

How can a fear of vaccinations be managed?

Information and advice for health care personnel

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How to handle the fear of shots/needles in children (and adults)?

Only a small percentage of the population – 10 % – have a full-scale needle phobia. A fear of or aversion towards needles, however, appears to be relatively widespread. In a study from general practice in Australia, approximately $\frac{1}{4}$ of the men and close to $\frac{3}{4}$ of the women included in the study experienced a fear of needles (Wright et al, 2009). The fear was strongly associated with previous traumatic experiences with shots. Of those who had a fear of needles, 64% stated that they would avoid having flu vaccinations in the future, compared to approximately 20% of those who were in the no-fear group.

Vaccine injections cause acute pain through peripheral pain receptors. This occurs at two points in time: 1) when the needle punctures the skin and underlying tissue, and 2) when the vaccine goes out into the tissue (Taddio et al, 2009). For children, injections cause greater discomfort than one would expect in terms of the actual injury inflicted by the procedure. This can have a connection with body size and that the distribution of the vaccine must occur in a smaller tissue mass than is the case for adults. Children do not get used to painful procedures with time. They can quickly develop conditional fear reactions to such procedures, which are demonstrated through anxiety prior to vaccinations later in life. Young children demonstrate greater discomfort than older children, while gender differences first become evident in adolescence, at which time there is an increase in the reports of fear among girls.

Good pain management is important

For children who are afraid, it is strongly recommended to practice good pain management; use a cream or other form of local anaesthesia, stroke the skin close to the injection point, use intramuscular injections without aspiration, etc. (Taddio et al., 2009). In addition to this there are suitable psychological methods (see the information brochure for parents and below here). Children's experience of pain is significant with regard to what they will remember from the incident. The greater the pain, the stronger the negative memory formation will be and the risk of more fear and discomfort later. Fear in children (and adults) can also be generalised to include everything having to do with medical treatment, people wearing white coats, examination rooms and visits to the doctor. An investment in addressing the needs of children (and adults) who are to be vaccinated is an investment in that individual's future relationship to the health care system. People die every year from causes related to their avoidance of necessary health care treatment due to negative experiences with the health care system.

For children who fear vaccinations it is recommended to explore the thoughts of the child about this. Some children have fantasies that the needle can break while inside them, get stuck, etc. Misunderstandings can be cleared up through a conversation with health care personnel. Most children want to be accompanied by their parents and most parents wish to be with children during painful procedures. An overly anxious parent or adult, however, can cause additional fear in the child. If a calmer adult is available with whom the child feels secure, this person can be chosen to accompany the child. If the child does not want an adult with them, allow the child to decide this, as this will give them an experience of having some control.

How can vaccinators relate to children?

In the following I present advice written by the nurse Mary Ives (2007). She has extensive experience with the vaccination of children. She writes:

Foster a culture of empathy and respect, supported by policy that outlines restrictions on the use of force.

- Acknowledge the child's feelings ("You look worried. I am sure you would rather not have this at all."). Using fantasy to acknowledge their wishes helps children feel understood ("Wouldn't it be great if you could just put the medicine in some ice cream instead of getting a needle?").
- Ask about the child's previous needle experiences. Individual responses to stress will be influenced by temperament, environment and past experience. Listen carefully to the views of the parents and children to help you tailor an approach for each family.
- Give permission to cry.
- Do not give false reassurance ("It won't hurt"). Honest reassurance is "It may hurt a bit, but I think that you can handle it."
- Do not tolerate threats, shaming or manipulation. When a parent threatens a child, the most helpful response is to offer empathy for the parent, state a neutral fact or principle and offer hope: "This must be frustrating for you. Immunizations are never emergencies. I think we can work out something we can all live with".
- Discourage the use of bribes, and encourage efforts – no matter how small. Stickers are usually well received as celebration of effort, which is independent of the outcome.
- Be firm as you manage the process. At the same time, show respect for the child. Provide an opportunity for the child to rest or defer as needed. If you are becoming frustrated, recommend a rest or deferral yourself.
- Ensure opportunities to debrief with colleagues after challenging experiences.

Structure the environment

- If a parent presents with more than one child, immunize the most anxious one (usually the eldest) first, even if the parent thinks otherwise. The needle is the focus of the anxious child's fear, and watching someone else go first will not alleviate the fear or help the child feel understood.
- Provide privacy and prepare the immunization ahead, if possible, always out of sight of the child. If he asks to see the needle, explain you will show it *after* the procedure.
- Give information about what you plan to do, thereby displaying respect for the child's right to know, confidence in her ability to manage and interest in addressing concerns. She may wonder how long the needle will be in her arm or how quickly you are going to introduce it. Threatened loss of control is a factor in needle fear.
- Provide limited, realistic choices and let the child decide ("Would you like to use your right or left arm?" "Would you prefer to sit or stand?"). Offering choices creates a setting in which he can maintain some personal control and contributes to an atmosphere of mutual respect. Supportive, secure positioning can be achieved whether the child (depending on age) is standing or sitting.
- Do not restrain the child before you are ready to administer the vaccine. The longer he is restrained, the greater the loss of personal control. The goal of restraint is not to overpower but to assist the child to remain as still as possible for the procedure.
- Manage the time, and set limits. If the child cannot calm himself, acknowledge his effort and offer a rest period or invite to return later. Continue to offer choices

(“Would you like to come back in the morning or the afternoon?”). Referral to the family physician may be an option.

Use calming and distraction techniques

- Provide toys, books and cartoon videos in the waiting area.
- Suggest slow, deep breathing: it has a physiologic claming effect and can, at minimum, limit anxiety escalation. One cannot be stressed and relaxed at the same time. Blowing a stream of bubbles is an excellent vehicle for calming down and provides distraction – even for teenagers. Pinwheels and party blowers also work to slow breathing. Bells, puppets, stress balls, kaleidoscopes, humour and non-procedural talk can be used to help with distraction.
- Use practice dolls with children under six. Offer to immunize a stuffed toy or doll, and invite the child to hold the patient. Use a syringe *without* a needle and go through all the steps, explaining each one as you proceed (Ives, 2007, p 7).

For those who would like a thorough presentation of what inadequate management of pain in connection with vaccinations can lead to, see the article by Taddio and coworkers from 2009.

Needle phobia

There are two different types of needle phobia. In the one, the phobia is predicated by a vasovagal reflex reaction that is triggered in anticipation of the injection. This reflex is frightening because it is associated with a sudden drop in blood pressure, often with a loss of consciousness (fainting). Here providing information, relaxation methods, and desensitisation are possible techniques to be employed in advance, in addition to keeping the legs elevated and the head down to prevent fainting. The individual must then lie in this position until they feel ok again and then get up slowly. The vasovagal reaction is not found much among young children, but nurses are familiar with the reaction in connection with the vaccination of adolescents. The fear about this reaction itself can be worse than fears about the injection. Beta-blockers can help when a vasovagal reaction is the main problem.

The second variety is more complex. Here the vasovagal reflex is less obvious. Here the phobia is more frequently connected with a traumatic experience in conjunction with medical procedures or another underlying trauma. Here a more extensive preparation and treatment system is required.

An American study has shown that if one decorates the syringe with stickers such as butterflies or small figures, a dramatic reduction is achieved, of more than 50%, of aversion to, fear of and anxiety about shots (Kettwich et al, 2006). It can therefore be an idea to use such aids for children/adults with a particularly large fear of shots.

When people have developed a needle phobia, effective pain management (see above) is necessary so that the injection point receives a local anaesthesia and preferably a treatment scheme, whereby this is combined with relaxation training and breathing techniques, as well as systematic training and exposure to that which is the source of the fears, both in the imagination and in reality. During the vaccination itself, needle phobics need to consciously focus on breathing deeply and calmly.

A website that provides detailed information about needle phobia is found here:

<http://arthritis.about.com/gi/dynamic/offsite.htm?zi=1/XJ/Ya&sdn=arthritis&cdn=health&tm=10&f=10&tt=14&bt=1&bts=1&zu=http%3A//www.needlephobia.com/>

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