

DRUG	Method of Administration	Administer over	Instruction for dilution and suitable diluent	Comments
Aciclovir 25mg/mL (Pfizer brand)	Slow IV Infusion	Must be infused over at least 60 minutes. Periodically inspect for turbidity or crystallisation; discard if present.	Dilute each 250-500mg in a 100mL bag Sodium Chloride 0.9%. For doses between 500mg and 1000mg use two 100mL bags or one 250mL bag of Sodium Chloride 0.9%. The concentration should not exceed 5mg/mL. Shake the prepared infusion well before use. For children and neonates, where it is advisable to keep the volume of infusion fluid to a minimum, it is recommended that dilution is on the basis of 4 mL of solution (100 mg aciclovir) added to 20 mL of infusion fluid.	Ensure the patient is adequately hydrated. Patients with renal impairment are at increased risk of developing neurological side effects and should be closely monitored for evidence of these effects. Sodium content about 1mmol/250mg. Discard infusion if any visible turbidity or crystallisation appears. Extravasation may cause tissue damage. Flush with Sodium Chloride 0.9% or Glucose 5% or Hartmann's Solution. Aciclovir 25 mg/mL Concentrate for Solution for Infusion contains no preservative. Dilution should therefore be carried out immediately before use under full aseptic conditions and any unused solution should be discarded.
Amoxicillin (Amoxil®)	IV bolus (for doses up to and including 30mg/kg)	Inject doses up to 1g over 3 - 4 minutes. Inject 2g doses slowly over 6 - 8 minutes, or give by infusion (see below).	<u>Using 500mg powder vial:</u> Add 9.6mL Water for Injection to give a 50mg/mL solution. <i>Displacement 0.4mL/500mg.</i>	Amoxicillin is a penicillin - check patient's allergy status before administration. Flush with Sodium Chloride 0.9%. Sodium content 2.74mmol/1g. If Amoxil® is to be administered by direct injection it should be administered within 20 minutes of reconstitution. <u>Intravenous dose:</u> Doses up to and including 30mg/kg may be given as either an IV bolus or IV infusion. Doses HIGHER than 30mg/kg should be given over at least 30 minutes to avoid CNS toxicity. MRHA Safety Alert 2015: Do not use Wockhardt brand for infants and neonates <1 year old due to reports of extravasation & injection site reactions. Amoxil® brand (GSK) is safe to use in this age group. Avoid skin contact as may cause sensitisation.
	IV Infusion	30 - 60 minutes.	Reconstitute as above, then dilute (without delay) with 50mL Sodium Chloride 0.9%.	

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Benzylpenicillin (Crystapen®)	IV Bolus (for doses ≤ 1.2g)	5 minutes (maximum rate 300mg/minute).	<u>Using 600mg powder vial:</u> Add 3.6mL Water for Injection to give a 150mg/mL solution. <i>Displacement 0.4mL/600mg.</i>	Benzylpenicillin is a penicillin - check patient's allergy status before administration. Administration faster than the recommended rate may cause seizures and CNS toxicity. Flush with Sodium Chloride 0.9% or Glucose 5%. Sodium content 1.68mmol/600mg. 1 mega unit = 600mg. Doses greater than 1.2g should be given by the IV route. Special Handling: After contact with skin, wash immediately with water. If it contacts the eyes, rinse immediately with plenty of water; seek medical advice if discomfort persists.
	IV Infusion	At least 15 - 30 minutes. Doses ≥50mg/kg should be infused over at least 30 minutes.	Reconstitute as above. Can be further diluted if necessary with Sodium Chloride 0.9% or Glucose 5% (Suggested volume 100ml). Maximum concentration 60mg/mL.	
CefoTAXime (Claforan®)	IV Bolus	3 - 5 minutes (preferably via central venous catheter; no further dilution necessary).	<u>Using 500mg vial:</u> Add 1.8mL Water for Injection to give a 250mg/mL solution. Shake well until dissolved. <i>Displacement 0.2ml for 500mg vial.</i> <u>Using 1g vial:</u> Add 3.5mL Water for Injection to give a 250mg/mL solution. Shake well until dissolved. <i>Displacement 0.5ml for 1g vial.</i>	Flush with Sodium Chloride 0.9% or Glucose 5%. Sodium content 2.09mmol/1g.
	IV Infusion	20 - 60 minutes.	Reconstitute as above, then dilute 1-2g with 40-100mL Sodium Chloride 0.9% or Glucose 5%.	

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Ceftriaxone (Wockhardt brand)	IV Infusion	At least 30 minutes. (Also see comments)	<u>Using 1g powder vial:</u> Add 9.2mL Water for Injection to give a 100mg/mL solution. <i>Displacement 0.8mL/1g.</i> Withdraw the required dose and add to 50–100 mL Sodium Chloride 0.9% or Glucose 5%.	Do not give simultaneously with TPN or infusion fluids containing calcium, even by different infusion lines. Ceftriaxone must not be given within 48 hours of calcium infusions. Risk of precipitation with calcium-containing fluids: Ceftriaxone is contra-indicated in neonates who may need calcium treatment. A suitable alternative to ceftriaxone should be prescribed where a patient may require calcium containing infusions due to risk of calcium chelation. Sodium content: 3.6mmol/1g. Flush with Sodium Chloride 0.9% or Glucose 5% only. For infants and children up to 12 years, doses of 50mg/kg or over should be given by slow IV infusion over 30 minutes (For neonates the dose is given over 60 minutes to reduce the potential risk of bilirubin encephalopathy).
CefTAZidime (Fortum®)	IV Bolus	3 - 5 minutes	<u>Using 1g powder vial:</u> Add 9.1mL Water for Injection to give a 100mg/mL solution. Shake to dissolve. <i>Displacement 0.9mL for 1g vial.</i> <u>Using 2g powder vial:</u> Add 8.3mL Water for Injection to give a 200mg/mL solution. Shake to dissolve. <i>Displacement 1.7mL for 2g vial.</i>	Flush with Sodium Chloride 0.9% or Glucose 5%. Sodium content 2.3mmol/1g. Displacement values vary between brands, and are not consistent. Please check brand before reconstitution. Contact Pharmacy for advice if brand not listed in these guidelines.
	IV Infusion	20 - 30 minutes	Reconstitute as above. Dilute the reconstituted 1g and 2g vials further with Sodium Chloride 0.9% or Glucose 5% to a maximum concentration of 40mg/mL.	

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Cefuroxime (Zinacef® OR Fresenius Kabi brand)	IV Bolus	3 - 5 minutes	<p><u>Using Zinacef® 250mg powder:</u> Add 1.8mL Water for Injection to give a 125mg/mL solution and shake gently. <i>Displacement 0.2mL for 250mg vial.</i></p> <p><u>Using 750mg powder (Fresenius Kabi brand):</u> Add 5.5mL Water for Injection to give a 125mg/mL solution and shake gently. <i>Displacement 0.5mL for 750mg vial.</i></p>	Flush with Sodium Chloride 0.9% or Glucose 5%. Sodium content: 1.8mmol/750mg. Displacement values vary between brands, and are not consistent. Please check brand before reconstitution. Contact Pharmacy for advice if brand not listed in these guidelines. Dilute to a maximum concentration of 30mg/mL.
	IV Infusion	30 minutes	Reconstitute as above, then dilute to 50 - 100mL with Sodium Chloride 0.9% or Glucose 5%.	
Clarithromycin (Klacid®)	IV Infusion	At least 60 minutes, via large peripheral vein (or central vein).	Add 10mL Water for Injection to 500mg vial. Shake to dissolve contents. Further dilute to a concentration of 2mg/mL with Sodium Chloride 0.9% or Glucose 5% (Adult dose of 500mg = 10mL of reconstituted solution in 250mL Sodium Chloride 0.9% or Glucose 5%).	<p>NOT FOR BOLUS INJECTION - MUST BE DILUTED (can cause cardiac arrhythmias). Only give IV if cannot tolerate orally. The reconstituted vial contains 500mg in 10mL (although the final volume in the vial will be 10.4mL) - each ml contains 50mg clarithromycin. Use infusion within 6 hours of preparation. Flush with Sodium Chloride 0.9% or Glucose 5%. Monitor infusion site for signs of inflammation, tenderness, phlebitis and pain. Each 500mg vial contains less than 1 mmol sodium, i.e. essentially 'sodium free'.</p>

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Clindamycin (Dalacin® C Injection)	IV Infusion	10 - 60 minutes. Maximum rate of infusion 20mg/kg/hour. Doses of 1.2g must be infused over 60 minutes.	Dilute to a concentration of 6mg/mL with Sodium Chloride 0.9% or Glucose 5%. If patient is fluid-restricted, may be diluted to a maximum concentration of 18mg/mL. <u>Typically:</u> For doses of 300mg, 600mg or 900mg, dilute in 50mL or 100mL Sodium Chloride 0.9% or Glucose 5%. Dilute 1200mg in 100mL Sodium Chloride 0.9% or Glucose 5%.	Flush with Sodium Chloride 0.9%. Use diluted solution immediately. Sodium content: Nil. Maximum single IV dose 1.2g. Monitor LFTs and renal function in neonates or if treatment exceeds 10 days.
Co-amoxiclav (Teva OR Wockhardt brand)	IV Bolus	3 - 5 minutes	Caution: Two different brands are available and displacement values are different. Check brand before reconstitution. <u>Teva brand (also see comments):</u> <u>Using 600mg vial:</u> Add 10mL Water for Injection to 600mg vial give a 60mg/mL solution. Shake vigorously. <u>Using 1200mg vial:</u> Add 20mL Water for Injection to 1200mg vial. Shake vigorously. <u>Wockhardt brand:</u> <u>Using 600mg vial:</u> Add 9.5mL Water for Injection to give a 60mg/mL solution. Shake vigorously. <i>Displacement 0.5mL for 600mg vial.</i> <u>Using 1200mg vial:</u> Add 19.1mL Water for Injection to give a 60mg/mL solution. Shake vigorously. <i>Displacement 0.9mL for 1200mg vial.</i>	Co-amoxiclav contains a penicillin - check patient's allergy status before administration. Flush with Sodium Chloride 0.9%. Incompatible with glucose-containing fluids. Co-amoxiclav Teva: Use 600mg vial in preference. Administer within 15 minutes of reconstitution. Solutions for intravenous infusion should be completed in full within 60 minutes of reconstitution. Sodium content 1.6mmol/600mg vial. Potassium content 0.5mmol/600mg vial. Displacement values vary between brands, and are not consistent. Please check brand before reconstitution. Contact Pharmacy for advice if brand not listed in these guidelines.
	IV Infusion	30 minutes	Reconstitute as above then, without delay, dilute 600mg with 50mL Sodium Chloride 0.9% OR 1200mg with 100mL Sodium Chloride 0.9%.	

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Clonidine (Catapres®)	Slow IV Bolus	10 - 15 minutes.	<p>Can be given undiluted OR dilute to a suitable volume for administration with Sodium Chloride 0.9% or Glucose 5%.</p> <p><u>To accommodate measurement of smaller doses a ten-fold dilution is first recommended:</u></p> <ul style="list-style-type: none"> - Draw up 1mL clonidine (150 micrograms) in a 1mL syringe. - Dilute to a final volume of 10mL with Sodium Chloride 0.9% or Glucose 5%. - This gives a concentration of 15 micrograms/1mL. - The required dose is then drawn up and further diluted to a volume appropriate to the size of the patient. 	<p>Warning: Hypotension, bradycardia and withdrawal syndrome - Clonidine should be gradually withdrawn - abrupt withdrawal can result in rebound hypertension.</p> <p>Sodium content: Nil.</p> <p>Flush with Sodium Chloride 0.9%.</p>
Cyclizine (Valoid®)	Slow IV Bolus	3 - 5 minutes	<p>Can be given without further dilution.</p> <p>Can be diluted with Water for Injection or Glucose 5% if necessary to a convenient volume e.g. 5ml. Use immediately.</p>	<p>Flush with 5 mL of Sodium Chloride 0.9% or Glucose 5%.</p> <p>Sodium content: Nil.</p> <p>Preferably administer centrally due to low pH. If given peripherally choose a large vein and monitor injection site closely.</p> <p>Cyclizine is extremely irritant.</p> <p>Contraindicated in neonates due to increased muscarinic activity.</p>

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Dexamethasone Phosphate 4mg/mL (Wockhardt and Krka brands)	IV Bolus	3 -5 minutes	<p>May be given undiluted.</p> <p>May be diluted with Sodium Chloride 0.9% or Glucose 5%.</p> <p><i>Wockhardt brand:</i> dilute to any convenient volume to aid administration.</p> <p><i>Krka brand:</i> dilute to a final concentration of between 0.004mg/ml to 0.67mg/ml <i>i.e.</i> consider diluting doses of between 0.5mg and 12mg with 20ml of diluent.</p>	<p>For patients on regular treatment, consider monitoring of blood sugars, electrolytes and blood pressure. (Corticosteroids can cause impaired blood glucose, electrolyte disturbances and hypertension). Protect from light.</p> <p>Sodium content: Nil.</p> <p>Flush IV doses with Sodium Chloride 0.9%.</p> <p>Anaphylactic reactions can occur.</p>
	IV Infusion	<p>15 - 20 minutes.</p> <p>Exception: Prevention/ treatment of Chemotherapy-induced nausea/vomiting - IV infusion over 30 minutes.</p>	<p>May be given undiluted or may be diluted with Sodium Chloride 0.9% or Glucose 5%.</p> <p><i>Wockhardt brand:</i> dilute to any suitable volume to aid administration.</p> <p><i>Krka brand:</i> dilute to a final concentration of between 0.004mg/ml to 0.67mg/ml <i>i.e.</i> consider diluting doses of between 0.5mg and 24mg with 50ml to 100ml of Sodium Chloride 0.9% or Glucose 5%.</p>	
Erythromycin (Erythrocin®)	IV Infusion	20 - 60 minutes (to avoid thrombophlebitis).	<p><u>Using 1g vial:</u> Add 20mL Water for Injection to give a 50mg/mL solution. Further dilute to a final concentration of between 1 - 5mg/mL (maximum concentration of 5mg/mL) with Sodium Chloride 0.9%.</p>	<p>Displacement is allowed for. Addition of 20mL Water for Injection to 1g vial gives 1g in 20mL (50mg in 1mL). Extravasation is hazardous.</p> <p>IV infusion may cause thrombophlebitis, particularly concentrations exceeding 5mg/1mL.</p> <p>Flush with Sodium Chloride 0.9%.</p> <p>Incompatible with glucose.</p> <p>Sodium content: Nil.</p> <p>Prepare a fresh infusion every 8 hours.</p>

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Flucloxacillin (Wockhardt brand)	IV Bolus	Inject doses up to 1g over 3 - 5 minutes. Inject 2g doses slowly over 6 - 8 minutes or give by infusion (see below).	<u>Using 500mg vial:</u> Add 4.6mL Water for Injection to give a 100mg/mL solution. <i>Displacement of 0.4mL for 500mg vial.</i> <u>Using 1g vial:</u> Add 19.3mL Water for Injection to give a 50mg/mL solution. <i>Displacement of 0.7mL for 1g vial.</i>	Flucloxacillin is a penicillin - check patient's allergy status before administration. Consider infusion for higher doses. Flush with Sodium Chloride 0.9%. Sodium content: 0.57mmol/250mg. Avoid skin contact as may cause sensitisation.
	IV Infusion	30 - 60 minutes.	Reconstitute as above. Then dilute to a suitable volume for administration. <u>Typical dilution:</u> with Sodium Chloride 0.9% or Glucose 5% to 100mL.	
Flumazenil (Anexate®) 500microgram/ 5mL	IV Bolus	Rapid IV Injection over at least 15 seconds.	Give undiluted.	Flumazenil is a reversal agent for the sedative effects of benzodiazepines. Must be administered by a doctor only. Extravasation should be avoided (pH <5). Cautions include: Epileptic patients on long term benzodiazepine therapy, head injury patients - risk of convulsions. Titrate dose carefully in impaired liver function. Observe patients closely for further signs of sedation for up to 24 hours following administration of the injection as the half-life of flumazenil is shorter than that of the benzodiazepine.
	IV Infusion	To minimise pain at the injection site, flumazenil should be administered through a freely running intravenous infusion line into a large vein.	Dilute with Sodium chloride 0.9% or Glucose 5% to a concentration suitable for administration.	

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Hydrocortisone (Solu-Cortef®)	IV Bolus (usual method)	3 - 10 minutes.	<u>Using Solu-Cortef® 100mg Injection:</u> Add 1.9mL Water for Injection to give a 50mg/mL solution. Shake vial until solution is clear. May be given undiluted, or dilute to a suitable volume for administration.	For patients on regular treatment, consider monitoring of blood sugars, electrolytes and blood pressure. (Corticosteroids can cause impaired blood glucose, electrolyte disturbances and hypertension). The height and weight of children receiving prolonged treatment with corticosteroids should be monitored annually. Flush with Sodium Chloride 0.9% or Glucose 5%. Sodium content 0.5mmol/100mg.
	IV Infusion	20 - 30 minutes.	Reconstitute as above, then dilute to 100-1000mL with Sodium Chloride 0.9% or Glucose 5%, to a maximum concentration of 1mg/mL.	
Meropenem (Fresenius Kabi)	Slow IV Bolus	5 minutes.	<u>Using 500mg vial:</u> Add 9.5mL Water for Injection to give a 50mg/mL solution. Shake well until dissolved then allow to stand until solution is clear. <u>Using 1g vial:</u> Add 19mL Water for Injection to give a 50mg/mL solution. Shake well until dissolved then allow to stand until solution is clear. Can be given undiluted. No further dilution necessary.	Meropenem reduces plasma concentration of sodium valproate - avoid concomitant use. Flush with Sodium Chloride 0.9% or Glucose 5%. Sodium content 1.96mmol/500mg vial.
	IV Infusion	20 - 30 minutes	Reconstitute as above, then dilute with Sodium Chloride 0.9% or Glucose 5% to a maximum concentration of 20mg/mL.	

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<p>Methyl-prednisolone (Solu-Medrone® Injection)</p> <p><u>(Note: monograph split over 2 pages in IV guideline)</u></p>	IV bolus	At least 5 minutes <u>(for doses ≤250mg only)</u>	<p><u>Using 40mg Act-O-Vial:</u> Solu-Medrone 40 mg is supplied in an Act-o-Vial two compartment vial consisting of adjoining compartments of lyophilised powder and solvent (Sterile Water for Injection). The following instructions for the use of the Act-o-Vial should be observed: -</p> <ol style="list-style-type: none"> 1. Press down on plastic activator to force solvent (1mL) into the lower compartment. 2. Gently agitate. This gives a solution containing 40mg/mL. Use solution immediately. 3. Remove plastic tab covering centre of stopper. 4. Sterilise top of stopper with a suitable germicide. 5. Insert needle squarely through centre of plunger-stopper until tip is just visible. Invert vial and withdraw dose. <p><u>Using 125mg Act-O-Vial:</u> Solu-Medrone 125 mg is supplied in an Act-o-Vial two compartment vial consisting of adjoining compartments of lyophilised powder and solvent (Sterile Water for Injection). The following instructions for the use of the Act-o-Vial should be observed: -</p> <ol style="list-style-type: none"> 1. Press down on plastic activator to force solvent (2mL) into the lower compartment. 	<p>Monitor heart rate and blood pressure every 15 minutes for the first hour, and every 30 minutes thereafter to the end of the infusion. Slow or stop the infusion if there are any significant changes.</p> <p>Urinalysis for glycosuria prior to first infusion and after each 3 day course.</p> <p>Check varicella zoster status before the first infusion in patients receiving pulsed therapy. Passive immunisation with varicella–zoster immunoglobulin is needed for exposed non–immune patients receiving systemic corticosteroids or for those who have used them within the previous 3 months. Confirmed chickenpox warrants specialist care and urgent treatment.</p> <p>The height and weight of children receiving prolonged treatment with corticosteroids should be monitored annually; if growth is slowed, referral to a paediatrician should be considered.</p> <p>Doses >250mg: IV infusion over at least 30 minutes. Longer infusion times of up to 3 hours are recommended. Incidence of facial flushing reduced when administered more slowly.</p> <p><u>(continued on next page)</u></p>

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Methyl-prednisolone (Solu-Medrone® Injection) <u>continuation</u>	IV bolus	At least 5 minutes <u>(for doses ≤250mg only)</u>	<p>2. Gently agitate. This gives a solution containing 125mg/2mL or 62.5mg/mL. Use solution immediately.</p> <p>3. Remove plastic tab covering centre of stopper.</p> <p>4. Sterilise top of stopper with a suitable germicide.</p> <p>5. Insert needle squarely through centre of plunger-stopper until tip is just visible. Invert vial and withdraw dose.</p> <p><u>Using 500mg injection:</u> Add 7.4mL of water for injection provided to give a solution containing 500mg/8mL = 62.5mg/mL <i>Displacement of 0.57mL for 500mg vial.</i></p> <p><u>Using 1000mg (1g) injection:</u> Add 14.9mL water for injection to give a solution containing 1000mg/16mL = 62.5mg/mL <i>Displacement of 1.14mL for 1g vial.</i></p>	<p><u>(Also, see comments on previous page)</u></p> <p>Incidence of side effects correlates with the dosage, administration and duration of treatment. During IV infusions, transient increases or decreases in blood pressure, metallic taste, flushing, headache and mood changes may occur.</p> <p>For patients on regular treatment, consider monitoring of blood sugars, electrolytes and blood pressure. (Corticosteroids can cause impaired blood glucose, electrolyte disturbances and hypertension).</p> <p><u>Compatible infusion fluid:</u> Sodium chloride 0.9% w/v or Glucose 5% w/v.</p> <p><u>Method of administration:</u> Risk of cardiac arrhythmias and/or circulatory collapse with too rapid administration.</p>
	IV Infusion	At least 30 minutes. Longer infusion times of up to 3 hours are recommended.	<p>Reconstitute as above, then dilute to a suitable volume to aid administration.</p> <p>For higher doses such as those used in juvenile idiopathic arthritis, suggest adding required dose to a 250mL or 500mL bag of sodium chloride 0.9%w/v, depending on patient's size.</p>	

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Metronidazole	IV Infusion	20 - 30 minutes.	Metronidazole 5mg/mL solution for infusion. Ready diluted - no further dilution required.	Flush with Sodium Chloride 0.9%. Incompatible with glucose. Sodium content: 14mmol/500mg infusion.
Midazolam (Hypnoval® 10mg/5mL OR Accord 5mg/5mL)	Slow IV Bolus	3 - 5 minutes.	May dilute with Sodium Chloride 0.9% or Glucose 5% to a suitable concentration to allow administration over 3 -5 minutes. For children <15kg, maximum concentration for administration: 1mg/mL.	Midazolam is a high risk medicine. <u>Intravenous use only in PICU/Theatre.</u> Note: In clinical areas performing conscious sedation, high-strength preparations (5 mg/mL in 2 mL and 10 mL ampoules, or 2 mg/mL in 5 mL ampoules) should not be selected in place of the 1 mg/mL preparation. The areas where high-strength midazolam is used should be restricted to those performing general anaesthesia, intensive care, palliative care, or areas where its use has been formally risk-assessed in the organisation. All healthcare practitioners involved directly or participating in sedation techniques must have the necessary knowledge, skills and competences required. Flush with Sodium Chloride 0.9%. Respiratory depression and arrest have occurred when doses were given too rapidly. Flumazenil and resuscitation equipment must be immediately available. Sodium content: Nil

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Ondansetron (Zofran®)	IV Bolus	2 - 3 minutes.	Can be given undiluted OR dilute to a suitable volume for administration with Sodium Chloride 0.9% or Glucose 5%.	Available as solution for injection/infusion. Avoid in patients with congenital long QT syndrome. Caution in patients with risk factors for QT prolongation or cardiac arrhythmias (including electrolyte abnormalities; use of other medicines that prolong QT interval (including cytotoxic drugs) or that may lead to electrolyte abnormalities; congestive heart failure; bradyarrhythmias; or use of medicines that lower heart rate). Hypokalaemia and hypomagnesaemia should be corrected before ondansetron administration. Flush with Sodium Chloride 0.9%. Sodium content: Nil.
	IV Infusion	At least 15 minutes	Dilute with 50mL to 100mL Sodium Chloride 0.9% or Glucose 5% (to a concentration of 320 - 640 microgram/mL).	
Paracetamol	IV Infusion	15 minutes. Doses for children <33kg must be drawn into a syringe and infused by syringe driver.	<u>Using 500mg/50mL Fresenius Kabi brand:</u> Provided ready-diluted as Paracetamol Infusion 10mg/mL (500mg in 50mL). Do not dilute. (The 50mL (500mg) vial or bag is restricted to infants, toddlers and children weighing up to 33kg.) <u>Using 1000mg/100mL Actavis brand:</u> Provided ready-diluted as Paracetamol 10mg/mL (1000mg in 100mL). Do not dilute. (The 100mL (1000mg) vial or bag is restricted to adolescents and children weighing more than 33kg.)	IV Paracetamol is a high risk medicine. Only use when PO/PR route unavailable and review every 24 hours. Prescriptions for intravenous paracetamol must be cancelled before writing a prescription for oral or rectal paracetamol. NEVER prescribe by multiple routes, i.e. NEVER write IV/PO/PR. Take care when prescribing and administering Paracetamol 10 mg/ml solution for infusion to avoid dosing errors due to confusion between milligram (mg) and millilitre (mL), which could result in accidental overdose and death. Extreme care required when calculating doses and volumes of intravenous paracetamol. Calculations should be checked independently by a second person. Paracetamol infusion must not be mixed with other drugs. Flush IV line with Sodium Chloride 0.9% only. Sodium content: Nil.

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Piperacillin/ Tazobactam (Fresenius Kabi OR Mylan brand)	IV Infusion	30 minutes	Add 17mL Water for Injection or Sodium Chloride 0.9% to 4.5g vial to give a 225mg/mL solution. Swirl until dissolved (reconstitution generally occurs within 5 to 10 minutes). After reconstitution, further dilute to a concentration of 15-90mg/mL with Sodium Chloride 0.9% or Glucose 5%. <i>Displacement 3mL/4.5g.</i>	Piperacillin/Tazobactam is a penicillin - check patient's allergy status before administration. Sodium content 2.15mmol/g (Fresenius Kabi). Sodium content 2.08mmol/g (Mylan brand). Flush with Sodium Chloride 0.9%.
Vancomycin (Vancocin® (Flynn) OR Mylan brand)	IV Infusion	At least 60 minutes. Maximum infusion rate of 10mg/minute for doses >600mg, e.g. 750mg to be given over at least 75 minutes.	<u>Using 500mg vial:</u> Add 10mL Water for Injection to give a 50mg/mL solution. <u>Using 1g vial:</u> Add 20mL Water for Injection to give a 50mg/mL solution. Once reconstituted, withdraw the required dose and add to a sufficiently large volume of Sodium Chloride 0.9% or Glucose 5%, to a maximum concentration of 5mg/mL. Mix well.	"Red man syndrome" (flushing of the upper body and face) associated with rapid infusion of vancomycin. Flush with Sodium Chloride 0.9% or Glucose 5%. Sodium content: Nil