



WELCOME TO THIS SIGN UP TO SAFETY WEBINAR

***Are you under infusing IV
antibiotic infusions?***

All participants lines are muted to reduce background noise



Are you under infusing IV antibiotic infusions?

Rachel Dixon - Infusion- Coordination Manager Hampshire Hospital Foundation Trust.

- An urgent issue came to my notice within the Trust regarding the under dosing of patients with infusions of IV antibiotics by anything up to 50% of the prescribed dose.
- It involved the antibiotics given via an IV infusion (rather than a bolus push), and occurred because clinicians' were not flushing the infusion lines when the bag containing antibiotics was empty.

Identified Issue

- Clinician prepares the prescribed antibiotics in a 50ml bag of 0.9% normal saline. The total prescribed volume prepared (for example) , is 58mls



Please note: General example given in these pictures is without the usual aseptic procedures in place as undertaken in the Medical Engineering department!!

For Example

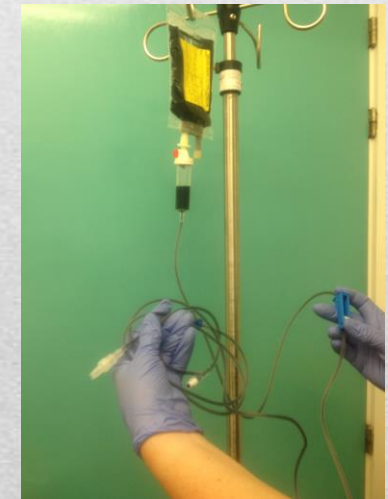
- The clinician then spikes the bag with the giving set, (either gravity or pump set).



Please note: General example given in these pictures is without the usual aseptic procedure in place as undertaken in the Medical Engineering department

For Example Continues:

- Clinician then primes the giving set. Priming Volume (or dead space), in both giving sets in HHFT is 24mls, therefore there is now 34mls of antibiotics remaining in the bag.
- Clinician then commences infusion (either via pump or gravity)



For Example Continues:

- When the infusion is complete, the pump alarms and/or stops dripping, as the bag is now empty, and the 34mls of antibiotics from the bag has now been delivered to the patient
- **BUT** - the clinician will then remove the empty bag and attached giving set, (still holding the priming volume of 24mls of antibiotic), and discards, therefore leading to an under infusion of almost 50% of the prescribed drug to the patient.



Please note: General example given in these pictures is without the usual aseptic procedure in place as undertaken in the Medical Engineering department

For Example Continues:



So what should we do?

- Add another 50ml bag of 0.9% normal saline, (if appropriate for patient/condition), to flush the infusion line so that the 24ml of antibiotics remaining in the giving set, can then be safely and accurately delivered to the patient



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Correct Practice

- Therefore if infusing via a pump, set a Volume to Be Infused (VTBI) of 24mls, and administer at the same rate as the rest of the antibiotic infusion.
- If infusing via gravity, remove 25mls from the 50ml bag of saline and infuse at the same drip rate as the rest of the antibiotic infusion.
- **The patient will then receive their entire and accurate dose.**
- *(PLEASE NOTE THIS FLUSH MUST BE TAKEN INTO CONSIDERATION FOR FLUID RESTRICTED PATIENTS)*



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Correct Practice

- Elimination of under infusion drug errors that leads to :
 - Shorter time for patient recovery (or in worse case, removal of avoidable fatalities).
 - Removal of wasted clinician time, setting up non effective infusions.
 - Removal of the waste of money spent on non effective equipment and drugs.
 - Possible reduction in delayed discharges due to patients receiving the correct drug dosages.

Effective Practice Leads To:

- From this initial finding it was then realised that it was not just antibiotics that were affected...
- Other common infusions:
 - IV Paracetamol infusions.
 - Any other prescribed medications that need to be delivered in one whole stat dose.

However nurses must be conscious of the difference between a whole dose infusion and a continuous infusion. ie flagyl v aminophylline

Not Just Applicable To Antibiotics:

- An Internal Safety Notice was issued within the whole Trust via email, newsletters.
- Posters of the Safety Notice were printed and exhibited on all wards.
- The new practice was included in training on all IV Study Days.
- 50ml and 100ml bags of 0.9% Normal Saline were made available to ward stock lists throughout the Trust.
- A 25ml flush of Normal Saline for the purpose of flushing an IV infusion set line was added to the Discretionary Drug List held within the Medicines Policy, so that the flush maybe undertaken without the need for written prescription.

How Was This Practice Corrected?

- No one likes change!!
- I was surprised at the attitude of some staff, bearing in mind that this was a mandatory change in practice.
- Areas that were not complying were identified, and meetings held with the managers to ascertain the reasons or issues for this non compliance. For some it was seen as an added cost but after explanation and assurances that the COO was behind this practice change, changes were accepted and made
- In most cases as soon as the issue was explained or demonstrated, the managers fully embraced the importance of the issue and acted upon this.
- In others there is still onward struggles where the message is still to get through to all staff and this is being addressed and monitored on an going basis...

How was the practice change received?

- **Putting Safety First** – ALWAYS !! Reducing avoidable harm by administering correct doses of prescribed antibiotics
- **Continually Learning** – That people are people and honest mistakes can be made!!
“You don’t know what you don’t know!!!”
- **Being Honest** - Giving the staff time and space to acknowledge they have not been undertaking good practice in this area. (But most of the time you can see it in their faces!!)
- **Collaborating** – From having family and friends in hospitals in other Trust’s where through their care, it was clear that lines were also not being flushed, it became clear to me that this was not just a Hampshire Hospitals issue, and that is why I am now collaborating with as many areas and Trusts as I can to get this message across. Hence today’s presentation.
- **Being supportive** – Once clinician's understand this issue, many feel frustrated and annoyed with themselves, for not realising this before! So a large part of this process has been in the support of the staff, in realising their fault, and then moving them on to the future of changing practice, and improved outcomes...

Sign Up For Safety Pledges



Thank you for listening..

Any Questions ??
