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25 April 2016

Dear Mr Harris

**Christ Morrison (Deceased)
Response to Regulation 28 Report to Prevent Future Deaths**

This letter comprises the formal response of Epsom and St. Helier University Hospitals NHS Trust ("the Trust") to the issues raised in the Regulation 28 Report to Prevent Future Deaths, dated 2 March 2016 ("the Report"), made subsequent to the inquest into the death of Christ Morrison, which adjourned part-heard for further evidence on 25 August 2015 and subsequently the inquest took place on 19 February 2016. The Trust would like to again express our deepest sympathy and condolences towards the family.

Background

Christ Morrison was a nine year old child who suffered a cardiac arrest following an elective tracheostomy change at home on 10 September 2014 at 18:00. Basic life support was commenced at home and emergency services were contacted. Resuscitation continued during transfer and following arrival at St Helier A&E Department until a perfusing rhythm was established at 18:41. Christ was transferred to Evelina Hospital Paediatric Intensive Care Unit ("PICU") at 22:30 on 10 September 2014.

Christ Morrison was subsequently weaned of the ventilator and transferred to Shooting Star Hospice. He suffered a second cardiac arrest and was transferred to Evelina PICU where he died on 17 October 2014.

A narrative conclusion was delivered at the inquest as follows:

"Baby Christ Morrison was born at 24 weeks gestation by fast spontaneous delivery on 20 May 2005. He was initially thought to be stillborn, and therefore was not attended by staff, but was later found to have a pulse and chest movements and was resuscitated and taken to ITU. He was disabled by degree of brain injury. His first capillary gas and his response to resuscitation made it unlikely that the period of non-attendance contributed to his brain injury. Without placental pathology it is not possible to know whether his mother's bleeding was an abruptio placenta, but it is possible that this contributed to his brain injury. The principal cause was extreme prematurity, which caused some chronic lung disease and the need for tracheostomy. He developed subglottic stenosis, some months later, which was not

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congenital, but caused by prolong tracheostomy intubation. He had some tracheal reconstruction surgery. The tube was changed uneventfully on many occasions, but at about 5pm on 10 September 2014, the tube was removed by a nurse, accompanied by his guardian, and he became agitated. Attempts to replace the tube failed and emergency services were called. Despite basic life support from the nurse and advance life support from the ambulance crews, and transfer to a specialist centre, he did not regain consciousness and died at 07:00 hours on 17 October 2014 at St Thomas Hospital."

The Trust involvement in the inquest stemmed from the fact that the nurse changing the tube on 10 September 2014 was a community nurse at the Trust. The Trust was not deemed to be an interested party at the inquest.

The Trust's Response

The Report raises the following concerns:

1. The level of training which is necessary for staff changing the tracheostomy tubes of children at home;
2. Emergency Tracheostomy;
3. Trust Policy - Failure to re-intubate.

First Concern – Level of Training

The first Concern is set out in the Report as follows:

"It is not clear what level of training was necessary for the staff changing tracheostomy tubes of children at home. The mother was very concerned that this should be performed by a nurse without medical presence."

Trust response:

There is no national requirement for tracheostomy tube changes to be performed by either community paediatric nurses or members of the medical team. Many families choose to carry out the routine tube changes at home on discharge from the specialist centres without assistance from Community Children's Care Nurses ("CCN's"). This is accepted nationwide practice. Children & Young People ("CYP") with tracheostomies are only discharged home from their specialist centre or secondary centre once the following safeguards are in place.

The child's parents, or two main carers, must be taught and be deemed as competent in the following¹:

- Tracheostomy tube changes (minimum of two each)
- Tracheostomy tape changes
- Stoma care
- Suctioning
- Resuscitation skills/ emergency care
- Carer must stay and do at least two overnight stays with their child and carry out all care overnight
- Feel confident in themselves taking the child out of the hospital

¹ <http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/tracheostomy-care-and-management-review#Carer>
Competency Guide and Discharge Planning

- They must be given the appropriate tracheostomy and resuscitation booklets.

For all planned tube changes there must now be two competent carers present.

At the time of the incident it was practice that a nurse would support a parent / carer with planned tube changes if requested (for example if they are a single parent or carer). This is to ensure there are two competent people performing the task. Following this incident, where families wish to have support for tube changes from the community team, then two nurses are to attend to provide support for both parties. The Trust current policy, *Trust Paediatric Tracheostomy Policy 2016 (ESH/POL/22715)* ("the Trust Policy 2016") now reflects this.

The Level of training for staff carrying out or assisting a parent with routine tube changes would be as above for the parents/carers with the addition of:

- Annual Paediatric Intermediate Life Support training, inclusive of resuscitation of CYP with a tracheostomy. This is now mandatory for all community staff.
- Completed competencies
- Yearly tracheostomy training update with simulation practice

The Trust Paediatric Tracheostomy Policy 2016 (ESH/POL/22715) at Section 5 page 4 details the training staff receive in relation to caring for children with a tracheostomy.²

Families are also offered the opportunity to have routine tube changes carried out in the clinical setting / hospital where medical staff are available. This option is sometimes a mandatory arrangement in the event of a child with known difficulty or high risk of complications at tube changes. With regard to medical presence at home, this is not practical due to the availability of the medical team to carry out home visits and also that carers must feel confident in performing emergency tube changes at home /school when there are no professional available.

There is a National Tracheostomy Safety Project (NTSP 2014) led by ██████████ in Manchester. This paediatric working party is currently working on producing a national guideline for training of nursing staff. Currently, there are no formally accepted national standards in the United Kingdom for paediatric tracheostomy management. Tracheostomy management has been the focus of a number of reviews in the UK over the last decade; however, paediatric patients have thus far been excluded from the analysis. The group has extensively tested algorithms based on the approach to adult emergencies, but adapted for children. The revised versions have been trialled with medical, nursing, allied health staff and carers using medical simulation and have been presented at relevant national meetings. The draft algorithms have been reviewed by a number of key stakeholder Colleges and professional groups involved in paediatric tracheostomy care and are currently available for peer review via their website (GOSH 2106). The NTSP is awaiting final sign off from the resuscitation council and the algorithms will be included in the Advanced Paediatric Life Support Manual (2016). The Trust has referenced these algorithms within the Trust policies.

²All nurses/carers, medical staff (paediatricians and anaesthetists) who are caring for children with a tracheostomy will receive training which should include: the indications for a tracheostomy; the principles of caring for a child with a tracheostomy; the associated risks and potential complications. They must be competent in the use of all equipment, cuff pressure monitoring, appropriate resuscitation for a child with a tracheostomy (PILS or equivalent) and the importance of infection control procedures. This training should be updated annually and records kept.

The practitioner will understand and be competent in the basic principles of suctioning, stoma care, changing tracheostomy tapes and the tracheostomy tube.

Training can be accessed through the Practice Development team, community nurses and other qualified staff who are proficient in paediatric tracheostomy management and have completed competency skills in tracheostomy care.

Airway management training is received yearly through Paediatric Immediate Life Support training and this should include management of an obstructed or displaced tracheostomy tube.

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Second Concern – Emergency Tracheostomy

The second Concern is set out in the Report as follows:

“...in the event of failure to replace tube, the health care professional should be skilled and equipped to perform a new emergency tracheostomy. This was not the position in this case.”

Trust response:

Emergency tracheostomy, even performed by two competent, skilled, specialist surgeons, in ideal operating theatre facilities with all the relevant lighting, instruments and anaesthetic support is a high-risk, invasive procedure with an associated mortality, 2-3 times higher in children than adults. (Alladi A, Rao S, et al 2004).

To attempt such a procedure with none of the above in the community setting could be considered as reckless.

The added risks of trying to re-open a previously established tracheotomy include the difficulties of scar tissue, distorted anatomy, causing a pneumothorax and damage to major blood vessels, in particular, the brachiocephalic artery, the last of which could result in immediate, fatal haemorrhage.

Cricothyroidotomy is not an appropriate or effective intervention when the airway obstruction is distal to the cricothyroid membrane, i.e. in the trachea at or below the level of the tracheostomy as in the situation of Christ, with a failed tracheostomy airway.

Section 15.1 of the Nursing and Midwifery Code (Professional standards of practice and behaviour for nurses and midwives 2015 p.12.) states “if an emergency arises in your practice setting or anywhere else, only act in an emergency within the limits of your knowledge and competence”

Surgical intervention in an emergency would not be within the knowledge or competency of a registered children’s nurse.

In view of this, the Trust does not consider it would be appropriate for nurses to be trained to perform a new emergency tracheostomy. The Trust notes this is also in line with policies at other Trusts.

Third Concern – Trust Policy

The third Concern is set out in the Report as follows:

“Whilst processes for changing tubes has changed since this inquest, with two staff at a minimum being required to be present, the court was informed Epsom and St Helier Paediatric Tracheostomy Policy complied with processes in other Trusts. But it makes clear that failure to reintubate requires emergency transfer to A&E rather than emergency tracheostomy and does not require a medical presence.”

Trusts response:

The Trust Policy (2015) (copy enclosed) states that if a tube were to become accidentally decannulated, displaced or blocked that the child must be taken to the Emergency Department and discussion had with the tertiary centre.³

³ Page 10, Trust Paediatric Tracheostomy Policy 2015

However, as a result of the inquest and the Report, the Trust has reviewed its procedures within the policy and has strengthened this section which now signposts staff further to follow the NTSP (2014) algorithm for Emergency Paediatric Tracheotomy Management (copy enclosed). This is now clearer in the body of the policy.⁴

This algorithm supports the emergency management of the incident in the community.

The policy states that following any emergency / life threatening event the child must be reviewed in the Emergency Department.

Further Comments

We refer to part 6 of the report as follows:

"It is clear that there is some risk of death from routine domiciliary tracheostomy changes, but less clear whether ensuring a higher level of skill or different professional will reduce that risk. Nor is it clear whether other associated benefits of not having to attend hospital outweigh the presumed reduction in risk to lives of having the tube changed where emergency medical resuscitation was available."

The Trust responds as follows:

- Children with tracheostomies cared for at home demonstrate more rapid improvements, developmentally and socially than those kept in hospital for a prolonged length of time.
- More children with chronic medical conditions are surviving, largely due to advances in tracheostomy care and technology support. The vast majority of these children are now being cared for in their own homes and at school.
- Currently, there are no formally accepted national standards in the United Kingdom (UK) for paediatric tracheostomy management. Tracheostomy management has been the focus of a number of reviews in the UK over the last decade; however, paediatric patients have thus far been excluded from the analysis. The NTSP (2014) algorithms are in use in draft form but still awaiting formal ratification by the Resuscitation Committee.

Conclusion

As a result of the inquest and the Report, the Trust has reviewed its procedures and in light of this review, the Trust has

1. Reviewed the Trust 2015 Tracheostomy Policy to give clearer sign posting to national guidelines within the body of the policy (enclosed updated 2016).
2. Submitted the updated 2016 policy in full to The Royal College of Child Health and The Paediatric Intensive Care Society for review to ensure this remains within national guidance.
3. Continued with our annual training programme for all staff involved in tracheostomy care, PILS and Tracheostomy Competency. This includes advanced primary oxygenation as outlined in NTSP 2014 algorithm.
4. Continued to work with tertiary providers to ensure families and carers receive emergency tracheostomy management training and simulation.

I hope that this letter is of assistance.

⁴ Section 11, Page 11 Trust Paediatric Tracheostomy Policy 2016 (ESH/POL/22715)

Yours sincerely,



██████████
Medical Director
Epsom and St. Helier University Hospitals NHS Trust

Encs:
Trust Paediatric Tracheostomy Policy 2015
Trust Paediatric Tracheostomy Policy 2016
NTSP Algorithm 2015

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