Position Statement on the Use of Paracetamol Around the Time of Immunisation

Background
The practice of administering paracetamol around the time of immunisation was to prevent/relieve child discomfort associated with immunisation. Studies by Ipp and colleagues (1987); Uhari, Hietala, and Viljanen (1988); and Lewis and colleagues (1988), 1-3 had found that paracetamol administered prior to and regularly after immunisation decreased the degree of immunisation related fever, and pain and irritability experienced by children. Further to this, Uhari and colleagues had not found any significant differences in the immune responses to immunisation between the children who received paracetamol and the children who did not. 4

Twenty years on within one of the cycles of continuous quality improvement in healthcare, Manley and Taddio (2007) 5 conducted an extensive review of studies on preventing/relieving child discomfort associated with immunisation. They found that vaccine technology had changed since the 1980s and new research was needed to confirm the ongoing role of paracetamol, and to identify the role of ibuprofen in preventing/relieving child discomfort associated with immunisation. 4

In 2009, Prymula and colleagues published pivotal work about a possible influence of paracetamol on laboratory measured immune system responses. Their findings identified a need for further research on the effect of using paracetamol around the time of immunisation and also when individuals are suffering infectious diseases generally.

Prymula and colleagues compared immunisation related fever and immune responses to modern day vaccines in infants who received paracetamol during the 24 hour period immediately after each of their first three immunisation visits with infants who did not receive paracetamol. They found that paracetamol did decrease the likelihood of fever over 38°C and that the laboratory measured immune response to some vaccine components was lower in infants who received paracetamol. 6 However, there is no evidence from Prymula and colleagues or others that the lower immune system responses cause the infants/children to be less protected against disease.

The work of Prymula and colleagues challenged a long-standing, almost automatic recommendation for the use of paracetamol in anticipation of immunisation related discomfort or fever. There have been no studies on whether the use of ibuprofen around the time of immunisation has any effect on immune system responses.

Position
The use of paracetamol or ibuprofen around the time of immunisation is not contraindicated but neither is it routinely recommended. Health professionals are encouraged to discuss possible immunisation responses and non-pharmaceutical management of fever or discomfort with parents. We do not recommend that paracetamol or ibuprofen are routinely used for management of fever. However, use of these medicines is recommended if the child is distressed by fever, discomfort or pain following immunisation.

References