

## 1. Administering medicines prior to surgery

A new surgical house officer asks you about a patient with diabetes on her ward. The patient normally takes metformin, aspirin, ramipril, co-codamol, and sodium valproate but will be nil-by-mouth from midnight in preparation for surgery tomorrow. What should she do?

Suggested questions to ask include:

**(a) How long will the patient be nil-by-mouth?**

**(b) What type of surgery is being undertaken?**

You need to know whether a 'quick fix' is enough to guide the patient through a few hours of temporary nil-by-mouth (e.g. delaying some doses), or whether this could be a longer term problem in which case more radical changes to their existing regimen may be necessary. You also need to think about other consequences which could be specific to the operation (e.g. absorption changes after major bowel surgery).

**(c) What are the doses of these drugs and their indications?**

You need the full clinical picture if you are to answer the enquiry completely. For example it might be acceptable in some circumstances to omit or delay a single dose of sodium valproate due to surgery if it was being given for neuropathic pain, but it would not be acceptable if the valproate was prescribed for epilepsy.

**(d) Is the patient taking, or due, any parenteral medication?**

For example will the patient receive any peri-operative analgesia. This may mean you don't need to find an alternative to co-codamol. If there are other IV drugs being given this may affect whether there is enough IV access available to offer parenteral alternatives to some oral drugs, or it could lead to a compatibility enquiry.

**Note** that aspirin increases the bleeding risk from surgery. You ought to discuss this with the doctor if relevant, even though it's not something she has asked you about.

Suggested Sources:

- BNF, SmPCs, Injectable Medicines Guide, your hospital's nil-by-mouth and surgical guidelines, The Handbook of Peri-Operative Medicines (UKCPA).

## 2. Intravenous administration of dopamine

A nurse from your surgical high dependency unit calls you for advice about dopamine. The doctors have prescribed 3 microgram/kg/min. What dose, volume of infusion fluid and rate should she use?

Suggested questions to ask include:

**(a) What is the indication for dopamine?**

**(b) What is the patient's weight?**

You need these key facts to calculate the dose.

**(c) Will this be given peripherally or centrally?**

This affects the concentrations which can be tolerated.

**(d) Is the patient fluid restricted?**

This will affect acceptable infusion volume.

**(e) Will it be given in a dedicated intravenous line?**

**(f) What other intravenous drugs are being given?**

You may need to check compatibilities as well.

Suggested Sources:

- SmPC, BNF, Injectable Medicines Guide, your hospital's IV drugs policy or high dependency unit drugs policy.

### 3. Intravenous administration of potassium

*An anaesthetist phones for advice. She would like to administer potassium chloride intravenously to a patient with heart failure. What rate should she use? Can she administer IV potassium neat?*

Suggested questions to ask include:

**(a) What is the patient's plasma potassium level?**

**(b) Are there clinical signs of hypokalaemia** (e.g. cardiac rhythm disturbance)?

This determines the clinical urgency of the request.

**(c) What dose is required?**

If IV is required, the dose and rate may enable you to advise on a pre-mixed IV potassium bag to be given peripherally, which is safer than allowing neat potassium ampoules to be supplied to ward areas.

**(d) Why can't it be given orally?**

There is sometimes an assumption that hypokalaemia justifies IV administration, an assumption that is not always justified.

**(e) Is there a central line?**

If considered clinically necessary, a central line may allow more concentrated potassium solutions to be given than are tolerated peripherally.

Suggested Sources:

- BNF, your hospital's guidelines on this subject, Injectable Medicines Guide.