Prevention of over infusion of intravenous fluid and medicines in Neonatal Patients

See also:
- Administration of injectable Medicines via the Intravenous Route policy and procedures.
- Competency for administration of intravenous drugs
- Medicines policy
- Peripheral venous catheter care policy
- Central venous catheter policy
- Medical devices policy

INTRODUCTION

There is a risk of the accidental over infusion of intravenous fluids and medicines to neonates associated with the setting up of specific intravenous infusions or the overriding of safety mechanisms on infusion pumps. This risk has the potential to result in death.

BACKGROUND

The NPSA received a report of a neonatal death following an accidental intravenous dextrose overdose. It is likely that the overdose occurred as a result of the clamp being left open from the 500 ml bag of dextrose and the 3 way tap positioned so that the patient was receiving dextrose from both the bag and the syringe. An alternative explanation is the tap was closed to the syringe pump and the solution infused directly from the 500 ml bag. In addition to these incidents, a further five ‘near miss’ incidents were identified where the safety mechanisms associated with volumetric pumps had been overridden. These include instances where the intravenous fluids were removed from the infusion device and remained attached to the baby with the clamps open,
Prevention of over infusion of intravenous fluids and medicines in neonates

**Prior to commencing each infusion**
- When using a syringe pump to administer intravenous fluids a bag of fluid should not be left attached to the syringe.*
- Ensure administration equipment is loaded into the infusion pump correctly before connecting the infusion to the baby.
- Double check the infusion rate and total volume to be infused with another registered nurse and against the prescription.

**During each infusion**
- Check and document the infusion rate and total volume infused hourly.
- Double check the infusion rate and total volume to be infused against the prescription at each rate change.
- Monitor the baby throughout the infusion and record observations at least hourly and more frequently if required.
- If the baby deteriorates, consider the possibility of fluid overload alongside other potential causes.
- Close all clamps prior to the removal of an administration set from the infusion device.

**At handover of care**
- Double check the infusion rate and total volume to be infused with the registered nurse taking over care.
- For babies receiving dextrose infusions check the most recent blood sugar level is within acceptable limits in accordance with the clinical management plan.
- Ensure that all discontinued infusions have been double clamped and the infusion device turned off.

* This action does not apply to the administration of blood components to neonates.