

## Safety Matters: accidental phenytoin overdose

**S**

An infant presented with seizures. As part of the resuscitation an infusion of phenytoin was commenced. A few minutes later the infant had an unexplained cardiac arrest.

**B**

The rhythm was asystole and CPR commenced. The cause was not clear but phenytoin was identified as a possible cause and the infusion stopped. After 40 minutes of CPR, Intra-lipid was given to reverse the cardiac conduction effects of the phenytoin. Return of cardiac output occurred following a second dose and after nearly 60 minutes cardiopulmonary resuscitation. The child subsequently made a full recovery.

**A**

An accidental overdose of phenytoin was later demonstrated to have been the cause with undiluted phenytoin being administered rather than diluted drug. The correct calculation was made for dilute phenytoin, but due to human error, the same volume of undiluted drug was drawn up and given. Three experienced members of staff had prepared and checked the phenytoin, but due to environmental and human factors, they did not follow the correct procedure in confirming the final solution against the drug vials.

**R**

Potential for error in emergency situations in which drugs requiring calculation/dilution are required

Drug checking procedure includes a silent check with retention of ampules.

Role of intra-lipid in treatment of drug toxicity and that successful outcomes may occur following prolonged CPR in drug induced cardiac arrest.