and 1/107. It is regrettable that the authors’
considerable effort in searching for metabolic
cause of SIDS was let down by some basic
mathematics.

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Dr Holton and colleagues’ comment:
Dr Smith is quite correct in pointing out that
our negative results in testing for MCAD
deficiency in cultured skin fibroblasts from 70
cases of SIDS were not incompatible with
claims of a true prevalence of 3%. However,
our argument that most of our claims of the
incidence was less than 3% were based on our
findings and those of others, the report of the
Lyons group being cited in particular.1 In
an almost identical study to our own, the French
workers found no positive findings in 107 SIDS
cases. If our results are combined, the
binomial probability theorem indicates that
the incidence of MCAD is less than 1% with 95%
confidence, or 2-65% with 99% confidence.
On this basis, our claim was not unreasonable.

Perhaps it would be useful to summarise
further work relating to the prevalence of
MCAD deficiency in SIDS. Two other studies
to which we referred to above have been
completed. In Sheffield, 160 SIDS cases (E Worthy, personal communication) and in
Edinburgh 120 cases (G N Hesley, personal
communication) were tested for MCAD defi-
ciency, all with negative results. If all our
results are pooled (457 cases) the prevalence
of MCAD deficiency is calculated to be less than
0-65 or 1-00%, with 95 or 99% confidence
respectively.

Dr Smith concludes that recent reports of
population screening for the common MCAD
deficiency mutation found carrier frequencies
which supported our claim. In addition, the
K329E mutation has been found in DNA
taken from the liver of more than a 100
SIDS cases without finding any homozygotes
for the defect.2 Although it is important to
appreciate that for MCAD deficiency is a cause
of sudden, unexplained death, the presentation
is not typical of SIDS and it is a rare occurrence.

1 Divry P, Vanney-Laud C, Zabot MT, Bertrand
C, Dumoulin R, Carlier MC. Biochemical investigation for fatty acid oxidation defects in
children with sudden infant death syndrome (SIDS).
Abstracts of the 27th Symposium of the Society for the Study of Fatty Errors of Meta-
2 Chinsky J, Tolsma T, Cowan T, Blitzer M.
Medium chain acyl-CoA dehydrogenase (MCAD) deficiency and SIDS: an analysis of post-mortem
liver samples for the presence of the common MCAD mutant allele. J Hum Genet 1991;49:
supp1:183.

Reducing the risk of cot death

StR,—The nationwide campaign urging
mothers to lay their babies on their backs to
sleep is open to question. It would be unfortu-
nate if the leaflets from the Foundation for the
Study of Infant Deaths (FSID) and its counterpart from Health Visitors, published with
the unambiguous slogan ‘Back To Sleep’2 are
taken to represent the views of paediatrici-
ans generally.

The assertion that ‘there is no evidence that
babies are likely to choke when lying on their
backs’ belies the considerable research into
gastro-oesophageal reflux and laryngeal spasm,
which is one of the major aetiological hypo-
theses. Altogether 70% of normal babies have
been shown to have reflux during active sleep
with 24 hour pH probes.3 A high incidence of
reflux has also been demonstrated in ‘near
miss’ cases using barium swallows, pH probes,
and isotope milk scans.4

Because the prone position is unsafe it does
not follow that the supine position is safe. This
latest U turn merely replaces one bad position
with another. All horizontal positions encourage
reflux with the risk of laryngeal spasm. What
really matters is to raise the head of the
cot. All studies of the supine- versus
prone position have neglected the important
effective ‘gravity of reflux on the airway. The
typical supine position is with the head raised5
but if babies must lie flat, the side is probably
safer than the front or back. Better still, babies’
cot mattresses should be wedge shaped.

Many parents are very worried by the risk
of a cot death even if they do not voice their
fears. The recommendations I have used for
many years are:
• Lay your baby to sleep on one or other
side, never the front or back
• Prop up the head of the cot by 10–12 cm
(4–5"
• Keep the cot beside your bed in the first
six months
• Learn to kiss the baby as the kiss of life
• Get medical advice if your baby is unwell

A nationwide campaign to reduce cot deaths
is undoubtedly long overdue. However if it is
to succeed, it is important that the recom-
mendations are simple, sensible, and sound.
I am seriously concerned about the widely
published FSID and Department of Health
guidelines.

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3 Jeffery HE, Heacock HJ. Impact of sleep and
movement on gastro-oesophageal reflux in
healthy newborns. Arch Dis Child 1991;
4 Spitzer AR, Boyle JT, Tuchman DN, Fox WW.
Awake apnea associated with gastro-
oesophageal reflux specific syndrome. J Pediatr
5 Herbert JJ, Book LS, Bray PF. Gastro-
oesophageal reflux in the ‘near miss sudden
infant death syndrome’. J Pediatr 1978;92:
73–8.
6 Barrie H. Sleeping position and SIDS. BMJ
1989;298:959.

Imposed upper airway obstruction in small children

StR,—Surveillance of one of the 14 cases
described by Samuels and his colleagues3
was undertaken in the department of child
health in this hospital with their advice and support.

In addition to the videos they describe, we
recorded sound as well and found this to be of
considerable importance. Although perpetrators
do not know that they are being watched, they
are certainly aware of the possibility of being
interrupted by someone entering the room. They may go to considerable lengths to disguise
in what they are about and this was certainly
true in our case. As a result, it may not
be easy to demonstrate what is happening on
video alone. Some of the most compelling evidence which led to a successful outcome of the
case arose from the ability to compare what we could see being done to the child with
what the perpetrator was saying at the time.
In addition, the audible change in a child’s cry as the
airway is obstructed is unmistakable even if the
way in which that obstruction is being achieved is subtle.

Samuels and his colleagues describe the
very careful preparation required for covert
video surveillance. I would also emphasise the
importance of continuing support for all the
professionals involved, be they doctors, nurses,
or police officers. Surveillance may be neces-
sary for many years but the concerns of
both families and society must be recognised.

ABC of child abuse

StR,—Torn frenulum in children have been said
to be ‘virtually diagnostic’ of non-accidental injury (NAI).1 However, no recent cases indicate
that this is not always so.

The first case was a 1 year old boy, whose
sister was attending our casualty department
for an unrelated reason. The boy was walking
around the waiting room and fell flat on his
face. Examination of the crying child revealed
a torn frenulum of the upper lip. The whole
incident was witnessed by professional nursing
staff and so the innocence of the incident
cannot be doubted.

The second case involves the 14 month
dughter of the author. After attempting to
climb a vegetable rack, my daughter fell
backwards, pulling the vegetable rack onto
herself. Rapid investigation of the source of
the subsequent bleeding confirmed my worst
fears—she had torn a frenulum of the upper
lip, presumably where it had been caught on
the wire basket. I’m afraid that readers will
have to take my word as to the innocence of this
injury (what self respecting paediatrician
would ever dare take such an injury to their
local casualty department?). A torn frenulum
is classically said to occur when a bottle or
spoon is forced into the mouth of a child.2 This
association is probably strong enough to
warrant the usual inquiries by the child
protection agencies to see if NAI has occurred.
However, before guilt of the child carers is
assumed, it should be borne in mind that a
torn frenulum is no more pathognomonic of

1 Samuels MP, McClaughlin W, Jacobson RR, et
al. Fourteen cases of imposed upper airway

2 Heritage JJ, Book LS, Bray PF. Gastro-
oesophageal reflux in the ‘near miss sudden
infant death syndrome’. J Pediatr 1978;92:
73–8.

3 Barrie H. Sleeping position and SIDS. BMJ
1989;298:959.
Reducing the risk of cot death.

H Barrie

Arch Dis Child 1992 67: 663
doi: 10.1136/adc.67.5.663-a

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