Summary of Glucose 5% compatibility information

In June/July 2024 Queensland Health and Safer Care Victoria released alerts about shortages of intravenous fluids bags, anticipated to continue for the remainder of the year. Sodium chloride 0.9% and Hartmann's solutions have been identified as the fluids most at risk of shortages.

BACKGROUND AND RATIONALE

A search of AIDH 9 was conducted to highlight medicines that may be impacted by the anticipated intravenous fluid shortages, in particular sodium chloride 0.9%.
The following lists are intended to assist health services to review current medicine administration practices and intravenous fluid management.
Before changing practices, **read the medicine monograph** to review the appropriate information, including stability, (in)compatibilities and special notes.
Consider each patient's clinical needs in choice of fluid and ensure any proposed alternatives are appropriate.

Incompatible with glucose

Alteplase
Amoxicillin with potassium clavulanate (compatible by Y-site)
Ampicillin (compatible by Y-site)
Antithymocyte globulin – rabbit (Grafalon only)
Antithymocyte globulin – equine
Azacitidine
Baclofen
Belimumab
Bevacizumab
Bleomycin
Caspofungin
Cisplatin
Cladribine
Daptomycin
Eribulin mesilate Ertapenem
Erythromycin
Hydralazine
Melphalan
Pertuzumab
Phenytoin (undiluted infusion preferred)
Ramucirumab
Rasburicase
Tenecteplase
Trastuzumab
Trastuzumab emtansine

Compatible with glucose 5%, but it may not be the preferred fluid for the patient

Brivaracetam
Labetalol
Lacosamide
Levetiracetam
Nimodipine (as a co-infusion)
Octreotide
Oxytocin
Phenobarbital
Potassium acetate
Potassium chloride
Potassium dihydrogen phosphate
Potassium phosphate monobasic and potassium phosphate dibasic
Sodium valproate (check the monograph for concentrations)
Thiamine

Medicines ONLY compatible with sodium chloride 0.9% (i.e. no compatibility information available for other fluids)

Abatacept
Agalsidase alfa and beta
Alglucosidase
Amifostine
Anifrolumab
Antivenoms (compatible with Hartmann's)
Atropine (compatible with Plasma-Lyte by Y-site)
Atezolizumab
Avelumab (compatible with sodium chloride 0.45%)
Bendamustine
Blinatumomab
Blood products (coagulation factors) and CAR-T cells (to flush the line)
Bortezomib
Calcitonin salmon
Cetuximab
Corticorelin (to flush the line)
Daratumumab
Desmopressin
Difelikefalin (to flush the line)
Digoxin immune Fab
Dinutuximab beta
Elosulfase alfa
Ephedrine hydrochloride (compatible with Hartmann's) Note: ephedrine sulfate is compatible with glucose 5%
Eptifibatide
Eptinezumab
Ferric carboxymaltose
Ferric derisomaltose
Fondaparinux sodium
Fosaprepitant
Galsulfase
Gemtuzumab ozogamicin
Haem arginate
Idarucizumab (to flush the line)
Idursulfase
Imiglucerase
Indocyanine green (to flush the line)
Infliximab
Inotuzumab ozogamicin
Iron polymaltose
Iron sucrose
Laronidase
Levocarnitine (compatible with Hartmann's)
Levomepromazine
Liothyronine
Lorazepam
Meropenem and vaborbactam
Mycobacterium bovis
Natalizumab
Neostigmine (to flush the line, compatible with Plasma-Lyte 148 by Y-site)
Obinutuzumab
Ocrelizumab
Paclitaxel NAB
Panitumumab
Phentolamine
Physostigmine
Pralatrexate (by Y-site, to flush the line)
Pralidoxime
Prochlorperazine
Ravulizumab
Remdesivir
Romidepsin
Sacituzumab govitecan
Sebelipase alfa
Taliglucerase alfa
Thiotepa
Tocilizumab
Ustekinumab
Velaglucerase alfa

Examples of medicines (for infusion) that are compatible with both sodium chloride 0.9% and glucose 5%

Acetylcysteine
Aciclovir (see monograph for concentrations)
Adrenaline (glucose 5% is the preferred fluid)
Amoxicillin (see monograph for concentrations)
Anidulafungin
Argipressin (glucose 5% is the preferred fluid)
Azithromycin
Aztreonam
Benzylpenicillin
Bivalirudin
Calcium gluconate
Cephalosporins
Chlorpromazine
Ciclosporin
Cisatracurium
Clindamycin
Clonazepam
Colistin
Defibrotide (all Y-site compatibility data is in sodium chloride 0.9%)
Desferrioxamine
Dexamethasone
Dexmedetomidine
Digoxin
Dobutamine (glucose 5% is the preferred fluid)
Dopamine (glucose 5% is the preferred fluid)
Droperidol
Esmolol
Esomeprazole
Flucloxacillin
Gentamicin
Granisetron
Imipenem-cilastatin
Isavuconazole
Isoniazid
Isoprenaline (glucose 5% is the preferred fluid)
Ketamine (check the monograph for concentrations)
Letermovir
Lidocaine
Lincomycin
Linezolid
Magnesium chloride
Magnesium sulfate
Meropenem (see monograph for concentrations. Longer stability in sodium chloride 0.9%)
Mesna
Metaraminol (glucose 5% is the preferred fluid)
Methylprednisolone sodium succinate
Metoclopramide
Micafungin
Midazolam
Milrinone (glucose 5% is the preferred fluid)
Mivacurium
Morphine hydrochloride
Morphine sulfate
Naloxone
Noradrenaline (glucose 5% is the preferred fluid)
Omeprazole
Ondansetron
Oxycodone
Palonosetron
Pamidronate
Pantoprazole
Pentamidine
Peramivir
Phenylephrine
Piperacillin and tazobactam
Polymyxin B
Posaconazole
Protamine
Quinine dihydrochloride (glucose 5% is the preferred fluid)
Remifentanil
Rifampicin
Rocuronium
Silibinin
Sodium acetate
Sodium ascorbate
Sodium bicarbonate

Sodium dihydrogen phosphate
Sodium nitroprusside
Sodium phosphate and potassium phosphate
Suxamethonium
Tacrolimus
Teicoplanin
Terbutaline
Thiopental sodium
Tigecycline
Tirofiban
Tobramycin
Torasemide
Tramadol
Tranexamic acid
Trimethoprim with sulfamethoxazole
Tropisetron
Vancomycin
Vecuronium
Verapamil
Voriconazole
Zidovudine
Zinc chloride
Zoledronic acid