

## Supporting information

### Safer Use of Controlled Drugs - Controlled Drugs Administered Via MS Syringe

#### Patient Safety Incident Reports with MS Ambulatory Syringe Drivers

The National Reporting and Learning System is still receiving reports of incidents involving MS Syringe Drivers and Controlled Drugs where patients are being harmed. There were 23 reports of harm between 1 January 2011 to 31 November 2012.

#### Incident Report Examples

##### Incorrect Rate Setting

*The Staff Nurse went to collect a syringe driver from the emergency equipment cupboard. A MS Syringe Driver was taken and signed out. The Controlled Drugs were prepared by two Staff Nurses as per the prescription chart. A green butterfly was inserted into the patient left arm and started the infusion as at 13:40. The Staff Nurse returned to the patient at 15:40 and heard the patient snoring loudly. Observations were carried out and the patient did not wake as they were carried out. BP 109 / 70,) pulse 68 , ) sats 95% . The Staff Nurse made the Junior Sister aware who assisted to try and rouse the patient with a gentle shake, to which he responded but was very sleepy (GCS 11 / 15, pupils 2+ and 3+) . The patient was able to squeeze the nurse when requested. The Staff Nurse checked the syringe driver which was almost empty at 5mm remaining. The Staff Nurse immediately stopped the driver and took the battery out. The Staff Nurse bleeped the Oncology Registrar and the SHO to which there was no immediate response so the ID / HIV registrar was contacted who was able to come immediately and give naloxone. The patient responded well to the naloxone and woke immediately (GCS 13 / 15). When the syringe driver was examined by the staff nurse it was found to be set at 20mm instead of 2mm, meaning that it had moved 20mm per hour instead of the prescribed 2mm per hour. **(Moderate Harm)***

*MS26 syringe driver being using for sedation and analgesic purposes . Being used in an 8 hour mode instead of 24 hour mode, on calculation inadequate dosage of drug being delivered. Unable to deliver required dose in this manner with quantity required. Unsafe to use this equipment in this manner **(Low Harm)***

*Medication not given - Call received from [Residential Home]. One of their patients had had a syringe driver set up that morning, but the patient was in a lot of pain and very distressed. On visiting it was noticed that the syringe driver was set at zero and there was still 48mms remaining in the syringe (This was witnessed by the HCA I was working with). The carer on duty informed me that she had been told when it was set up that morning that it would take eight hours to work. **(Low Harm)***

### **Unexplained fast infusion**

*Syringe driver infusion prescribed at 16.00hrs approx of fentanyl in water for injection for symptom control using Graseby ambulatory syringe driver. Errors noted : - staff on ward noted that infusion going through too quickly at 20.30 hrs and saline used as diluent not water as per prescription . (**Moderate Harm**)*

### **Syringe incorrectly inserted**

*Patient is on a CSCI using a MS26 syringe driver. Syringe set up on the shift before mine. Upon my first check of the driver , there had not been the correct amount administered due to the syringe being loaded incorrectly into the pump. The measurement from 16:15 on [date] records as 38mm , when I checked the pump at 21:15 it was still 38mm . The driver on the pump had not been loaded onto the plunger part of the syringe . The infusion is over 24hrs , and measured to 48mm which should be 2mm movement every hour. From when the new syringe was set up at 09:45 the patient had only received 10mm of medication rather than approximately 24mm (**Low Harm**)*

### **Unexplained slow infusion**

*Visited patient and noted that syringe pump driver had stopped infusing after 5 hours ( only 10mm infused on graseby syringe driver ) ..... Light on syringe pump driver not flashing , site appeared satisfactory . Patient had return of symptoms ( vomiting ) during the night but had not contacted nightstaff. (**Low Harm**)*

### **Unexplained failure to deliver infusion**

*On Palliative care [ward] – [date and time] a Syringe Driver had been prescribed with 15mg Morphine Sulphate and 100mg Cyclizine - this was set up 4 hours later by the ward nurses. Essentially since this syringe driver was set up it had not been running correctly - nothing had been done the remainder of that day and overnight - continual documentation of pump either not running correctly or at all, but no action taken. Patient in pain overnight - some Oramorph given with minimal effect - no S / C PRN Morphine given . [The next day] morning staff changed syringe driver pump, but failed to change rate from 00 to 02 so did not run. Line also changed - continued to run slow. Patient remained in pain. (**Low Harm**)*

### **Other**

*Staff untrained to use driver/ unaware of change in policy leading to delay  
Patient was prescribed a syringe driver for symptom control at 17:45 by the palliative care consultant. When porters were asked to collect syringe driver from equipment library they said there were no syringe drivers there. There was in fact a whole supply of new McKinley pumps in the equipment library ready for use. The night practitioners then arranged for an MS26 pump to be sent over by taxi from [another hospital]. [Hospital name] are no longer meant to be using MS26 pumps and are only meant to use McKinley. This lead to a delay of about 10hrs before the patient received appropriate symptom control. (**Low harm**)*

*Use of pump outside policy - staff unaware of change.*

*Visited patient at [date and time] to re - commence syringe driver . Patient had been visited on [2 days before] for renewal of syringe driver by our team. Patient had syringe driver renewed at another community unit [the day before] . On arrival, patient presented a Graseby MS16A (blue) 1hour pump. Aware of our Trust policy,*

*we went to collect a T34 Ambulatory Syringe Pump to swap the driver over. I was concerned that this did not happen when the team originally visited the patient [2 days before]. The patient also raised concern that the syringe was empty when the patient woke up at 09.00am the following morning . I was concerned that the wrong rate had been set on the blue driver. (No harm)*

A summary of textbooks, research and NHS communications describing these risks and recommended safer practice is included below:

## References

National Patient Safety Agency (2010) *Safer ambulatory syringe drivers*, Available at: <http://www.nrls.npsa.nhs.uk/alerts/?entryid45=92908> (Accessed: 30 April, 2013).

NHS East & South East England Specialist Pharmacy Services (2011) *Implementing NPSA Requirements: Syringe drivers (Resource to support the implementation of NPSA recommendations)*. Available at: [http://www.medicinesresources.nhs.uk/upload/documents/Communities/SPS\\_E\\_SE\\_England/Implementing%20NPSA%20Requirements%20-%20Syringe%20drivers%20Vs1%20Aug%202011%20\(NB\).pdf](http://www.medicinesresources.nhs.uk/upload/documents/Communities/SPS_E_SE_England/Implementing%20NPSA%20Requirements%20-%20Syringe%20drivers%20Vs1%20Aug%202011%20(NB).pdf) (Accessed 30 April, 2013)

NHS Purchasing and Supply Agency (Dec 2008) *Buyer's guide: Ambulatory Syringe drivers CEP08046*, Available at: [http://www.palliativedrugs.com/download/091216\\_NHS\\_buyers\\_guide\\_syringe\\_drivers\\_dec2008.pdf](http://www.palliativedrugs.com/download/091216_NHS_buyers_guide_syringe_drivers_dec2008.pdf) (Accessed: 30 April, 2013).

Skryabina, E and Chan, J (August 2012 ) *Ambulatory syringe drivers: a buyer's guide*, Available at: <http://www.ersbuyersguide.org/articles/previous-issues/2009-2010/item/ambulatory-syringe-drivers-a-buyers-guide#page> (Accessed: 30 April, 2013).

## Practice guidance from NHS organisations

NHS East Midlands (Jan 2011) *Delivering safer end of life care - ambulatory syringe drivers*, Available at: <http://www.excellence.eastmidlands.nhs.uk/welcome/improving-care/end-of-life-care/delivering-safer-end-of-life-care/?locale=en> (Accessed: 30 April, 2013).

Freemantle, A., Clark, D and Crosby, V (2011) 'Safer ambulatory syringe drivers: experiences of one acute hospital trust ', *International Journal of Palliative Nursing*, 17(2), pp. 86-91.