

Crib Death

Cause and prevention

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Cause & Prevention of Crib Death

Summary of Outcome

- The cause of crib death was fully elucidated over 15 years ago, “The Toxic Gas Explanation”
- Mattress-wrapping, a simple intervention based on this explanation, has proven to be effective in preventing crib death, $p=1.9 \times 10^{-22}$ (see next slide)
- The total success of this intervention, together with the concurrence of the explanation with all crib death epidemiology from various countries, provides conclusive evidence that there is only one cause of crib death

Statistics of mattress-wrapping programme in New Zealand

- The "p" factor for the mattress-wrapping intervention was calculated by Dr Kapuste, in collaboration with experts from the Statistics Department of the University of Munich; result: $p = \text{less than } 1.9 \times 10^{-22}$
- Medical researchers regard "p" less than 0.01 (10^{-2}) as good proof of a scientific proposition; and "p" less than 0.001 (10^{-3}) as virtually certain proof.
- The "p" factor for mattress-wrapping, 1.9×10^{-22} can be written as: 0.000,000,000,000,000,000,000,19
- Put another way, the statistical proof that mattress-wrapping prevents crib death is one billion billion times the level of proof which is generally regarded as constituting certain proof of a scientific proposition.

Cause of crib death

- Crib death results from poisoning by toxic gases
- The gases are generated by fungal activity on compounds of the elements phosphorus, arsenic and antimony (P, As & Sb) in the baby's bedding, especially in crib mattresses
- The gases can be ingested by the baby either by breathing or by diffusion through the skin
- The danger rises rapidly as a mattress is re-used from one baby to the next
- The effect of ingestion of the gases is to interrupt and then stop the baby's breathing, and shortly afterwards cause heart function to cease

Crib death : not SIDS

- Crib death is not a syndrome - the term Sudden Infant Death, commonly referred to as SIDS, is a scientific and linguistic misnomer
- “Syndrome: the concurrence of symptoms in a disease; set of concurrent symptoms characterising it” (Oxford Dictionary)
- But there are no symptoms of crib death - the only commonality is death itself
- The coining of this term was most unfortunate, because it conveyed the incorrect impression that crib death had a medical cause, and this misunderstanding has led to the deaths of tens of thousands of babies
- The terms Sudden Infant Death Syndrome and SIDS are misleading and should be abandoned

Protecting babies from toxic gases produced in mattresses and bedding

- Preventing exposure of babies from the toxic gases is safe, cheap and simple
- Separate the baby from its mattress by means of a chemically-inert, gas-impermeable diaphragm which is free from the elements P, As and Sb.
(*BabeSafe*[®] crib mattress covers comply with these requirements).
- Over the wrapped mattress use bedding which does not contain P, As and Sb (see later slide)
- This technique has been totally successful since introduced in New Zealand 10 years ago

Effect of mattress-wrapping in NZ

- Mattress-wrapping was introduced into New Zealand in late 1994 by means of a nation-wide public information programme (Cot Life 2000)
- After being static for three years the NZ crib death rate immediately began to fall
- By 2002 the nation-wide crib death rate had fallen by 52% and the Pakeha* rate by 80%
- No death has ever been reported when a baby was sleeping on a correctly wrapped mattress
- *The term Pakeha means the non-Maori, non-Pacific Islands ethnic group. Pakeha, essentially people of European descent, comprise about 80% of the population of New Zealand

Crib deaths reported in New Zealand since mattress-wrapping commenced December 1994

- On unwrapped mattresses: about 670
- On wrapped mattresses: Nil
- Pakeha crib death is now described as “very rare” and it is known that Pakeha use mattress-wrapping to a greater extent than the other ethnic groups (NZ Ministry of Health)

Sources of the elements P, As & Sb

- Compounds of one or more of these elements are present in virtually all crib mattresses (except in UK)
- The chemicals occur in various natural fibres
- Phosphorus compounds are frequently used as plasticisers in flexible polyvinyl chloride
- Antimony is present in virtually all commercial PVC
- Antimony is used in the polymerisation of PVC and polyester, and as an additive for fire retardency
- Arsenic is sometimes used in fungicide chemicals (eg OBPA) in mattresses, and is often present as an impurity in commercial antimony
- All three elements are usually present in sheepskins

Crib death is not caused by:

- Smoking by parents or a smoky environment
- Lack of breast-feeding
- Vaccination
- Baby sleeping face-down
- Baby being over-heated
- The above are sometimes called “risk factors” but they are not risk factors.
- The observed links between the above so-called “risk factors” and crib death are readily elucidated by the toxic gas explanation for crib death

Limerick Report

- The UK Limerick Report (UK 1998) did not disprove the toxic gas explanation for crib death (Fitzpatrick MG; NZMJ Sept 98)
- The Limerick researchers did not follow the protocols developed by BA Richardson of UK
- Official acceptance of the Limerick Report by UK and other authorities has provided the basis for incorrect assertions that mothers who had multiple crib deaths were guilty of murdering their babies
- The Limerick Report has been utterly disproved by the total success of mattress-wrapping in NZ and the report should be abandoned

Mattress-wrapping for crib death prevention

- Dry your crib mattress by “airing” it well, preferably out in the sun. Turn it so both sides are aired
- Slip the mattress into a *BabeSafe* crib mattress cover and seal the open end of the cover using the adhesive strip provided
- Place a cotton blanket or thick cotton sheet over the wrapped mattress. (This is for your baby’s comfort)
- Then use the bedding specified in the next slide. Follow the instructions exactly. These instructions will ensure that risk of crib death is not reintroduced by the bedding.
- For details on cotton under-blankets see below

Cotton underblankets

- The pure cotton underblanket placed immediately on top of a *BabeSafe*-wrapped mattress and beneath the lower crib sheet is for your baby's comfort. It can be any of:
- A pure cotton blanket
- A pure cotton flat sheet, folded into layers, if desired, to achieve thickness
- Pure cotton diapers sewn together
- A pure cotton bath towel

Whichever option is used for the underblanket, this item must be made **only** of 100% pure cotton.

- Note that the underblanket cannot be a so-called "cotton mattress pad". No item which is padded or quilted or filled complies with the bedding specifications for use with a *BabeSafe*-wrapped mattress

Bedding to be used over a *BabeSafe*-wrapped mattress

- Over the cotton under-blanket place two regular cotton or poly-cotton crib sheets
- Your baby sleeps between these sheets
- Then use either pure (100%) cotton or pure (100%) wool blankets for warmth
- Do not use any other type of bedding in your baby's crib
- In particular follow the instructions in the next slide

Do not use any of the following in your baby's crib

Sheepskin or sheepfleece underlay

Any form of moisture-resistant crib mattress protector

Any underblanket which is not made of pure cotton

Any acrylic blanket

Any blanket containing polyester

Any bedding item which is quilted or padded or filled

Sleeping bag

Duvet

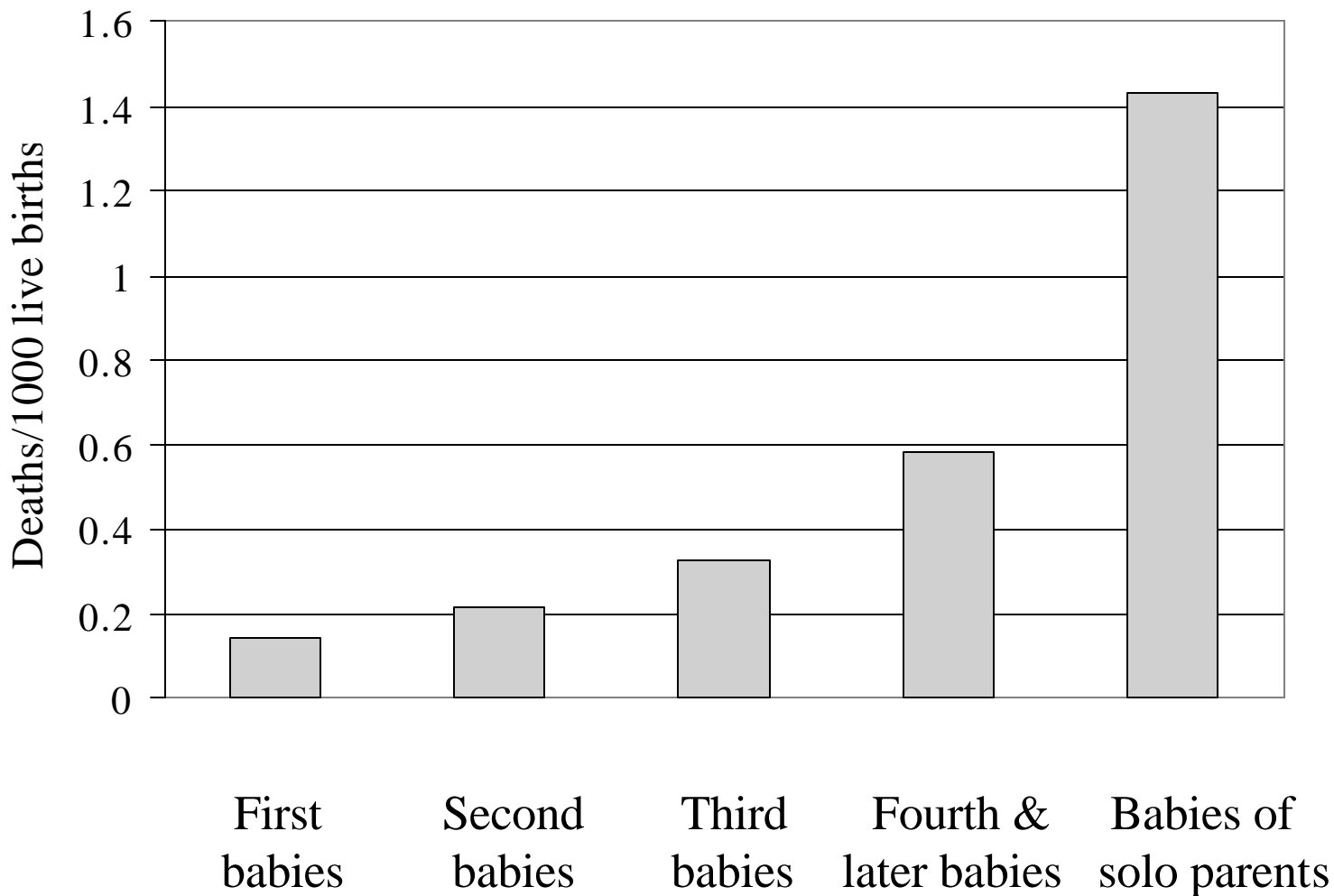
Pillows or cushions

Do not sleep your baby in any "clothing" item which is in the form of a bag.

These instructions must be followed exactly

There are no options

CRIB DEATH RATES FOR FIRST AND LATER BABIES AND BABIES OF SOLO PARENTS BRITAIN, 1996-1999



Significance of previous graph

- The data in the previous graph is the single most important piece of evidence about crib death.
- It repeats year after year, and is typical of data from other countries where crib death occurs
- The graph forms part of the extensive proof that poisoning by extremely toxic nerve gases is the single cause of crib death
- It destroys all propositions for the cause of crib death relating to babies themselves (genes, illness, vaccination, smoking, physiological deficiencies etc).
- However it is fully explained by, and is completely compatible with the toxic gas explanation for crib death, the only proposition which explains the graph

Further explanation of graph

- If a mattress (or other bedding) contains any compounds of phosphorus, arsenic or antimony, and if certain household fungi become established in the mattress (or bedding), the gas/es which cause crib death can be generated. And if fungi have become established in the mattress during previous use by another baby, generation of toxic gas commences sooner and in greater volume when the mattress is re-used.
- This science accounts for the rising rate of crib death from one sibling to the next. It also accounts for the very high crib death rate among babies of solo parents, who, for economic reasons, are more likely to sleep their babies on used mattresses.
- Research published in the *British Medical Journal* in 1997 and in 2002 confirms that the risk of crib death rises among babies who sleep on previously used mattresses:
 - “Case-control study of sudden infant death syndrome in Scotland, 1992-5”, *British Medical Journal* 1997;314:1516.20 Tappin et al,
 - Used infant mattresses and sudden infant death syndrome in Scotland: case-control study, *British Medical Journal* 2002;325:1007

To Obtain a *BabeSafe*® Cover

- Dr. Sprott has allowed us to add this slide with Contact Info as how to purchase a *BabeSafe*® Mattress Cover for your baby.
- E-mail Barb Knoll, CNM:
barbcnm@babymattresscovers.com
- Website:
<http://www.babymattresscovers.com>