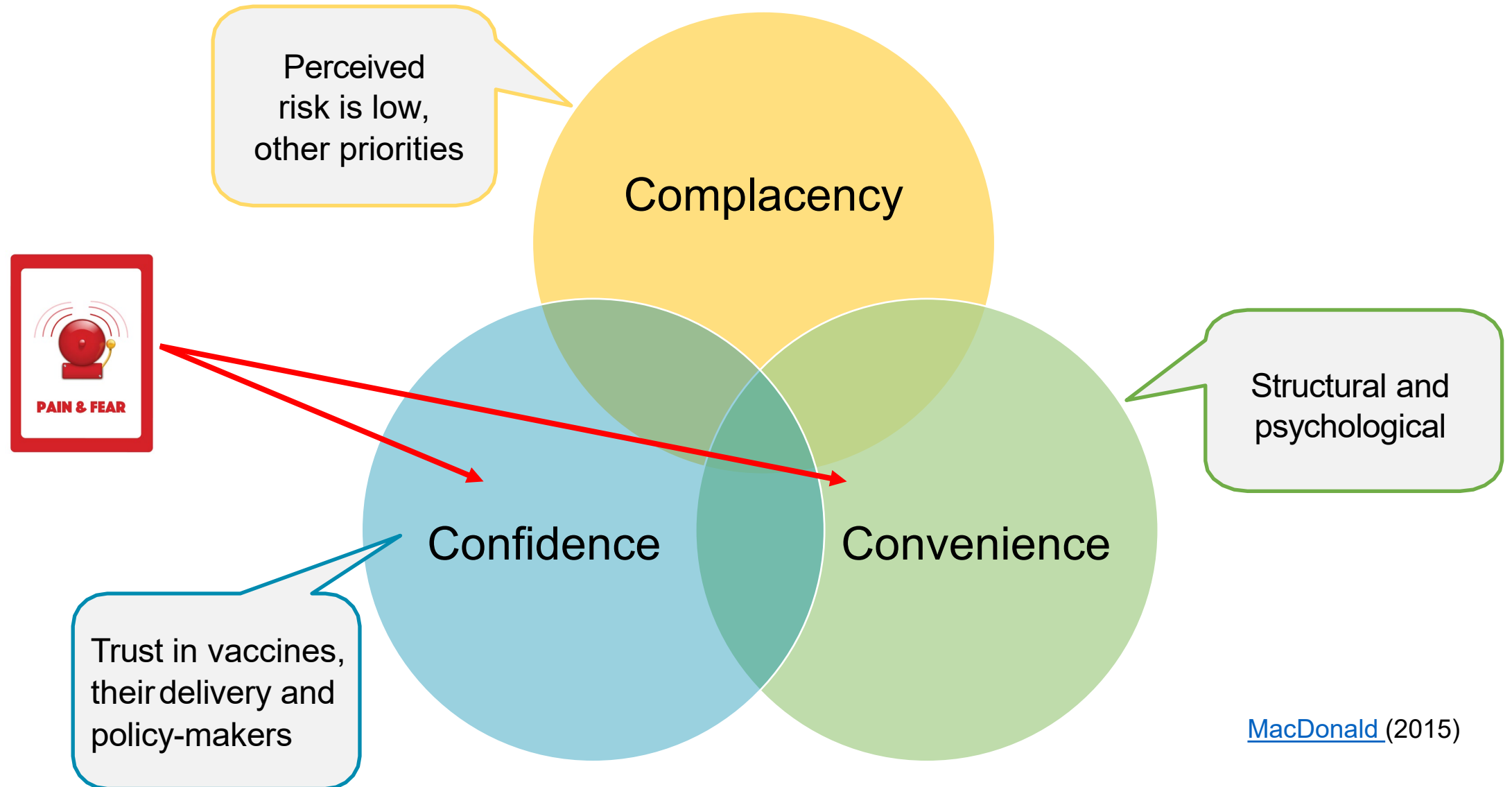
Selected icons made by [Freepik](#) from [www.flaticon.com](http://www.flaticon.com)

# Pain and fear exacerbate each other in an escalating relationship

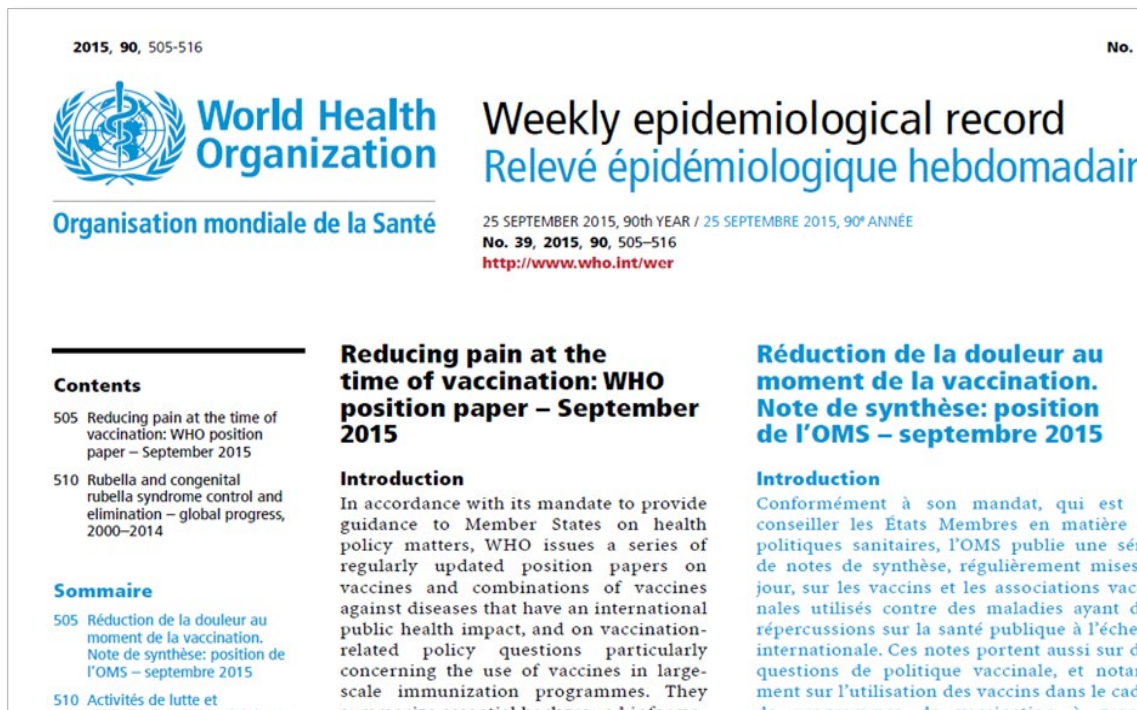


Development over time

# WHO 3C Model of Vaccine Hesitancy



# Mitigating pain is part of good immunization practices and should be embedded in national immunization policies and practices



## 4. Advice for national programmes

Many immunization programmes have sustained high vaccine coverage levels without addressing pain during the vaccination procedure; however, mitigating pain at vaccination should be considered as part of good immunization practice globally.

National programmes should ensure that the recommendations listed above are implemented. At health system level, related health policy should be strengthened by provision of training on the recommended policies and practices. Programmes should recommend the preferred order of injection for country-specific vaccination schedules where possible.

Education of health-care workers on pain mitigation strategies, e.g. by inclusion in training curricula, needs to be ensured in order to facilitate their implementation. Additionally, it should be ensured that caregivers and, if appropriate, vaccine recipients, are educated on vaccination pain mitigation strategies. Information could be provided during prenatal visits, breastfeeding education, or at time of vaccination. Context-specific educational methods to be utilized should include teaching of individuals or groups, or provision of written information.



# Fact or Fiction?

People's experiences of pain from a needle injection are the same because the pain stimulus is the same.

**Fiction:** Pain is an inherently **subjective experience** which is influenced by biological, psychological, and social factors and does **not** simply reflect the amount of tissue damage.



# Fact or Fiction?

Client anxiety is the only factor that causes negative cycles of pain and fear related to needles.

**Fiction:** Biopsychosocial factors all contribute to influence a client's experience of needles over time. Social factors include behaviours by clinicians and parents.



## 2. The Evidence



In 2015, we created a Canadian clinical practice guideline (CPG) – it has been incorporated into the Canadian Immunization Guide and **adopted by the World Health Organization.**

The CPG includes evidence-based recommendations for reducing pain, fear and fainting. There are 5 domains of recommendations (5Ps):



Procedural



Physical



Pharmacologic



Psychological

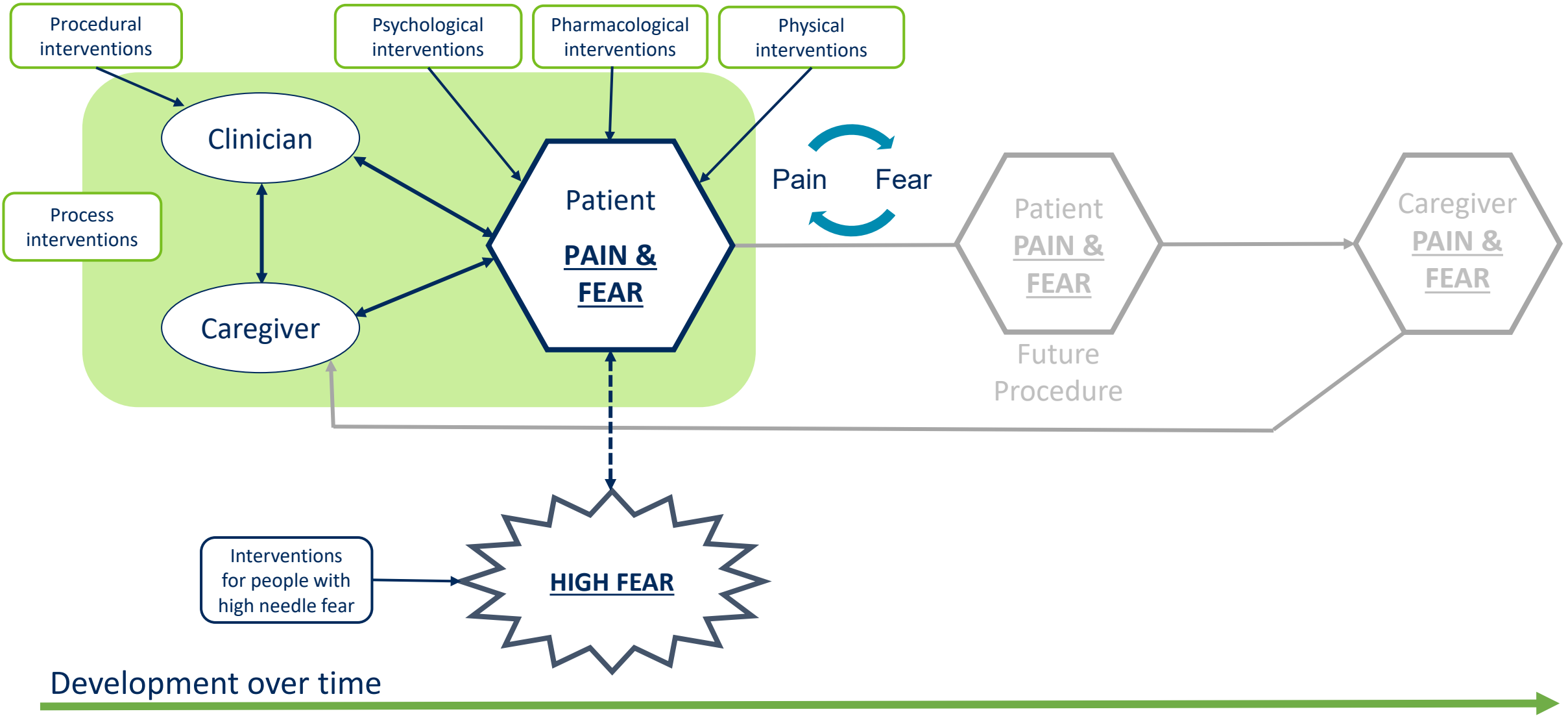


Process

[Taddio, McMurtry et al. \(2015\)](#)

Selected icons made by [Freepik](#) from [www.flaticon.com](http://www.flaticon.com)

# The 5 P's include interventions that are designed to break the cycle of pain and fear



# Procedural

## 1. Injection method

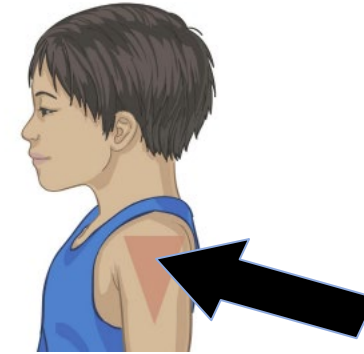
- no aspiration, fast injection

## 2. Order of injection

- most painful last

## 3. Formulation

- physiologic pH



[Taddio , McMurtry et al. \(2015\)](#)

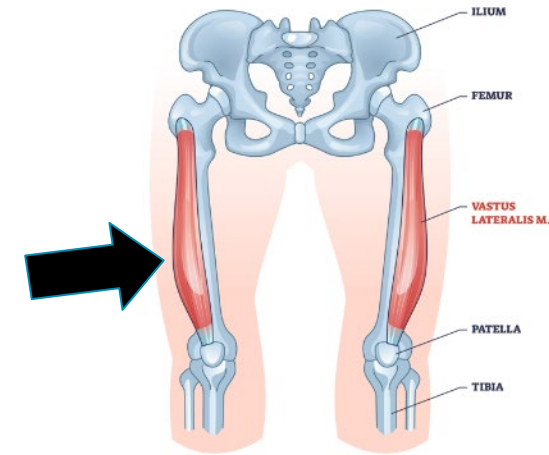
[Taddio et al.\(2016\)](#)

[Taddio et al \(2010\)](#)

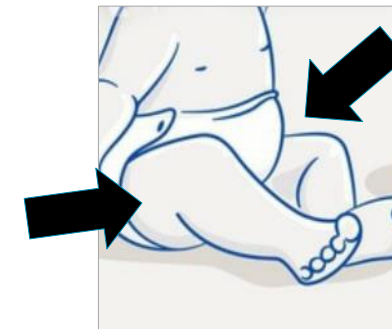
# Procedural

## 4. **Vastus lateralis injection** (infants)

- In the middle of the space between the greater trochanter of the femur and the top of the knee



## 5. **Simultaneous injections** if multiple vaccines given (infants)



[Taddio , McMurtry et al. \(2015\)](#)

# Physical

## 1. Breastfeeding

- Between 0-2 years, if not breastfeeding, sweet-tasting solution & non-nutritive sucking



## 2. Positioning

- Skin-to-skin contact in neonates
- Holding in children up to 3 years
- Sitting upright in children >3 years and adults



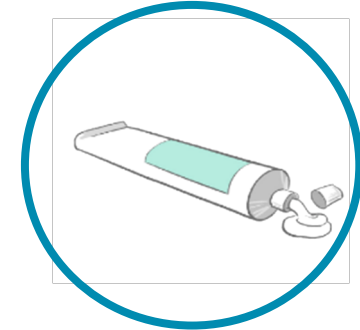
## 3. Tactile stimulation with cold (children and adolescents)



# Pharmacological

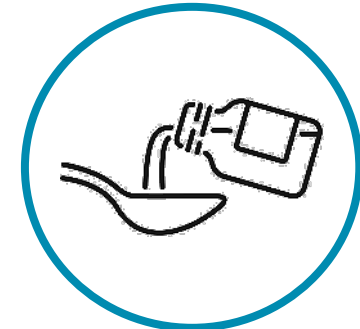
## 1. Topical anesthetics

- Lidocaine-prilocaine, amethocaine, liposomal lidocaine



## 2. Sweet-tasting solution (0-2 years)

- Sucrose, glucose
- Alternatively, oral rotavirus vaccine first (2 to 4 months)



## 3. Vapocoolants (adults)

- PainEase, Ethyl Chloride





# Psychological

## 1. Interactions

- Words and actions can promote coping or increase distress
- Use coping-promoting behaviours

## 2. Distraction

- Take attention away from needle



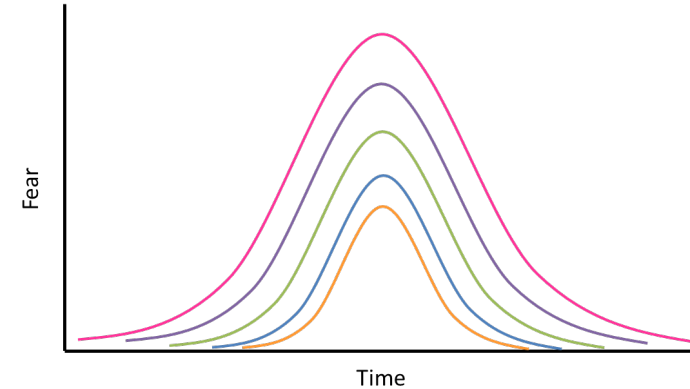
[Taddio , McMurtry et al. \(2015\)](#)

# High levels of needle fear

## Exposure therapy

- Facing fears gradually over time to overcome needle fear

*Typically requires assistance by a trained provider*



Step	Situation	Fear Rating (0-10)
10.	Getting a shot in the upper arm or fleshy part of leg	10
9.	Slightly pricking one's skin with a needle	9
8.	Watching someone else get a needle	8
7.	Resting needle against vein	7
6.	Resting the needle against one's skin	7
5.	Rubbing an alcohol swab against one's skin	6
4.	Holding a needle	5
3.	Watching an apple being injected	4
2.	Watching video clips of someone getting a needle	3
1.	Looking at a picture of a needle	2

[Taddio , McMurtry et al. \(2015\)](#)

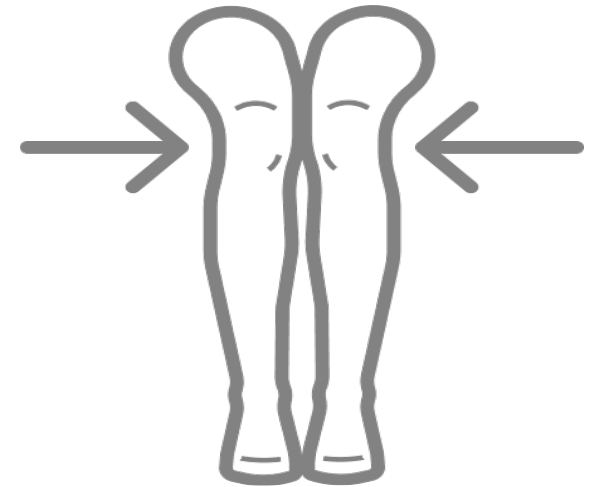
[McMurtry, Taddio et al. \(2016\)](#)

# Fainting or syncope during injection

## Use muscle tension to raise blood pressure and help prevent fainting

If a patient feels dizzy during injection, they can do the following before, during, and after the injection:

- Squeeze or tense their leg and stomach muscles 10 to 15 seconds or until feeling flushed or warm in their face
- Release tension for 20 to 30 seconds
- Repeat in cycles until the symptoms disappear



# Good practice recommendations



Minimize fear-inducing stimuli



Minimize waiting time



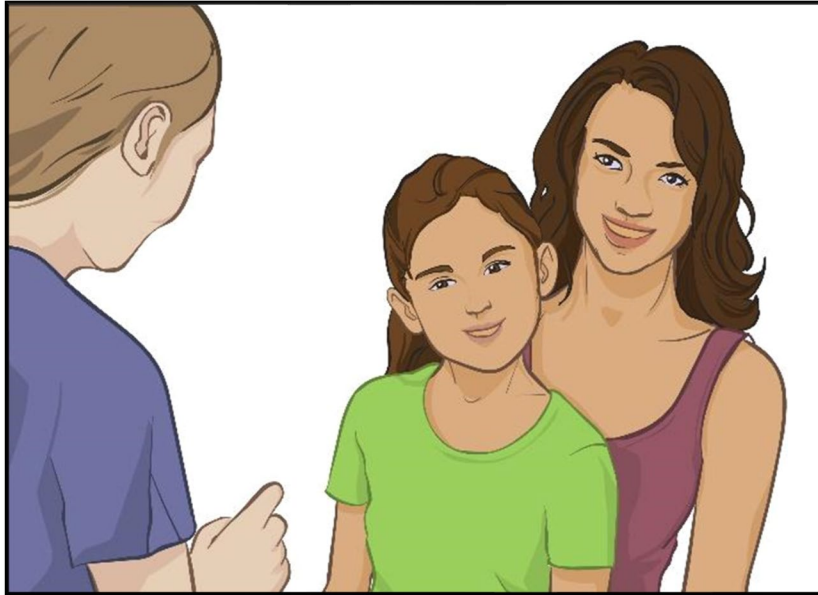
Provide privacy and comfort



Be observant and responsive

[Taddio , McMurtry et al. \(2015\)](#)  
[Gold et al. \(2020\)](#)  
[McMurtry \(2020\)](#)

# Process



- Provider education
- Caregiver/parent education
- Individual education

[Taddio , McMurtry et al. \(2015\)](#)

# 'Uptake' of Clinical Practice Guideline (CPG)



Courtesy of Immunize Canada, 2021

**BCCDC:**

[http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/CD%20Manual/Chapter%20%20-%20Imms/Appendix\\_D\\_RIIP.pdf](http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/CD%20Manual/Chapter%20%20-%20Imms/Appendix_D_RIIP.pdf)

**AHS:**

<https://www.albertahealthservices.ca/assets/info/hp/cdc/if-hp-cdc-ipism-standard-administration-immunization-06-100.pdf>

**Manitoba, Winnipeg Regional Health Authority:**

<https://professionals.wrha.mb.ca/old/professionals/immunization/contents.php>

**Ontario:**

[https://www.health.gov.on.ca/en/common/ministry/publications/reports/immunization\\_2020/immunization\\_2020\\_report.pdf](https://www.health.gov.on.ca/en/common/ministry/publications/reports/immunization_2020/immunization_2020_report.pdf)

**Quebec:**

<https://www.msss.gouv.qc.ca/professionnels/vaccination/protocole-d-immunisation-du-quebec-piq/>

**Nova Scotia:**

<https://novascotia.ca/dhw/cdpc/documents/Immunization-Manual.pdf>

**New Brunswick:**

[https://www2.gnb.ca/content/gnb/en/departments/ocmoh/for\\_healthprofessionals/dc/NBImmunizationGuide.html](https://www2.gnb.ca/content/gnb/en/departments/ocmoh/for_healthprofessionals/dc/NBImmunizationGuide.html)

**Newfoundland:**

<https://www.gov.nl.ca/hcs/files/publichealth-cdc-im-section4.pdf>

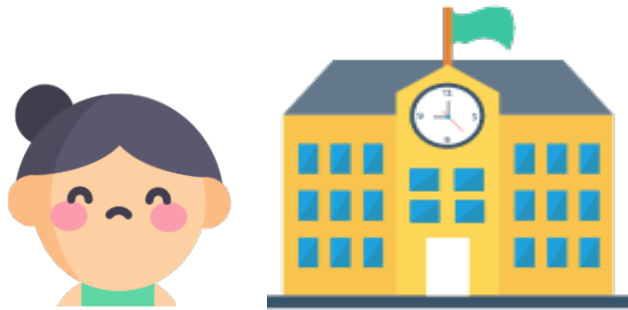
**Nunavut:**

[https://www.gov.nu.ca/sites/default/files/immunization\\_manual.pdf](https://www.gov.nu.ca/sites/default/files/immunization_manual.pdf)

**Yukon (part of immunization competencies):**

[https://yukon.ca/sites/yukon.ca/files/section\\_1\\_-\\_yukon\\_immunization\\_competencies\\_2021\\_final\\_july\\_2021.pdf](https://yukon.ca/sites/yukon.ca/files/section_1_-_yukon_immunization_competencies_2021_final_july_2021.pdf)

# Practice review Clinical Care Gaps



## NATIONAL PERSPECTIVE, 2017

Fear is worst part of vaccination	59%
Pain is worst part of vaccination	35%
Know how to reduce pain/fear	50%
Prepared ahead of time	17%



## ONTARIO PUBLIC HEALTH UNITS, 2021

Policies on pain/fear	58%
Formal training on program delivery	74%
Formal training on pain/fear	50%
Incorporate coping preferences	30%
Document stress-related responses*	0%

\* Pain/fear/dizziness; Fainting monitored in 83%

# 3. Getting evidence into ‘action’ with CARD

- ‘Systems level’ approach to address the identified clinical care gap
- Targets all stakeholders involved
- Turns the evidence into ‘action’ and uses a user-friendly and intuitive tool
- Each stakeholder *‘plays their CARDS’* to improve the experience for all
- Interventions implemented ‘ahead of time’ and ‘on needle procedure day’



**C** – Comfort  
**A** – Ask  
**R** – Relax  
**D** – Distract

[Taddio et al. \(2019\)](#)



# Studies with CARD

Study	Target	Setting	Design	Sample size	Impact
<a href="#">Freedman et al. (2019)</a>	Providers, children 12 years, parents, educators	Schools	Controlled Clinical Trial	323	↓ fear, dizziness
<a href="#">Taddio et al. (2022)</a>	Providers, children 12 years, parents, educators	Schools	Randomized Controlled Trial	1919	↓ fear, pain, fainting
<a href="#">Tetui et al. (2022)</a>	Providers, patients ≥12 years	Mass vaccination clinics	Before and After Trial	2488	↓ fear, pain, dizziness
Taddio et al. (2022)	Providers, parents, children 5-11 years	Pharmacies	Before and After Trial	153	↓ fear, pain
Taddio et al. (in prep'n)	Providers, adults ≥18 years	University vaccination pop-up clinics	Before and After Trial	476	↓ fear

# CARD Model

- Health care providers
- Vaccine clients
- Parents/caregivers
- **Ahead of time**
- **Vaccination day**

- Health care providers
- Vaccine clients
- Parents/caregivers



- Seating available (everyone)
- Space for support person
- Privacy
- Distractions
- Minimize fear cues (visual and auditory)

- Be calm, positive, promote coping
- Assess symptoms (fear, pain, fainting)
- Invite participation, answer questions
- Support CARD (coping) choices
- Minimize injection pain

# Education (Providers)



## CARD 4E MODEL:

A guide for providers of vaccination services

The **CARD system (Comfort, Ask, Relax, Distract)** is a framework that can be used to plan and deliver vaccinations. Each letter category (C-A-R-D) includes evidence-based activities that vaccinators and vaccine clients can **play** to reduce pain and other immunization stress-related responses (i.e., fear, headache, nausea, dizziness, fainting). Using CARD improves the vaccination experience for vaccine clients and staff.

Learn how to integrate CARD in your practice setting using the **4E model (Education, Environment, Engagement and Evaluation)** as a guide. For more information and resources, you can visit [CardSystem.ca](http://CardSystem.ca).



### EDUCATION:


**BEFORE VACCINATION DAY**

- Staff:** Review information about CARD and share with staff. Address comments and questions and plan for how to integrate CARD into the vaccination process. Consider feedback obtained from vaccine clients about how to make vaccinations a more positive experience for them. Review the [CARD vaccination planning checklist](#) and [CARD vaccination day checklist](#) to select options for your setting. Integrate into vaccination policies and procedures.
- Clients:** Provide information about CARD ([CARD fact sheet](#)) to vaccine clients at various times in the vaccination process, such as at the time of booking and at vaccination appointment check-in. Include information about what to expect and available coping strategies in the different letter categories of CARD (i.e., Comfort, Ask, Relax, Distract) ([CARD checklist](#)).

**ON VACCINATION DAY**

- Staff:** Review CARD with staff and implement selected tools and processes.
- Clients:** Use the CARD checklist at vaccine appointment check-in to record demographic information (including the level of fear) and coping strategy choices. The completed CARD checklist can be used to guide the appointment. If [topical anesthetic](#) is checked off, staff can explain the required waiting period (e.g., 20 to 30 minutes for [Maxilene™](#); other products take longer). Assist with topical anesthetic application and give options to leave and return or engage in a distraction activity while waiting.
- If clients identify a history of fainting, counsel them regarding the prevention of fainting using [muscle tension](#) (and supine positioning).

Financial contribution from  
 Public Health Agency of Canada  
 Agence de la santé publique du Canada  
 CIHR RSC  
 **HELP**  
 HIGHLIGHTS OF PAIN  
 Kids Adults  
 Scan for more resources > 




## IMPROVING THE VACCINATION EXPERIENCE:

What is CARD for health-care providers

The **CARD system (Comfort, Ask, Relax, Distract)** is a vaccine delivery framework that improves the safety of vaccine delivery. Each letter category (C-A-R-D) includes evidence-based activities that staff and clients can use to reduce fear, pain and other immunization stress-related responses (e.g., dizziness, fainting). Staff can find guidance on how to set up and prepare their clinic and how to interact with clients. Use the patient-centred resources for your clients. CARD can be adapted for any vaccination setting. Using CARD helps you deliver patient-centred care and improves the vaccination experience for vaccine clients and staff. To learn more about CARD, go to [CardSystem.ca](http://CardSystem.ca).


### Comfort

- Provide information about CARD to clients ahead of time so they know what to expect and how to cope. Tailor the information to your client's needs.
- Create comfortable spaces for people during vaccination (e.g., private vaccination spaces, seating for a support person).




### Ask

- People are anxious when they do not have enough information. Encourage clients to ask questions (e.g., private for vaccination).
- Invite people to select their preferred coping strategies during vaccination and support their choices.





### Relax









- Stay calm and be positive. Your actions and words can influence your clients' reactions. If you are calm and use your normal voice, your clients will feel that everything is OK.
- Reduce visual and auditory fear cues. For example, hide needles and obscure equipment, and minimize excessive noise and activity.



### Distract

- Provide physical and visual distraction items for individuals that want to be distracted. These can be placed in waiting and vaccination areas.
- Use CARD posters and other items and activities (e.g., fidget toys, puzzles).

# Education (Clients)



## IMPROVING THE VACCINATION EXPERIENCE:

Learn how to play your CARDS

### COMFORT

Find ways to get comfortable.



### ASK

Ask questions to be prepared.



### RELAX

Keep yourself calm.



### DISTRACT

Shift your attention to something else.



The **CARD system (Comfort, Ask, Relax, Distract)** provides groups of strategies that can be used to make your vaccination experience a more positive one. Choose what CARDS you want to play to reduce the stress and pain associated with vaccinations. There's no wrong move. **Look on the back for ideas.**

To learn more about CARD, go to [CardSystem.ca](https://CardSystem.ca).

Financial contribution from



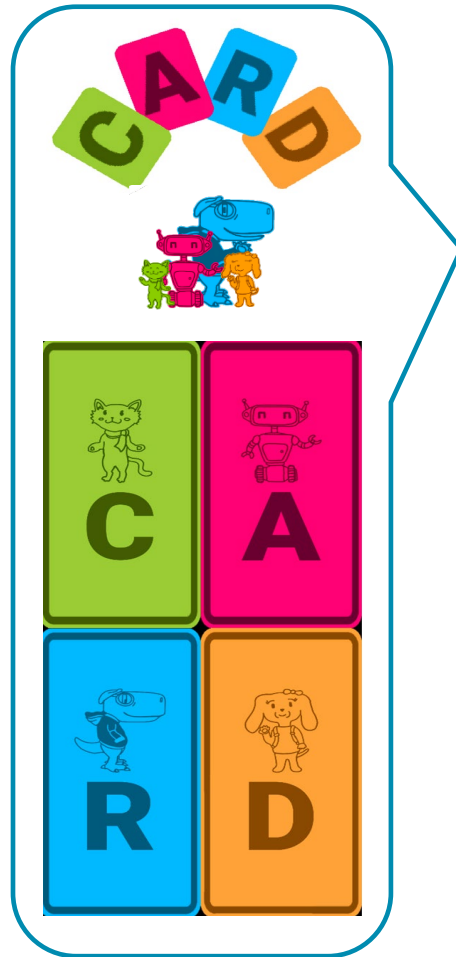
Public Health Agency of Canada  
Agence de la santé publique du Canada



Scan for more resources



# Education (Clients)



**CARD game:**

<https://immunize.ca/card-game-kids>



**THE CARD SYSTEM**

Scan for more resources

These four strategies can help you with your vaccination.

<p><b>C</b> COMFORT</p> <p><b>HOW TO GET COMFORTABLE</b></p> <p>Wear short sleeves or something that lets you show your upper arm easily for the needle.</p> <p>Eat a snack.</p> <p>Bring a favourite item.</p> <p>Sit up in a chair or lie down.</p> <p>Make your arm loose or jiggle (like cooked spaghetti).</p> <p>Squeeze your knees together if you feel faint or dizzy.</p>	<p><b>A</b> ASK</p> <p><b>QUESTIONS TO ASK</b></p> <p>What will happen on my turn? What vaccine am I getting? Can I ...</p> <ul style="list-style-type: none"> <li>• have the vaccine in privacy?</li> <li>• use numbing creams or patches? *</li> <li>• bring my friend, family member or trusted adult?</li> <li>• look at the needle?</li> </ul> <p><small>*You may need to purchase and apply the numbing cream 20 to 60 minutes prior to your appointment.</small></p>	<p><b>R</b> RELAX</p> <p><b>HOW TO RELAX</b></p> <p>Do belly breathing (pretend to blow out a candle).</p> <p>Do some positive self-talk (tell yourself you can handle this).</p> <p>Have a friend with you.</p> <p>Have a family member or trusted adult with you.</p> <p>Have privacy.</p>	<p><b>D</b> DISTRACT</p> <p><b>HOW TO DISTRACT YOURSELF</b></p> <p>Talk to someone.</p> <p>Play a game or watch a video.</p> <p>Read a book or magazine.</p> <p>Listen to music.</p> <p>Sing.</p> <p>Allow yourself to daydream about fun things.</p>
--	---	--	---

Financial contribution from  
 Public Health Agency of Canada
 Agence de la santé publique du Canada  
 CIHR IRSC  
 HELP Immunization Kids Adults

**CARD posters and activities**

# Education (Caregivers)



## IMPROVING THE VACCINATION EXPERIENCE:

What is CARD for parents and caregivers

The **CARD system (Comfort, Ask, Relax, Distract)** provides groups of strategies that can be used before and during vaccination to make the experience a more positive one for you and your child. Learn how you and your child can **play your cards** to reduce the stress and pain associated with vaccinations. To learn more about CARD, go to [CardSystem.ca](http://CardSystem.ca).

### Comfort

Encourage your child to prepare for the vaccination. They can play the [CARD game](#) to learn about coping strategies they want to use. Some things they can do to feel comfortable are:

- Wear something that lets their upper arm be reached easily.
- Choose a comfort item to bring such as a favourite toy.
- Think about the [position](#) they would like to be in (sitting up or lying down) and how you can help (e.g., holding their hand).

### Ask

Invite your child to ask questions to help them be more prepared for their vaccination. If you can, answer your child's questions or search for the information together. If your child does not seem interested or is not ready to talk, that is OK. Tell them they can always come to you if they have questions. To help your child be more prepared for their vaccination they can ask questions such as:

- Can I have a snack?
- Can I have privacy?
- What will happen? What will it feel like?
- Can I use [numbing cream](#) to dull the pain?

### Relax


Your actions and words can influence your child's reaction. If you are calm and use your normal voice, your child will feel that everything is OK. Use the fact sheets on [what to say](#), [how you can act](#), and [what you can do](#) to promote coping. To help your child stay calm and relaxed they can:

- Practice relaxation techniques such as deep belly breathing (like blowing up a balloon).
- Practice positive self-talk (tell yourself you can handle this).
- Have someone with them to support them.

### Distract

Focusing on the vaccination can make some people more nervous. Try to limit the amount of time your child is focused on the vaccination if it is making them nervous. They can use distraction to take their mind off the vaccination.

- It does not matter what the distraction is, as long as your child is actually distracted. Involve your child in choosing the distraction they want to use. It could be a game on a smartphone, a video, a funny joke, a [search and find activity](#) or talking.

## IMPROVING THE VACCINATION EXPERIENCE:

Using numbing cream to reduce pain

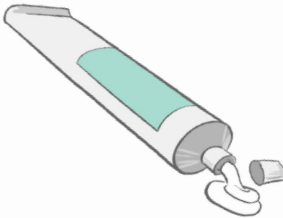
Numbing creams contain medicines called topical anesthetics. They are used to temporarily numb the skin and can be used to reduce the pain of vaccination.

You can buy numbing cream at your local pharmacy without a prescription. Talk to your pharmacist if you have any questions.

### WHERE TO APPLY NUMBING CREAM

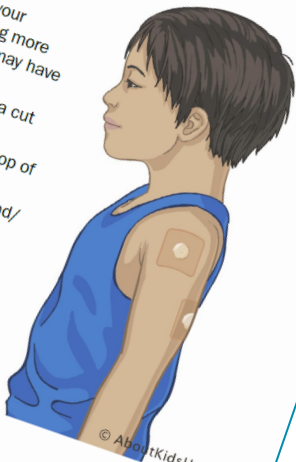
Most vaccinations given in the deltoid muscle (upper arm below the shoulder). Some vaccinations may also be given in the fatty area on the back of the arm. Before you apply the cream, confirm the correct area(s) for vaccination with a health-care provider.

For [babies under one year of age](#) vaccinations are given in a different area on the body.



### HOW TO APPLY NUMBING CREAM

1. Check the label and expiration date of the cream before using it.
2. Decide which arm to apply the cream to. Avoid your dominant arm if you have no preference. If having more than one vaccination on the same day, then you may have to apply the cream in more than one location.
3. Do not apply the cream on an open wound such as a cut or scratch.
4. If opening a new tube of cream, use the point on the top of the cap to break the seal over the tube.
5. Locate the area on the upper arm below the shoulder and/or the fatty area on the back of the arm where you will apply the cream.
6. Apply between a nickel and a quarter size amount of cream to the skin (do not touch the cream or rub it in).
7. Cover the site by wrapping the upper arm with plastic wrap or use a clear bandage (such as Tegaderm®) to keep the cream in place.
8. If cream oozes out from under the covering, wipe it away with a tissue. Avoid contact with the mouth, eyes or nose. Rinse your hands with water after applying the cream.




© AboutKidsHealth.ca

Financial contribution from  
Public Health Agency of Canada / Agence de la santé publique du Canada

CHIR IRSC / Institut de recherche en santé collective et intégrative

HELPS / HELPS - Kids, Adults

Scan for more resources



# CARD checklist

The difference of having this piece of paper in front of me prior to giving the vaccination - it gives me perspective already as to **what this child would prefer.**



## CARD CHECKLIST: What cards are you playing today?

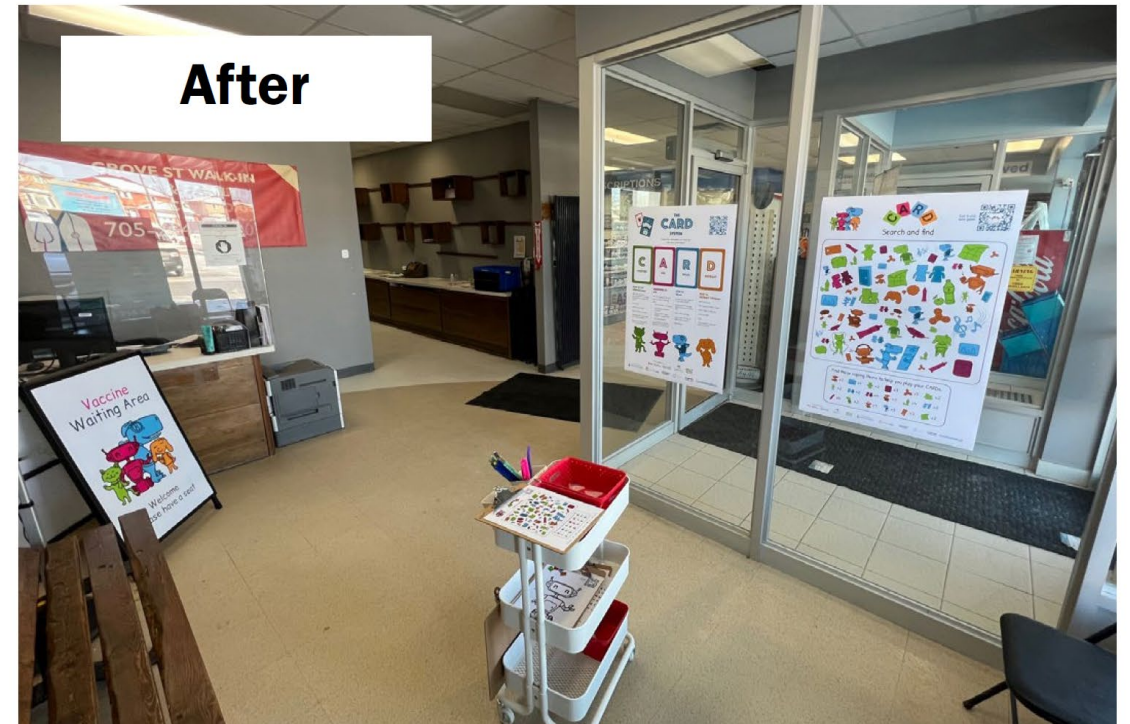
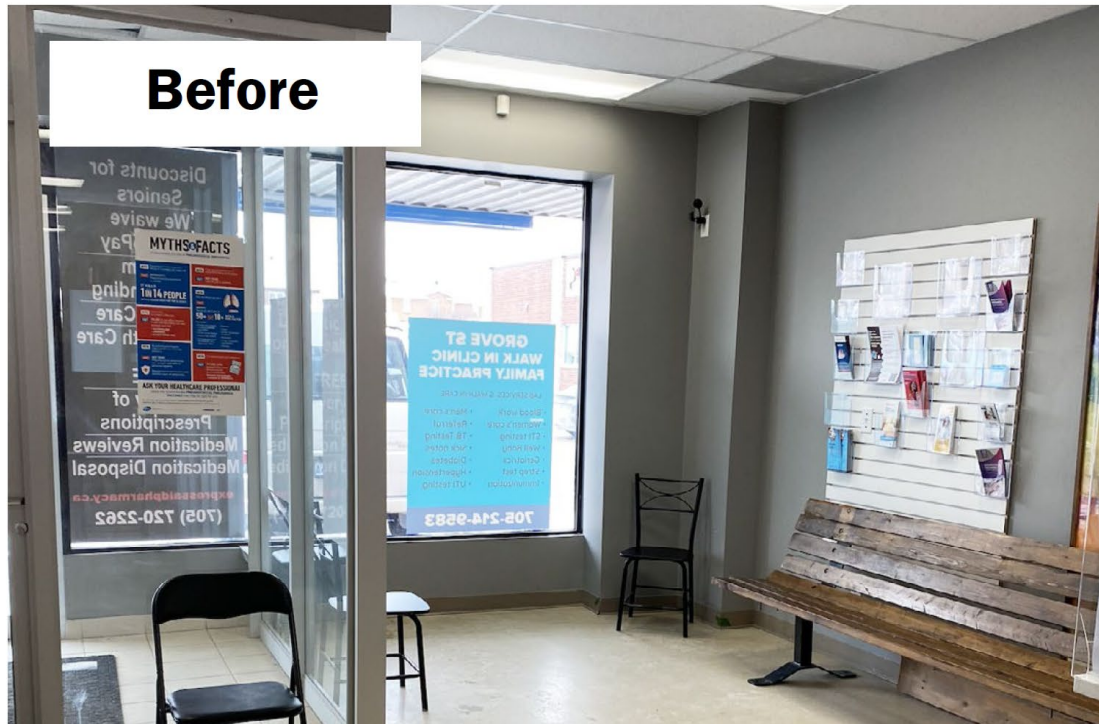
We use the CARD (Comfort Ask Relax Distract) system to help make you more comfortable during your vaccination. Fill in the CARD survey below to tell us how we can make your vaccination a more positive experience. If you would like to use a strategy that is not listed, let us know and we will try to do it. To learn more about CARD, visit [CardSystem.ca](http://CardSystem.ca).

CARD System	Choose all options you want for your vaccination
<p><b>Comfort</b> What would you like to do to make yourself more comfortable?</p>	<input type="checkbox"/> Privacy (separate room with closed door) <input type="checkbox"/> Sit upright on a chair <input type="checkbox"/> Sit on a parent's or caregiver's lap <input type="checkbox"/> Lay down <input type="checkbox"/> Eat a snack or treat <input type="checkbox"/> Arm the needle goes in (left or right): _____ <input type="checkbox"/> Other: _____
<p><b>Ask</b> What questions do you have about the vaccine or your appointment?</p>	<input type="checkbox"/> I have questions about the vaccine <input type="checkbox"/> I have questions about what will happen during my appointment <input type="checkbox"/> I have questions about using a medicine on the skin (topical anesthetic) to make the pain from the needle hurt less <input type="checkbox"/> Other: _____
<p><b>Relax</b> How do you want to keep yourself calm?</p>	<input type="checkbox"/> No or low levels of noise <input type="checkbox"/> People I want to be with me (nobody or give names): _____ <input type="checkbox"/> No extra people around that can see me <input type="checkbox"/> Take deep belly breaths (like blowing up a balloon) <input type="checkbox"/> No alcohol wipe beforehand <input type="checkbox"/> Other: _____
<p><b>Distract</b> Do you want to be distracted during vaccination?</p>	<input type="checkbox"/> Tell me when it will happen <input type="checkbox"/> Do not tell me when it will happen <input type="checkbox"/> No conversation with me while I am distracting myself <input type="checkbox"/> Keep my eyes closed or look away <input type="checkbox"/> Play with a toy or comfort item from home <input type="checkbox"/> Use my cell phone to listen to music or watch a video <input type="checkbox"/> Use a distraction toy or activity provided by the clinic <input type="checkbox"/> Other: _____

**Did you review information about CARD before coming today?**  
 No. Please explain: \_\_\_\_\_  
 Yes. Please explain: \_\_\_\_\_  
 → For children: Did you play the CARD online game?  Yes  No  
**How old are you?** \_\_\_\_\_ **What is your gender?** \_\_\_\_\_  
**Some people are afraid of needles. How afraid are you?**  Not at all  A little bit  Medium amount  A lot  
**Do you ever feel dizzy or faint during needles?**  Yes  No  
**Tell us about anything else you want us to know:** \_\_\_\_\_

# Environment (Providers)

## Pre-vaccination area

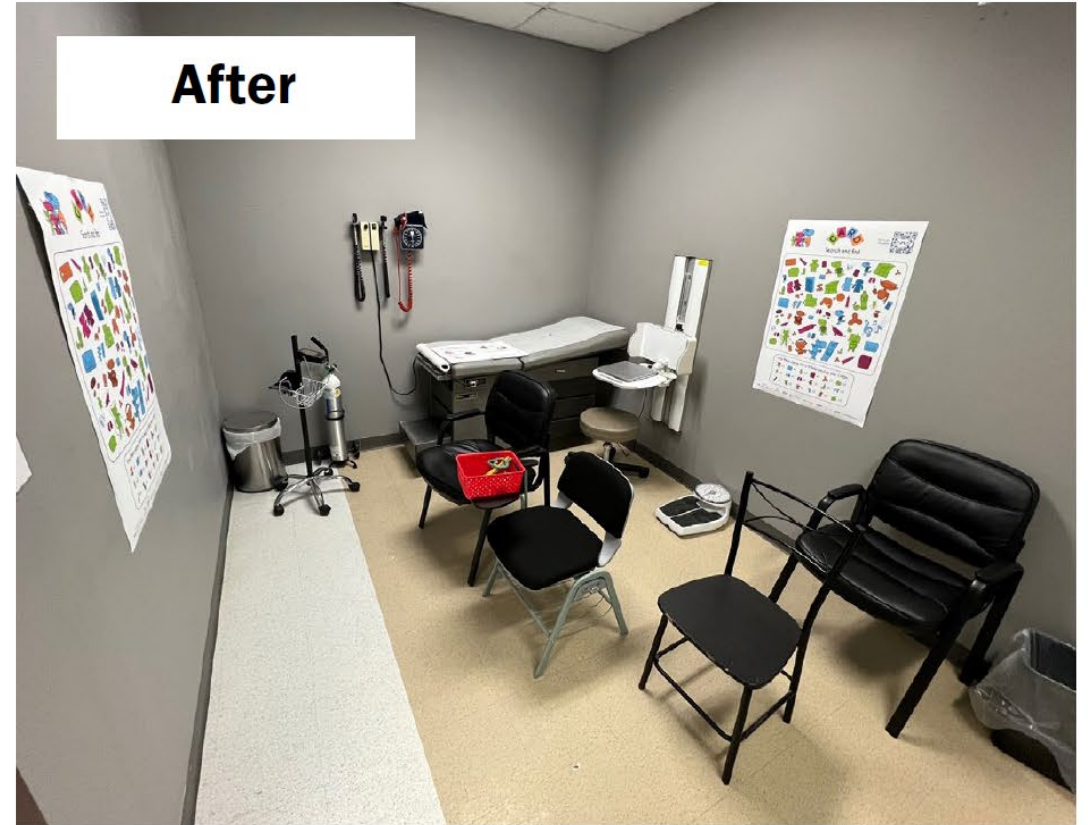


**Waiting area 1:** The waiting area has been made more inviting and comfortable for vaccine clients. This was done by including signage, education about CARD (via poster), and distraction items (posters and activities) that are easily accessible via a moveable cart, that can be used while waiting.



# Environment (Providers)

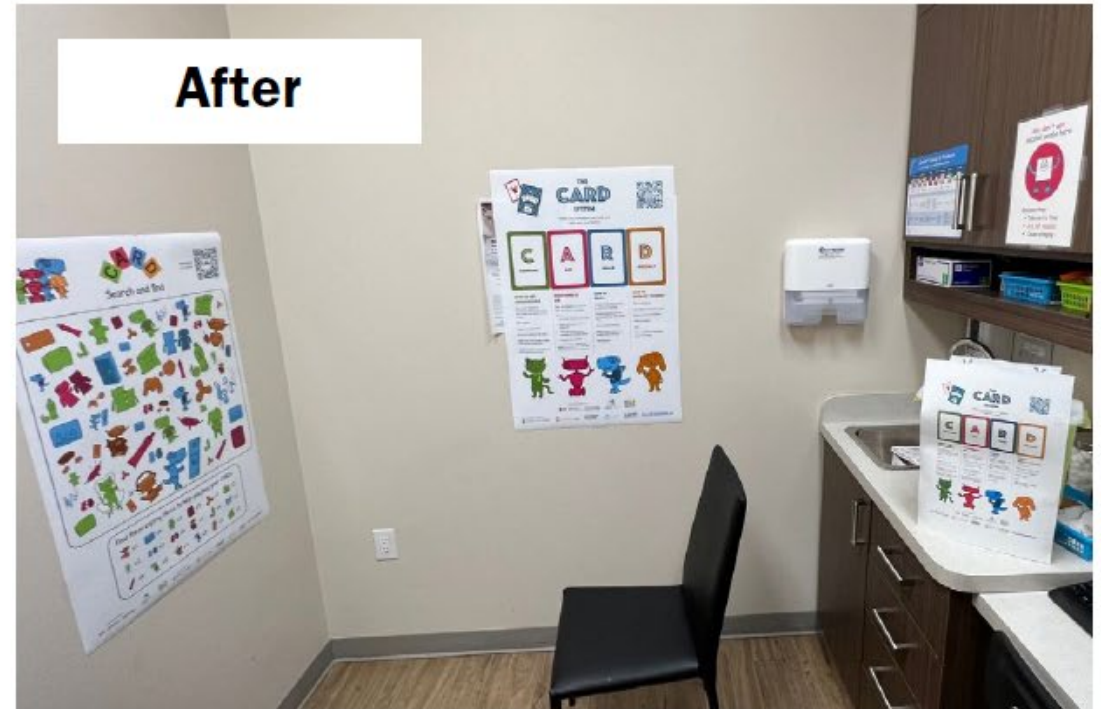
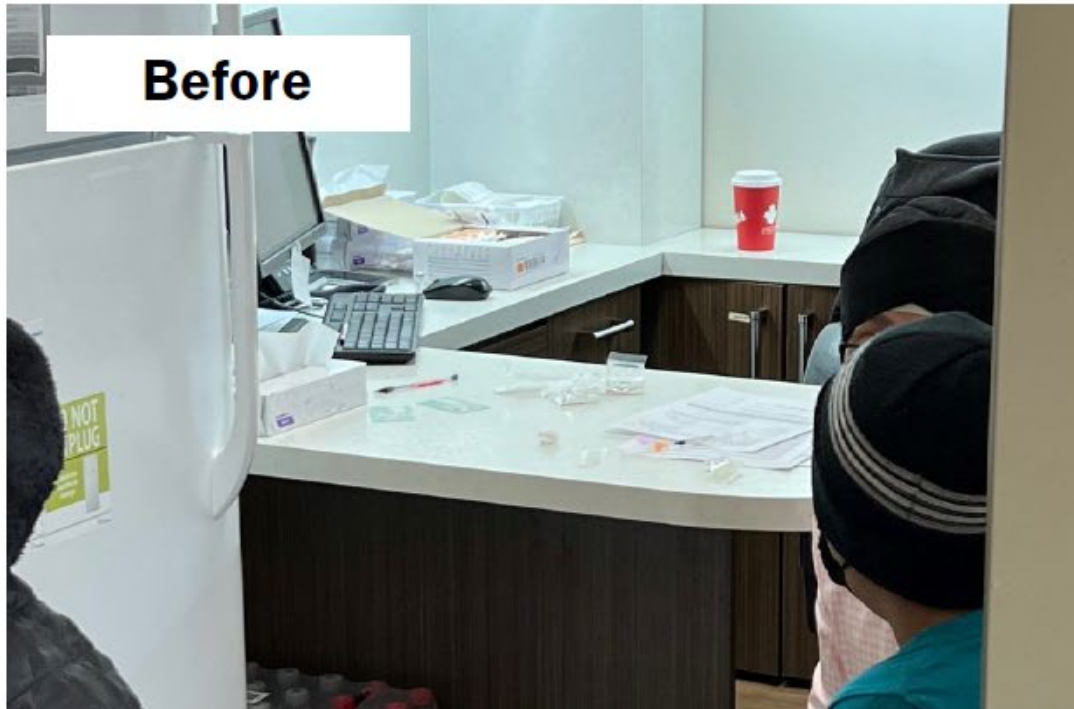
## Vaccine injection area



**Injection area 1:** In this example, furniture has been re-arranged to facilitate seating of the client, a support person and the vaccinator. Clients are facing a visually engaging poster and distraction items are available for use beside them (on the desk attached to the client chair). The client does not face equipment.


# Environment (Providers)

## Vaccine injection area



**Injection area 2:** In this example, the original room used for vaccinations has been changed to a different room with more space and the ability to provide privacy. Posters provide distraction and obscure equipment. The client's chair has been positioned to face a poster. The vaccinator uses a stool (tucked under the desk) to sit beside the client. Distraction items are provided on the examination table (not in view).

# Engagement (Providers)

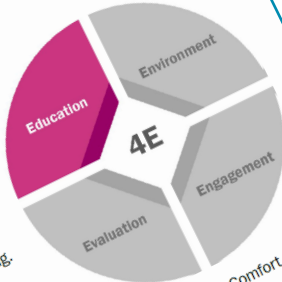


## CARD 4E MODEL:

A guide for providers of vaccination services

The **CARD system (Comfort, Ask, Relax, Distract)** is a framework that can be used to plan and deliver vaccinations. Each letter category (C-A-R-D) includes evidence-based activities that vaccinators and vaccine clients can **play** to reduce pain and other immunization stress-related responses (i.e., fear, headache, nausea, dizziness, fainting). Using CARD improves the vaccination experience for vaccine clients and staff.

Learn how to integrate CARD in your practice setting using the **4E model (Education, Environment, Engagement and Evaluation)** as a guide. For more information and resources, you can visit [CardSystem.ca](http://CardSystem.ca).





**BEFORE VACCINATION DAY**

- Staff:** Review information about CARD and share with staff. Address comments and questions and plan for how to integrate CARD into the vaccination process. Consider feedback obtained from vaccine clients about how to make vaccinations a more positive experience for them. Review the [CARD vaccination planning checklist](#) and [CARD vaccination day checklist](#) to select options for your setting. Integrate into vaccination policies and procedures.
- Clients:** Provide information about CARD ([CARD fact sheet](#)) to vaccine clients at various times in the vaccination process, such as at the time of booking and at vaccination appointment check-in. Include information about what to expect and available coping strategies in the different letter categories of CARD (i.e., Comfort, Ask, Relax, Distract) ([CARD checklist](#)).


**ON VACCINATION DAY**

- Staff:** Review CARD with staff and implement selected tools and processes.
- Clients:** Use the CARD checklist at vaccine appointment check-in to record demographic information (including the level of fear) and coping strategy choices. The completed CARD checklist can be used to guide the appointment. If [topical anesthetic](#) is checked off, staff can explain the required waiting period (e.g., 20 to 30 minutes for Maxilene™; other products take longer). Assist with topical anesthetic application and give options to leave and return or engage in a distraction activity while waiting.
- If clients identify a history of fainting, counsel them regarding the prevention of fainting using [muscle tension](#) (and supine positioning).

Financial contribution from  
Public Health Agency of Canada / Agence de la santé publique du Canada

Scan for more resources >




## IMPROVING THE VACCINATION EXPERIENCE:

What health-care providers can say

The words and actions of health-care providers can influence how someone experiences vaccination. Some behaviours can promote coping while others can increase distress. Use this fact sheet to learn ways to promote coping and more positive vaccination experiences. Share our resources for parents and caregivers on [what they can say](#), [how they can act](#) and [what they can do](#) to help their child during vaccination.

To learn more about CARD, go to [CardSystem.ca](http://CardSystem.ca).



**BE CALM**  
Foster a calm environment and be positive. If you are calm and use your normal voice, others will feel that everything is OK.

**TRY SAYING THIS**  
✓ "Let's work together to make your vaccination experience comfortable." (promotes calmness)

**INSTEAD OF THIS**  
⊗ "There are so many people here today and I don't have a lot of time! Let's just get it done quickly." (makes others nervous)

**BE POSITIVE**  
Focus your attention on helpful things and on things that are going well. Use praise to encourage and recognize the efforts people are making. Congratulate people on getting vaccinated and help them to remember their vaccination in a positive way for the next time.



**TRY SAYING THIS**  
✓ "You did a great job relaxing your arm, etc." (positive focus)

**INSTEAD OF THIS**  
⊗ "Finally, it's over; that was hard!" (negative focus)


✓ Thanks so much for coming in today to get vaccinated. Let me know what you think helped and how I can help to make it even better the next time." (positive focus)

**INSTEAD OF THIS**  
⊗ "This took a long time. Maybe you should get vaccinated somewhere else next time." (negative focus)

Financial contribution from  
Public Health Agency of Canada / Agence de la santé publique du Canada

Scan for more resources >



# Evaluation (Clients)



## TELL US HOW YOU FEEL!

For individuals aged 8 years and older

Tell us about what happened so we can help to make needles a better experience for you if you ever need to get another needle. It's ok if you don't know or don't want to answer any of these questions.

1. Tell us how much the needle hurt.

Pick a number from 0 to 10, where 0 is no pain at all and 10 is the most pain possible.

0  1  2  3  4  5  6  7  8  9  10

2. Tell us how scared/worried you were about the needle.

Pick a number from 0 to 10, where 0 is not scared/worried at all and 10 is the most scared/worried possible.

0  1  2  3  4  5  6  7  8  9  10

3. Tell us how dizzy you were before, during and after the needle.

Pick a number from 0 to 10, where 0 is not dizzy at all and 10 is most dizzy possible.

0  1  2  3  4  5  6  7  8  9  10  I fainted

4. Compared to the last time you got a needle, tell us if today's needle was better, worse, or the same.

Better  The same  Worse  I don't know  I don't remember

Please explain. \_\_\_\_\_

“It made a big difference!”

“I almost cried reading the CARD checklist because I felt so cared for. Thank you!”

# Evaluation (Providers)

## CARD staff debrief survey

Clinic Date: \_\_\_\_\_ Location: \_\_\_\_\_ Time: \_\_\_\_\_

Who was present: \_\_\_\_\_

Post-clinic debriefing sessions provide opportunities for staff to share successes and challenges and empower them to help each other learn from their experiences. Reflect on the vaccination program by using these questions as a guide. Include feedback from vaccine clients when answering the questions to ensure their perspectives are captured and considered. This will require reviewing/collating their feedback before answering the questions.

1. What went well and why?

---

---

2. What didn't go well and why?

---

---

3. Did the team work productively together?

---

---

4. What can we do differently to make it even better next time?

---

---



“Everything was just a little more strategic. It's just building on the skills we already have”

“CARD made the entire process less stressful, for myself, as a vaccinator, for the child, and also the parents”

“All around positive reviews! I mean, you'd have to really be out of your mind as a parent or child to have a negative review about this, right?”

# Summary

- Pain and fear *hurt* vaccination
- Evidence-based strategies exist to reduce pain and fear
- The CARD framework helps integrate the evidence into practice

“I love my job and this made it better”



# Resources

- Aboutkidshealth (SickKids): [cardsystem.ca](https://cardsystem.ca)
- Immunize Canada: [CARD resources](#)
  - *New:* [CARD Game for Kids](#) (mobile web game)
- [HELPinKids&Adults \(University of Toronto\) and resources](#)
- [Pediatric Pain, Health and Communication Lab and resources](#)
- Government of Canada: [Vaccination pain management for \*\*children\*\*: Guidance for health care providers](#)
- Government of Canada: [Vaccination pain management for \*\*adults\*\*: Guidance for health care providers](#)
- Canadian Paediatric Society's [statement on COVID-19 vaccinations](#)
- [World Health Organization 2015 guideline on pain mitigation during vaccination](#)
- Immunization stress-related responses: [full manual](#), [synopsis](#), [summary for clinicians](#)

