

Research

Research which confirms and supports the toxic gas theory for cot death.

Publication of the toxic gas theory:

- The toxic gas theory for cot death was published by British scientist Barry Richardson in 1994: Sudden Infant Death Syndrome: a possible primary cause, Journal of the Forensic Science Society 1994;34(3):199-204

Publication of proof of the gas generation involved:

The fungal generation of extremely toxic nerve gases from compounds of phosphorus, arsenic and antimony has been demonstrated many times over the last century. Recent confirmations are:

- Toxic gas generation from plastic mattresses and sudden infant death syndrome, **Lancet** 1995;346:1516-20
- Confirmation of the Biomethylation of Antimony Compounds, Applied Organometallic Chemistry 1997; Vol. 11, 471-483

Proof of presence of fungal growth in babies' mattresses:

- Sudden Infant Death Syndrome: a possible primary cause, Journal of the Forensic Science Society 1994;34(3):199-204
- Final Report of the Expert Group to Investigate Cot Death Theories: Toxic Gas Hypothesis (Limerick Report), May 1998

Publication of proof of the presence of the elements phosphorus, arsenic and antimony in babies' bedding:

- Analyses of bedding reported by Jim Sprott in The Cot Death Cover-up? (Penguin, 1996)

Publication of proof of the generation of highly toxic gases from compounds of phosphorus, arsenic and antimony in babies' mattresses and other bedding:

- Sudden Infant Death Syndrome: a possible primary cause, Journal of the Forensic Science Society 1994;34(3):199-204
- Microbial studies of sheepskin bedding, W R Cullen, Sixth SIDS International Conference, Auckland, February 2000

Publication of proof that the re-use of mattresses increases the risk of cot death (a corollary of the toxic gas theory):

- Case-control study of sudden infant death syndrome in Scotland, 1992-5, British Medical Journal 1997;314:1516-20

Proof that the risk of cot death rises from first to second babies; and from second to third babies; and from third to fourth and later babies; and that babies of solo parents are at higher risk again (a corollary of the fact that re-use of mattresses increases the risk of cot death):

- Analysis of official British statistics

The finding of the rising risk of cot death from one sibling to the next refutes every proposition that cot death has a medical cause. The more times an unwrapped mattress is used from one baby to the next, the greater is the risk of cot death.

This accounts for the higher cot death rate among poorer families, who are more likely to sleep their babies on previously used mattresses.

If a mattress contains any of the elements phosphorus, arsenic or antimony, and if certain household fungi have become established in the mattress during prior use, any generation of toxic gas commences sooner and in greater volume.

Publication of proof that later babies in a family are more at risk of cot death than first babies (a corollary of the fact that re-use of mattresses increases the risk of cot death):

- Risk factors of sudden infant death in Chinese babies, American Journal of Epidemiology 1997;144:1070-73

Publication of proof that face-up sleeping reduces the risk of cot death:

- All studies which show that face-up sleeping reduces the risk of cot death support the toxic gas theory. Face-up sleeping reduces the risk because the gases concerned are more dense than air; they diffuse away from a baby's mattress towards the floor, so a baby sleeping face-up is less likely to ingest them.

Publication of proof that cot death babies show physiological effects of gaseous poisoning:

- Decreased Kainate Receptor Binding in the Arcuate Nucleus of the Sudden Infant Death Syndrome, Journal of Neuropathology and Experimental Neurology 1997;56:1253-61: proof that cot death babies have neurochemical deficits consistent with poisoning by nerve gases.

Publication of proof that the cot death risk varies with mattress type:

- New Zealand Cot Death Study (1987-1990)

Publication of proof that the cot death risk in Britain is less on PVC-covered mattresses:

- CESDI study (Britain), reported in Lancet 1995;345:720

Any part of a baby's mattress which contains the chemicals phosphorus, arsenic and/or antimony is capable of the gas generation which causes cot death.

If, therefore, a mattress is covered with a gas-impermeable diaphragm which does not contain those chemicals, the risk of cot death is eliminated.

Accordingly, following removal of those chemicals from British plastic-covered mattresses from 1989 onwards, the risk of cot death in Britain is less on PVC-covered mattresses (which are very frequently used in Britain).

Thus the finding by the CESDI study that babies are less at risk on PVC-covered mattresses supports the toxic gas theory for cot death.