EYES AND ALKALIS

Wave of paediatric eye injuries from liquid detergent capsules

The capsule in most liquid detergent capsules is a water soluble polyvinyl alcohol membrane. The liquid detergent is a mixture of three active agents—an anionic detergent (20-30%), a non-ionic detergent, and a cationic surfactant—dissolved in water to give an alkaline solution, making the capsule more dangerous than initially perceived.

Alkali injuries are the most severe form of ocular chemical injury and can cause irreversible damage to all anterior ocular structures and have lifelong ramifications. Any visual deprivation from a non-healing corneal epithelial defect or from subepithelial scarring in children can also lead to amblyopia.

After recent discussions with Guy’s Poisons Unit, some manufacturers have made hazard labels more prominent. But greater consumer awareness is required to reduce injury. Such concentrated cleaning products must be kept out of the reach of children, and immediate irrigation is crucial to reduce the risk of clinically significant injury.

We highlight a new wave of paediatric ocular surface injuries. In 2001 the cleaning products industry produced liquid capsules for fabric detergents. Last year chemical injuries associated with these capsules accounted for 40% of ocular chemical injuries in children under the age of 5 at this hospital. Guy’s and St Thomas’ Poisons Unit received 192 enquiries related to the capsules during 2007-8 and 225 calls during 2006-7, a fifth of which related to ocular exposure.

In our case series of 13 children (mean age 23.9 months, range 14-34 months; nine girls), corneal burns resolved with no sequelae in 12 cases (table). However, one child (case 1) received ocular irrigation only on arrival in accident and emergency and therefore sustained bilateral total corneal epithelial burns.

<table>
<thead>
<tr>
<th>Case</th>
<th>pH</th>
<th>Time to irrigation (min)</th>
<th>Corneal epithelial defect (right+left) (%)</th>
<th>Time to epithelial closure (days)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9.9</td>
<td>30</td>
<td>100+100</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>9.0</td>
<td>5</td>
<td>50+0</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>8.5</td>
<td>45</td>
<td>40+15</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>8.0</td>
<td>5</td>
<td>0+50</td>
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</tr>
<tr>
<td>5</td>
<td>7.6</td>
<td>5</td>
<td>0+33</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>7.6</td>
<td>5</td>
<td>0+33</td>
<td>2</td>
</tr>
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<td>7.5</td>
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<td>8</td>
<td>7.2</td>
<td>5</td>
<td>0+40</td>
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</tr>
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<td>9</td>
<td>7.2</td>
<td>5</td>
<td>40+0</td>
<td>2</td>
</tr>
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<td>10</td>
<td>7.0</td>
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<td>2</td>
</tr>
<tr>
<td>11</td>
<td>7.0</td>
<td>5</td>
<td>0+0</td>
<td>0</td>
</tr>
<tr>
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<td>7.0</td>
<td>5</td>
<td>33+0</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>NK</td>
<td>5</td>
<td>12+0</td>
<td>1</td>
</tr>
</tbody>
</table>

*Mean 2.5 days.
NK=Not known.

SAFETY OF OXYGEN TREATMENT

What about acute coronary syndrome?

The National Patient Safety Agency considers emergency oxygen treatment in adults, focusing on chronic obstructive airways disease. The acute coronary syndrome is also commonly treated with oxygen according to MONA (morphine, oxygen, nitroglycerine, aspirin)—a mnemonic imprinted on the memory of every medical student and junior doctor. However, this use of oxygen is based more on historical precedent than evidence. Research into coronary physiology suggests that blanket oxygen administration may do more harm than good.

A recent systematic review showed that high concentrations of oxygen reduce coronary blood flow. In subjects with coronary heart disease a reduction of up to 28.9% was observed; a phenomenon that may potentiate myocardial ischaemia. This is consistent with previous research showing that oxygen treatment can increase infarct size in uncomplicated acute coronary syndrome.

The British Thoracic Society issued national guidance in 2008 recommending oxygen be used only in uncomplicated acute coronary syndrome with evident hypoxaemia. However, as confirmed by Lamont and colleagues, the medical community has responded largely with inertia. Thus we invoke a new mnemonic for dealing with the acute coronary syndrome.

Replace MONA with MAN (morphine, aspirin, nitroglycerine). This lexicographic gender change may help shift ingrained beliefs, smoke out oxygen zealots, and redress the increasing feminisation of the medical profession. One small victory for MAN!

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TIME TO FLAG UP “DETOX” DRINKS?

No need to flag up potassium

Floyd raises concern about several “sports” and “detox” drinks having potassium concentrations over 80 mg/100 ml, as well as “one with a heart stopping boast of over 200 mg/100 ml.” But orange juice contains 190 mg/100 ml, and pineapple juice also has high concentrations of potassium. The recommended

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daily allowance for potassium is 3500 mg. Therefore, it would be hard to become hyperkalaemic by drinking detox drinks, especially for those with normal kidney function. Indeed, Nyirenda and colleagues specifically mention that hyperkalaemia from dietary intake is uncommon except in the presence of renal disease. Biji T Kurien, senior research scientist, Oklahoma Medical Research Foundation, Oklahoma City, OK 73104, USA

EXPOSURE TO CS GAS

Guidance needed on secondary effects of CS gas on staff

We agree with Carron and colleagues that tear gas, especially chlorobenzylidene malononitrile (CS gas), has multiple effects. We encountered a case in which a 27 year old man was sprayed with CS gas by police. He sustained mixed thickness burns to his face, trunk, and upper arms and was managed by isolation in a cubicle room. According to his medical records, he had exposure to CS gas only 10 hours previously. In the US such effects have been reported regularly among accident and emergency staff. Furthermore, people can be sensitised to the effects of CS gas after repeated exposure. In one case the patient required intravenous antibiotics and systemic steroids on the second, separate, exposure to CS gas. Healthcare professionals need guidance to help reduce the chances of secondary exposure to irritant substances such as CS gas. CS gas lingers in hair and skin and therefore decontamination must form part of patient management (figure).

Patient consent obtained.

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APRIL 2010

FAIR SOCIETY, HEALTHY LIVES

Too close to home for comfort

Ironically, after reading this week’s BMJ articles on the findings and proposals of Fair Society, Healthy Lives, I opened my local newspaper to read headlines announcing severe cuts in services and provisions within the town. I live and work in Merthyr Tydfil, one of the poorest towns in the UK and Europe. It regularly features on “top 10” lists of shame for poverty, poor health, teenage pregnancy rates, cancer deaths, smoking, and drinking related disease. Unemployment is high and aspirations low. Because of financial constraints, the local council intends to close four local community centres, increase costs of meals on wheels, close local sixth forms, remove autism support services, reduce support and assistance for homeless

 Management of patients with suspected exposure to irritant substance.

* Includes burning sensation to skin, eyes, mouth; irritation; cough, wheeze, shortness of breath; lacrimation

* Including burning sensation to skin, eyes, mouth; irritation; cough, wheeze, shortness of breath; lacrimation

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teenagers, and reduce social service support and care home provision.

This goes against a key recommendation of the report to create fair employment, good working conditions, and strengthen disease prevention. For all the good that this report will do, many communities will continue to lag behind in social and healthcare provision, and in my own community the average person will die far earlier than the seven years predicted by the report.

In times of recession, stating that we should, “put sustainability and wellbeing before the narrow focus of economic growth, and to bring about a more equal and fair society” is all very well, but in reality budgets have to be adhered to and without money to invest, the health gap in my town is increasing quicker than the nations’ debt.

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Competing interests: None declared.

2 Kmietowicz C. Focus on early years to create a fairer society and reduce health inequality. Marmot review says. BMJ 2010;340:c181, (11 February.)

Cite this as: BMJ 2010;340;c1191

**CHRONIC FATIGUE SYNDROME**

More than defeatism greets patients with ME

I was diagnosed with myalgic encephalomyelitis (ME) in 2003, referred to the Maudsley for cognitive behaviour therapy and graded exercise therapy, and have recovered fully. When the diagnosis was made I met it with disbelief—I too had misconceptions about ME.\(^1\)

My immediate colleagues carried me through the first six months when I could hardly function, needing to rest frequently. The managers encouraged me to work the hours I could, recording no sick leave as I came into work daily. Four years later I was working normally and have since taken on a management role.

How much easier it would have been for me to go off sick. But staying at work is one of the most important prognostic factors for patients with ME.\(^2\)

The tragedy of the mother who helped her daughter with ME to commit suicide is that the medical profession let her daughter down. Why do we find ME so hard to deal with? We all accept the effect the psyche has on the physical, so why can’t we accept a condition that involves both? I have been told not to admit to having ME and had it discounted from my medical history as if it didn’t exist. I have witnessed colleagues making appalling generalisations about people with ME.

ME is thought to be a selfish disease and I understand why, but it is also a lonely one, with a huge social and professional stigma. I knew it was down to me to get better—no one else could do it for me, but I could not have beaten it without the help of those around me. I thank them and hope others are as fortunate.

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Competing interests: None declared.

1 Santhouse AM, Hotopf M, David AS. Chronic fatigue syndrome. BMJ 2010;340:c738. (11 February.)

Severely affected, severely neglected

Santhouse and colleagues make several conclusions and observations that are oversimplistic, premature, or inaccurate.\(^1\)

Firstly, the media did use Lynn Gilderdale’s case to highlight the existence of severe chronic fatigue syndrome (CFS) and the desperate need for biomedical research into the underlying cause. But the coverage did not imply that CFS is a “commonly fatal” condition, and it was premature of the authors to conclude—without epidemiological data—that mortality is not increased.

Secondly, accumulating evidence indicates that the two behavioural treatments offered—cognitive behaviour therapy (CBT) and graded exercise therapy (GET)—can be ineffective (CBT) or harmful (GET).\(^2\) The only research to investigate potential risk factors for the development of severe CFS found no evidence to implicate personality or neurotic traits,\(^3\) so it is disingenuous to claim that the use of these two treatments in a group of patients who cannot normally travel to hospital to access them is going to produce a “dramatic recovery.”

Thirdly, in my experience, people with CFS who commit suicide do so because of a combination of factors mainly involving lack of medical care and social support, failure to control key symptoms, and inadequate financial help, and depression is not always present.

People with severe CFS require multidisciplinary services in both a domiciliary and accessible hospital based setting that matches their complex individual needs. Having strongly criticised the current lack of care that is available, we question whether the NHS trusts the authors work for are in fact putting words into action and supplying domiciliary and in-patient facilities for their severely affected patients with CFS.

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Competing interests: CBS is medical adviser to an ME/CFS patient support and research funding charity, and member of the MRC expert group on ME/CFS research.

1 Santhouse AM, Hotopf M, David AS. Chronic fatigue syndrome. BMJ 2010;340:c738. (11 February.)


Cite this as: BMJ 2010;340:c1181
**DOUBLE FACE OF DISCRIMINATION**

**Undertreatment is a problem**

As a geriatrician, I see daily the iatrogenic effects of overtreatment of older patients that is partly driven by a box ticking, target oriented culture. People are taking drugs they no longer need or may never have needed or that haven’t been meaningfully reviewed for some time, despite the quality and outcomes framework. However, common, serious, and debilitating conditions largely affecting older people tend to be under-recognised and poorly managed while services and research tend to be under-funded and the training of professionals is inadequate. In hospitals older patients with treatable medical problems (often manifesting with loss of physical function or impaired cognition) are written off as “social” or “acopia.”

Although ageing should not be routinely medicalised, danger lies in having treatable problems in older people “socialised.” Patients over 65 already account for around 70% of bed days in NHS hospitals, but priorities and values have yet to catch up with the fact that frailty, ageing, and long term conditions are core to health. Many patients don’t present in “textbook” fashion, and much of medicine is about maintenance or palliation rather than cure, about the commonplace and not the rare and diagnostically challenging, and about low tech rather than high tech interventions. So we have the bizarre paradox of general practitioners being given incentives to treat, say, hypertension or cardiac failure aggressively, while conditions such as continence, osteoporosis, dementia, delirium, and falls are far down the pecking order.

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**Competing interests:** None declared.

1 Oliver M. Let’s not turn elderly people into patients. BMJ 2009;339:b31200

**Legislation offers protection**

When good people argue in favour of age discrimination in the NHS it is time to despair, or to act, to protect the rights of older people.1

This was my rationale in advocating for legislation on age discrimination in the NHS. The two important caveats were: public health programmes for disease prevention could target age specific groups on the basis of evidence for cost effectiveness; and individual decisions not to treat, made in the privacy of the consultation room, on grounds of personal choice or lack of capacity to benefit—for example, because of frailty—would not be challenged.

Only the denial of access to treatment on the basis of chronological age would be outlawed through the proposed legislation. If passed into law, many will welcome the protection it will afford in later life. I hope this will include Iona Heath, aged 80 and in excellent health, when she might otherwise be turned down for cost effective treatment of a life threatening illness.

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**Competing interests:** IP was the national clinical director for older people (2000-8), responsible for rooting out age discrimination in the NHS.

1 Heath I. The double face of discrimination. BMJ 2010;340:c1052

Cite this as: BMJ 2010;340:c1052

**RESPONSE**

Peter Wilmshurst replies to Jonathan Gornall

Jonathan Gornall has tried to clarify the issues in the MIST trial and NMT Medical’s libel action against me, but he has made some errors. His statement that “the trial ran from January to July 2005” is taken from NMT’s particulars of claim and is wrong. NMT now concedes in the company’s reply to my defence that the clinical phase was from “November 2004 to early 2006.” Gornall states that my finding of a high residual shunt rate “seemed to contradict clinical experience with the device, including a 2006 study that had reviewed outcomes in 42 cases in which atrial septal defects had been repaired with STARFlex and found complete closure in 39 (93%) . . . .” The letter before claim from NMT’s lawyers also makes that argument, but it does not stand up to scrutiny because:

1 Nugent et al’s patients had a different pathology: an atrial septal defect, which produces a left to right shunt, not a PFO [patent foramen ovale], which produces a right to left shunt

2 Gornall’s technique for detecting a residual shunt, colour flow Doppler echocardiography, was different and less sensitive than contrast echocardiography used in the MIST trial

3 It would not be surprising if the authors get particularly good results when implanting STARFlex because Lock, the senior author, has the longest experience with the device, having been one of its inventors. In contrast, implanting cardiologists in the MIST trial were required to have done a “minimum of 10 PFO closure procedures.”

Gornall states that Missault reported that 33 patients had residual shunts. The correct figure is 38. Gornall’s breakdown into types is wrong. Missault classified 29 as pulmonary, four as atrial, and five as “unknown origin.” Gornall states that I reported that 27 patients had shunts. I actually reported 40 shunts compared with Missault’s 38. However, we respectively assessed 22 and 14 of the shunts as large enough to be significant.

Gornall states: “The paper was endorsed by the other 22 doctors involved in the trial.” This figure appears to be derived from adding the number of named authors to the number of named contributors who were not NMT employees. This figure does not take into account the fact that some contributors had no medical qualification and one medically qualified “author” died in May 2004, six months before the trial started. Most authors had no role in trial design (because no author was a member of the MIST Trial Design Physicians Advisory Group), administration, data interpretation, or writing the paper.

Gornall states: “According to a note he made of a meeting with NMT’s chief executive on 16 September 2005, Dr Wilmshurst was aware of these issues (share holdings by some members of the steering committee) then but did not consider resigning from the trial.” My note makes no mention of whether I considered resignation. Neither NMT nor Gornall know whether I considered resignation. Resignation would have been the easy way out. As my concerns about the trial increased, the more I felt compelled to remain involved to ensure that the data were accurately presented. In fact, throughout the MIST trial I have made many choices where others might have found it easy to do otherwise. I could have accepted the £50 000 consultancy fees offered by NMT. I declined to avoid a conflict of interest. Because NMT was persistent in providing the money, I asked for it to be donated to charities with no possible connection to me—the Disasters Emergency Relief Fund for the Boxing Day Tsunami and a South African charity for children with AIDS. I could have accepted inaccuracies in reporting the paper, and I would probably have been the first author. I could have kept quiet and avoided a libel action.

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**Competing interests:** PW’s legal dispute with NMT Medical is the subject of Gornall’s article.


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