

NIAIC MEDICAL DEVICES ONE LINERS

PUMPED - UP!

Infusion pumps are increasingly used in hospital, primary care and service users home settings. A significant number of adverse incidents are arising from problems with the devices themselves or related to training and practices associated with the use of these devices. This special edition of One Liners attempts to highlight some of the issues that have given rise to problems and provides further advice on the safe use of infusion pumps. Further advice can be found in the NIAIC publications referenced below.

SPLASHING OUT !

Pumps in damaged self-loading mechanisms may become contaminated when the set is removed. This is particularly serious when cytotoxic drugs are being used. Once contaminated the pump may have to be destroyed/incinerated as the manufacturer may consider it too hazardous to repair.

If the set cannot be released using the manual self-release mechanism, a trained technician should be asked to assess and rectify the problem.

UNEXPECTED DELIVERY ?

NIAIC has been made aware that MDA has received reports where midwives in maternity wards started an induction with syntocinon have left their pumps to seek advice when the pumps were alarming "set misloaded" without ensuring the roller clamps were closed. This has resulted in large overinfusions and subsequent emergency caesarean deliveries.

Users must ensure that the set's roller clamp is not opened until the set is correctly loaded.

WHAT A DIFFERENCE A DAY MAKES !

NIAIC continues to receive reports of SIMS Graseby MS16A pumps (running at mm per hour) being mistaken for SIMS Graseby MS26 pumps (running at mm per 24 hours). Users setting the rate control of an MS16A to 48 believing that they are using an MS26, will deliver the contents of the syringe into the patient in one hour and not one day. Such an error is often fatal.

Always check the model of pump prior to use and be aware of its performance specification. Check appropriateness of that pump for the drug and rate of delivery.

SPRINGTIME !

NIAIC has received reports of syringes springing from or being displaced in syringe pumps when the line has become occluded, so that the pump does not activate its occlusion alarm. This can lead to over infusion as the syringe could siphon its contents into the patient if the occlusion is removed.

Always check that the syringe is fitted correctly and in particular that the syringe's ears are both correctly located in the slots on the pump and that the band used to hold the syringe is fully tightened. If this is not the case, the force exerted by the pump on the syringe during an occlusion can bend the syringe's ears out of the slot(s) before the occlusion alarm is activated.

FED UP

Some feeding pumps have free flow alarms that are activated if the set is incorrectly fitted in the pump or if it becomes displaced by failure to detect discrete drops of feed. Some feeds are so viscous however that even under free flow conditions, the flow consists of drops rather than a continuous stream. In such cases the alarm would not be activated and the patient may be overfed resulting in a risk of aspiration.

Users should always ensure the feed is not free flowing at the start of an infusion by observing the set's burette.

GOING FOR A LEAK?

NIAIC has received reports of infusion sets and syringes being removed from pumps in certain circumstances, such as allowing the patient access to a toilet, without checking closure of the set's clamp. This may result in overinfusion from free flow or siphonage.

Whenever infusion sets or syringes are removed from their pumps, always check that the set clamp is firmly closed..

DO NOT PASS GO!

NIAIC has received reports of syringe pumps with damaged syringe size sensors displaying a syringe size different from the ones in use. In these circumstances the pump will attempt to deliver at a rate based on the displayed syringe size which may be different from the intended delivery rate. Similarly, reports have been received where rate controls were inadvertently altered during "hold" and that the pumps restarted without users realising that the new delivery rate was considerably higher than before the "hold". This can result in possible fatal overinfusion.

Before starting an infusion by pressing start, always look at what the pump is telling you and ask yourself whether this is correct.

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