Forensic odontology, part 5. Child abuse issues

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IN BRIEF

- Raises awareness and understanding of child abuse issues.
- Highlights injuries to the oral region.
- Serves as a reminder to dental teams to be alert to the possibility of abuse.

GENERAL

Child abuse, child maltreatment, non-accidental injury and child homicide: all terms that are hard to believe exist in the 21st civilised century, but non-accidental injury of children is a major problem, crossing all socioeconomic, ethnic and educational groups, and is happening all over the world. Available statistics on child abuse and deaths related to abuse are frightening, and as many cases are not reported, actual numbers are likely to be much higher. This paper aims to increase understanding of child abuse issues and encourage the dental team to be alert to the possibility of abuse, recognise the physical injuries and make referrals to the appropriate agency if necessary. In child abuse cases physical injuries to the head and facial area are common while other types of abuse are less visible but are damaging to a vulnerable child in other ways. Keeping children safe is a shared responsiblity and a top priority for all of us.

INTRODUCTION

In England and Wales approximately 100 children die every year as a result of abuse/maltreatment and in the United States this figure reached over 1,700 in 2007. Somewhere in the world a child is suffering deliberate harm, inflicted by someone who is supposed to care about them, at this very moment. Most adults love and protect their children, enabling them to develop within caring and supportive families, communities and safe environments. Sadly, some children are not so lucky. Not all abuse is obvious (bruising and bone fractures); the neglected child, children constantly ignored and made to feel worthless, or those left unsupervised in dangerous situations, are all suffering and live in fear. Many will be damaged for life (both physically and mentally) with numerous far reaching consequences. The abused child may become an abusive parent repeating their childhood experiences: a vicious cycle. However, significant numbers of children will die: no hope, no future; a life cut short.

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Case 1

In New Zealand in 2007, a three-year-old girl died in hospital after being kicked in the head. The adults she shared a home with denied her hospital treatment that might have saved her, instead leaving her in a comatose state for two days after the injuries.

On examination it was discovered that she had many other injuries consistent with months of abuse. She had been the target to practice wrestling moves on, spun in a tumble drier, hung on a clothes line, slapped, beaten and was underweight for a child of her age.

Other siblings did not suffer as this child did – why not? What made this child vulnerable at this time in this particular household? At the trial in 2008, her mother was found guilty of manslaughter relating to failing to protect the little girl from violence and failing to provide medical treatment. Two males, one the partner of the child's mother but not her biological father, who had learning problems and had the developmental age of someone several years younger (he was 19 years old at trial), were found guilty of murder. Two other adults were found guilty of lesser offences.

The public responded to this high profile case with comments such as 'her time on earth was painful, frightening and agonisingly alone and short' and 'the country I live in and am proud of, has abusers who hurt, maim and kill our vulnerable little ones and people who let it happen.'

New Zealand is not alone in incidents of this nature and most cases around the world do not make the news; those that do cause outrage and abuse policy review. Following the death of 'Baby P' at the hands of his mother, her boyfriend and the lodger in the UK in 2007, Lord Laming was commissioned to prepare a report and make recommendations for the improvement of safeguarding children across the country, but despite many changes being implemented, it is clear that abuse continues here in the UK (and globally).

BEHIND CLOSED DOORS

Child abuse is a major social problem and occurs in all income, racial, religious and ethnic groups. It is happening worldwide and crosses all socioeconomic and educational classes, urban and rural communities. It has major health, treatment and cost implications for each country.

Unfortunately, it is difficult to establish the true incidence and prevalence of abuse in any given country as so many cases are not reported and investigated, or are simply not recognised. Inconsistencies in the classification of child deaths and variable definitions of child abuse mean that there is insufficient internationally comparable data on child maltreatment. Information systems

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are incomplete or limited and recording methods differ, enabling some children to slip under the radar. To improve the statistics on child abuse we need consistent research methodologies and appropriate and improved data collection worldwide, with a view to increasing information and guiding child protection policies. Another difficulty is that there are different attitudes to child care in different cultural and religious groups, and the line between punishment and abuse can be blurred.

Other explanations for abuse remaining hidden

- Fear: child dare not report, or person caring for the child may be fearful of reporting (especially when the perpetrator is their partner or someone in an authority position)
- Social acceptance
- Where to report? In some countries authorities are not trusted or accessible

TYPES OF ABUSE

The United Nations study on violence against children (2006) provides an in-depth global picture of child abuses and it makes for grim reading in the 21st century. The study confirms that violence against children exists in every country of the world and the greatest risk is to young children.

There are different definitions of abuse, so for practical purposes it may be easier to use a general approach:

A child is considered to be abused if he/she is treated in a way that is unacceptable in a given culture at a given time. However, agreement may never be reached on what practices are considered to be abusive when views on child-rearing vary between different cultures.

A child is considered to be a person less than 18 years of age (Child Care Act 1983). Abuse may involve a single or repeated incident(s). Abuse is often divided into several sub-categories, but they often occur in combination, for example, a physically abused child may also suffer from neglect and emotional abuse. These categories do not include child trafficking and abduction. To serve as a reminder, definitions are listed below.

Physical abuse

This can be regarded as any non-accidental injury or trauma to a child and may involve punching, hitting, shaking, burning (Fig. 1), scalding, biting, drowning, suffocating, poisoning or anything else that can cause physical harm to a child.

Sexual abuse

This involves enticing or forcing a child to take part in sexual activities (and prostitution) whether or not the child is aware of what is happening. It may include bodily contact, such as touching, fondling and penetration, and non-contact activities such as involvement with pornography or encouraging a child to act in a sexually inappropriate way. Detecting sexual abuse requires a high index of suspicion and familiarity with physical, behavioural and verbal indicators of abuse. Shame and guilt may make discussion difficult.

Emotional abuse

Emotional abuse is the persistent emotional maltreatment of a child to cause severe and persistent adverse effects on the child's emotional development and well-being. It may involve making the child feel worthless, ignoring, isolating, humiliating, frightening or shouting at the child.

Neglect

This is described as the persistent failure to meet a child's basic physical and/or emotional needs that may result in the serious impairment of the child's health and development. This might include depriving the child of food, shelter, clothing, adequate supervision or education and failing to protect the child from harm or danger. Interestingly, it may also apply to the failure to seek and access appropriate medical and dental care/treatment.

Currently, neglect is the main reason for the placement of children on the child protection register in both England and the United States, followed by physical injury.

Fabricated or induced/imposed illness

Formerly referred to as Münchausen syndrome by proxy, this is considered to be a psychological disorder of the perpetrator. This person (often the mother) deliberately fabricates, induces or exaggerates illness (or another health problem) often in a child. It is often attributed to the need of the perpetrator to gain attention, but as a result, the child may be subjected to essentially unnecessary examinations, investigations and surgery.

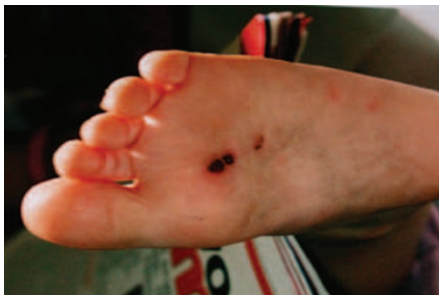

Fig. 1 Cigarette burns on the foot of a child

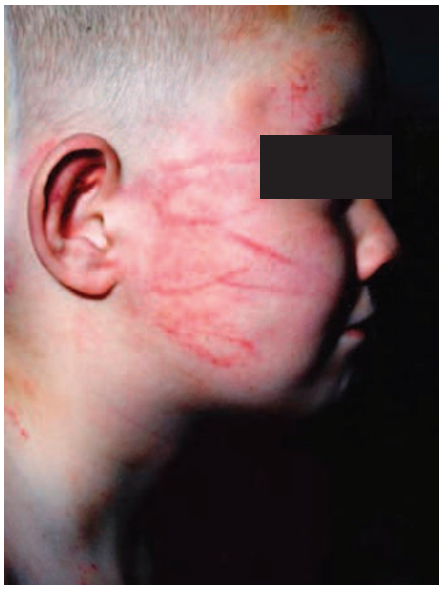

Fig. 2 Injuries to the face of a young boy. There is also bruising to the ear (and skin behind the ear) and scratch marks on the back of the neck – areas that are often protected in accidental injury

The actions of a mother (substance abuse, trauma etc), or acts of violence inflicted on the pregnant woman, may put an unborn child at risk. A significant number of assaults on women by their male partners begin during the first pregnancy. Also, where do those children caught up in wars, gang warfare and alleged 'honour' killings fit into the definitions?

Case 2

Little Amy (not her real name) was nearly three years old. When I examined her in hospital, she was barely recognisable. She had bilateral black eyes and facial swelling. There were bite marks all over her face and body, she was battered and bruised with cigarette burns on her feet and hands. How can this happen? Her mother and partner gave no indication of concern about her condition, nor did they have explanations with regard to her injuries. They both had

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substance abuse issues. Let us hope that the protection agencies can help this child and keep her safe. I later learned that she had been placed with a foster family and was thriving physically, but what will her future hold?

A few disturbing facts and figures

Consider that in England and Wales there are on average one to two children that die every week as a result of abuse/maltreatment. Information from the 27 richest nations of the world found that children in the southern European countries of Spain, Greece and Italy are the least likely to suffer maltreatment: on average two children per million in these countries died from abuse or neglect annually over the last five years. The death rate was a little higher (three per million annually) in Ireland and Norway and around six per million annually for the Netherlands and Sweden. South Korea listed approximately eight per million. But, the United States death rate was 24 per million, with Mexico at 30 per million. The report also confirmed that the United States and Mexico have the highest adult death rates from homicide and assault. However, it is difficult to establish the exact number of fatalities from child abuse in any given country as many child deaths are not routinely investigated (with no autopsies undertaken). Incorrect classifications of the cause of death are also sometimes found, for example because reinvestigation of a death considered to be accidental shows it to be homicide,[1] or due to lack of communication between different agencies and jurisdictions.

Almost half of all physical abuse victims are aged seven years or younger. In England, the largest group of children on the child protection register is 0–4-year-olds, with males and females being almost equally at risk. Babies under one year old are a very vulnerable group with a death rate that is high compared to other age groups. Although there appears to be a clear association between the age of the child and the risk of abuse, the peak rates of physical abuse occur at different ages in different countries. Perhaps this is related to different traditions, standards and parental expectations of child development and behaviour in different cultures – but much more information and investigation is needed.

ABUSE AND THE ABUSER

The reasons for abuse are complex and influenced by a large range of contributory factors, from the personal characteristics of the child and/or perpetrator to their cultural and physical environments and wider community and society.[2] These factors may be compounded by stressful events in life, for example divorce, a family death or unemployment. Poverty plays a key role. There is also a strong link between domestic violence and child abuse, with studies from India,[3] China, Colombia, South Africa, Egypt and Mexico supporting the view that intimate partner violence increases the risk of violence against children in the family. Understanding the reasons for abuse may assist with prevention, intervention, treatment and policy-making.

Some risk and contributory factors for abuse are:

- Disabled children
- Youngest in large family
- Premature babies
- Low birth weight babies (a study looking at abuse in pregnant women and adolescents found that the incidence of low birth weight was higher in those who had been abused)[4]
- Unwanted pregnancy
- Social isolation of families
- Breakdown of family unit
- Parental history of domestic abuse
- Socioeconomic disadvantage
- Poor parenting skills
- Substance abuse
- Young, single parent
- Mental health condition of parent/caregiver
- Refugee or displaced children.

Studies have shown that most children are abused by family members or adults that they know. Reviewing my own cases, most abuse was inflicted by one (or both) of the parents, or by the mother's boyfriend (often not the biological father of the child). Sadly, large numbers of cases of child abuse also occur within institutions or organisations that involve children, such as schools, care homes, religious groups etc. It could be argued that not all abuse is intentional when a parent or carer has mental health or substance abuse issues, or was a victim of abuse and knows no other way to parent, but nevertheless a child is still suffering and intervention is needed.

Case 3

A young mother went shopping one afternoon, leaving her two young children in the care of her boyfriend of six weeks, who was drinking alcohol. On her return, the older child (three years old) was upset and disorientated. The two adults decided on a 'wait and see what happens' approach, and the child was only admitted to hospital when a concerned friend visited and insisted on calling for an ambulance. The child had numerous injuries, including bruises to the head, abdominal injuries and five human biting injuries. Bite mark analysis excluded the mother from having caused the bites but could not exclude the boyfriend, and salivary DNA from one of the bitten sites confirmed him as the biter. He later admitted causing the remaining injuries to the child. By leaving her children in the care of a known drinker and not seeking prompt medical attention, the mother also had questions to answer.

ROLE OF THE DENTAL TEAM

Studies have shown that approximately 60% of abused children have injuries to the head, face (Fig. 2) and mouth.[5,6] As dental team members we have regular contact with children and their families, but ask the following questions:

- Would you or your team members recognise the signs and symptoms of abuse?
- Would you know how best to record any suspicions?
- Would you know what action to take in a case of suspected abuse?
- How safe is your practice for children?

Within the dental community, it is obvious that there are barriers to becoming involved, such as concerns with confidentiality and disclosure, uncertainty about what to do, non-recognition of injuries and the fear of getting it wrong and facing retribution from the families concerned, not to mention fear of getting involved in the social or legal issues. Are we looking for indicators of abuse during a busy surgery and are we reluctant to consider that abuse may be the explanation? At a presentation on this subject that I gave to dentists, albeit some years ago, I was informed by one colleague: 'Oh, but mine is a private orthodontic practice – my patients don't do that sort of thing.' Keep an open eye and mind!

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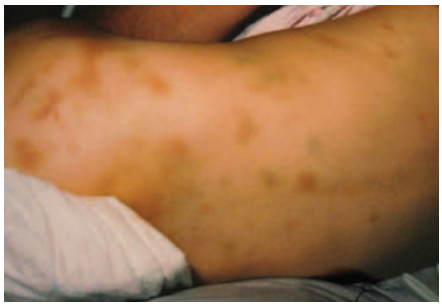

Fig. 3 Multiple bruises of differing ages inflicted on a child aged three years

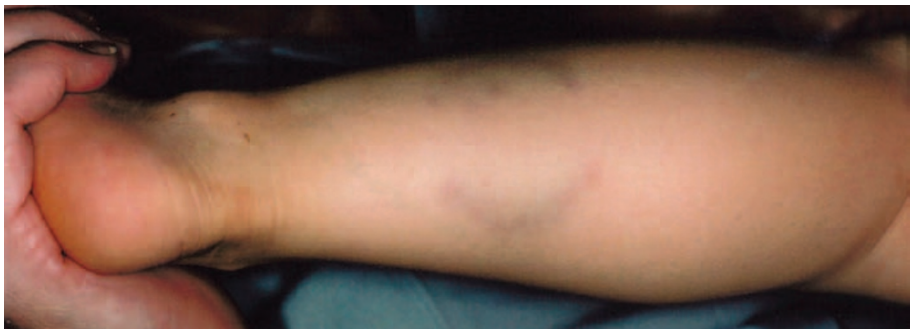

Fig. 4 Bite mark on the leg of a child aged three years

In the United Kingdom (and in many other countries) the reporting of suspicions of child abuse is not mandatory (it is in the United States). However, we have a professional responsibility to act in the best interests of the patient in our care. In the UK, the General Dentil Council's updated *Standards Guidance* booklet states that 'the dental team has an ethical responsibility to find out about and follow local procedures for child protection and to co-operate with other members of the dental team and other healthcare colleagues in the interests of patients.'

Dental professionals are not responsible for making the diagnosis of child abuse or neglect (as this is much more involved than simply the recognition of injuries) but should be observant and share any concerns appropriately. The relevant agencies and medical professionals will then assess the child in the context of medical, family and social history, developmental stage, explanations given, clinical examination, relevant investigations and any other information. There may be justification for the disclosure of confidential patient information without consent if it is in the public interest, or the patient's interest (it may be prudent to get advice from your protection/defence agency).

POSSIBLE GENERAL WARNING SIGNS OF ABUSE

- Injury not consistent with the history/explanation given
- Injury not consistent with the age and stage of development of the child
- Multiple injuries at various stages of healing (Fig. 3)
- Trauma to non-exposed and non-prominent sites of the body
- Evidence of previous bone fractures
- Bilateral bruising (and bruise clusters) not consistent with the history[7]
- Patterned injuries, for example bites, belt marks
- Significant delay in the presentation for care
- Do caregivers interact with the child in an appropriate manner and *vice versa*?
- Untreated illness or injury
- Consistently poor hygiene (unclean body and hair, dirty clothes)
- Disclosure by the child (or someone else).

Most injuries to the mouth and dental structures of children are not a result of abuse but are caused by accident falls, sports, bicycle, skateboard, car bumps etc but it is important that as dental professionals we remain observant and open-minded and carefully consider all injuries.[8,9]

Case 4

A girl of 12 years of age presented with her mother at the dental surgery with pain from an upper central incisor that was fractured at the gingival margin exposing the nerve canal. She also had fractures to the other upper central incisor and lower right central incisor. There was minimal soft tissue damage, except for bruising under her chin and some bleeding of the gingivae. She informed the dentist that she had fallen while chasing her brother. Treatment was completed and some months later police from the child protection team contacted the dentist. The explanation for the injuries had changed: the girl (and her siblings) now said that their step-father had picked her up and thrown her deliberately to the floor.

In cases like this it is not always possible to determine which story is the true one from the dental evidence. It is possible that her teeth crashed together on impact with the floor causing the fractures; the bruising under her chin may support this theory, but the injuries are consistent with both explanations. Other information may shed light on this episode. The forensic odontologist must report on the findings in an impartial manner and not take sides.

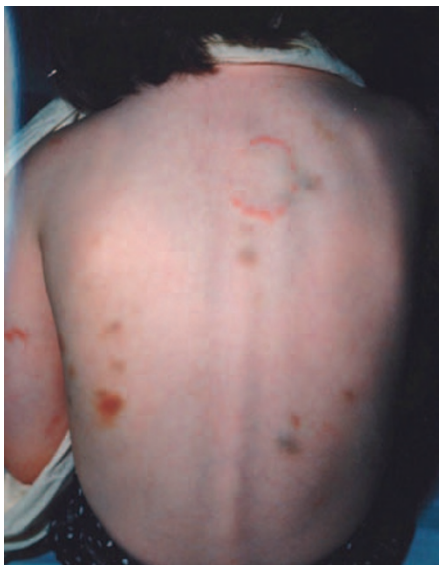

Fig. 5 Multiple injuries and a bite mark (one of four). The child was left with young siblings and a teenage babysitter. The babysitter denied causing the injuries, but confessed when confronted with bite mark evidence. The child also suffered a broken arm and numerous bruises

Oral and dental structure findings that have been noted in child abuse cases (hard and soft tissue)

- Bruising and laceration of lips
- Mucosal bruising/laceration
- Tooth trauma (fractures, intrusion, avulsion of teeth)
- Missing teeth (not explainable by decay or periodontal status)
- Single or multiple apical lesions, or fractured teeth in the absence of decay or unclear history
- Tongue injuries
- Frenal laceration
- Bone fractures to the maxillofacial complex

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- Oropharyngeal bruising/laceration (possibly associated with sexual abuse, or forced feeding or forced insertion of impliments)
- Oral signs of sexually transmitted disease (for example gonorrhoea, condyloma acuminata)
- Oral/intra-oral burns – caused by hot or caustic foods/fluids
- Ignoring needs for medical/dental care following injury.

Nasal fractures, damage to eyes, bruising behind the ears, scalp injury and/or hair loss may have an appropriate explanation, but be observant; these are areas visible to the dental team.[10]

There are well protected areas of the body that are rarely traumatised accidentally such as the ears, neck, abdomen, inner thighs. Beware conditions that can present in a similar way to abuse: birthmarks may look like bruising, unexplained and frequent bone fractures may (occasionally) be due to osteogenesis imperfecta.[11] Evaluate the possibilities and always check the medical history for underlying medical conditions and bleeding disorders. Consider referral to medical colleagues, if uncertain, for further investigation.

Children may present with biting injuries to their faces and elsewhere on the body (Figs 4 and 5) caused by adult dentitions. Such injuries are recognised as non-accidental injuries and require further investigation.[12] The injury should ideally be examined by an appropriately trained and experienced forensic odontologist (working as part of the investigatory team) who will document and photograph the injury and ensure that relevant swabs are taken for DNA analysis. Dental impressions will be needed from any potential suspect(s) with consent. If the dental evidence is of sufficiently good quality to facilitate bite mark analysis, it may be possible to implicate the biter, or exclude the innocent.

THE DENTAL RECORD

Making and keeping accurate and comprehensive dental records is a medico-legal obligation and reflects good practice and patient care. When abuse is suspected it is helpful to record the following if possible:

- Any disclosures of abuse (in child's own words)
- Who has attended with child?
- History and explanation of injury, observations on behaviour of child and carer
- Detailed description of the injuries: location, type of injury (for example bruise/laceration, size, shape, colour, unusual features, tooth fracture etc)
- Photograph with written consent
- Reason for your concerns and your decisions (also referral contacts)
- Consent for disclosure
- Any treatment needed or referral for specialist opinion/treatment.

Any dental treatment for an injury that is in your field of expertise can be undertaken and recorded, otherwise a referral should be made to the appropriate dental/medical specialists. If you consider the child's life to be at risk refer immediately to hospital or the appropriate local authorities. It is a good idea to telephone ahead noting your concern of possible abuse or neglect. Concerns may grow over a period of time and any information noted in your records may be extremely valuable in contributing to the whole picture.

If referral to social services (or other appropriate protection agency) is necessary and consent is an issue, the child's safety is the major concern. Seek advice from a senior or more experienced colleague and remember your dental defence/protection agency will be able to guide you. For more detailed guidance please refer to the reading list at the end of this article.

DENTAL NEGLECT

The American Academy of Paediatric Dentistry defines dental neglect as 'the wilful failure of a parent or guardian to seek and follow through with treatment necessary to ensure a level of oral health essential for adequate function and freedom from pain and infection'.

Lack of knowledge or difficulty understanding or complying with home dental care or dietary needs (by parents or carers) may cause problems for the child that cannot be considered as deliberate neglect. For example, the child presenting with rampant caries may have a parent/caregiver who is unaware that this problem may be associated with poor oral hygiene, sweet diet and drinks. It is the role of the dental team (along with the provision of appropriate treatment) to educate and encourage parents/carers to make the correct choices for their child and understand the benefits of regular dental visits, good oral hygiene, a balanced diet and fluoride toothpastes/varnishes. Keep communications open, and perhaps send a reminder when a child fails to attend for examination or treatment.

Those children who miss appointments, turn up now and then, fail to complete treatment, repeatedly return with pain, and require repeated general anaesthesia for dental extractions are in need of help. The consequences for the child may include disturbed sleep, repeated infections and/or courses of antibiotics, absence from school, difficulty with eating and anxiety about appearance.

All members of society have a shared responsibility to protect children and act when abuse is suspected. As professionals we must work as part of the multidisciplinary teams to ensure child safety and protection.[13] Dental professionals often work in isolation, but concerns about the sharing of information when abuse is suspected, leading to lack of communication, should not be allowed to jeopardise the safety of a child. We need to ensure that our practices/surgeries are safe and provide a caring approach to our small patients. This should include making sure that our team members are safe to be around children, including criminal checks when recruiting new members of staff. Recall events of the summer of 2002 in the UK, when a man convicted of murdering two young female friends had a history of alleged offences against children, but was still working in a school that gave him access to these children.

Ensure that your dental practice/hospital/community setting has up to date policies and training on the prevention of child abuse, training in the recognition of signs of abuse, a step by step plan of actions and contacts should child abuse be suspected, and contact details for resources offering help to struggling parents/carers. The dental team has an important role in child protection and all dental schools have an important role to play in the introduction of this topic to the undergraduate dental student and team members.

CONCLUSION

All types of abuse cause suffering to small and vulnerable children and young adults and it is important that as members of the

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dental team we remain vigilant. Children depend on adults and need to be protected. Early involvement of support agencies and recognition, intervention and education for struggling parents/families may make a difference, but requires funding at both government and local levels; focus is often on the signs, symptoms and consequences and not on the cause. Families and individuals and societies need to understand that violence towards children is not acceptable and is not part of 'normal behaviour' and cannot be hidden as 'discipline' or 'tradition'. It is necessary to promote prevention and elimination of abuse against children, ensure the implementation of robust policies and procedures, and encourage regional and international co-operation. Worldwide change is needed. Now.

This article is just the very small tip of the iceberg and was written from experience gained from my role as a forensic odontologist (and dental practitioner) working as part of the multi-agency teams to assess and investigate child abuse. The emphasis is on the recognition of physical injuries. My aim is to give a basic overview (not all aspects, questions and answers can be given in one article) and inspire readers to take a closer look at their dental surgery policies and to be proactive in protecting vulnerable children (and other groups). If the dental team can help to prevent the suffering of just one child in their careers, then it has been worthwhile – one step towards making the world a safer place.

Recommended reading

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