Goals

- Discuss ENFit implementation and concerns with small liquid medications and potential solutions

**Brief overview of ENFit connectors and standards process: GEDSA**

Tom Hancock GEDSA

- How tubing misconnections happen
- Examples of misconnections
- GEDSA patient stories video

Crystal Koelper - Corpak

- ISO 80369 series review
- “Swimlanes” of the series and system specific applications which will be receiving new connectors
- Cone with space reserved for each category of the 80369 series - showing spatial differences and dimensional guidelines which need to be followed to meet the standard

Ben Davis - NeoMed

- Reversal of male and female assignments in the ENFit system
- Dead space in syringes today and tolerances for deadspace
- Using ENFit tip syringes and displacement of dead space

**Implementation of ENFit: Mike Cohen, ISMP**

- Workflow considerations with ENFit use
- Images of an ENFit tip syringe compared to a current oral syringe highlighting the difference in size of the tip
- Considerations when filling syringes if they will be intended for enteral use or oral use - this could have an influence on the method used for filling or if a device such as a straw will be used
- Slide showing fluid leftover in ENFit tip syringes (measurement of 0.18-0.2mL) when ENFit tip syringes are used for oral medication dosing
- Photos demonstrating the ENFit tip should be cleared when connecting to an ENFit feeding tube
Panel 1- Physician and Pharmacy Workflow Considerations

Deborah Pasko- ASHP, Steven Meisel- Fairview Health System, Randi Trope- Cohen Children’s

Deborah Pasko- ASHP

- How would nurses communicate what type of syringe is needed and is this method reliable?
- Pharmacy makes syringe batches in doses and sometimes patients have tubes placed or removed and this may not be communicated to pharmacy
  - Hospitals want to maintain one syringe to batch prepare
- Chart of the most commonly administered medications and the items in red are “high alert” where doses may be as small as 0.5, 0.3, and 0.2 mL- if there is fluid leftover in the deadspace there may not be enough medication delivered
- There is an issue with air bubbles in syringes. Nurses would have to expel the bubble of air if using with a feeding tube it is possible to administer excess fluid
- Lessons learned from the implementation of the pre-filled insulin pens. Nurses were changing the needles and using the same pen on other patients. There was a large contamination and hepatitis scare. Even though there are systems now implemented to prevent cross use of pens, nurses have worked around the system.

Randi Trope- Cohen Children’s

- As experienced previously from the insulin syringe issue having a system with barcoding error still occurs
- The small dosing conversation is focused on pediatrics however it should be considered that small dosing for adults is also a factor- transplant drugs. This needs to be moved away from a NICU specific problem
- It is not uncommon for people to move from enteral to oral or the opposite within the same day and sometimes the nurse has the option to administer either way
- If it is a medication the nurse is filling, draw up straws are common in the NICU however not in the adult transplant unit
- It is important to take decision making out of the process- the more decisions and steps we allow clinicians to make as far as filling and administration method the more room for error
• Pharmacy would have to keep two different bottles with separate bottle adapters and keep double inventory - this could be problematic if it is sent upstairs from pharmacy and it is not filled according to the administration method the nurse would need
  o Some hospitals are dispensing 100,000 1mL syringes a day
• Oral syringes can fit with certain IV systems - it is not a non existent issue

Steven Meisel- Fairview Health System

• Pharmacy cannot always decide when to dispense what syringe
• It would be difficult for nurses to operationalize - sending items back to pharmacy or drawing up medication themselves. Where would the draw up straws be readily available when small dosing is prescribed
• Educating providers won’t be the end
• Communication between nursing and pharmacy - asking to rewrite orders would only add more steps and if a medication isn’t properly filled thinking about the material waste and cost
• If a facility moves to an all ENFit system the repetitive filling could affect pharmacists and lead to work injuries

Q&A

• Nurses are seeing designs of syringes from suppliers with a spiral threading on the end and wondering if this is an ENFit tip syringe although it looks different than those in illustrations - All ENFit tip syringes will be able to connect with any ENFit system. The threading is the design of a supplier however the dimensional aspects still allow connection with ENFit systems
• If someone is using straws or a bottle adapter to fill would it still be ENFit compatible - they should perform the same
• Questions about ENFit delay. There was confusion with the California law enforcement date. The Q1 2016 timing is still on track as we have communicated and the extension in the California law is to give facilities time to fully transition

Panel #2 Nursing Workflow Considerations

Heidi McNeely Colorado Children’s, Peggi Guenter- ASPEN, Beth Lyman- Children’s Mercy Kansas City, Monica Jones- Family Consultant

Peggi Guenter-ASPEN

• Presentation on enteral nursing procedures and changes
• Changes in procedure with the ENFit syringe
• Flushing with an ENFit tip syringe
Monika Jones- CHOP family consultant

- Ms. Jones has 2 children who are being enterally fed and administered medication
- The doses of these medications are .3mL of Amlodipine and .2mL of Clonidine
  - An overdosing of 0.2mL would cause a swift blood pressure drop and fainting
- Since Ms. Jones is home feeding she doesn’t feel she can accurately administer medication using the ENFit tip syringes

Beth Lyman- RN Children’s Mercy Hospital

- Several kids are seen a day with G tubes or NG tubes
  - Accuracy of medication administration with an ENFit system would probably not be a difficult situation if using the ENFit-ENFit filling and administration method
- In a study of how often kids with NG tubes 21% have been in the medsurg unit with a need to focus on NICU population
- In MedSurg units patients are changed from NG to oral at least once a shift
- To keep up with this changeover, Children’s Mercy Hospital will purchase ENFit syringes and place them in the units along with draw up straws- for medication dosing
- Children’s Mercy Kansas City is working with industry on the best way to operationalize- new systems require new order
- Nurse Lyman’s facility is meeting once a month to implement their homecare plan which will target groups needing education, provide homecare symposiums and classes on ENFit connectors and providing materials
- There has not been much focus on blenderized home diets however information sheets have been published for this population with the help of Feeding Tube Awareness Foundation
- An infograph for home users with illustrations to outline steps is also being distributed for use of draw up straws and correct administration

Heidi McNeely- RN Colorado Children’s Hospital

- Largest risks are off label uses
- Currently if there are not the right products available for procedures then off label use will occur
- A large concern is implementation dates where if a patient arrives in a hospital fitted with an ENFit system and the hospital does not yet have the correct devices
Concerns and Q&A

- Burden of administration shouldn’t be placed on providers- medication is drawn up by pharmacy hours before administration and it is a nightmare to send back
- A nurse which has been using Vygon’s for years if happy with the system- as a bedside nurse a real concern is with overdosing as a bedside nurse procedure is flushing and the extra fluid would be administered
- NICU population between change between NG and oral
- Eric Johnson - CHOP- For accurate doses to be delivered if you use a draw up straw and break the connection the device has to be dry or surface tension will cause liquid to draw back into the tube
- Concerns about what will be done with Salem Sump and if these will use ENFit connectors
- Patients do not stay in one hospital or hospital system- if there are lots of proprietary connectors and adapters in use this could turn into a larger problem. We are trying to standardize the connectors.
- Suggestions for a convertible syringe which can draw up as oral however be adjusted to administer enterally
- Is there potential for timeline change?
  - The date has been changed 4 times and we are near the California enforcement date of July 2016. While it may appear industry is not considering the small dosing options- they are. These are considered proprietary ideas and some companies may not be in the place to share them yet. However solutions are in process from a device standpoint and companies are planning to adopt collectively.

Device Solutions

- ASHP: What should be done currently? Waiting and expecting device solutions to arrive. The transition connector is disliked and people want it changed as soon as possible. Education as part of the solution will not work completely.
- FDA: Working within the standard would ensure that ENFit devices are compatible with each other. There is a specific range without much varience. The 0 line has not yet been identified and regardless of the tip of the syringe when fluid is drawn up sometimes syringe dose accuracy could be off. Residual volume is part of dose accuracy in syringes.

Innovations in Design

- Companies sharing ideas for low dosing options:
• NeoMed
• Medela
• Covidien