Painkillers and immunisation – yes, or no?

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This article discusses the critical role of vaccines in preventing infectious diseases. Vaccinations not only safeguard the individual recipient but also contribute to public health by reducing the spread of infectious diseases in the community. A focus of the article is on the practice of administering painkillers before vaccinations to lessen possible side effects such as pain and fever. The article also offers alternative strategies for pain management during vaccinations and advises on handling post-vaccination symptoms such as fever. Key recommendations include the avoidance of aspirin in children due to its association with Reye's syndrome and the importance of maintaining hydration.

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Vaccines are amongst the most effective ways to prevent infectious diseases. They're designed to trigger an immune response so that the body can fight off and "remember" specific viruses or bacteria. When the immune system is confronted by those microorganisms at a later stage, it can then react strongly and effectively prevent the disease.[1]

Vaccinations not only protect the person that receives them, but they also keep other people safe by eliminating or greatly decreasing infectious diseases that used to easily spread from person to person.[2]

Parents often want to prevent some of the possible side effects of vaccines, such as pain and fever, by giving their child a dose of a painkiller before taking them for vaccination. There have, however, been some studies done on how this may affect the response of the immune system to the vaccine.

There were two studies done in 2009 that raised concerns about relieving symptoms associated with vaccinations by giving children painkillers before vaccinations. In these studies, it was found that the medications lowered the immune system response to vaccines. Centers for Disease Control and Prevention (CDC) physicians wrote that the 2009 studies made "a compelling case against" routine use of pain-reducing medication before vaccination.[3,4,5]

More recent studies have also found that prophylactic use of pain and fever medication may affect the immune responses to vaccines. However, the effects vary depending on the vaccine, the medication, and the time of administration.[6]

Researchers acknowledge that the evidence is incomplete, but it is currently considered best to err on the side of caution and not give the medications unless they are truly needed.[3]

For most people, it is not recommended to avoid, discontinue, or delay medications that they are routinely taking for prevention or treatment of other medical conditions around the time of vaccination. If the patient is taking medication that suppresses the immune system like high doses of cortisone, they should talk to their doctor first before getting vaccinated.[7]

There are other proven ways of reducing pain during vaccination that can be considered.

- Apply topical anaesthetics to numb the skin on the area that will be injected.
- Encourage mothers to breastfeed their infant before, during and after vaccination. Bottle feeding and using pacifiers also soothe infants after vaccination.
- When parents hold the child on their lap during vaccination, or hug them, the child will often stay still and feel more secure.
- Relax and take slow deep breaths. Look away from the needle and it will be over in no time at all.[3,8]

What can be done after vaccination:

Fevers can develop as soon as one to two days after vaccination with some inactivated vaccines but may take as long as two to four weeks to develop after some live vaccines, for example the chickenpox vaccine. For mild soreness and fevers, it is recommended not to give any painkillers.[4] If, however, it becomes necessary, some paracetamol can be given and the dosage will depend on the patient's age and in the case of children, their weight. (See table).[9]

It is important to remember that fevers are a normal part of the immune response. Unless the fever that develops is high, or is causing substantial discomfort, the best thing to do is to make sure the patient stays hydrated and drinks plenty of fluids. Another important point to remember is to not give children any aspirin-containing medication as this has been associated with Reye's syndrome.[10]

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