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## Adverse events following vaccination in premature infants.

Sen S, et al. Acta Paediatr. 2001.

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### Abstract

The aims of this study were to study the frequency, severity and types of adverse reactions following DPT/Hib (diphtheria and tetanus toxoids and pertussis/Haemophilus influenzae type B conjugate) immunization in very preterm infants and to identify possible risk factors. Case notes of 45 preterm babies vaccinated in the neonatal intensive care unit between January 1993 and December 1998 were studied retrospectively. Birthweight, gestational age, duration of ventilation, oxygen dependency, timing of vaccination, weight, corrected gestation at vaccination and apparent adverse effects were noted. Apparent adverse events were noted in 17 of 45 (37.8%) babies: 9 (20%) had major events, i.e. apnoea, bradycardia or desaturations, and 8 (17.8%) had minor events, i.e. increased oxygen requirements, temperature instability, poor handling and feed intolerance. Babies with major events were significantly younger ( $p < 0.05$ ), had a lower postmenstrual age ( $p < 0.05$ ) and weighed less ( $p < 0.05$ ) at the time of vaccination compared with babies without major events. No differences in the mean birthweight, gestational age, duration of ventilation or oxygen dependency were found between the two groups. Age at vaccination of 70 days or less was significantly associated with increased risk ( $p < 0.01$ ). Of 27 babies vaccinated at 70 days or less, 9 (33.3%) developed major events compared with none when vaccinated over 70 d.

**CONCLUSION:** Vaccine-related cardiorespiratory events are relatively common in preterm babies. Problems were much more common if vaccine is administered at or before 70 d. These babies should therefore be monitored postvaccination. Further prospective studies are needed to clarify whether delaying vaccination offers protection against these adverse events.

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