



Hon Steven Miles MP
Minister for Health and
Minister for Ambulance Services

1 William Street Brisbane Qld 4000
GPO Box 48 Brisbane
Queensland 4001 Australia
Telephone +61 7 3035 6100
Facsimile +61 7 3220 6231

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Dr Matthew Hope
Chair, Queensland Trauma Committee
Royal Australasian College of Surgeons
PO Box 7647
EAST BRISBANE QLD 4169

Email: gld.trauma@surgeons.org

Dear Dr Hope

Thank you for your letter dated 5 December 2019, in relation to dog bite injury in Queensland Children.

I appreciate the time and careful consideration that you and your colleagues have given to this matter. I requested that Children's Health Queensland work with you and your colleagues to develop and pilot a community program to raise public awareness of this important issue. This could then be taken up more broadly by the Department of Health Strategic Communications Branch.

Thank you again for bringing this matter to my attention. Should you require any further information in relation to this matter, I have arranged for Dr Andrew Hallahan, Executive Director Medical Services, Children's Health Queensland Hospital and Health Service, on telephone 3068 5323, to be available to assist you.

Yours sincerely

STEVEN MILES MP
Minister for Health
Minister for Ambulance Services



Queensland Trauma Committee
Telephone +61 7 3249 2911
Email: qld.trauma@surgeons.org

5 December 2019

Hon Dr Steven Miles
Minister for Health & Minister for Ambulance Services
PO Box 48
Brisbane QLD 4002
health@ministerial.qld.gov.au

Dear Steven

Re: Dog bite injury in Queensland children

In response to correspondence dated 19 March 2019, the following group was convened for discussion of the attached paper. This has now been finalised by the group and the RACS Queensland Trauma Committee. The paper provides a background to the serious ongoing problem of dog bite injuries in children and makes recommendations for future preventative programs.

The paper was discussed at our meeting on 26 July 2019, 2pm, Community Room, Level 3, Queensland Children's Hospital, 501 Stanley Street, South Brisbane.

Consultation representatives:

- Dr Matthew Hope – Chair, RACS Queensland Trauma Committee
- Dr Michael Wagels – Plastic & Reconstructive Surgeon and member RACS Queensland Trauma Committee
- Susan Teerds – CEO, Kidsafe Queensland
- Dr Mandy Paterson – Principal Scientist, RSPCA Queensland
- Dr Steven McTaggart – A/Executive Director Medical Services, QCH
- Dr Stuart Bade – Chief of Surgery, QCH
- Prof Roy Kimble – Service Group Director Paediatric & Neonatal Surgery, Urology, Burns & Trauma, QCH
- Dr Grant Stone – Emergency Department, QCH (on behalf of Jason Acworth, Director Emergency)
- David Watson – Manager, RACS Queensland

We look forward to receiving your response with regards to future plans to reduce the incidents of dog bite injuries in children.

Yours faithfully

Dr Matthew Hope

Chair
Queensland Trauma Committee
Royal Australasian College of Surgeons
On behalf of the joint contributors



Queensland Trauma Committee
Telephone +61 7 3249 2911
Email: qld.trauma@surgeons.org



Dog Bites in Queensland Children

Author: Dr Michael Wagels, Plastic Surgeon and member Queensland Trauma Committee.

Edited: Dr Matthew Hope, Orthopaedic Surgeon and Chair, Queensland Trauma Committee 1 November 2019.

Background

There are four variables at play when a child is bitten by a dog; the dog, its owner, the child and their parent. In order to understand these injuries and to identify opportunities to prevent them, we must bear these variables in mind. Data regarding patients who suffered a dog bite and were treated at the Queensland Children's Hospital (QCH) from its inception in November of 2014 to October of 2017 were analysed. 90.2% of dogs involved were familiar to the child and a range of breeds were represented. In 34.5% of cases, the child was not interacting with the dog in the lead up to being bitten. When a bitten child was admitted for treatment, the dog involved was destroyed in 46% of cases (unpublished).

The peak incidence was in children aged 3-5 years and the most common anatomical location of the bite was the head or neck (78%). Affected children were more likely to be male (62.5%).

The local data reflect the national situation. In Australia (2001-2013), the peak incidence of dog bites was also found to be in the 0-4 and 5-9 age groups. The incidence of dog bites was increasing in all age groups with an overall increase of 57% from 2001 to 2013^x. Children are considered to be at greatest risk of dog bites due to their inexperience in handling of animals, their innate curiosity and their inability to defend themselves against animal attack.

In a large national series from the United States of America, behavioural disorders were recognised as a risk factor in male children who were bitten by a dog^{i,ii}. Data regarding this potential association were not available in the QCH series.

Medical outcomes were generally good. Only 5.8% of patients developed a wound infection and the average length of inpatient stay was 2.3 days. However, psychological outcomes in both children and parents may be worse than initially apparent. These outcomes are difficult to measure but by way of example, 70% of children exhibit a new concerning behavior one month after dog bite. Also, trauma counselling was more likely to be accepted when offered for much lower grades of injury in bitten children when compared with those subjected to other types of trauma. Dog bite wounds may heal well in children but scars are permanent and act as lifelong reminders of the incident. These scars are frequently visible in view of the majority of injuries being in the head and neck area. Children may require extensive reconstruction in cases of traumatic ear or nose amputation.

The QCH series (11/2014 to 10/2017) found an average of 1.9 bites per week in children presenting to the QCH. This is consistent with the Queensland Injury Surveillance Unit that reported four per bites per week during 1999 and 2012 across a sample of participating Queensland hospitalsⁱⁱⁱ. Data from the Queensland Trauma Registry reported an average of 0.5 bites per week in children for the period 2003-2009 throughout Queensland^{iv}. The comparability of these series is difficult to ascertain. Nationally the incidence of hospitalisations as a result of dog bites (per 100,000 population) was 26.9 and 18.4 for the 0-4 and 5-9 age groups compared to 7.9 and 12.1 per 100,000 in the 15-24 and over 45 year aged groups respectively^x.

Dog ownership is known to be increasing and as a result this problem would be expected to become more frequent. The Australian Companion Animal Council estimates in 2010 reported that 36% of households owned a dog. In 2016, the RSPCA reported that 39% of households own at least one dog. The Australian Bureau of Statistics has shown that 49% of married couples with dependants were dog owners^{xii}.

The financial cost and burden associated with these injuries is currently the subject of research at the Queensland Children's Hospital, Brisbane.

Prevention

The QCH has developed guidelines for prevention of dog bites^v. However, if implemented, the first opportunity to administer these is after a child has already been bitten. Providing these guidelines at the point of healthcare delivery does not prevent the incident.

An Editorial in the Medical Journal of Australia expands on these guidelines^{vi}.

The group recommends the following 10 rules – the first 3 are general and the last 6 are specific to the interactions between the child and dog that are most likely to reduce the risk of injury:

1. Dogs should be socialised from a young age with children. Dog obedience alone may not prevent dog bite injury.
2. Dog owners should be educated about dog behaviour and body language so that they can interpret when the dog is uncomfortable.
3. Children's parents or guardians should supervise all dog/children interactions.
4.
 - a) Teach children to greet unknown dogs from a distance and not to approach dogs (even with permission).
 - b) When socialising a child with a dog that is to become a known dog, have the child stand still and allow the dog to approach in their own time and smell the child supervising the whole time.
 - c) Teach the child never to approach a dog that is sleeping, eating or caring for pups.
 - d) If approached by a dog, the child should stand still and move slowly backwards and away, never running or screaming.
 - e) If knocked over, the child should roll in a ball protecting their face and lie still.
 - f) A child should avoid making eye contact with a dog.
 - g) For older children (8+) teach them about dog body language so they can start to make their own judgements about how comfortable a dog is feeling.

It would be challenging for a young child to remember these instructions and execute them when under the stress of an approaching dog. Thus, parents should be educated on the subject of dog behaviour and bite prevention. They should always actively supervise their children around dogs.

These data show the unfortunate fact that when a child and a dog are in close proximity, there is a risk that the child will be bitten. The only way to mitigate this risk is to encourage parents and dog owners – who are often the same person – to undertake active supervision of their charges.

Implementation

Successful implementation of all these preventative strategies necessitates support and long-term input from all key stakeholders if behaviour and the incidence of dog bites are to change.

A mitigation strategy targeting high risk breeds has been shown to be ineffective^{vii}. This supports our view that action should be directed towards education of children, parents and dog owners. Educating children has been shown to be effective in preventing dog bites^{viii}.

It is recommended that the following items become permanent features of education programs. The group recommends:

- Parents 'to be' and new parents should receive education as to the potential for a dog bite injury to a child as early as possible. This could be carried out as part of ante-natal classes and on discharge from maternity units. The high level of dog ownership in families with dependants highlights the importance of this avenue for education. Education as to how to prepare your dog for the new baby can be provided by the RSPCA.
- Children should be educated before an attack has occurred and an early opportunity to do this is in the early school environment, which would require the support of Education Queensland.
- Education in injury prevention from dog bites for parents and children. This can be provided through established Kidsafe networks. Kidsafe would require recurring support to promote this as a permanent area of focus.

- Support for the RSPCA in their role in dog owner education and dog training. The prevention of dog bites to children should be a routine part of dog handling training.
- Educational information on dog bite prevention to be displayed and made accessible alongside or prior to online dog ownership registration.
- Publications for prevention of dog bites to be made available for schools, pet stores, retail outlets, veterinary practices. The limited resources for children currently available can anthropomorphise dogs which is potentially dangerous.
- Further structured data collection is required to evaluate the effect of such a campaign and to more clearly define the role of behavioral disorders and the long-term psychological effect of dog bites on children.

Education has usually been provided after a dog bite has already occurred. The best opportunities to prevent dog bites are in educating children and parents in the early school or childcare environment before an incident occurs, and in educating dog owners about active supervision and to ensure that dog training has been undertaken.

The group reflects that a single intense advertising campaign regarding dog bite injuries may increase awareness and produce short term benefits, but is unlikely to bring about sustainable positive results. The group strongly advocates for long term communication and educational intervention for children, parents and dog owners to bring about and maintain behavioural change.

ⁱ Mitchell RB, Nañez G, Wagner JD, *et al.* Dog bites of the scalp, face, and neck in children. **Laryngoscope** 2003;113:492–5

ⁱⁱ Holzer KJ, Vaughn MG, Murugan V. Dog bite injuries in the USA: prevalence, correlates and recent trends. **Inj Prev** 2019;25:187–190

ⁱⁱⁱ Queensland Injury Surveillance Unit, *Dog Bites Report 1999-2012*; Mater Hospital, South Brisbane

^{iv} Queensland Trauma Registry, *Report on Dog Bites in Queensland*; Statistical Services Branch, Queensland Government Department of Health, Brisbane

^v Paediatric Trauma Service, *Helping Your Child After a Dog Bite*. Children's Health Queensland, South Brisbane.

^{vi} Kimble RM *et al.*, *Dog Bites in Australian Children*. **Med J Aust** 2011; Dec 19;195(11-12):635-6

^{vii} Ó Súilleabháin P, *Human hospitalisations due to dog bites in Ireland (1998-2013): Implications for current breed specific legislation*. **Vet J**. 2015 Jun;204(3):357-9

^{viii} Chapman S, Cornwall J, Righetti J, *et al.* Preventing dog bites in children: randomised controlled trial of an educational intervention. **BMJ** 2000; 320:1512-1513

^{ix} Dixon CA, Pomerantz WJ, Hart KW, *et al.* An evaluation of a dog bite prevention intervention in the pediatric emergency department. **J Trauma Acute Care Surg** 2013;75(Suppl 3):S308–12.

^x Mithun Rajshekar, Leigh Blizzard, Roberta Julian, *et al.*, *The incidence of public sector hospitalisations due to dog bites in Australia 2001–2013* **Australian and New Zealand Journal of Public Health** 2017;41:4 377-380

^{xi} Meints K, Racca A, Hickey N. *How to prevent dog bite injuries? Children misinterpret dogs facial expressions*. **Injury Prevention** 2010;16(Suppl 1):A68.

^{xii} *Australian Bureau of Statistics. Special feature: Household pets. 4102.0 - Australian Social Trends, 1995* [Internet]. Canberra (AUST): ABS; 1995 [cited 2015 Dec 8]. Available from: <http://www.abs.gov.au/ausstats/abs@.nsf/2f762f95845417aeca25706c00834efa/5ef8016f420622a3ca2570ec00753524!OpenDocument>