junior to senior, and took turns directing the care of the patient sequentially. Slides showed clinical images such as bedside monitoring, blood gases and laboratory blood results. The scenario was proactively facilitated by the host as the clinical reasoning and management became more complex.

Results Overall, virtual simulation was very well received in a time when learning has become much more accessible but also more didactic. Our feedback questionnaire from 12 remote learners showed they both enjoyed and engaged with the scenarios, and particular highlights included capturing the sense and pressure of an emergency in methods 1 and 3, passing team leadership on as a baton in method 3, but also the anonymity and group interactivity of method 2. All scenarios benefitted from debrief in the traditional manner.

Conclusions We believe that virtual simulation has a role in the current healthcare environment, and is both possible and educationally valuable, with many different strengths that can be combined for a blended learning environment.

British Society of Paediatric Endocrinology and Diabetes

677 CUTANEOUS REACTIONS TO GLUCOSE SENSORS: A STICKY PROBLEM

Julie Smith, Tanya Bleiker, Isha Narang. *Derbyshire Children's Hospital*

10.1136/archdischild-2021-rcpch.137

Background Glucose sensors (GS) are increasingly used in children and young people (CYP) with Type 1 diabetes. Improved outcome has been associated with their use. However since their introduction, cutaneous reactions have been reported. Both irritant and allergic contact dermatitis (ACD) can be caused by constituents of these devices. Manufacturers are not under any legal obligation to disclose the constituents of the sensor. This makes identification of the allergen by patch test challenging and selection of an alternative device difficult.

Since the introduction of these devices in our paediatric diabetes service, we have seen an increasing number of these reactions. All cases are reported to Medicines and Health Regulatory Agency (MHRA) and referred to the Paediatric dermatologist. The relevant manufacturer is contacted to seek details of the constituents. This information has not been forthcoming.

Objectives The purpose of this study was to review our local experience of contact dermatitis and determine if our experience was reflected nationally and whether all teams were reporting cases to the MHRA and referring to dermatologists for investigation.

Methods We reviewed all cases in our service to determine incidence with each device and the results of patch testing if done. In June 2020, we carried out a survey to paediatric diabetes and dermatology teams in England to determine the number of cases of contact dermatitis seen, the devices involved and whether MHRA reporting and referral to dermatology for investigation was routine practice.

Results By 2019, in our service, 12.5% of Dexcom G5 users had experienced a skin reaction, 0% of Dexcom G6, 30% of Medtronic and 3.5% of Free Style Libre (FSL). Since 2019, the FSL formulation has been IBOA free and we have seen no further reactions. Dexcom G6 had a new formulation in

2019 which is IBOA free. Since 2020, we have noticed reactions in 6/55 (10.9%) of our patients. Dexcom has not disclosed the potential allergens in this new formulation, hindering further investigation.

From the national survey, we received responses from 61 out of 173 teams giving data on 10487 CYP. GS were used in 61%(6419). 5% (320) had developed a skin reaction likely to be contact dermatitis. The GS implicated were Dexcom G6 (5% of its users), G5 (7.4%), Medtronic Enlite Sensor(15%), Medtronic Guardian Sensor 3(8.8%),and Freestyle libre (3.7%). Only 5 teams had reported the reaction to MHRA via the Yellow Alert scheme and only 6 teams had referred to dermatology for further investigation and management.

Conclusions Our survey confirmed the problem is widespread, with under reporting of these cases in England to the MHRA. Dermatology referral is often not sought. It is essential that all cases are reported to raise awareness of this problem which is impacting the care of children with Type 1 diabetes. Working closely with dermatology team can help to find ways to manage these patients. Manufacturers must be more transparent in their labelling and modify their formulation if an increased rate of reaction occurs.

British Academy of Childhood Disability

678 BODY SHAPES DON'T DEFINE A PATIENT, SO WHY DOES IT AFFECT BASIC LIFE SUPPORT? AN IN-SITU SIMULATION SCENARIO ON CHOKING FOR A CHILD WITH AN ALTERED BODY SHAPE

Lucine Nahabedian, Annabel Copeman. *Royal Wolverhampton NHS Trust*

10.1136/archdischild-2021-rcpch.138

Background A recent article published in *Nursing Children and Young People* outlined how basic life support needs to be adapted for children with altered body shapes (Thomas, 2020). Paediatric basic life support (BLS) courses do not include information on how algorithms, such as choking or chest compressions, can be amended for patients with anatomical deformities to ensure that high quality basic life support can still be delivered.

Objectives The main focus of this simulation was to understand that children with altered body shapes and complex medical needs may not tolerate standard back blows or abdominal thrusts, and how to amend both of these techniques in such instances.

Methods We developed an in situ simulation case, whereby a 10 year old child with spastic quadriplegia and scoliosis presents in our paediatric assessment unit with respiratory distress. As the medical team begin to assess the patient, he vomits and then starts choking. Candidates are expected to recruit help by pulling the bedside alarm, and then begin using the choking algorithm to attempt to dislodge the obstruction.

We used a Diamond Debrief model to debrief candidates and used written feedback, in the form of free text responses and rating scales, to ascertain if the candidates found the session beneficial to their learning.

Results There were 7 candidates ranging from a trainee nurse practitioner, junior doctors in training and clinical fellows. The average confidence in dealing with this scenario increased from 2.5 to 4.2 (whereby 1 denotes very low confidence and 5 represents very high confidence). Every candidate

commented that the scenario had helped them to understand how to amend the BLS algorithms in view of altered body shapes.

Conclusions This in situ simulation highlights the importance of addressing how techniques and guidance delivered in BLS courses has to be tailored to the child or young person, and yet, is not necessarily discussed in clinical areas. The impact of this scenario demonstrates the power of using in situ simulation to address gaps in collective team knowledge and experiences, and how guidance needs to be written to be inclusive and to maintain quality of care for all patients who use our services.

We aim to run this and similar simulation scenarios involving children with altered body shapes in order to constantly develop the multidisciplinary team skills.

Quality Improvement and Patient Safety

679

'BUT HOW DO WE DO THAT? WHAT DO WE NEED?' USING MULTIDISCIPLINARY SIMULATION TO LEARN HOW TO SAFELY FACILITATE RADIOLOGICAL IMAGING FOR VENTILATED NEONATES

¹Lucine Nahabedian, ¹Annabel Copeman, ²Rob Negrine. ¹Royal Wolverhampton NHS Trust; ²Birmingham Women and Children's NHS Foundation Trust

10.1136/archdischild-2021-rcpch.139

Background Prior to 2019, magnetic resonance imaging (MRI) for ventilated neonates was not undertaken at our trust. Instead, a dedicated neonatal transport team would transfer the patient to the tertiary centre for imaging and then repatriate the patient. Due to the intensity of resources required for this 40 minute procedure, it was proposed that the teams and facilities at our trust should facilitate this instead. Training on using the transport incubator is provided at induction and team members are designated on the day to assist. Previously, the procedure has taken over 4 hours to complete.

Methods A multi-professional, inter-specialty in-situ simulation was delivered whereby a ventilated neonate was transported from the neonatal unit to MRI. The neonatal and radiology team were briefed and were asked to stay in their normal roles. Once the scenario was completed, the team were debriefed using a diamond debrief model and written feedback was requested to obtain qualitative and quantitative responses.

Results There were 6 candidates from the neonatal and radiology department. Reflective comments were overwhelmingly positive, with candidates explaining how the simulation helped to understand each other's roles or 'the strengths and failings in our common knowledge'. Candidates commented how this simulation had improved their confidence, with the average confidence score in managing this scenario increasing from 3.33 (where 1 is very low confidence to 5 as very high confidence) to 4.5. Two candidates suggested that equipment stocks needed to be re-evaluated e.g. MRI compatible ventilators and two others suggested formalising the process into a checklist or protocol and then running the scenario again.

Conclusions This simulation demonstrated why simulation based education is key to identifying latent threats and knowledge gaps due to systemic flaws. Since conducting this simulation, several changes have been made to the process in line with the candidates feedback. From a neonatal perspective, a

checklist is being ratified as well as a laminated instruction card on how to set up the transport incubator. The MRI team collated key action points and have circulated them to those working with paediatric patients. Overall, the simulation has established a better communication channel for both teams to liaise with each other to improve the patient experience and safety. We aim to run this scenario again when all these interventions have been approved for use.

Association of Paediatric Palliative Medicine

681

BEYOND THE DRUGS – PARENTAL PERSPECTIVES ON MANAGING MULTIFACTORIAL PAIN IN PAEDIATRIC PALLIATIVE CARE

Caroline Sprinz, Charlotte Holland, Emily Harrop. *Helen and Douglas House*

10.1136/archdischild-2021-rcpch.140

Background Management of pain in Paediatric Palliative Care can be complex and challenging, and for some children, a single pharmacological agent is not enough. This may be due to the coexistence of several types of pain; difficulty tolerating medications; difficulty describing the pain; and emotional or behavioural overlay. Managing these symptoms is challenging for the child, their carers, and healthcare professionals alike.

Objectives

- To explore the parental experience of multifactorial pain in children with palliative care needs.
- To identify effective communication techniques with children with multifactorial pain, and their parents.
- To review the management of multifactorial pain, both pharmacological and non-pharmacological.

Methods A case-series of children (3 girls, age-range 2–8 years) known to the children's hospice, with complex multifactorial pain were identified. Through an 8 item qualitative questionnaire allowing free-text entry, patient and family experience of pain, coping strategies, and communication techniques were explored. For each case, pharmacological and non-pharmacological methods of pain control were explored. A general inductive approach was used for thematic analysis.

Results

Themes identified were:

Honesty between children, parents and healthcare professionals. One child was very anxious about leaving her mother when she died. Her mother said '*she keeps telling me that she doesn't want to leave me, but we are not religious and I'm not sure what to say*'. Age-appropriate communication about the end of life helped to reduce her agitation.

Listen to parents about signs of pain. **Believe** parents if they say their child is in pain: '*Even if you don't see the pain, don't discount it.*' Being made to feel like they are 'making up' pain, is frustrating and demoralising. One parent was told – '*this type of tumour isn't painful*'.

Being able to respond to breakthrough pain is **empowering** for parents. So is **advocating** for their child: '*Whilst I have no control over the fact that she will die from this in the near future, I can advocate for her to be as comfortable as possible, with as little pain and as little emotional distress as possible.*'

The value of **distraction**, but also the awareness that this may be challenging to provide at home. Limiting sensory