The benefits of having a dog present during immunisations in a special needs school

Vaccines greatly reduce the burden of disease worldwide, yet they can cause pain, fear and anxiety among those receiving them. This article describes how a school dog improved the immunisation service in a special needs school, by helping students to manage their fears and anxieties.

Immunisation is one of the most important medical procedures to promote health worldwide. Yet it can also be a very painful procedure, which if mismanaged can lead to anxiety, fear, needle phobias and more embedded pain (McMurtry et al, 2015; Taddio, 2015; Vagnoli et al, 2015). Needle pain like all pain is subjective; it is not just about the action of when the needle pierces the skin. Other issues need to be considered, such as environment, whether an explanation was provided, time given to the procedure and how much force was used. These issues influence 'our' physical and emotional experience, which consequently can make it a positive or bad experience, and determines our future thoughts, feelings and perceptions of immunisations.

In addition to the physical pain that immunisations cause to the recipient, there is also the anxiety and stress that immunisations can cause parents. This is particularly pertinent to the measles mumps and rubella (MMR) vaccine and autism debate, which received abundant media coverage between 1998 and 2005.

Despite the link being disproven, with no causal relationship between the MMR vaccinations and autism havng been found, its negative effect has, and continues to raise doubt among parents (Nicholson and Leask, 2012; Bhushan, 2010; Kaufman, 2010). It could be argued that this heightened concern is more prevalent among parents of a child who has a learning disability, as the seeds of doubt have already been sown.

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Bertie (school dog) and Bev Hotson (handler)

Typically a child receives 12–15 immunisations (needle procedures) up to the age of 14 years (Public Health England, 2014). Children with a learning disability are likely to undergo more needle-related interventions over the same time span. Typically, a child who is suspected of having a learning disability will often undergo blood tests to check for abnormalities. Children with physical disability often require Botox injections to target muscles, and may require surgery. Add to the mix a busy hospital environment, tight schedules and the child undergoing these 'routine' needle-related procedures with little or no adequate explanation. This could result in unchecked pain which according to McMurtry et al (2015) can lead to fainting, flailing, running away and often restraint been required to administer the needle related procedure. This causes the young person to become ever more anxious, as the negative cycle increases their pain, fear and anxiety at each subsequent procedure. McMurtry et al (2015) further state that young children tend to not have built up the same internal coping mechanisms, to handle their fears, anxieties and pain in comparison to adults.

Distraction can, however, help to reduce pain and fear, Vagnoli et al (2015) investigated whether the presence of a dog during venepuncture reduced the pain and stress levels in children. This study revealed that there was a reduction in the serum cortisol levels (stress levels in 'fight and flight' response), in the children who had the dog present. This physiological change, in addition to the observational change, and the child's perceived pain levels all revealed that where the dog was present, there was a reduction in the child's stress levels during venepuncture.

The use of animal-assisted therapy is not new, it has been proven to have psychological and social benefits, in addition to reducing anxiety, behaviour incidents and distress in children (Walsh, 2009; Evans et al, 2012; Vagnoli et al, 2015; Viggiano et al, 2015). Therefore, in September 2014 the special needs school in Warwick employed a dog and handler in conjunction with 'Dogs for Good' (a charity exploring ways dogs can help people overcome specific challenges: https://www.dogsforgood.org). Initially the school dog and handler worked within most of the classrooms with the school.

To reduce the risk of infection and contamination due to zoonosis, the school in conjunction with 'Dogs for Good' compiled risk assessments and procedures to minimise cross-contamination. The school dog is regularly checked by a veterinary surgeon, and appropriate preventative treatment given. Students are

Table 1.

	Previous experience reported by families	Time to previous vaccinate student	Following Dog's for Good sessions and support. Time to vaccinate
Pupil A	Aggressive and fearful behaviour	After 1:1 nurse sessions 20–30 minutes	Willingly offered both arms, took less than one minute to be immunised—two injections
Pupil B	Refused flu and other vaccinations. Not able to have any blood tests due to immense fear of needles	Refused any immunisations/ blood tests over last 4–6 years	Willingly offered arm, took a couple of minutes to be immunised—two injections
Pupil C	Numerous medical intervention/injections. Family members hugged the pupil, and blocked from sight of injections. Not had booster at 4 years of age due to heightened stress levels	Unknown	Willing offered arm. Dog performed head rest, pupil gave dog a treat. Took a couple of minutes to be immunised—two injections
Pupil D	Parents reported anxiety of needles	Unknown	Did not attend the immunisation workshop. Willingly offered arm. Took a couple of minutes to be immunised—two injections
Pupil E	Anxious, fearful	Previously had 3 HPV injections, each one taking 20–30 minutes.	Willingly offered arm. Took a couple of minutes to be immunised—two injections
Pupil F	Major surgery 6 months prior. Numerous Botox injections, securely embraced for the last 6 years due to fear of needles	Previously refused to have injection in school	Willingly offered arm. Took a couple of minutes to be immunised—one injection

reminded regularly to wash their hands following any dog interaction. Hand washing facilities and hand sanitiser are available in all classrooms/work areas to reduce the risk of cross-contamination from the school dog.

Programme

In Warwickshire, all routine immunisations are performed by the immunisation team within the child's school. At the special needs school in Warwick, the immunisation process was often problematic, due to the additional complex needs of the pupils. Parents would often alert the schools nurse about their child's anxieties and fear. The school nurse would hold 1:1 sessions with individual students to discuss, and ascertain the reason for the child's anxieties. Social stories explaining what would happen and why the children were having their immunisation(s) would be discussed. These sessions had varied outcomes, they were, however, dependent on the child engaging with the nurse, and communicating his or her anxieties through speech, body language and symbols. Despite the 1:1 therapy work with the school base nurse, the pupil would still be anxious, and the students often required several minutes of coaxing and reassurance prior to them consenting to having their immunisations. This continued until 2015 when the involvement of the school dog transformed the immunisation process.

After the school dog's initial settling in phases, the dog handler started taking referrals from the school staff. In November 2014, the school nurse requested the help of the school dog, and his handler with a student who was fearful of needles. The student in question (pupil F) liked dogs and had a good relationship with the school dog. She had over the preceding 12 years had numerous operations where she had to have peripheral venous catheters inserted, in addition to regular Botox injections to target muscles. Her parents had alerted the school nurse following a declined human papillomavirus (HPV) vaccination that their daughter had a severe needle phobia, due to being restrained for all needle-related procedures over the past 6 years.

The dog handler arranged for the school dog's annual vaccinations to be administered in the school nurses' room. This was to enable the procedure to be filmed. The footage of how brave the school dog was could to be shown to pupil F, several months later when she was to have her immunisations. In the meantime, several parents approached the school nurse with concerns regarding the school leavers vaccine (Diphtheria, Tetanus, Polio and Meningitis C), which involved two injections (one in each arm). Parents spoke of their children's anxiety and fears due to past experiences of being restrained to have bloods taken, and injections administered. Often these procedures would be 'done' to the child as a necessity due to their medical needs, with little or no explanation. The repetition of these injections/blood tests on a regular basis over the years, compounded their child's anxiety and fear of seeing any needle.

The multiple referrals to the dog handler resulted in a selective programme being devised specifically for the small group of anxious and fearful students. One of the students (pupil D), did not attend the workshop due to concerns that the immunisation workshop would increase

his fear, as he anticipated the immunisation.

The five students in the immunisation programme were confident and happy to be in the presence of the school dog, and they were familiar with the school nurse and dog handler. The programme consisted of two 20–30-minute sessions over the preceding weeks. In week one each child was given a small booklet consisting of why injections are important, and paper for them to express their fears and anxieties concerning needles. The nurse and dog handler then helped the children to express, and document what helped them to relax and feel happy. Most of the children were verbal about their worries and asked for assistance from the adults to write down their anxieties and fears. One of the students (pupil C) was non-verbal; he had his head down during the sessions while engaging with the school dog.

The second session was held the day before the immunisation. During this session the dog handler and nurse discussed what would happen on the day by reading and issuing a social story. The main focus of this session was to prepare the pupils for the imminent immunisations; the footage of the school dog being given his injection was shown. Once this had been shown, the pupils were given the opportunity to talk about any fears and anxieties, and what would make them feel better.

On the day of the immunisations, the school dog and handler were located within the nurse's room where the immunisations were being held. Both the school dog and handler were situated at a safe distance, to ensure that if required and if deemed safe the dog could offer the child support (head rest and close presence to the child). After the immunisations all the students, irrespective of them attending the specialist workshop, were given a bravery certificate, and the opportunity to have their photograph taken with the school dog, while holding their newly acquired Bravery certificate.

Table 1 shows how the presence of the dog and handler, improved the outcome of the immunisation session for the six anxious students. In comparison to previous immunisation sessions held within the school.

Discussion

The transformation following the use of the school dog in intervening immunisation sessions has far surpassed all the expectations of the immunisation team, school nurse, dog handler, teaching staff and parents. The results have been remarkable; children who have been previously fearful and exhibited negative behaviour willingly had their immunisations. As indicated in the table, five of the students in the initial group not only had one injection, but had two. From previous contact with some of the children, the immunisation team and the school nurse both noticed a transformation in the students. The results were overwhelming, pupils that previously struggled were more confident, and they have consequently wanted to help other students. From a more practical angle the time taken to immunise the students has also been dramatically reduced, which has in turn helped to reduce the stress levels of those students waiting to be immunised. The whole experience has become less traumatic, and the pupils are more positive when talking to others about their immunisations.

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To support the immunisation sessions and other medical/health issues the school dog handler posts a weekly blog which highlight key issues such as healthy lifestyle, head lice, bullying, hygiene issues and other important issues. There are also various notice boards within the school where key topics are linked to the blogs. These in conjunction with termly competitions all have raised key medical issues, in addition to supporting learning.

Conclusion

The involvement of the school dog, within the school is still in its infancy, as the role of the dog and his handler are constantly being redefined. Over the past year the school dog programme has developed and gathered momentum, transforming the health and wellbeing of the students. **BJSN**

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