Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Amitriptyline	Serotonin and noradrenalin (norepinephrine) reuptake inhibitor. Also blocks sodium channels, muscarinic, 5HT2A, 2C, H1, and alpha1 receptors	**PO:** 0.1-0.5 mg/kg/dose qHS **Max initial dose:** 10 mg May increase by 0.1-0.2 mg/kg/dose q5-7 days **Max:** 2 mg/kg/day or 150 mg/day	Neuropathic Pain: **PO:** start with 10 mg qHS. Increase to 25 mg after 3-7 days. Can increase (if needed) by 25 mg q7 days. **Max:** 150 mg qHS	Anticholinergic, antihistaminergic and antimuscarinic Sedation, delirium, postural hypotension, hyponatremia, urinary retention, dry mouth, blurred vision, mydriasis, tachycardia, arrhythmias, extrasystoles Caution use with other drugs metabolized by CYP2D6
Atropine	Tertiary Amine. Blocks acetylcholine in parasympathetic smooth muscle, secretory glands, and CNS. Muscarinic antagonist Uses: managing oropharyngeal secretions	**Buccal:** 1% eye drops - 1-4 drops (each drop contains approximately 0.5 mg atropine) under the tongue q2-4h PRN	**Subcutaneous:** 0.4-0.6mg q4-6h PRN	Antimuscarinic effects (drowsiness, cognitive impairment, delirium, agitation, mydriasis, blurred vision, tachycardia, palpitations, arrhythmias, dry mouth, heartburn, constipation, urinary retention, reduced sweating) At toxic doses: central vagal excitation, respiratory stimulation, agitation, delirium

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Baclofen	Binds to GABA receptors, resulting in hyperpolarization of neurons to relieve muscle spasticity	**PO:** 02.5-5 mg PO TID. Titrate by 5 mg q3-7days **Max:** 40-80 mg/day	**PO:** PO: Start with 5 mg TID. May increase by 5 mg per dose every 3 days based on response/ tolerability. **Max:** 80 mg/day	Drowsiness, dizziness, fatigue, nausea, vomiting
Bisacodyl	Directly irritates smooth muscles of intestine (colonic intramural plexus) to stimulate peristalsis; promotes water and electrolytes secretions into bowel	**PO:** 0.3 mg/kg/ dose PO once daily >10 years: 5-10 mg PR once daily **Max:** 15 mg/dose **Rectal:** >5 years: 5-10 mg once daily	**PO:** 5 to 15 mg PO once daily **Rectal:** 10 mg once daily	Abdominal pain, diarrhoea, ischemic colitis, headaches Tablets may be enterically coated: Do not chew or crush these tablets and do not give within 1 hour of antacids or milk products

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Carba-mazepine	Inhibits voltage-gated sodium channels	**PO:** <6y: Initial dose of 1.7-3.3 mg/kg/dose TID Increase by 2 mg/kg/day over several weeks Usual: 5-6.7 mg/kg/dose **Max:** 35 mg/kg/day ≥6y: Initial: 100-200 mg BID Usual: 200-600 mg/dose **Max:** 1000 mg/day in 6-12y; 1600 mg/day >12y	**Neuropathic pain:** **PO:** start with 200-400 mg/day in 2-4 divided doses. Increase in increments of 200 mg/day as needed over several weeks. Usual maintenance dose: 600-800 mg/day in 2-4 divided doses **Max:** 1200 mg/day **Seizure Control:** **PO:** 50-100mg BID; if necessary, increase by 50-100 mg increments every 1-2 weeks Usual maintenance dose: 800-1200 mg/day (divided BID) Note: Titrate slowly, to avoid Stevens-Johnson Syndrome risk, use modified-release tablets for doses larger than 100 mg	Drowsiness, dizziness, fatigue, blurred vision, constipation, nausea, vomiting, photosensitivity, increased liver function tests, osteopenia Rash (benign or severe including Stevens-Johnson syndrome and toxic epidermal necrolysis), hypersensitivity syndrome Teratogenicity (especially in 1st trimester)
Cetirizine	Second generation antihistamine. Inhibits histamine (H1)	**PO:** 6 mo-2y: 2.5 mg once daily 2-5y: 2.5-5 mg once daily >5y: 5-10 mg once daily	**PO:** 5-10 mg once daily **Max:** 10 mg/day	Drowsiness, fatigue, headache

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Chlor-promazine	Low potency first-generation antipsychotic. Inhibits dopamine receptors, but also alpha-adrenergic, histamine, muscarinic, and serotonin receptors	**IV/PO:** 0.5-1 mg/kg/dose q6-8h **Max:** 50 mg/dose	**PO:** 15-50 mg once daily. Titrate up to 3-4 times daily **Max:** 200 mg/day	Drowsiness, dizziness, hypotension, tachycardia, blurry vision, dry mouth, constipation, urinary retention extrapyramidal symptoms, hyperprolactinemia (with regular use) Avoid in seizure disorders and delirium. Caution in prolonged QTc Avoid long term use due to risk of tardive dyskinesia Poorly tolerated in elderly
Clonazepam	Benzodiazepine binds to GABA-A receptors which enhances the inhibitory effect on the cortical and limbic systems		**PO:** Start with 0.5-1.5 mg/day in 1-3 divided doses. May increase in increments of 0.5-1 mg q3-7 days based on response/tolerability to usual maintenance dose of 2-8 mg/day in 1-2 divided doses **Max:** Dose for anxiety and neuropathic pain 500-1000 mg	Drowsiness, dizziness, ataxia, respiratory depression, hypotension

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Clonidine	Non-selective stimulation of alpha-2 adrenergic receptors in the brainstem, resulting in decreased sympathetic outflow and peripheral resistance	**PO:** 1-2 mcg/kg/dose q4-6h. Titrate to effect **Max:** 4 mcg/kg/dose or 200 mcg/dose or 10 mcg/kg/day or 800 mcg/day	**PO:** Start with 100 mcg BID. Increase in increments of 100 mcg/day at weekly intervals. Usual dose: 200-600 mcg/day in 2 divided doses **Max:** 2400 mcg/day (manufacturer); but generally >800 mcg/day (clinical practice)	Dizziness, hypotension, bradycardia, drowsiness, headache, rebound hypertension (with abrupt discontinuation of consistent use)
Codeine	Full opioid agonist: binds to opioid receptors in CNS, causing inhibition of ascending pain pathways, altering the perception of and response to pain; causes cough suppression by direct central action in the medulla; produces generalized CNS depression	Should not be used in children < 12 years of age. Only consider if lack of other options available or other medications are contraindicated. Additionally, avoid in patients with increased risk of respiratory depression Children > 12 yrs: **PO/Subcutaneous:** 0.5-1 mg/kg/dose q3-6h PRN **Max:** 60 mg/dose, 240 mg/day	**Pain:** **PO:** Start with 15-60 mg every 4 hours PRN **Max:** 360 mg/day; patient with prior opioid exposure may require higher initial doses **Cough:** **PO:** 30-60 mg QID	Drowsiness, dizziness, constipation, respiratory depression

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Desipramine	Serotonin and noradrenalin (norepinephrine) reuptake inhibitor. Also blocks sodium channels, muscarinic, 5HT2A, 2C, H1, and alpha1 receptors		**PO:** Start with 12.5-25 mg once or twice daily. Increase dose q2-7 days based on response/ tolerability up to 150 mg/day	Anticholinergic, antihistaminergic and antimuscarinic Sedation, delirium, postural hypotension, hyponatremia, urinary retention, dry mouth, blurred vision, mydriasis, tachycardia, arrhythmias, extrasystoles Caution use with other drugs metabolized by CYP2D6
Dex-amethasone	Long-acting corticosteroid with minimal mineralocorticoid effect. Reduces downstream effects of inflammatory mediators. Antiemetic mechanism not completely known	**IV/PO:** 0.25-0.6 mg/kg/dose q6-24h **Max:** 16 mg/day See separate sections for specific dosing in cough, nausea/ vomiting, malignant spinal cord compression, and superior vena cava syndrome	**PO/ Subcutaneous** High dose: 8 mg Low dose: 2-6 mg BID or once daily	Abdominal pain, heartburn, nausea, vomiting, hyperglycemia, hypertension, bradycardia, insomnia, acute psychiatric reactions (psychosis), increased liver function tests Long-term risks include adrenal suppression, osteonecrosis, osteoporosis, immunosuppression

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Dextrome-thorphan	Activates sigma opioid receptors on the medullary cough centre, resulting in suppression of the cough reflex	**PO:** 6-11y: 10 mg q4h PRN **Max:** 60 mg/day ≥12y:20 mg q4hr PRN **Max:** 120 mg/day	**PO:** 15-30 mg q4-8h **Max:** 120 mg/day	Drowsiness, nausea Weak evidence to support routine use in children. Not recommended in <6 years old.
Diazepam	Long-acting benzodiazepine. Binds to GABA-A receptors which enhances the inhibitory effect on the cortical and limbic systems	**IV/IO/ Subcutaneous:** 0.3 mg/kg/dose **Max:** 5 mg in <5y; 10 mg in ≥5y	**IV/ Subcutaneous/ PR:** 5-10 mg q3-4h PRN **Max:** 30 mg/dose	Drowsiness, dizziness, hypotension, respiratory depression, paradoxical excitation (especially in children) Caution use in patients with hepatic dysfunction and high risk of respiratory depression
Diclofenac	Reversibly inhibits COX-1 and -2 enzymes resulting in decreased formation of prostaglandin precursors to exert antipyretic, analgesic, and anti-inflammatory effect	**PO:** 0.7-1 mg/kg/dose TID PRN OR 1-1.5 mg/kg/dose BID PRN **Max:** 50 mg/dose PR: 0.5-1 mg/kg/dose BID-TID PRN **Max:** 50 mg/dose, 100 mg/day	**PO/ Subcutaneous:** 50 mg q8-12h (Immediate release formulation) OR 75 mg q12h (Sustained release formulation) **PR:** 50-100 mg q8h	Abdominal pain, heartburn, nausea, vomiting, edema, hypertension, thrombotic events (e.g. stroke), prolonged bleeding, renal dysfunction Use with caution in patients with cardiac, hepatic, or renal impairment, and asthma

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Dimen-hydrinate	Inhibits histamine (H1) receptor	**PO/IV/ Subcutaneous/ PR:** 0.5-1.25 mg/ kg/dose q6h PRN **Max:** 50 mg/ dose, 300 mg/ day	**PO/IV/ Subcutaneous/ PR:** 50 mg q4-8h CSCI : 150 mg per 24 hours	Drowsiness, dry mouth, blurred vision, constipation, paradoxical excitation and insomnia (especially in children)
Diphen-hydramine	First generation antihistamine. Inhibits histamine (H1) receptors	**PO/IV/ Subcutaneous:** 0.5-1 mg/kg/ dose q6-8h PRN **Max:** 50 mg/dose	**PO/IV/ Subcutaneous:** 25-50 mg q4-8h PRN	Drowsiness, dry mouth, blurred vision, constipation, paradoxical excitation and insomnia (especially in children)
Domperidone	Increases gastric motility and emptying by inhibiting peripheral dopamine receptors	**PO:** 0.4-0.8 mg/ kg/dose TID or 0.3-0.6 mg/kg/ dose QID **Max:** 10 mg/dose	**PO:** 10 mg TID-QID	Headache, dry mouth, abdominal cramping, hyperprolactinemia, QTc prolongation, cardiovascular events Avoid in co-existing cardiac disease, moderate or severe liver dysfunction, significant electrolyte abnormalities, or on QTc prolonging drugs QTC prolongation risk >30 mg/day

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Epinephrine	Stimulates alpha, beta-adrenergic receptors resulting in relaxation of smooth muscle of bronchial tree		**Anaphylaxis:** **IM:** 0.3-0.5 mg q5 minutes PRN up to 3 doses Asthma/reversible bronchospasm: **Subcutaneous** 0.3-0.5 mg q20minutes PRN (max 3 doses) or **Nebulized:** 5 mg over 10-15 minutes; may repeat q3h PRN **Topical:** (for bleeding malignant wounds): Apply epinephrine (1 mg/mL) soaked gauze topically and cover with dressing	Hypertension, pulmonary edema
Famotidine	Competitively inhibits histamine (H2) receptors of the gastric parietal cells to inhibit gastric acid secretion	**PO:** 0.5-1 mg/kg/dose q12-24h **Max:** 40 mg/dose **IV:** 0.25-0.5 mg/kg/dose q12-24h **Max:** 20 mg/dose	**PO/IV:** 10-20 mg BID PRN **Max:** 40 mg/day **Onset:** within 1 hour **Duration:** 10-12 hours (PO, IV)	Headache, constipation, diarrhoea
Fentanyl (transdermal patch)	Full opioid agonist binding to mu opioid receptors within CNS, increasing pain threshold, altering pain reception and inhibiting ascending pain pathways		To determine dose, calculate patient's 24-hour OME requirement. With OME, use dose conversion table to convert to appropriate fentanyl transdermal dose (45 mg/day OME = 12 mcg/h fentanyl)	Constipation, nausea/vomiting, sedation, drowsiness, delirium, urinary retention, syncope, myoclonus, respiratory depression

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Furosemide	Inhibits reabsorption of sodium and chloride in the proximal and distal tubules and ascending loop of Henle, leading to increased excretion of sodium and water	**PO/IV/ Subcutaneous:** 0.5-2 mg/kg/ dose q6-24h. Titrate by 1-2 mg/kg/dose to achieve desired response. **Max:** 6 mg/kg/dose or 80 mg/dose	**PO/IV/ Subcutaneous:** Start with 20-80 mg daily-BID. Then titrate PRN to effective dose **Max:** effective single dose: 80-200 mg depending on renal function **Max total daily dose:** 600 mg/day	Hypotension, hypokalemia, hypomagnesemia, hypocalcemia, hyperuricemia, alkalosis, acute kidney injury, reversible tinnitus
Gabapentin	Structurally similar to GABA. Inhibits voltage-gated calcium channels to modulate the release of excitatory neurotransmitters involved in nociception and elipetogenesis	**PO:** 5 mg/kg/ dose daily x 3 days, then increase to BID, then TID, titrate up every 3-5 days **Max initial dose:** 300 mg Usual dosing range 15-60 mg/ kg/day **Max:** 3600 mg/day	**PO:** Start with 100-300 mg TID. Increase dose based on response/ tolerability to target dose of 300-1200 mg PO TID. **Max:** 3600 mg/day	Drowsiness,, dizziness, ataxia, fatigue, nausea, constipation Separate from antacids by at least 2 hours
Glycerin	Osmotic laxative. Draws fluid into colon by increasing osmotic pressure to stimulate evacuation	**PR:** <2y: Tip of paediatric suppository (~0.25-3 g) 2-6y: 1 paediatric suppository (1-2 g) >6y: 1 adult suppository (>2 g)	**PR:** 1 suppository. Suppository should be retained for 15 minutes	Abdominal cramping, tenesmus, mild rectal irritation Avoid suppositories in patients with severely reduced WBC or platelet counts due to risk of bleeding or infection

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Glyco-pyrronium/ glycopyrrolate	Competitively inhibits muscarinic receptors in smooth muscle, secretory glands, and the central nervous system	**PO:** 40-100 mcg/kg/dose q6-8h **Max:** 3000 mcg/dose **IV/ Subcutaneous:** 4-10 mcg/kg/dose q3-4h **Max:** 200 mcg/dose	**IV/ Subcutaneous:** 0.2-0.4 mg q4-6h **CSCI:** 0.6-1.2 mg per 24 hours	Does not cross blood brain barrier; CNS adverse effects may be minimized
Guaifenesin	Expectorant. Reduces the viscosity of respiratory mucus to facilitate removal by natural processes	**PO:** 6-11y: 100-200 mg q4h PRN **Max:** 1200 mg/day ≥12y: 200-400 mg q4h PRN **Max:** 2400 mg/day	**PO:** 200-400 mg q4h PRN **Max:** 2.4 g/day	Nausea, vomiting Weak evidence to support routine use in children. Not recommended in <6 years old
Haloperidol	Inhibits postsynaptic dopamine (D2) receptors	**PO/IV/ Subcutaneous/ IM:** 0.01-0.05 mg/kg/dose q6-24h **Max:** 0.5 mg/kg/day or 30 mg/day See sections for specific dosing in nausea/vomiting and delirium	**PO/IV/ Subcutaneous/ IM:** 0.5-5 mg q8h **CSCI:** 1.5-5 mg 24 hours	Sedation, hypotension, extrapyramidal symptoms (e.g. dystonia), prolonged QTc interval, delirium, hyperprolactinemia (with regular use) Caution use in patients with epilepsy and receiving QTc prolonging drugs, metoclopramide (increased risk of EPS) PO haloperidol is 60-70% bioavailable, consider reducing Subcutaneous, IV, IM dose by 30%.

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Hydro-chlorothiazide	Inhibits sodium reabsorption in the distal tubules, leading to increased excretion of sodium and water (as well as potassium and hydrogen)	**PO:** 1-2 mg/kg/dose BID **Max:** 100 mg/day	**PO:** Start with 25-50 mg daily or BID Increase dose as needed based on response and tolerability **Max:** 200 mg/day.	Hyponatremia, hypokalemia, hypomagnesemia, photosensitivity, gout
Hydroxyzine	First generation antihistamine. Inhibits histamine (H1) receptors	**PO:** 0.5-0.7 mg/kg/dose TID-QID **Max:** 2 mg/kg/day or 100 mg/day	**PO:** 10-25 mg TID-QID. May increase dose in 10-25 mg increments at weekly intervals based on response/tolerability **Max:** 200 mg/day	Drowsiness, dizziness, dry mouth, blurred vision, constipation
Hyoscine BUTYL-bromide (Buscopan®)	Same as atropine	**IV/Subcutaneous:** <5y: 0.3 mg/kg/dose q6-8h 5-12y: 5-10 mg q6-8h ≥12y: 10-20 mg q6-8h	**IV/Subcutaneous:** 20 mg STAT then repeat 20 mg q4-6h **CSCI:** 60-120 mg/24h	*Does not cross blood-brain-barrier (BBB) (Use TALLman lettering to avoid confusion with hydrobromide)
Hyoscine HYDRO-bromide	Same as atropine	**PO/IV/Subcutaneous:** 5-6 mcg/kg/dose q6-8h **Max:** 300 mcg/dose **Transdermal:** ½ patch (12-17 kg) or 1 patch (≥17 kg) topically q48-72hrs	**IV/Subcutaneous:** 400-600mcg q4-6h **Transdermal:** 1 patch topically q48-72hrs	Can be sedating Avoid in end-stage renal failure (increased risk of delirium)

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Ibuprofen	Reversibly inhibits COX-1 and -2 enzymes resulting in decreased formation of prostaglandin precursors to exert antipyretic, analgesic, and anti-inflammatory effect	**PO:** 5-10 mg/kg/dose q6-8h PRN **Max:** 40 mg/kg/day or 2400 mg/day	**PO:** 200-800 mg q8h **Max:** 2400 mg/day	Abdominal pain, heartburn, nausea, vomiting, edema, hypertension, thrombotic events (e.g. stroke), prolonged bleeding, renal dysfunction Use with caution in patients with cardiac, hepatic, or renal impairment, and asthma
Ketamine* (WHO)	Non-competitive NMDA receptor antagonist. Provides general/procedural anesthesia, analgesia Of note, spontaneous respiration and airway tone maintained	**PO:** 5-10 mg/kg/dose **IV:** 0.5-2 mg/kg/dose May administer 0.5-1 mg/kg/dose IV q5-15 mins as required **IN:** 3-6 mg/kg/dose **CSCI:** 100-1200 mcg/kg/hr **Onset:** 30-60 sec (IV), 5-10 min (IN), 15-30 min (PO) **Duration:** 5-10 min (IV), up to 60 min for analgesia (IN), 60 min or greater (PO)	**Analgesic adjuvant:** **PO:** start with 10-25 mg q8h. Titrate in steps of 10-25 mg **Max:** 200 mg PO q6h. **CSCI:** 100 mg over 24 hours. Increase after 24 hours to 300 mg CSCI over 24 hours and further increase to 500 mg CSCI over 24 hours if ineffective	Oropharyngeal secretions, laryngospasm, increased blood pressure, emergence reaction (including agitation, confusion, and delirium)

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Ketorolac	NSAID. Reversibly inhibits COX-1 and -2 enzymes resulting in decreased formation of prostaglandin precursors to exert antipyretic, analgesic, and anti-inflammatory effects	**PO:** 1 mg/kg/dose q4-6h PRN **Max:** 10 mg/dose **IV:** 0.2-0.5 mg/kg/dose q6-8h PRN **Max:** 30 mg/dose Usual duration of therapy is 48-72h, max of 5 days to minimize risk of adverse effects	**PO:** 20 mg once, followed by 10-30 mg q4-6h PRN **Max:** 120 mg/day, max duration: 5 days total **IV:** 15 mg once or 15 mg q6h PRN **Max:** 60 mg/day; max duration: 5 days total	Abdominal pain, heartburn, nausea, vomiting, GI ulceration and bleeding, edema, hypertension, thrombotic events (e.g. stroke), prolonged bleeding, renal dysfunction Use with caution in patients with cardiac, hepatic, or renal impairment, and asthma
Lamotrigine (WHO)	Anticonvulsant inhibits release of excitatory glutamate and inhibits voltage-sensitive sodium channels, which stabilizes neuronal membranes		**PO:** Start with 25 mg daily x 2 weeks, then 50 mg/day in 1-2 divided doses x 2 weeks, then increase daily dose by 50 mg q1-2 weeks to max 400 mg/day in 1-2 divided doses	Caution with concurrent medications which inhibit lamotrigine metabolism, warranting more gradual, lower and slower dose titration (50% of typical titration dosing regimen) Rash (if develops, discontinue lamotrigine)

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Levomepromazine (Methotrimeprazine)	A phenothiazine that antagonizes dopamine, serotonin, histamine and muscarinic receptors, giving rise to antipsychotic, antiemetic, anxiolytic, analgesic and sedative	**PO:** 0.125-0.5 mg/kg/day divided BID to TID **IV:** 0.0625-0.125 mg/kg/day divided BID to QID **Max:** 0.5 mg/kg/dose, 50 mg/dose	**PO:** 6.25 mg/day divided TID May increase based on response/tolerability **Subcutaneous:** 6.25 mg/day daily or BID **CSCI:** 6-250 mg/day	Sedation, anticholinergic effects (dry mouth, urinary retention), orthostatic hypotension, extrapyramidal effects
Lidocaine	Class Ib antiarrhythmic. Blocks sodium channels thereby blocking the initiation and conduction of nerve impulses resulting in local anaesthesia	**Subcutaneous infiltration:** Up to 4.5 mg/kg/dose (0.9 mL/kg of lidocaine 0.5%, or 0.45 mL/kg of lidocaine 1% or 0.225 mL/kg lidocaine 2%) **Max:** 300 mg Not to be administered in intervals of less than 2 hours	**IV/Subcutaneous:** 5-12.5 mg/kg over 120 minutes q2 weeks OR **IV/Subcutaneous:** continuous infusion 0.5-2 mg/kg/hr	Pain, redness and burning at the injection site, edema, respiratory depression Increased risk of methemoglobinemia in patients with G6PD deficiency Use with caution in patients with cardiac failure Dose adjustment required in hepatic or renal impairment

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Loperamide	Binds to the mu opioid receptors in the intestinal muscles thereby inhibiting peristalsis and increasing gut transit time in order to reduce fecal volume, increase viscosity and decrease fluid and electrolyte depletion	**PO:** 2-5 yrs: 1 mg after first loose stool, 1 mg/dose after each subsequent loose stool **Max:** 3 mg/day 6-8 yrs: 2 mg after first loose stool, 1 mg/dose after each subsequent loose stool **Max:** 4 mg/day 8-11 yrs: 2 mg after first loose stool, 1 mg/dose after each subsequent loose stool **Max:** 6 mg/day ≥12yrs: 4 mg after first loose stool, 2 mg/dose after each subsequent loose stool **Max:** 16 mg/day	**PO:** 4 mg, followed by 2 mg after each loose stool **Max:** 16 mg/day For diarrhoea persisting >24 hours, administer 2 mg q2h Continue until 12 hours have passed without a loose bowel movement	Abdominal cramping and discomfort, constipation, nausea, vomiting, sedation Should be avoided in children with acute gastroenteritis in order to not delay the passage of infectious agents
Lorazepam	Benzodiazepine. Binds to benzodiazepine receptors of postsynaptic GABA chloride channel neurons resulting in the enhanced inhibitory effect of GABA	**PO/SL/IV/ Subcutaneous:** 0.025 - 0.05 mg/kg/dose q4-8h PRN **Max:** 2 mg/dose Note: for seizures, 0.1 mg/kg/dose **Max:** 4 mg/dose	For status epilepticus: **IV/ Subcutaneous/ SL:** usual dose of 4 mg (range of 2-8 mg) STAT then repeat dose q10-20 minutes until controlled	Drowsiness, respiratory depression (especially in combination with opioids), psychomotor impairment, hypotension, habit-forming potential Risk of propylene glycol toxicity with repeated dosing in renal impairment

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Megestrol Acetate	Synthetic derivative of progesterone. Mechanism for appetite stimulation unknown	**PO:** 7.5-10 mg/kg/day daily to BID **Max:** 15 mg/kg/day, 800 mg/day	**PO:** 160-800 mg PO once daily If initial response poor, can double dose after 2 weeks	Skin rash, impotence, hypertension, nausea/vomiting, flatulence
Methadone* ***requires additional expert training and supervision**	Synthetic opioid agonist that binds to the mu receptor thereby inhibiting ascending pain pathways, altering the perception of and response to pain. Also has NMDA receptor antagonism	Opioid naive: <6 mo: **PO:** 0.05 mg/kg/dose q4-8h PRN >6 mo: **PO:** 0.1-0.2 mg/kg/dose q4-8h PRN **Usual Max:** 5-10 mg/dose Titrate to effect to max 30 mg/dose **Onset:** 10-20 min (IV), 30-60 min (PO) **Duration:** 4-8h (PO) but can increase with repeat exposure	Opioid naïve: **PO:** start with methadone 2.5-5 mg q8-12h. May increase dose by 2.5 mg per dose no more often than q5-7 days (gradual titration) or by 2.5-5 mg per dose q3 days (faster titration, monitored). Once stable dose is reached, the dosing interval may be extended to q8-12h or longer Some guidelines note dose increases should not be >10 mg/day Q5-7 days Opioid-tolerant: There are several proposed ratios for converting OME to PO methadone (refer to conversion tables). Total PO methadone dose should be divided to reflect intended schedule.	QT prolongation, cardiac dysrhythmias, CNS depression, respiratory depression, hypotension, sweating, constipation Associated with significant variability in absorption, metabolism and analgesic potency. Accumulation occurs with repeated dosing secondary to long half life, which can contribute to significant sedation and respiratory depression Potential for many drug-drug interactions

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
			Patients who have not taken opioid for 1-2 weeks should be considered opioid naïve The higher the daily OME, the more potent methadone is. Starting dose should not exceed 30-40 mg/day, even in patients on high doses of other opioids	
Metoclo-pramide	Antagonist of dopamine and serotonin receptors in the chemoreceptor trigger zone of the CNS. It also increases GI motility and accelerated gastric emptying by promoting increased acetylcholine release	**PO/IV/ Subcutaneous:** 0.1-0.2 mg/kg/ dose q6-8h **Max:** 10 mg/dose, 0.5 mg/kg/day	**PO/IV/ Subcutaneous:** 5-10 mg TID-QID given before meals **CSCI:** 30-60 mg/24hrs	Extrapyramidal symptoms (dystonia, akathisia, parkinsonism, tardive dyskinesia), drowsiness, restlessness, diarrhoea Avoid using in combination with other drugs that can cause EPS Avoid in complete bowel obstruction

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Midazolam	Benzodiazepine. Binds to benzodiazepine receptors of postsynaptic GABA chloride channel neurons resulting in the enhanced inhibitory effect of GABA	**IV:** 0.025-0.1 mg/kg/dose **Max:** 10 mg **IN:** 0.2-0.5 mg/kg/dose **Max:** 10 mg, 5 mg per nostril **PO:** 0.25-0.5 mg/kg/dose **Max:** 20 mg **CSCI:** 25-500 mcg/kg/hr	Palliative sedation: specialist level intervention **IV/ Subcutaneous:** 2.5-5 mg q5-15 minutes PRN Usual dose: 0.25-5 mg. If infusion, start with 0.25-1 mg/hr, titrate for symptom management **CSCI:** usual dose range is 0.5-5 mg/hr. (Can increase to 10mg/hr in some patients. However, consider adding another sedative medication to the CSCI if ineffective) Status epilepticus: **IV/ Subcutaneous/ IM:** 10 mg x 1 over 2 mins or 0.2 mg/kg x 1, repeat after 10-20 minutes if seizure persists **Max:** 10 mg per dose If refractory, follow with continuous **IV/ Subcutaneous infusion** at 0.05-2 mg/kg/hr	Drowsiness, respiratory depression (especially in combination with opioids), psychomotor impairment, hypotension, habit-forming potential Intranasal administration can cause burning sensation Rapid tolerance (48-72h) with continuous infusion resulting in higher dosage requirements

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Morphine	Binds to opioid receptors thereby inhibiting ascending pain pathways, altering the perception of and response to pain	Opioid-naive patients: <6 mo of age: **PO/SL:** 0.05-0.1 mg/kg/dose q3-4h PRN **IV/ Subcutaneous:** 0.025-0.05 mg/kg/dose q2-4h PRN >6 mo of age: **PO/SL:** 0.2-0.3 mg/kg/dose q4-6h PRN, usual max starting dose of 10-15 mg **IV/ Subcutaneous:** 0.05-0.1 mg/kg/dose q2-4h PRN, usual max starting dose of 2-5 mg **Continuous IV or Subcutaneous Infusion:** Start at 20-40 mcg/kg/hr and increase incrementally by 10 mcg/kg/hr, usual maximum infusion of 100 mcg/kg/hr Dyspnoea: **IV/ Subcutaneous:** 0.05mg/kg q4h PRN OR PO 0.1 mg/kg q4h PRN	Pain: Opioid-naïve: **PO:** start with morphine 5-10 mg q4h PRN **IV:** 2-5 mg q1-4h PRN. Adjust dose based on response/ tolerability Dyspnoea: **PO:** 2.5 mg q4h OR **IV/ Subcutaneous:** 1-1.5 mg q4h. If severe dyspnoea, consider morphine **IV/ Subcutaneous:** 5 mg q5-10 minutes PRN	Drowsiness, constipation, pruritus, respiratory depression, psychomotor impairment, hypotension, habit-forming potential Have the potential to cause withdrawal syndrome if abruptly discontinued in patients maintained on therapy for a week or more. Gradual taper required when morphine discontinued Adjust dose in renal impairment due to reduced clearance of and accumulation of neurotoxic metabolite Doses for dyspnoea are generally 50% less than those for pain, in opioid naïve patients

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Naproxen	NSAID. Reversibly inhibits COX-1 and -2 enzymes resulting in decreased formation of prostaglandin precursors to exert antipyretic, analgesic, and anti-inflammatory effects	**PO/PR:** 5-10 mg/kg/dose q12h **Max:** 1000 mg/day	**PO/PR:** 250-500 mg q12h PRN or 250 mg q6-8h PRN **Max:** 1 g/day	Abdominal pain, heartburn, nausea, vomiting, edema, hypertension, thrombotic events (e.g. stroke), prolonged bleeding, renal dysfunction Administer with food to decrease GI adverse effects Use with caution in patients with cardiac, hepatic, or renal impairment, and asthma Avoid concomitant administration with other NSAIDs
Octreotide	Octreotide is a somatostatin analogue which inhibits secretion of gastrin, insulin, glucagon, growth hormone. This in turn reduces splanchnic blood flow as well as intestinal secretions and gastrointestinal motility	Diarrhoea: **IV/Subcutaneous:** 1-10 mcg/kg/dose q8-12h **Continuous IV or Subcutaneous infusion:** 24-48 mcg/kg/hr	Chemotherapy associated diarrhoea: **IV/Subcutaneous:** Low grade/uncomplicated: 100-150 mcg TID Severe/complicated: 100-150 mcg TID, may increase to 500-2000 mcg Variceal haemorrhage: **IV:** 50 mcg bolus, followed by 50 mcg/hr by continuous IV infusion	Abdominal pain, diarrhoea, nausea, vomiting, hyperglycemia, hypertension, diaphoresis, injection site pain

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
			Malignant bowel obstruction: **IV/ Subcutaneous:** 200-900 mcg/ day in 2-3 divided doses or by CSCI	
Olanzapine	Atypical antipsychotic. Although the actual mechanism is unclear, it likely exerts an antagonistic effect by binding to serotonin and dopamine receptors	**PO:** 2.5-5 mg daily Titrate by 2.5-5 mg/week **Max:** 15-20 mg/day Acute agitation: **IM:** <10 yrs: 1.5-5 mg >10 yrs: 5-10 mg Repeated doses: 5-10 mg 2 hours after first dose and third dose 4 hours after second dose	Nausea/vomiting: **PO:** 2.5-10 mg daily or BID x 3 days Hyperactive delirium/ agitation: **PO:** 1.25-5 mg once daily PRN. Titrate daily based on response in 2.5-5 mg increments up to 20 mg/day **IM:** 2.5-5 mg once daily or PRN **Max:** 20 mg/day	Somnolence, dizziness, orthostatic hypotension, anticholinergic effects, weight gain, hyperglycemia Avoid administering IM olanzapine within one hour of a parenteral benzodiazepine due to potential for respiratory depression and death Cigarette smoke can increase clearance of drug by up to 40%
Omeprazole	Proton pump inhibitor. Inhibits the H+/K+ ATP pump of parietal cells resulting in the suppression of gastric acid secretion	**PO:** 0.7-3.5 mg/ kg/dose daily or 0.35-1.25 mg/kg/ dose BID **Max:** 3.5 mg/kg/dose or 40 mg/day	**PO:** 20-40 mg once to twice daily	Diarrhoea, nausea, headache

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Ondansetron (on WHO)	5-HT3 receptor antagonist that blocks binding of serotonin on vagal nerve terminals of the GI tract and in chemoreceptor trigger zones in the brain	**PO/IV:** 0.15-0.2 mg/kg/dose q8-12h **Max:** 8 mg/dose Single-dose regimen for chemotherapy- or radiation-induced nausea/vomiting: **PO:** 8-14 kg: 2 mg 15-30 kg: 4 mg >30 kg: 8 mg	**PO/IV/ Subcutaneous:** 4-8 mg q8-12h **CSCI:** 16-24 mg per 24 hours **Max:** 24 mg/day	Headache, constipation, dizziness Potential for QT prolongation - avoid in patients with congenital long QT syndrome, caution when administering in conjunction with other QT prolonging medications
Oxycodone	Binds to opioid receptors thereby inhibiting ascending pain pathways, altering the perception of and response to pain	**PO:** 0.1-0.2 mg/kg/dose q4-6h PRN **Max:** 10-20 mg/dose **Onset:** 10-15 min **Duration:** 3-6hr	**PO:** Opioid naïve: start with 2-10 mg q4-6h PRN. Adjust dose based on response. Usual dose: 5-15 mg PO q4-6h PRN	CNS depression, constipation, hypotension, respiratory depression, nausea, vomiting Conversion from oxycodone may require some precaution due to potential of variable polymorphism and different active metabolites produced

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Pantoprazole	Proton pump inhibitor. Inhibits the H^+/K^+ ATP pump of parietal cells resulting in the suppression of gastric acid secretion	**PO/IV:** 1-1.5 mg/kg/dose q24h **Max:** 40 mg/day GI bleed: **IV:** 5-15 kg: 2 mg/kg/dose x 1 then 0.2 mg/kg/hr infusion >15-40 kg: 1.8 mg/kg/dose x 1 and then 0.18 mg/kg/hr infusion >40 kg: 80 mg/dose x 1 then 8 mg/hr infusion **Max:** 80 mg/dose Max rate: 8 mg/hr Max infusion duration: 72 hours	**PO/IV:** 40 mg once daily. In patients with refractory or recurrent disease, may increase the dose to 40 mg BID Upper GI bleed: **IV:** 80 mg bolus, followed by 8 mg/hr infusion x 72 hours prior to endoscopy. If no endoscopy performed within 12 hours, 80 mg bolus, followed by 40 mg q12h Where IV PPIs are unavailable, high-dose oral PPI therapy may be a reasonable alternative – consider using pantoprazole 40 mg PO BID if IV not available	Diarrhoea, nausea, headache, hypomagnesemia, vitamin B12 deficiency, enteric infections (gastroenteritis, C. difficile associated diarrhoea)

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Phenytoin	Anticonvulsant. Promotes the efflux of sodium ions from motor cortex neurons thereby stabilizing the neuronal membranes and inhibiting the spread of seizure activity	**IV/IO:** Loading dose: 20 mg/kg (max: 1500 mg/dose) Repeat dosing (for seizures lasting >10 mins): 5-10 mg/kg/dose Dilute in 0.9% NaCl only. Insoluble precipitates form in D5W Administer at 1-3 mg/kg/min to a maximum of 50 mg/min Maintenance dose: **PO:** 4-10 mg/kg/day divided q8-12h; adjust dose based on response/serum concentrations **Max:** 300 mg/day	**IV/IO:** Loading dose: 20 mg/kg. Repeat dosing of 5-10 mg/kg 10 mins after loading dose; max total loading dose: 30 mg/kg. OR **PO:** Loading dose: 1 g divided into 3 doses (400 mg, 300 mg, 300 mg) administered at 2-hour intervals; begin maintenance dose 24 hours after first loading dose Maintenance dose: **PO:** 100 mg PO TID-QID; adjust dose based on response/serum concentrations To ensure optimal absorption, individual oral doses should not exceed 400 mg Therapeutic total phenytoin trough concentration: 40-80 umol/L Therapeutic free phenytoin trough concentration: 4-8 umol/L	Drowsiness, hypotension, bradycardia, cardiac arrhythmias, thrombocytopenia, pancytopenia Phenytoin toxicity: Dose related: drowsiness, confusion, nystagmus, ataxia, slurred speech, nausea, unusual behaviour, mental changes, coma (>200 umol/L) Non-dose related: hirsutism, acne, gingival hyperplasia, folate deficiency, osteomalacia, hypersensitivity reactions (including Steven's Johnson syndrome), SLE

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Paracetamol (Acetominophen)	Activates descending serotonergic inhibitory pain pathways, has effects in opioid and cannabinoid systems Antipyrexial mechanism: inhibits heat-regulating centre in hypothalamus	**PO:** 10-15 mg/kg/dose q4-6h PRN **Max:** 75 mg/kg/day or 4000 mg/day **PR:** 10-20 mg/kg/dose q4-6h PRN **Max:** 80 mg/kg/dose or 4000 mg/day Oral drops (but not suspension) may be administered PR	**PO:** 325-1000 mg q4-6h **Max:** 4000 mg/day (those at risk of hepatotoxicity, existing hepatic impairment, or advanced age – do not exceed 2000-3000 mg/day)	**PO:** skin rashes Most likely with IV formulation: dyspepsia, nausea, vomiting
Phenobarbital	Barbiturate. Prolongs the opening of chloride ion channels in postsynaptic neuronal membranes thereby causing hyperpolarization and inhibitions of nerve impulse propagation	Seizures: **IV/IO:** Loading dose: 20 mg/kg/dose Mixed in NS or D5W, infused over 20 minutes **Max:** 1000 mg/dose Repeat dosing (for seizures lasting >10 mins): 5-10 mg/kg/dose Maintenance: **PO/IV:** 3-6 mg/kg/day divided daily to BID (max 200 mg/day) Administer over a minimum of 20 minutes and do not exceed 1 mg/kg/min to a max of 30 mg/min	Seizures: **IV/IO** 10-20 mg/kg IV (infused at 50-100 mg/min); if necessary, may repeat once after 10 minutes with an additional 5-10 mg/kg Dose: **PO/IV:** 2 mg/kg/day PO/IV in divided doses Sedation: **IV/PO/IM:** 30-120 mg/day in 2-3 divided doses. Higher doses can be used in sedation: please refer to other sources	Sedation, ataxia, respiratory depression, hypotension, bradycardia, hyperactivity in children (paradoxical reaction), nystagmus

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Phyto-menadione (Vitamin K)	Synthetic lipid-soluble form of vitamin K1. Promotes liver synthesis of clotting factors II, VII, IX and X	Deficiency: **IV/ Subcutaneous:** 1-2 mg once Significant bleed: **IV/ Subcutaneous:** 5 mg once Acute fulminant hepatic failure: **IV/ Subcutaneous**: Infant (<1yrs): 1-2 mg Child: 5-10 mg	Vitamin K deficiency coagulopathy: **PO/IV:** 10 mg once; may repeat after 48-72 hours if coagulopathy persists Warfarin reversal, severe bleeding: **PO/IV:** 2.5-10 mg based on INR. Measure INR after 12-48 hours (PO) or 6-12 hours (IV) Note: high doses of vitamin K (e.g. >10-15 mg) may cause warfarin resistance for ≥1 week	Local injection site reaction (pain, swelling), hypotension, flushing Potential for hypersensitivity reactions with IV and IM administration – administer at a max rate of 1 mg/min
Risperidone	Atypical antipsychotic that exerts an antagonistic effect on serotonin and dopamine receptor	**PO:** 0.25-0.5 mg daily or BID Titrate by 0.5-1 mg every 3-5 days **Max:** 3 mg/day	**PO:** Start with 1-2 mg/day in 1-2 divided doses; may increase by 1-2 mg/day at intervals ≥24 hours to usual dose range 2-6 mg/day. In general, assess full effect for ≥1 week before dose titration **Max:** 6-8 mg/day	Somnolence, orthostatic hypotension, anticholinergic effects, weight gain, extrapyramidal symptoms, hyperprolactinemia, neuroleptic malignant syndrome

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Sennosides	Stimulant laxative that stimulates peristaltic activity in the intestine by irritating the luminal sensory nerve endings thereby stimulating colonic motility	**PO:** Note: based on 8.6 mg tablet <2 years: ½ tablet qHS-BID 2-5 years: ½ to 1 tablet qHS-BID 6-12 years: 1 to 1½ tablet qHS-BID ≥12 years: 2-3 tablets qHS-BID	**PO:** Start with 12-24 mg qHS; may titrate dose based on response/tolerability. **Max:** 36 mg TID	Abdominal cramping, diarrhoea, nausea/vomiting Avoid in bowel obstruction (perforation risk)
Tramadol	Synthetic opioid agonist that weakly binds to opioid receptors thereby inhibiting ascending pain pathways, altering the perception of and response to pain. Also inhibits norepinephrine and serotonin, which are involved in inhibitory pain pathways	**DO NOT USE in children, unless no other opioids available** **Risk due to high variation in liver metabolism and risk of serious harm** **PO:** 1 - 2 mg/kg/dose q4 - 6h PRN **Max:** 100 mg/dose, 8 mg/kg/day or 400 mg/day	**PO:** Start with 50 mg q4-6h PRN. Increase dose as needed and tolerated to 50-100 mg PO q4-6h **Max:** 400 mg/day	Drowsiness, constipation, nausea, respiratory depression, habit-forming potential, lowers seizure threshold, serotonin syndrome (with concomitant CYP 2D6/3A4 inhibitors and other serotonergic agents) Has the potential to cause withdrawal syndrome if abruptly discontinued in patients maintained on therapy for a week or more. Gradual taper required when morphine discontinued

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Tranexamic Acid	Antifibrinolytic agent. Binds to lysine binding sites on plasminogen, inhibiting plasmin formation and inhibition of fibrinolysis	**PO:** 25 mg/kg/dose q8h **Max:** 1500 mg/dose **IV:** 10 mg/kg/dose q6-8h **Max:** 1000 mg/dose IV Loading: 15 mg/kg/dose IV Infusion: 1.5-2 mg/kg/h **Max:** 125 mg/hr, total of 1000 mg over 8 hours Administer IV doses over 5-10 mins (max 100 mg/min) to reduce risk of hypotension	**IV:** 1 g (or 10-15 mg/kg) IV once. Administer at a rate not to exceed 100 mg/min (generally over 10-20 minutes). Followed by 1 g over next 8 hours as continuous infusion Hemoptysis: **Nebulized:** 500 mg (use injectable solution) TID for up to 5 days **Topical:** soak cotton in 5 mL of 100 mg/mL injectable solution and apply to wound OR apply 500-1000 mg to the wound and apply with pressure for 10-20 minutes	Nausea, vomiting, abdominal pain, vision changes, thromboembolic events (DVT, PE), seizures

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Trazodone	Antidepressant. Serotonin reuptake inhibitor that also blocks alpha-1 adrenergic and histamine receptors. Often used off-label as a sleep aid	Insomnia: **PO:** 1-2 mg/kg/dose **Max:** 25-50 mg qHS May increase by 25 mg every 2 weeks to maximum of 100 mg/dose	Insomnia: **PO:** start with 12.5-50 mg qHS. May consider increasing dose based on response/ tolerability up to 200 mg PO qHS Insomnia in patients with depression: **PO:** 50-300 mg PO qHS. May titrate doses up to 600 mg/ day which have been evaluated, but evidence of greater benefit is uncertain and side effects may be greater	Drowsiness, fatigue, dizziness, syncope, nausea, vomiting, dry mouth, blurred vision Avoid abrupt discontinuation to minimize rebound insomnia and withdrawal symptoms – wean over several weeks

Drug Name	Mechanism of Action	Paediatric Dosing (Titration)	Adult Dosing (Titration)	Adverse Reactions
Valproic Acid	Anticonvulsant. Although the actual mechanism is unclear, it likely increases the availability of GABA in the brain thereby exerting an inhibitory effect. It also blocks sodium channels thereby suppressing neuronal firing	Seizures: Loading dose: **IV/IO:** 30 mg/kg (max: 3000 mg/dose) Repeat dosing (for seizures lasting >10 minutes): 10 mg/kg/dose Administer over 5 minutes for status epilepticus Maintenance therapy: **PO:** 15 mg/kg/day q8-24h. Titrate by 5-10 mg/kg/day weekly to a maximum of 30-60 mg/kg/day divided BID to QID	Seizures: **IV/IO:** loading dose: 20-40 mg/kg administered at a rate up to 10 mg/kg/min (max dose: 3 g) Maintenance: **PO:** 150-200 mg BID, increase by 150-200 mg at 3-7 day intervals until optimal clinical response and/or therapeutic levels are achieved **Max:** 2500 mg/day or 60 mg/kg/day Within 3-4 days of initiation or dose adjustment, trough concentrations should be drawn just before next dose. Therapeutic trough level: 350-700 umol/L	Dizziness, drowsiness, nausea, vomiting, diarrhoea, thrombocytopenia, tremors, alopecia, hepatotoxicity, hyperammonemia, encephalopathy