

# Influenza and vaccination for children

Influenza infection rates are generally highest in children.<sup>1,2</sup> A review of 2011–2013 influenza hospitalisations in Australian children aged under 16 years, showed that previously healthy children accounted for 57% of admissions.<sup>3</sup>

Over the 2010–2016 influenza seasons in the U.S., 50% of children aged under 18 years who died with laboratory-confirmed influenza (n=327 of 654) were previously healthy.<sup>4</sup> In Auckland during 2019, infants aged under one year had the highest severe acute influenza respiratory infection hospitalisation rate of all age groups. There were 326 cases per 100,000 people in infants aged under one year compared with 216 cases/100,000 for adults aged 80 years or older, 98 cases/100,000 for children aged 1–4 years, and 77 cases/100,000 for adults aged 65–79 years.<sup>5</sup> Healthy children are also the major cause of the spread of influenza viruses in the community.<sup>1,2</sup>

Vaccination of healthy children has the potential to substantially reduce influenza-like illness and related costs in both the children themselves and their families.<sup>6</sup> Influenza vaccination recommendations vary between countries. The U.S. recommends annual vaccination for all persons from six months of age.<sup>7</sup>

The United Kingdom influenza vaccination programme includes annual vaccination for all children aged 2–10 years using a live attenuated nasal spray influenza vaccine, with the strategy to offer both individual protection and herd immunity.<sup>8</sup> This type of influenza vaccine is not currently available in New Zealand.

## Doses for children

Children aged 6 months to under nine years who are receiving the influenza vaccine for the first time should receive two doses four weeks apart. Children who have received a previous influenza vaccination need only a single dose.

Vaccine	Age	Dose	Number of doses
INFLUVAC TETRA	6 months – 8 years	0.5 mL	1 or 2*
	≥ 9 years		1
FLUCELVAX QUAD	6 months – 8 years	0.5 mL	1 or 2*
	≥ 9 years		1
FLUQUADRI	6 months – 8 years	0.5 mL	1 or 2*
	≥ 9 years		1
AFLURIA QUAD	3 – 8 years	0.5 mL	1 or 2*
	≥ 9 years		1

*\*Two doses separated by at least 4 weeks if an influenza vaccine is being used for the first time*

## Why does a child aged under nine years need two doses if being vaccinated for the first time?

Children under nine years of age who are receiving influenza vaccine for the first time have a better immune response and protection after two priming doses of vaccine. This may be because they are more likely to be immunologically naive to influenza.<sup>9</sup> Children who have received one influenza vaccine any time in the past only need a single dose in the current season.

## Use of paracetamol following vaccination

The routine prophylactic use of paracetamol or any other antipyretic to control fever either prior to or following influenza vaccination is not recommended. Evidence shows that the laboratory-measured immune response to some antigens can be reduced.<sup>10,11</sup> However, there is no evidence that this causes individuals to be less protected from disease.<sup>11</sup>

## The current recommendations for paracetamol use in relation to influenza vaccination in children are as follows:

- Do not use routine prophylactic paracetamol pre- or post-vaccination in the absence of pain or significant discomfort.
- For children who are uncomfortable with fever, give plenty of breastfeeds or cool drinks, dress them in a single layer, ensure the room is not too hot or too cold, and give them lots of cuddles.
- Use of paracetamol is recommended for relief of pain or significant discomfort post-vaccination.
- Ibuprofen may be given as an alternative to paracetamol.<sup>12</sup>

**NOTE:** treatment advice may differ for other groups.

**Call 0800 IMMUNE (0800 466 863) for clinical advice**