

## Childhood tetanus in Australia: ethical issues for a should-be-forgotten preventable disease

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IN UNVACCINATED INDIVIDUALS, tetanus remains a constant threat. In developing countries, neonatal tetanus is common because of unhygienic practices, particularly with regard to care of the umbilical cord stump.<sup>1-3</sup> Such cases usually occur in children born to unvaccinated mothers who have no antibodies to confer protection on their infants. In developed countries, where immunisation coverage is often higher and hygiene is better, neonatal tetanus is almost unheard of. Older, previously vaccinated adults (> 60 years) in whom immunity has waned form the bulk of cases of tetanus<sup>1</sup> (seven notified cases in adults over 55 years in 1998, giving a notification rate of 0.2 per 100 000).<sup>4</sup>

In countries where there are high rates of childhood immunisation, tetanus is rare among children. For example, in South Australia, where more than 85% of children are immunised, the last known case of childhood tetanus occurred in 1969.<sup>4</sup>

A child presenting to the Women's and Children's Hospital, Adelaide, with tetanus (see Box) raised various important ethical questions.

### Ethical questions

Because this case raised difficult ethical issues, a peer-group discussion was convened under the auspices of the hospital's Patient Care Ethics Group. This is a group of clinicians with a largely supportive and advisory role and without authority to arbitrate on the hospital's behalf. This forum provided diverse points of view, with the aim of achieving the best decision possible.

Deliberations covered all aspects of child protection, the rights of the child and the rights of the parents. The clinicians involved in the care of this child had to decide how

### ABSTRACT

- Refusal of a parent to have a child vaccinated against tetanus raised ethical issues for the treating clinicians.
- The clinicians felt their duty to the child was compromised, but recognised that our society leaves the authority for such decisions with the parents.
- As there was no reason, other than different beliefs about vaccination, to doubt the parent's care for the child, the clinicians limited their response to providing strong recommendations in favour of vaccination.
- Other issues raised by this case include community protection, and the costs to the community of treating a vaccine-preventable disease.

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to respond when they considered the parents to be making the wrong decision for their child and to judge what should be the limits to the right of parents to make decisions on behalf of their children.

When a child succumbs to a vaccine-preventable disease for which the parents have refused vaccination, can such parents be said to be acting truly in their child's best interests? Based on toxin neutralisation assays in mice,<sup>3</sup> and evidence of repeat episodes of tetanus arising from re-infection with *Clostridium tetani*,<sup>5-10</sup> we hold the view that immunity to tetanus is not acquired by natural infection.<sup>3</sup> On this basis, we were concerned that the patient remained at risk (albeit very low) of subsequent re-infection.

Do clinicians, acting in the interests of the wider community, have the right to use cases such as this to raise public awareness, with the hope of improving levels of vaccination? Should community pressure on parents to vaccinate their children be increased, for example by limiting access to child care services or school funding, or even by refusing school entry for unvaccinated children?<sup>11</sup> How should we think about the economic cost of treating a child whose illness could have been prevented at minimal expense?

### Parental authority

In treating this patient, we felt our duty to the child was compromised. However, vaccination in Australia is not compulsory and the decision to vaccinate, regardless of the clinical setting, remains with the parent. The doctor has a responsibility to give appropriate advice to the family: to provide comprehensive and up-to-date information on the benefits and unwanted effects of vaccination, as well as to

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offer a considered opinion on the advisability of vaccinating a particular person.

Our society (and most others) recognises that parents, generally speaking, are in the best position to make decisions for their children, for several reasons.<sup>12</sup>

■ There is an identity-of-interests argument: the values parents hold are likely to be similar to their children's values, both now and in the future, as parents contribute significantly to their children's moral, psychological and social development. Therefore, asking parents what they think is a reasonable substitute for asking the children themselves.

■ We tend to think that parents are likely to be in the best position to judge the best interests of their children. This is so because the "caring love" that most parents exhibit toward their children has at its core the promotion of the child's best interests.<sup>13</sup>

■ Finally, and particularly important at the policy level, *someone* must speak for children and act on their behalf when decisions need to be made. At a societal and policy level, it is hard to imagine an alternative to parental responsibility for children that would not be incredibly burdensome for all involved.

### Dealing with differences in doctors' and parents' beliefs

How should we act when apparently thoughtful, caring and reasonable parents reach decisions that are not in accord with those of healthcare professionals? There is a range of reasons why healthcare professionals and patients do not always agree.<sup>14</sup> Many "irrational" decisions by competent people reflect ways of thinking which others do not share. For example, some people may have an unreasonable bias toward the present, may give undue consideration to the risk of suffering or pain, or fear may get in the way when they are thinking about treatment. Alternatively, they may assess risk in unusual, but thoughtful, ways, or their belief systems may mean that choices that appear irrational to others are reasonable for them. In some cases, there may be a role for a psychiatric assessment to help clarify whether an apparently irrational view indicates that the parent is not competent to make the decision, or whether it forms part of a belief system that is against the best interests of the child. Menahem and Halasz<sup>15</sup> provide recommendations on ways to reduce the risk of parental non-compliance, including building trust, eliciting the aid of a parental partner, and organising a second opinion, thereby improving the chances of a successful outcome.

In this case, it is unlikely that the parent was ill-informed or confused about the possible implications of not vaccinating the child, if only because of the experience of the child's serious illness and hospitalisation. The parent may not have understood the seriousness of tetanus before the child's stay in hospital, but surely did after the event. The clinicians involved also expended considerable effort to help the parent understand the implications of not having the child vaccinated. Hard as it may be for the healthcare professionals involved, we are forced to accept that this case is most likely an example of incommensurate value systems. If the

### Case report

Two weeks before presenting to the Women's and Children's Hospital (WCH), Adelaide, a two-year-old child had injured one foot with a wood splinter, which had embedded in the distal right sole proximal to the great toe. Two days before admission, the splinter came out, together with a small amount of pus. The next day (one day before admission), one of the parents took the child to a general practitioner because of muscle spasms and inability to open the mouth. Both the parent and the GP diagnosed tetanus. The patient was admitted to the WCH with moderately severe trismus and *risus sardonius*, but no spasms were observed initially.

The child had not received any vaccinations as the parent had conscientious objections to this practice. Despite these objections, the parent sanctioned the use of human tetanus immunoglobulin (TIG), of which nearly 4000 IU were given (by slow intravenous infusion). At the parent's request, and despite the lack of clear indications for such treatment, a portion of the TIG was infiltrated into the foot wound, which was then surgically debrided. In addition, a five-day course of metronidazole was commenced.

The day after admission to the Paediatric Intensive Care Unit (hospital day 2), the patient began having frequent (every few minutes), moderately severe spasms, which were managed with midazolam and magnesium sulfate. Paralysis with curariform drugs and mechanical ventilation was avoided. The patient was managed in this way in a quiet, darkened room throughout the hospitalisation and was discharged on sedation after 18 days.

During the admission, a recommendation was made to the parent on several occasions that the child be given a course of tetanus toxoid, because infection with *Clostridium tetani* does not necessarily confer immunity against tetanus. Despite this advice, the parent refused to consent, and the child was discharged unvaccinated. The decision was based on the parent's own beliefs. The other parent's position was not proffered.

clinicians shared this person's values and beliefs, they would likely reach the same conclusion. If this person shared the clinicians' beliefs, this child would have been vaccinated.

Faced with this conundrum, what could we do? We limited our response to a strong recommendation in favour of vaccination. Because parents are *prima facie* the principal decision-makers for their children, to override this responsibility requires that healthcare professionals be confident that the child will indeed be harmed, in both the short and long term, if the parents' decision is allowed to stand. In this case, the risk of significant harm because of immunisation status alone is quite small, given that tetanus requires both an injury and the introduction of *Clostridium tetani* spores and is not a communicable disease. In addition, the child's long term need for care in a loving and supportive environment could be jeopardised if vaccination were forced on an unwilling family. There is no reason, other than perhaps unusual beliefs about vaccination, to question the parent's capacity to provide an environment that served the child's best interests.

None of this suggests that healthcare professionals should not attempt to influence parents. Healthcare professionals have an obligation to try to persuade parents to do what the healthcare professionals consider to be in a child's best interests, provided this persuasion does not shade into manipulation or coercion.<sup>16</sup> In this case, we made repeated attempts to persuade the parent while the child was in hospital. In addition, a letter was sent to the parents

conveying the views of the medical team with respect to tetanus vaccination. The letter clearly reflected that its writing had been motivated by a duty of care on the part of the doctors towards the patient's future health. A copy of the National Health and Medical Research Council (NHMRC) recommendations<sup>1</sup> for tetanus vaccination was sent with the letter.

### Community obligations

Doctors have an obligation to promote and protect the health of the whole community. Communities can expect to be protected from infectious diseases, particularly when such protection is safe, relatively inexpensive and easy to administer. For infectious diseases other than tetanus, the effect on individual and herd immunity by dissenting families can be a major issue. However, this does not necessarily translate into a requirement that all members of the community be vaccinated whether they wish it or not. The best way to balance a community's right to be protected from infectious diseases with respect for individuals' autonomous decisions not to be vaccinated (or to have their children vaccinated) is by making vaccinations effective and accessible to all.<sup>17</sup>

Not only does the community have a right to protection from easily preventable infectious disease, but the community must surely have a say in how their tax dollars are best spent. There remains, therefore, the right to question whether it is a misuse of the healthcare system for individuals

to seek cure for a largely self-inflicted disease, or, as in this case, a disease brought about by parental omission or choice.

### Competing interests

None identified.

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## book review

### Catalogue of child abuse

**Physical signs of child abuse.** Christopher J Hobbs and Jayne M Wynne. London: W B Saunders, 2001 (\$271.15, 401 pp). ISBN 0 7020 2582 8.

THIS IS THE SECOND edition in five years of this rather expensive atlas by two reputable British paediatricians who specialise in the investigation and management of child maltreatment. It is a distressing catalogue of the injuries deliberately inflicted by caregivers on children and young people.

The book covers the full spectrum of child abuse as well as providing over 300 pages of photographs (with up to five photographs per page). It provides good guidance on conducting physical examinations, colposcopy and photography. The authors emphasise that the diagnosis and management of abuse requires an interdisciplinary approach, where different professionals and systems bring together different pieces of the jigsaw. There are sections and subsections that cover each type of abuse and its differential diagnosis, and each section starts with a brief overview of the salient points. The contents of many of these sections are in note form (as if they have been made up from teaching slides which were orally expanded). This can be occasionally confusing — for example, under a section on retinal haemorrhages is a dot point “vaginal birth (30%)”. It is unclear if this refers to the proportion of vaginal births having this abnormality, or whether it refers to the fact that only 30% of retinal haemorrhages occurred in infants born vaginally. References for some of these assertions would

also have been helpful. Nevertheless, the format is clear and user-friendly.

I do have a number of criticisms. The book is somewhat unevenly balanced with head and abdominal injuries sharing a chapter, while superficial integumental injuries are divided among four chapters and burns among three. There are occasional typographic errors, and some references are misspelled. Some of the advice given is not consistent with best evidence for practice in teaching hospitals — for example, CT scans are a more sensitive investigation for head injury than plain skull x-rays, and the role of radioisotopic bone scans as the initial approach to screening for skeletal injuries is underemphasised. The authors note the value of digital photography for exchanging images electronically. In Australia, this advice is problematic, as digital images have been ruled out for evidentiary purposes owing to the ease with which they can be manipulated. Despite these reservations, and considering the fact that the authors are going to produce a complementary slide set (presumably on CD-ROM), I believe that access to this reference book would be helpful to many. It is particularly suitable for those training as general and community paediatricians and for those working in hospitals with a large paediatric patient load.

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