Appendix 3
Ballarat Base Hospital – Children's Ward

Pall Posidyne Filter Compatibility

Due to the large and ever increasing number of drugs available globally which are indicated for intravenous administration, it is not feasible for us to perform filtration studies on every drug in our laboratories. However, we have data addressing your compatibility list, which confirm their suitability for filtration through *Posidyne* IV filters.

Drug	Drug	Drug
Adenosine	Glucagon	Neostigmine
Alprostadil	Glycerol Trinitrate	Netilmicin
Amoxycillin	Imipenem-cilastatin	Paraldehyde
Atenolol	Indomethacin	Phenytoin
Atracurium	Isoprenaline	Promethazine
Azithromycin	Ketamine	Pyridoxine
Calcium Gluconate	Magnesium Sulphate	Ranitidine
Caffeine Citrate	Metoclopromide	Sodium Bicarbonate
Clonazepam	Midazolam	Suxamethonium
Dexamethasone	Milrinone	Triiodothyronine
Flucytosine	Naloxone	Vercuroniunm
Fluticasone	Nor Adrenaline	
Gangciclovir	Adrenaline	

No clinically significant binding was detected with any of these drugs.
Any drug, which is fully soluble in its carrier fluid, will pass freely through 0.2 □m *Posidyne* IV filters.

However, certain medications are contraindicated for use with these devices. These are:

- Cellular blood products
- Suspensions e.g. **Amphotericin B**
- Medications that are not fully dissolved in the fluid being administered
- Emulsions e.g. Diazemuls

- Phytomenadione is a micellar solution. There may be an issue with this because whilst it is a solution in the ampoule, when you add it to tubing, it could well be diluted below critical micelle concentration and therefore form oil droplets. However this would happen regardless of whether there was a filter there or not - the only thing is the filter would hold back the droplets. It is possible there may be some interaction between the micelles and the charged membrane - this would need to be specifically investigated. However most infants only require a single dose so if there are concerns this one could by-pass the filter.

With respect to the others, concentrations > 5mcg/1mL should not be a problem and state firmly that other units around the world that either do, or have in the passed used all of these through filters.

Care and thought is required with a number of these drugs when introducing filtering; very short acting drugs like adenosine and atracurium you need to think carefully about where you add them to the giving set and the dwell time within the tubing. Dwell time in the tubing is also a significant issue with phenytoin and paradehyde.

It is noteworthy however, that some of the drugs listed may be incompatible with each other. Therefore, in order to prevent precipitate formation, it is important that IV filters are flushed with an appropriate carrier fluid between administration of drugs that are physically incompatible. I enclose a guide entitled "Physico-chemical drug interactions in intravenous therapy" which may be of interest to you.

We trust that the above information is of use. Should you require any further assistance, please do not hesitate to contact us.

Yours sincerely,

Technical Support Manager
SCIENTIFIC AND LABORATORY SERVICES

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