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REDUCING THE RISK OF MEDICATION ERROR DURING MODERATE SEDATION USING KETAMINE AMONG PEDIATRIC ONCOLOGY PATIENTS

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Introduction

In KKH, IV Ketamine is the most frequently used drug to induce moderate sedation during invasive procedures in the paediatric population. A new guideline was published in late 2015 to enhance patient safety during moderation sedation. It stated the need to prepare at least two doses of IV Ketamine further diluted to 10ml with normal saline (NS). With the new recommendation, when administrating medication via the central venous catheter (CVC), there were multiple identical filled 10ml syringes in the sterile field. These included two IV Ketamine syringes diluted in NS and two additional NS syringes used to access the CVC. The nursing team identified this as a high risk for medication error as the syringes might be mixed up during medication administration.

Objectives

- The IV Ketamine and NS filled syringes are easily identified.
- To reduce the risk of medication error during moderate sedation using IV Ketamine among paediatric oncology patients.
- To aim for zero harm for patients undergoing IV Ketamine sedation via CVC.
- To increase the confidence of the medical and nursing team when performing and assisting IV Ketamine sedation via CVC.

Feedback

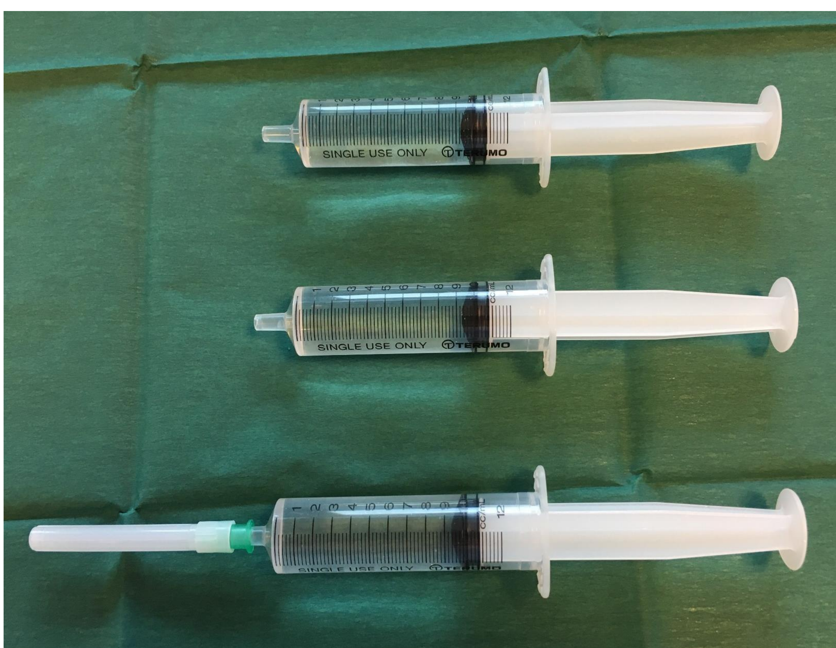
Evaluation of the new workflow was done and the team gave these feedback:

- They felt the sterile label and marker was a simple solution to implement.
- They could identify the syringes easily.
- Any potential risk of medication error arising from mixed up syringes during the IV Ketamine administration was mitigated.
- They felt more at ease while performing the moderate sedation procedure in the ward.
- They felt that zero harm for patients undergoing IV Ketamine sedation via CVC was achievable.

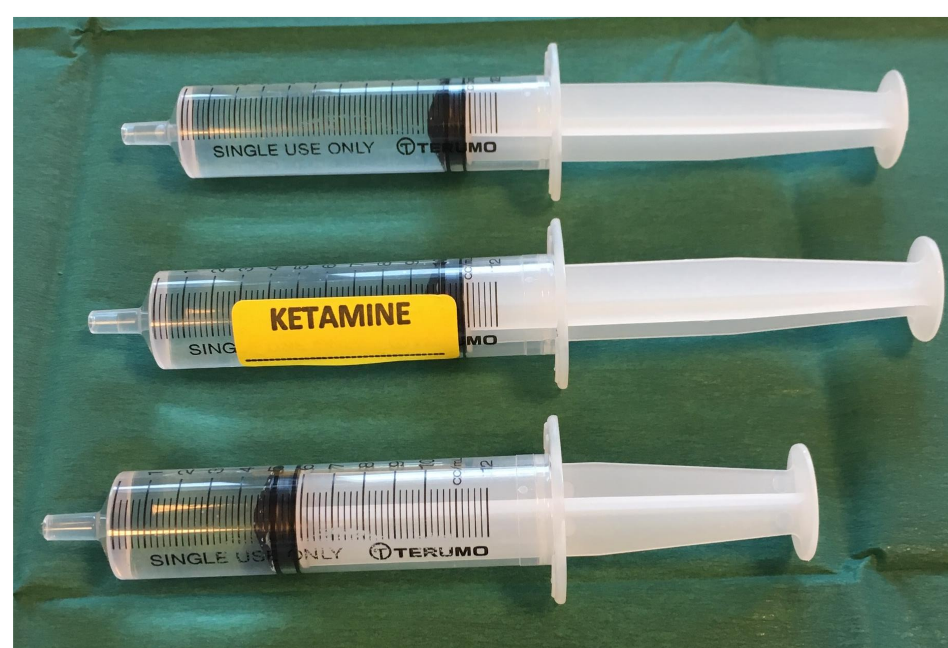
Results

With the roll out of the new guidelines, there has not been any medication errors relating to IV Ketamine sedation administration via the CVC. This has helped maintained our zero medication error track record.

Old practice: Needle was used to identify the syringe with IV Ketamine



Sterile Ketamine label is used to identify the correct syringe



Added on sterile NS label and sterile marker. The marker is used to indicate the Ketamine dosage.

Methodology

A multidisciplinary team consisting of doctors and nurses conducted a brainstorming session. A consensus was reached for the use of sterile label stickers and sterile markers. This would allow the user to clearly label and identify the syringes filled with IV Ketamine, as well as indicated the right doses prepared.

The nurse managers consulted the Materials and Management Department (MMD) to help with the sourcing of the sterile marker and the label stickers. Central Sterile Supply Department (CSSD) was then approached if they could help with the sterilization of the stickers.

The label sticker is only available in a non-sterile roll. CSSD supported us in the sterilization of the individually packed label sticker. Therefore, the nurses had to manually cut the label stickers and pack it into the packaging provided by CSSD.

Conclusion

Medication error arising from incorrect admiration of IV Ketamine can lead to adverse events. When under-dosed, patients may experience unintended pain and discomfort. When overdosed, patient can experience respiratory distress. Hence it is imperative for nurses to speak up and be champions for patients' safety. Having a watchful eye and collaborative teamwork can reduce the risk of medication error.

Future works

We hope that the sterile Ketamine, NS and the blank label stickers to be ready packed and available for use. This would help to save time for the ward nurses to focus on clinical duties.

This workflow can be considered in other areas to enhance patient safety during IV Ketamine sedation.

Non-sterile label stickers and packaging

Packed by nurses manually and sent to CSSD

CSSD sterilise the label stickers

Sterile label stickers