

CLINICAL HOLDING

Developing a website to demonstrate clinical holding techniques

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Andrea Page

Associate professor, learning disability and mental health department, Birmingham City University, West Midlands, England

Alison Warren

Clinical matron for children and young people's services, The Royal Orthopaedic Hospital NHS Foundation Trust. She was previously lecturer/practitioner, department for children and young people's health, Birmingham City University/Birmingham Children's Hospital NHS FT, West Midlands, England

Nicola Vanes

Clinical manager and lead nurse, National Institute for Health Research/Wellcome Trust Clinical Research Facility, Birmingham Children's Hospital, West Midlands, England

Correspondence

andrea.page@bcu.ac.uk

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Abstract

Healthcare staff routinely use clinical holding to help infants, children or young people stay still when treatment is being administered, to prevent children or young people from interfering with the treatment, or when invasive examinations are being carried out. However, healthcare staff rarely have any formal discussion with children and young people, or their parents, on the techniques used for clinical holding. Visual tools are important when talking to children or young people about their healthcare, and a website with images of clinical holds would allow staff to discuss relevant holds with their patients. In this article, we describe a collaboration between Birmingham City University and Birmingham Children's Hospital to develop a website that presents 3D images of clinical holds, outlining how we introduced it to staff in the clinical areas that would benefit from it and how we have been evaluating its effectiveness. We hope this website will formalise the professional discussion of clinical hold techniques. This will allow information on the appropriate holds for different situations to be documented, which will enhance best practice. In addition, the website should provide information needed to allow children, young people and their parents to give true, informed consent for any procedures they need.

Keywords

child health, clinical holding, e-learning, paediatric nursing, procedures, website

CLINICAL HOLDING is the proactive immobilisation of a part or all of the body to carry out a procedure safely. For example, holding an arm still for cannulation to prevent reflexion, withdrawal, increased pain, distress or injury. Healthcare staff routinely use clinical holds to help infants, children or young people stay still when treatments are being administered, to prevent children or young people from interfering with the treatment, or when invasive examinations are being carried out (Vannorsdall et al 2004). Children or young people may become stressed during treatments or procedures and may cry, thrash around or hit out at staff. These behaviours can hinder healthcare staff's ability to perform a treatment or procedure safely and can increase experiences of pain and anxiety for the child or young person. Parents are sometimes asked to hold their child and often believe this is because staff do not know what to do and are not sure whether they can legally hold the child (McGrath et al 2002). Clinical holding without a child or parents' consent is a last resort, and not the first line of intervention, and alternative methods including distraction and play should be considered. Sedation, local and sometimes general anaesthesia are also used routinely.

Definitions of clinical holding and restraint

Box 1 describes the differences between clinical holding and restrictive physical intervention. There are several other terms that can be used to describe

the practice of holding children or young people to help them cope with painful or invasive procedures: therapeutic holding (RCN 2010), holding still (Robinson and Collier 1997, RCN 2003, Graham and Hardy 2004), clinical holding (Lambrenos and McArthur 2003), supportive holding (Jeffrey 2008, 2010) and therapeutic restraint (Jeffrey 2002). Some authors still use the term 'restraint' for this practice (Folkes 2005, Pearch 2005), Hull and Clarke 2010, Darby and Cardwell 2011, Brenner et al 2014, Coyne and Scott 2014).

How do nurses learn how to use clinical holds?

Nurses often learn holding techniques from observing others (Figure 1). Many of the techniques used are

BOX 1. Definitions of clinical holding and restraint

Clinical holding

Immobilisation by splinting, or by using limited force. It may be a method of helping children, with their permission, to manage a painful procedure quickly or effectively. Therapeutic holding (clinical holding) is distinguished from restrictive holding by the degree of force required and the intention.

Restrictive physical intervention (restraint)

Direct physical contact between persons where reasonable force is positively applied against resistance to either restrict movement or mobility or to disengage from harmful behaviour displayed by the individual.

Online

For related articles visit the archive and search using the keywords. Guidelines on writing for publication are available at: journals.rcni.com/r/author-guidelines

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not robust and there is no documentation to indicate whether the techniques are safe for use by trained or untrained professionals (Page and McDonnell 2013, Page and McDonnell 2015, Page 2015). To comply with best practice, parents and carers should be engaged in the holding process and give consent for the technique used. Planning and discussing the clinical hold can also reduce the anxiety of the child or young person and their parents.

Aim of the project

It is difficult to engage children or young people in discussions about their healthcare without visual tools (Ruberg et al 2015), and discussions with children or young people about clinical holds are difficult without

such tools. In addition, a transparent method was needed to formalise clinical hold techniques to allow professional discussion and documentation and so enhance best practice.

In a collaboration between Birmingham City University and Birmingham Children's Hospital, we developed a website that provides three-dimensional (3D) images of various clinical hold techniques for healthcare staff, children, young people and their parents. This article documents the development process and the rationale to support this collaborative work (Box 2).

Deciding which clinical holds should be on the website

To help us define which clinical holds should feature on the website, we involved nurses, radiographers, phlebotomists, play specialists, dental nurses, neurophysiologists and other medical staff. The group were asked about which clinical holding techniques they used in their work with infants, children and young people, and 28 different techniques were identified. We assessed each of these techniques for their physical safety, psychological safety, trainability, technical robustness effectiveness and social validity, and the risk factors involved for the infant, child or young person (Page 2015). The discussions on the representation of these holds led to the idea of creating a website containing 3D images representing each hold. Three-dimensional images would provide a visual tool to enable engagement with children and young people, and would also allow this information to be interactive. We applied for funding from Birmingham City University using Education Commissioning for Quality funds to create these images.

BOX 2. Birmingham Children's Hospital/ Birmingham City University partnership timeline

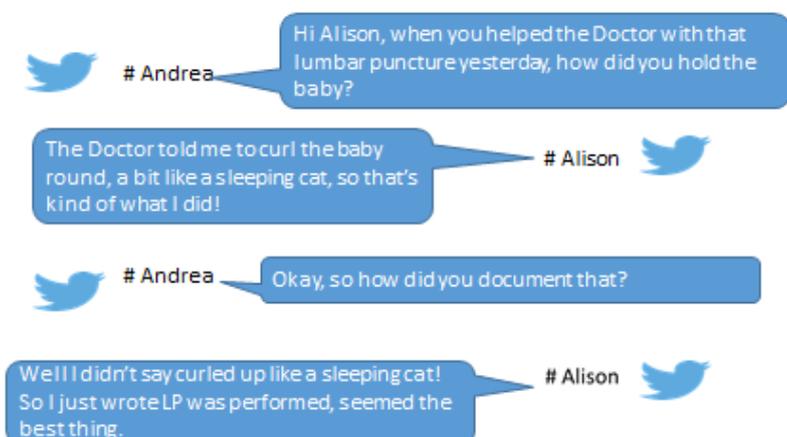
2011 Pilot study completed as part of PhD research question: 'What are the assumptions and practices made by healthcare professionals in relation to clinical holding?' This study was a service evaluation to identify policy and procedural factors on clinical holding at Birmingham Children's Hospital.
2011-12 Summary presented to the management board. An action plan was implemented.
2012 Funding applied for from Birmingham City University to develop a clinical holding website.
2012-13 Creation of 3D images and supporting literature. All clinical holds were risk assessed using adapted risk assessment tool. Creation and introduction of a Moodle learning platform for Birmingham Children's Hospital staff which hosted the clinical holding website. Development of clinical guidelines and an algorithm to assist with clinical decision making was also included.
2015 Moodle package and website was launched at Birmingham Children's Hospital (part of essential learning for clinical staff).

Creating the 3D images and developing the website

The use of 3D images enables the user to rotate the images to clearly identify the correct locations on the child or young person's body to enact the holds. The basis of the 3D images are 2D photographs. We worked with a freelance 3D artist who used 393 photographs to generate the 3D representations of the 28 holding techniques. We used manikins of a child and a young person to create these images. Consent had previously been sought and obtained from the child, young person and the parents. The artist also helped us develop the website. We adapted the tool produced by Martin et al (2008), for use in learning disability services, to assess risk for the clinical holding techniques shown on the website (Page 2015).

The website now hosts a library of these clinical holds. The holds are described in several different languages, representing the most common languages spoken in Birmingham. However, funding restrictions did limit the number of languages included, as well as the number of techniques described.

Figure 1. How did you hold the baby before the website?



Educating healthcare staff on clinical holds and the risks involved

It is crucial that healthcare staff are aware of, and can assess the risks associated with holding children. ‘Unless the child’s life is at stake, healthcare providers encountering resistance from children against a procedure must first consider all possible alternatives and then opt for the most appropriate care for the case’ (Leroy and ten Hoopen 2012). Clinical holding techniques have been considered controversial and a taboo area (Page 2015), with many nurses and healthcare staff not being able to access specific training (RCN 2010). There is a lack of comparability and a lack of completeness in data on clinical holding (Page and McDonnell 2013), which has led to a variance in experiences and practices (Page and McDonnell 2015). There is a theory of a practice gap with healthcare staff not having the right skills to hold children and a deficit of nurse lecturers and clinical mentors who have been taught clinical holding skills themselves (Page and McDonnell 2015). Staff need educating on best practice guidelines and algorithms for clinical holds to make the decisions that enable them to implement the most suitable hold (Lloyd et al 2008). Therefore, we developed additional educational resources to give staff the latest information on clinical hold techniques (Figure 2),

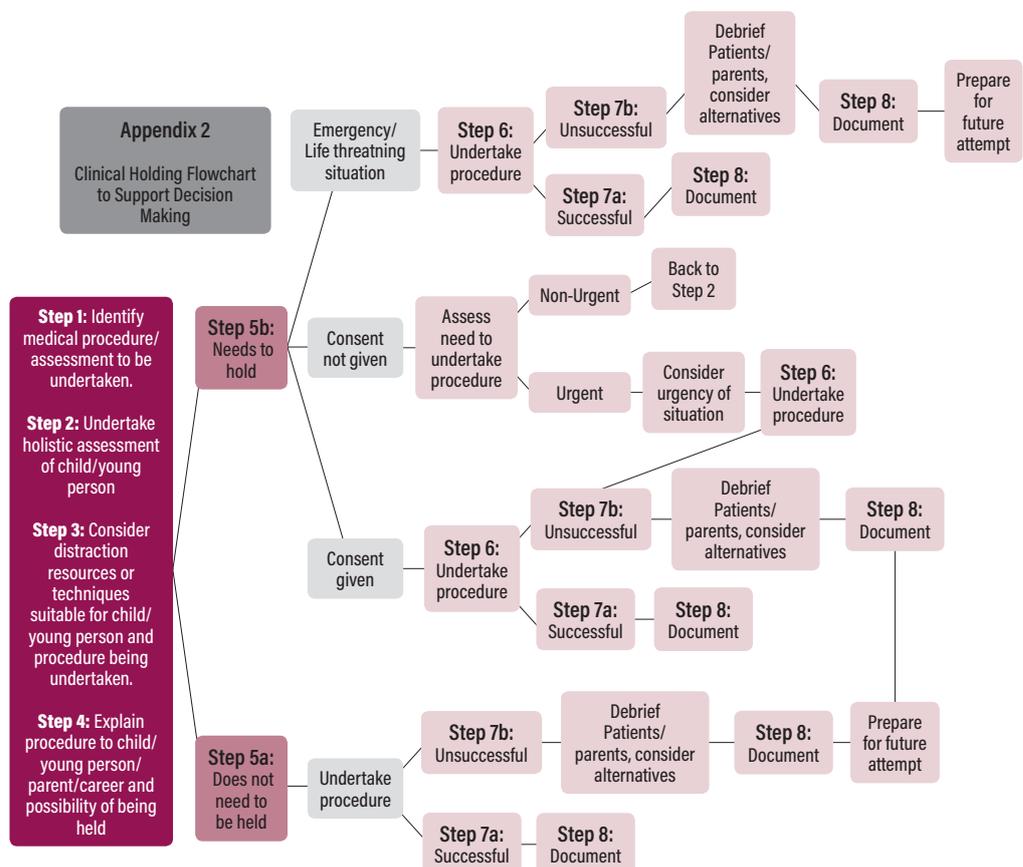
which we believe will empower healthcare staff to make decisions about clinical holding.

E-learning is an established resource in healthcare for disseminating knowledge and can also be used to test user engagement and core knowledge. Birmingham Children’s Hospital uses the e-learning platform Moodle for role essential and mandatory training packages. We placed the clinical holding website on Moodle and developed a quiz to test the knowledge of staff who access the website. The quiz has an 80% pass rate and links directly to Electronic Staff Record training records. Staff are required to revisit the Moodle package twice a year to ensure their skills are up to date. After accessing the clinical holds website, staff are requested to leave feedback to allow us to evaluate their engagement with the website (Figure 3) (Box 3).

Conclusion

There is significant evidence of clinical risk due to poor dissemination of holding techniques used. Moreover, there is indication of little parity in clinical areas to support the holds being used. There is evidence of clinical risk due to poor dissemination of holding techniques used and different clinical disciplines often use different holds. To allow the recommendation of best practice for clinical holds,

Figure 2. Clinical holding algorithm to support decision making



we have developed a robust website (comslive.health.bcu.ac.uk/hold-selector-tool.php?scene=10) that is transferable to all children's healthcare providers.

There are a number of additional holds that could be added to the website, but we would need additional funding for this. Additionally, we know that the website would be more accessible if a smartphone app was developed. We welcome discussions with other NHS trusts on developing an e-learning package to host the website.

Any service provider is welcome to review the resource; this can be done by navigating to the Disclaimer for Users page. We are grateful for any feedback. In addition, if the website is being used in your organisation, user evaluation would be welcome. If organisations wish to develop a work-based

resource similar to the BCH Moodle package, please contact the authors (Figure 4).

Implications for practice

- » Clinical holds are routinely used by healthcare staff on infants, children or young people having treatments or procedures.
- » Clinical holds are often learned from observing others.
- » Some clinical holds may not be safe for use even by trained professionals.
- » Our website has 3D representations of clinical holds with information on which hold is appropriate for which procedure.
- » The website is available in several languages for all staff, children and young people and parents involved in the treatment or procedure.

BOX 3. Feedback from 10 healthcare staff from Birmingham Children's Hospital who gave their views on the website to Andrea Page and Alison Warren during October 2016

Did you find the Evidence Based Holding of Children for Clinical Procedures website helpful? Yes (100%)
 What clinical holds did you use? Variety
 Were they successful in helping you with the procedure? Yes (98%)
 Did you discuss the clinical hold with a parent/carer/the child using this website? No (100%)
 Did you discuss the clinical hold with a parent/carer/the child without the use of the website? Yes (100%)
 Have you used any of the language facilities? No (100%)
 Did you look at the 'Further information for Healthcare staff'? No (100%)
 How would you rate this website, with excellent as 10 and poor as 0? 9/10 (90%)

Figure 3. Clinical holding website

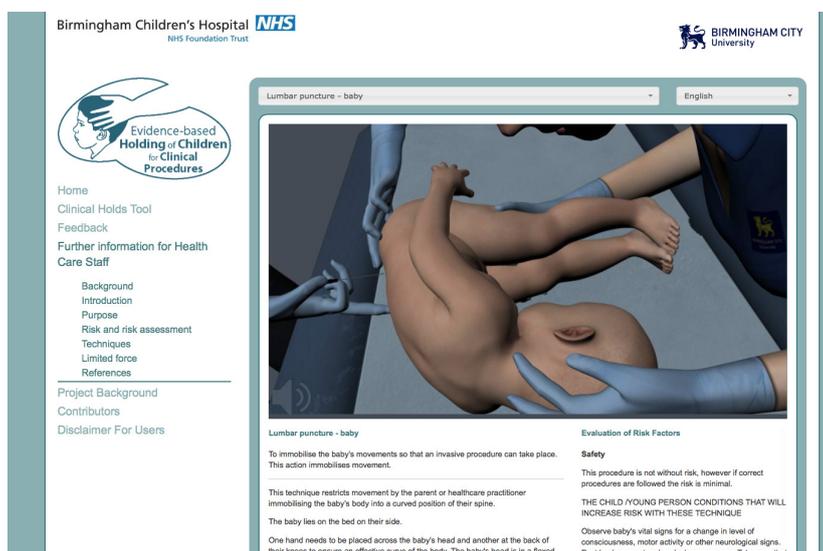
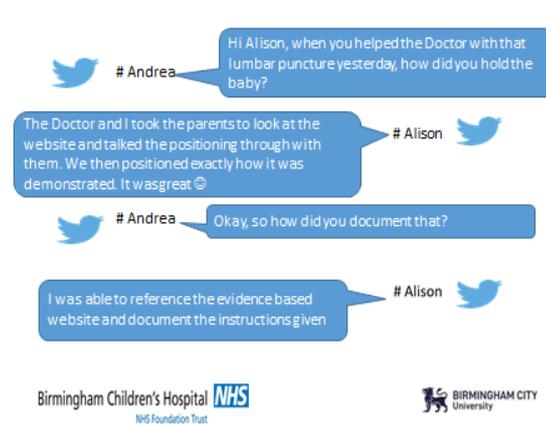


Figure 4. Reflections on holding the baby using the website



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