

Keynotes
Pediatric Series



Dr. Maged Zakaria IBRAHIM

Neonatologists' Pocket Drug Reference 2015

Keynotes

Pediatric Series

Neonatologists' Pocket Drug Reference

6th edition

2015

Neonatologists' Pocket Drug Reference

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هذا الكتاب ، مخالفة ذلك يعرض للمسائلة القانونية

يتم طلب الكتاب داخل أو خارج مصر عن طريق المؤلف



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Acknowledgement

This Egyptian Neonatal Pharmacopoeia started life in 2008 as loose A5 reference papers of the commonly used drugs in the neonatal intensive care unit at the Ain Shams University Maternity Hospital in Cairo, Egypt. It has been updated many times since then and has expanded considerably, but the format and the basic layout had not changed.

The 2015 new format and layout reflects the accumulated experience of the unit, the developments in neonatal medicine, and provides up-to-date information about the use of drugs in the neonatal period and shortly beyond.

The book is now available in an electronic pdf formats including an index with direct hyperlinks. Many related reviews and clinical trial are provided as direct links to files on Dropbox™. Regular updates will be posted on the series' Facebook page (Keynotes.Pediatrics).

I'd like to deeply thank all the professors, consultants, colleague doctors, pharmacists, nurses and others who made a significant contribution to the preparation of this book.

Maged, 2015

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Drug Monographs





Acetylcystein™

Acetylcysteine 200 mg Effervescent Sachets

Uses

Dose

Meconium ileus

Mucolytic

Improves alveolar phagocytic capacity

200 - 400 mg **PO** up to 3 times daily

BNFC2014-15

Acetylcysteine is under investigation in neuroprotection (as an adjunct to therapeutic hypothermia) nnf7

Adverse Effects

- Avoid use with peptic ulceration
- Bronchospasm
- Hypersensitivity reactions (rashes and anaphylaxis)
- Mild increase in INR and PT

Prescription

استيل سيستاين فوار (كيس ٢٠٠ مجم / ٤ سم ماء مقطر) ← ... سم بالرايل / ... ساعة

Treatment of Paracetamol Toxicity

Giving acetylcysteine by mouth [unlicensed route] is an alternative if intravenous access is not possible BNFC2014-15

72-hour regimen (18 doses; total dose 1330 mg/kg)

LD: 140 mg/kg **PO**

MD: 70 mg/kg/dose **PO** q4h for 17 doses; repeat dose if emesis occurs within 1 hour of administration PNDH21



Acyclovir

Zovirax™ 250 mg / 5 mL Vial
200 mg / 5 mL Susp.

Uses Dose

Herpes Simplex Virus Infection

Neofax2011 & BNFC2014-15

20 mg/kg/8h **IVI** over 1h, for 14 days (in localized infections) or 21 days (in disseminated or CNS infections) – confirm CSF negative for HSV before stopping treatment

Chickenpox (Herpes Zoster) Infection

10-20 mg/kg/8h **IVI** over 1h for at least 7 days BNFC2014-15

Prophylaxis against Chickenpox after Delivery

10 mg/kg/8h **IVI** over 1h; continued until serological tests confirm absence of virus BNFC2014-15

Adverse Effects

- **Neutropenia (20%)**
↓ Dose or use **Neupogen™** if ANC remains < 500/mm³
- **Phlebitis at IV site**
Use more diluted infusion
- **Transient renal dysfunction and crystalluria**
Managed by slowing infusion rate and good hydration

Prescription

زوفيراكس (250 مجم / 5 سم) (1 سم + 9 سم) ← ... سم / 8 ساعات وريد على مدى ساعة
زوفيراكس شراب (200 مجم / 5 سم) ← ... سم بالقلم / 6 ساعات

Preparation for IV use

- **Maximum Infusion solution concentration 7 mg/mL.**
- Dilution should be used within 24h. Don't refrigerate
- Compatible with **D₅W** and **NS**

Storage

- Store oral suspension at room temperature

Use in Renal impairment

- Cr Cl 25-50 mL/min/1.73 m² ⇒ IV dose q12h
- Cr Cl 10-25 mL/min/1.73 m² ⇒ IV dose q24h
- Cr Cl 10-25 mL/min/1.73 m² ⇒ For HZV PO q8h
- Cr Cl < 10 mL/min/1.73 m² ⇒ For HZV or HSV PO q12h



Addamel N™

Trace Elements

Contents Per mL

- Chromic Cl 5.33 mcg
- Copper Cl 0.34 mg
- Xylitol 300 mg
- FeCl_3 0.54 mg
- K iodide 16.6 mcg
- Manganese Cl 99 mcg
- Na fluoride 0.21 mg
- Na molybdate 4.85 mcg
- Na selenite 10.5 mcg
- ZnCl_2 1.36 mg



Adenocor™

Adenosine 3 mg per 1 mL Vial

Uses

Dose

Acute Treatment of Sustained Paroxysmal SVT

(adenosine has no negative inotropic effects; can be used safely with impaired cardiac function or postoperative arrhythmias)

Starting Dose 50 µg/kg rapid IV push (over 1-2 sec)

Increase dose in 50 µg/kg increments q2min until return of sinus rhythm.

Maximum dose 250 µg/kg

Neofax2011

150 µg/kg **IV**; repeat q1-2min, increase dose by 50-100 µg/kg until tachycardia terminated or max. single dose of 300 µg/kg given

BNFC2014-15 & PNDH21

Prescription

ادينوكور (3 مجم / ١ سم) (½ سم + ٥.٤ سم م م) ← ... شرطة بسرنجة انسولين ١٠٠ وريد
(ويتم زيادة الجرعة وتكرارها كل دقيقتين حسب الاستجابة)

IV Preparation

- Injection should be administered by rapid IV injection into a central or large peripheral vein
- Flush IV with saline immediately
- Don't refrigerate; crystallization will occur
- **Compatible with** D₅W and NS

Adverse Effects

- **Flushing, dyspnea and irritability (transient)**
- **Arrhythmias (transient < 1 min)**
Discontinue if asystole or severe bradycardia occur
- **Hypotension** (discontinue if severe).
- **Apnea** (in preterms).
- Recurrence in 30% of treated patients.
- Aminophylline and caffeine ↓ adenosine effect.

Contra-indications

- 2nd or 3rd degree AV block (unless pacemaker fitted)
- Long QT syndrome
- Severe hypotension or Decompensated HF
- Asthma

BNFC2014-15



Adrenaline

1 mg per 1 mL ampoule

1

High Alert
Medication

Uses

Dose

Acute Cardiovascular Collapse; when adequate ventilation and chest compression have failed to increase the HR > 60 bpm

0.1 - 0.3 mL/kg of 1:10,000 concentration (equal to 0.01-0.03 mg/kg), IV push or IC. Given via ETT in high doses up to 0.05-0.1 mg/kg, followed immediately by 1 mL NS Neofax2011

Short-term Use for Systemic Hypotension (If possible correct acidosis before administration of epinephrine to enhance drug effectiveness)

0.1 µg/kg/min IVI up to 1 µg/kg/min

Neofax2011

Aerosol Therapy

0.05-0.15 mL of 1:1000 concentration diluted with NS to 3 mL, q½h, maximum 4 doses Gomella2009

Preparation
for IV use

- For IVI; dilute 1.5 mg/kg to a final volume of 25 mL with D₅W or NS; an IVI rate of 0.1 mL/h provides a dose of 0.1 µg/kg/min; infuse through a central venous catheter

Modified from BNFC2014-15

- **Incompatible with NaHCO₃**

- **Protect from light**

- **Compatible with** dobutamine, dopamine, Lasix™, fentanyl, heparin, midazolam and KCl

- **Maximum infusion concentration** 60 µg/mL

- 1:1000 solution contains 1 mg in 1 mL

- 1:10,000 solution contains 0.1 mg in 1 mL

Adverse
Effects

- **Hypokalemia** and **↑ serum lactate**

- **Hyperglycemia**

- **Arrhythmias** (premature ventricular complexes and VT)

- **Renal ischemia** (add low dose of dopamine with IVI)

- Bolus administration causes **severe hypertension, ICH**

- **↑ Myocardial oxygen requirement**

- Extravasation causes **tissue ischemia and necrosis**



Adrenaline

1 mg per 1 mL ampoule

2

High Alert
Medication

Prescription

- ادرينالين (١ مجم / ١ سم) (١ سم + ٩ سم) ← ١٠-٣٠ شرطة بـسرنجة أنسولين ١٠٠ / كجم وريد (أثناء انعاش القلب)
- ادرينالين (١ مجم / ١ سم) ← ١٠ شرطة بـسرنجة أنسولين ١٠٠ / كجم في الأنبوية الجراحية ثم ١ سم م ملح ٠.٩٪ (أثناء انعاش القلب)
- ادرينالين (١ مجم/١ سم) (١,٥ سم / ١ كجم وتستكمل حتى ٢٥ سم ج ٥٪) وريد بالسرنجة الكهربائية على مدى ٢٤ ساعة بمعدل ١٠٠ سم / الساعة في البداية وتزيد حسب متابعة ضغط الدم إلى ١ سم / الساعة
- نيبولايترز ٥-١٥ شرطة بـسرنجة أنسولين ١٠٠ ادرينالين (١ مجم/١ سم) + ٣ سم م م



Amikin™

Amikacin 500 mg per 2 mL vial

1

G+ve Bacilli resistant to other aminoglycosides (usually combined with a β -lactam antibiotic, in a separate infusion)
Neofax2011

Uses

Dose

PMA (wk)	Postnatal (d)	Dose (mg/kg)	Interval (h)
≤ 29 *	0-7	18 (3.6 mL)	48
	8-28	15 (3 mL)	36
	≥ 29	15	24
30-34	0-7	18	36
	≥ 8	15	24
≥ 35	All	15	24

* or significant asphyxia, PDA or ttt with indomethacin

Preparation

- Available in **500 mg** and **100 mg** per 2 mL vials
- **Compatible** with D₅W, D₁₀W, D₂₀W, and NS
- **IM injection** is associated with variable absorption especially in the very small infants

Adverse Effects

- **↑ Risk of toxicity** occur with impaired renal function, dehydration or with high dosage or prolonged therapy
- **Renal tubulopathy** (reversible) causes ↑ urinary loss of Na, Ca, and Mg
- Vestibular and auditory **ototoxicity** (irreversible)
- **↑ Neuromuscular blockade** when used with pancuronium and in patients with hypermagnesemia.
- DC or adjust dose when there's an evidence of oto- or nephrotoxicity

Serum level

- Measure when treating for > 48h
- Obtain **peak** level 30 minutes after end of infusion or 1 hour after IM injection and **trough** level just prior to the next dose, refrigerate blood sample soon
- **Peak:** 20-30 µg/mL - **Trough:** 2-5 µg/mL



Amikin™

Amikacin 500 mg per 2 mL vial

2

Drug Interactions

Indometacin

↑ Plasma concentration of amikacin and gentamicin.

Loop Diuretics

↑ Risk of ototoxicity

Antibacterials

↑ Risk of nephrotoxicity and ototoxicity when given with teicoplanin or vancomycin

↑ Risk of nephrotoxicity when given with cephalosporins.

Amphotericin

↑ Risk of nephrotoxicity.

Digoxin

Gentamicin possibly ↑ plasma concentration of digoxin.

Prescription

أميكين (٥٠٠ مجم / ٢ سم) (½ سم + ٢٤.٥ سم) ← ... سم يكمل حتى ١٠ سم وريد على مدى نصف ساعة / ... ساعة
أميكين (٥٠٠ مجم / ٢ سم) ← ... شرطة بيسرنجة انسولين ١٠٠ عضل / ٢٤ ساعة



Amiodarone

Cordarone™ 150 mg / 3 mL amp.
200 mg tab.

1

High Alert
Medication

Uses Dose

Class III Antiarrhythmic for Refractory SVT, VT, and Postoperative Junctional Ectopic Tachycardia (JET)

LD: 5 mg/kg IVI over 30-60 min, preferably in a central vein

MD: 7-15 µg/kg/min (10-20 mg/kg/day)

Consider switching to oral therapy within 24-48h

Initially 5-10 mg/kg **PO** q12h for 7-10 days, then reduced to
MD of 5-10 mg/kg q24h

BNFC2014-15

VF or Pulseless VT Refractory to Defibrillation

5 mg/kg over at least 3 min

BNFC2014-15

Preparation

- **Compatible with** D₅W, NS at concentrations of 1-6 mg/mL, heparin, and NaHCO₃
- **Protect from light**
- Infusion solution concentration should be < 2 mg/mL (unless using a central line)

Adverse Effects

Short term toxicity:

- Bradycardia and hypotension (with rapid infusion)
- AV block (unless pacemaker fitted)
- Polymorphic ventricular tachycardia
- Irritation to vessels (concentrations > 2 mg/mL)
- May exacerbate an exciting arrhythmia

Long term toxicity:

- Hyperthyroidism (due to inhibition of T₄ and T₃)
- Hypothyroidism (due to high levels of inorganic iodine)
- Hepatitis and cholestatic jaundice (rare)
- Photosensitivity (10%), nausea and vomiting (10%), optic neuritis (4-9%) and pulmonary fibrosis (4-9%) have been reported with prolonged oral use in adults



Amiodarone

Cordarone™ 150 mg / 3 mL amp.
200 mg tab.

2

High Alert
Medication

Drug Interactions

Amiodarone has a long half-life; there is a potential for drug interactions to occur for several weeks (or even months) after treatment with it has been stopped.

Anti-arrhythmics

↑ Myocardial depression

Antibacterials (erythromycin, co-trimoxazole)

↑ Risk of ventricular arrhythmias - avoid concomitant use

Anticoagulants

Amiodarone ↑ anticoagulant effect

Antiepileptics

Amiodarone inhibits metabolism of phenytoin

Beta-blockers

↑ Risk of bradycardia, AV block, and myocardial depression

Cardiac Glycosides

Amiodarone ↑ plasma levels of digoxin
(halve dose of digoxin)

Diuretics

↑ Cardiac toxicity with amiodarone if hypokalemia occurs

Precautions

- Monitor HR and blood pressure
- ECG monitor and resuscitation facilities must be available during IVI
- **Before Treatment:**
 - Liver-function and thyroid-function tests (then q6mo)
 - Serum K⁺ concentration
 - Pulmonary function tests and CXR

Prescription

كوردارون (١٥٠ مجم/٣ سم) ← ... شرطة بـسرئجة انسولين ١٠٠ وتستكمل حتى ٢٤ سم ج
٥٪ وريد على مدى ٢٤ ساعة بمعدل ١ سم في الساعة
كوردارون (قرص ٢٠٠ مجم) (½ قرص + ٢٠ سم م) ← ... سم بالرايل / ١٢ ساعة



Human Albumin 20%

Uses Dose

Severe Hypoalbuminemia associated with Low Plasma Volume and Generalized Edema

Paracentesis associated with Portal Hypertension

Indication	IV Dose	Administration
Hypovolemia	0.5 g/kg/dose	Infuse 5% albumin over >60 min, may be infused more rapidly (10-20 min) in hypovolemic shock, repeat as needed
Hypoalbuminemia	0.5-1 g/kg/dose	Infuse 5% albumin over >2h, repeat q1-2d. Dilutions may be made with NS or D ₅ W in cases of Na ⁺ restriction

MNC2012

Adverse Effects

- Hypersensitivity reactions (anaphylaxis and urticaria)
- Nausea, and vomiting
- Fever, tachycardia, and chills

Prescription

البيومين (١ جم / ٥ سم) ← سم ... سم ... سم ج. ٥٪ وزيد على مدى ساعتين

Contra-indications

- Cardiac failure
- Severe anemia

Note

- Use vial within 4h of opening



Atropine 1 mg / mL

Reversal of Severe Sinus Bradycardia

particularly when parasympathetic influences on heart (digoxin, beta-blockers, hyperactive carotid sinus reflex) predominate

↓ Muscarinic Effects of Neostigmine

Uses

Dose

IV (over 1 min) or IM: 0.01-0.03 mg/kg/dose q10-15min; maximum total dose of 0.04 mg/kg

ET: 0.01-0.03 mg/kg/dose immediately followed by 1 mL NS

PO: begin with 0.02 mg/kg/dose q4-6h, may ↑ gradually to 0.09 mg/kg/dose

Neofax2011

Duration of action is 6 hours

Adverse Effects

- Cardiac arrhythmias (1st 2 minutes following IV use)
- Fever, especially in brain-damaged infants
- Abdominal distension with decreased bowel activity
- Esophageal reflux (↓ esophageal sphincter tone)
- Mydriasis and cycloplegia

Prescription

أتروبين (١ مجم / ١ سم) (١/٢ سم + ٩.٥ سم ماء مقطر) ← ... سم ورید أو عضل أو بالفم ...

Preparation

- Compatible with D₅W and NS
- IV dosage form can be given PO



Atrovent™

Ipratropium Bromide 250-500 µg / 2 mL

Uses Dose

Anti-cholinergic bronchodilator
Adjunctive treatment of acute bronchospasm

75-175 µg via jet nebulizer q6-8h

Neofax2011

25 µg/kg/dose via nebulizer q8h

Gomella2009

Peak effect within 1-2h, Duration of effect 4-6h

Adverse Effects

- Temporary blurring of vision.
- Precipitation of narrow-angle glaucoma or eye pain (if solution comes into direct contact with the eyes).

Prescription

اتروفنت (۲۵۰ میکروگرام/۲ سم) ← (۰.۶ سم + ۲ سم م م) نیبولایزر / ۸-۶ ساعات
اتروفنت (۵۰۰ میکروگرام/۲ سم) ← (۰.۳ سم + ۲ سم م م) نیبولایزر / ۸-۶ ساعات

Note

- Bronchodilator effect may be potentiated when given with β_2 agonist i.e. albuterol
- Both drugs are compatible when admixed within 1h



Augmentin™ Vials

Co-Amoxiclav 600 mg

Uses

Infections due to beta-lactamase-producing strains including respiratory-tract, bone, joint, genito-urinary, abdominal infections, cellulitis, and animal bites

Dose

30 mg/kg **IV** q12h

BNFC2014-15

0.25 mL/kg **PO** of 156 suspension q8h

BNFC2014-15

Amoxycillin Dose for Listerial Meningitis and GBS

50 mg/kg/dose **IV** (q12h if < 7 days, and q8h if 7–28 days)

Dose may be doubled in meningitis

BNFC2014-15

Adverse Effects

- Diarrhea, and vomiting
- Hypersensitivity reactions, jaundice, and fever.
- Pseudomembranous colitis

Prescription

أوجمنتين (٦٠٠ مجم / ٦٠ سم) ← سم ورید ببطء / ... ساعة
 أوجمنتين شراب (١٥٦ مجم / ٥ سم) ← سم بالفم / ٨ ساعات
 أوجمنتين نقط (٦٢.٥ مجم / سم) ← بالقطارة شرطتين لكل كجم بالفم / ٨ ساعات (يحد أقصى ١٥ كجم)

IV Preparation

- **Augmentin™** 600 mg vial contains 500 mg amoxicillin, 100 mg clavulanic acid, 1.35 mEq Na⁺, and 0.5 mEq K⁺

Hepatic Impairment

- Monitor hepatic function
- Cholestatic jaundice may occur either during or shortly after the use of co-amoxiclav, usually self limiting. The duration of therapy should not usually exceed 14 days.

Dose in Renal Impairment

PO Dose

- GFR 10-30 mL/min/1.73 m² ⇒ use normal dose q12h
- GFR < 10 mL/min/1.73 m² ⇒ use half normal dose q12h

IV Dose

- Cr Cl 10-30 mL/min/1.73 m² ⇒ use normal initial IV dose then half dose q12h
- Cr Cl <10 mL/min/1.73 m² ⇒ use normal initial IV dose then half dose q24h



Averozolid™ susp.

Linezolid 100 mg / 5 ml

Uses
Dose

G+ve bacteria e.g. MRSA, and glycopeptide-resistant *enterococci*
Some Anerobes e.g. *C. perfringens*, *C. difficile*, and *Bacteroides fragilis*

BW (kg)	PNA (d)	IV, PO Dose (mg/kg)	Interval (h)
< 1	≤ 14	10	12
	15-28		8
1-2	≤ 7	10	12
	8-28		8
> 2	All	10	8

Treatment is usually continued for 10-28 d PNDH21

A dose of 12-15 mg/kg/dose q8h has been used in former preterm neonates with endocarditis and ventriculitis (case reports) PNDH21

Linezolid is not active against:
Common Gram negative organisms
Enterobacteriaceae and *Pseudomonas aeruginosa*

Linezolid is not used as empiric treatment BNFC2014-15

Adverse Effects

- Diarrhea (antibiotic-associated colitis)
- Glossitis, tongue discoloration, Gastritis, Vomiting
- Constipation
- Fever
- Hypertension, Polyuria, Electrolyte disturbances
- Leucopenia, thrombocytopenia, eosinophilia
- Optic neuropathy (rare; when receiving linezolid for more than the **maximum recommended duration of 28 days**)

Prescription

أفروزوليد شراب (١٠٠ مجم / ٥ سم) ← ... سم بالقم / ١٢-٨ ساعة
زيفوكس (٢٠٠ مجم / ١٠٠ سم) ← ... سم ويريد على مدى ساعة / ١٢-٨ ساعة

Brands

Zyvox™ 200 mg / 100 mL bags for IV use

Use in Renal Impairment

No dose adjustment necessary but metabolites may accumulate if estimated GFR < 30 mL/min/1.73 m²

Hepatic Impairment

No dose adjustment is necessary but in severe hepatic impairment use only if potential benefit outweighs risk



Bebe-vit™ Drops

Contents Per mL

- **Vit-A** 1.500 IU
- **Vit-D** 400 IU
- **Vit-E** 5 mg
- **Vit-C** 40 mg
- **Thiamine (B₁)** 0.5 mg
- **Riboflavin (B₂)** 0.6 mg
- **Nicotinamide (B₃)** 8 mg
- **Pyridoxine(B₆)** 0.6 mg

بيبي فيت قطارة ← ١ سم بالفم أو بالرايل / ٢٤ ساعة



Sodium Benzoate 10%

Uses

Acute Hyperammonemia

Due to urea cycle disorders; non-ketotic hyperglycinaemia

Dose

Loading of 250 mg/kg followed by up to 250 mg/kg/day PO
divided q6-8h PNDH21

Adverse Effects

- Nausea, vomiting
- Irritability
- Lethargy, coma
- Ketoacidosis (anion gap >15 mEq/L) (drug toxicity)
- Edema (sodium retention)

Prescription

صوديوم بنزوات ١٠٪ (١٠٠ مجم / سم) ← ... سم بالرايل / ٦ ساعات

Sodium Overload

- 100 mg of sodium benzoate contains 0.7 mEq of Na^+

Monitor

- Plasma ammonia until levels stabilize $<200\text{-}300$ $\mu\text{mol/L}$
- Electrolytes, and acid base state



Sodium Bicarbonate 8.4 %

1 mEq NaHCO₃ / mL

Uses Dose

To Correct Normal Anion Gap Metabolic Acidosis caused by Renal or GI Losses

1-2 mEq/kg IVI over at least 30 min

Dose (in mEq) based on Base Deficit

Neofax2011

0.3 X Base deficit (mEq/L) X weight (kg).

Give ½ dose then assess need for remainder

Dose (in mEq) based on HCO₃ level

0.5 X [24 - serum HCO₃⁻ (mEq/L) X weight (kg)]

Give ½ dose then assess need

Dose in Renal Tubular Acidosis (RTA)

MNC2012

2-3 mEq/kg/day in divided doses for type I and IV

As high as 10 mEq/kg/day for proximal RTA (type II)

Can be administrated by IVI or PO

NaHCO₃ is not a recommended therapy in NRP. Administration during prolonged resuscitation remains controversial – use only after adequate ventilation is established with no response to other therapies

Adverse Effects

- IVH (with rapid infusion)
- ↑ PCO₂ → ↓ pH (if given during inadequate ventilation)
- Local tissue necrosis
- Hypocalcemia
- Hypernatremia and hypokalemia

Prescription

صوديوم بيكربونات (٨.٤٪) ← سم ... + سم ٥٪ ورید علی مدى نصف ساعة

IV Preparation

- **Maximum IVI Concentration** 0.5 mEq/mL
- **Recommended IVI Concentration** 0.25 mEq/mL
- **Na Content** is 1 mEq/mL (of the 8.4% vial)
- **Also available as** NaHCO₃ 5% (0.6 mEq HCO₃⁻/mL)
- **Compatible with** D₅W, D₁₀W, NS, furosemide, heparin, insulin, and KCl
- **Incompatible with** dobutamine, dopamine, epinephrine, MgSO₄, midazolam, and norepinephrine



Biotin Forte™

Biotin 5 mg cap.

Uses

Isolated Carboxylase Defects

BNFC2014-15

5 mg once daily, adjusted according to response; usual maintenance 10-50 mg daily, higher doses may be required

Dose

Defects of Biotin Metabolism

BNFC2014-15

10 mg once daily adjusted according to response; usual maintenance 5-20 mg daily, higher doses may be required

Prescription

بيوتين ٥ مجم كبسول + ٥ سم ماء مقطر ← ... سم بالرايل / ٢٤ ساعة

Preparation

- Capsule should be mixed with food or drink



Brufen™

Ibuprofen 100 mg / 5 mL Syrup

Uses Dose

Closure of PDA

Standard-dose Therapy

Neofax2011 & PNDH21

1st dose 10 mg/kg - 2nd and 3rd doses 5 mg/kg PO

High-dose Therapy

PNDH21

1st dose 20 mg/kg - 2nd and 3rd doses 10 mg/kg PO

Administer at 24h intervals

Course may be repeated after 48h if necessary

BNFC2014-15

Not indicated for IVH prophylaxis

Adverse Effects

- Less severe decrease in UOP than indomethacin
- Inhibit platelet aggregation

Prescription

بروفين شراب (١٠٠ مجم / ٥ سم) ← ... بالرايل / ٢٤ ساعة بعد الرضاعة

Contra- indications

- Preterms with infection, thrombocytopenia or coagulation defects, NEC, significant renal dysfunction and CHD with duct-dependent systemic blood flow

Neofax2011



Caffeinospire™

Caffeine Citrate 20 mg / mL

Uses Dose

Idiopathic Apnea of Prematurity

Neofax2011&PNDH21

LD: 20-25 mg/kg IV over 30 min or PO

MD: 5-10 mg/kg/dose q24h IV slowly or PO

May consider **an additional LD** (up to 80 mg/kg) and **higher MD** (up to max. 20 mg/kg/day) if able to monitor serum levels

Caffeine citrate decreases the rate of BPD if started during the 1st 10 days of life in infants with BW of 500-1250 g. It also improves the rate of survival without neurodevelopmental disability at 18-21 months corrected age.

Adverse Effects

- Restlessness
- Vomiting
- Functional cardiac symptoms
- May be associated with NEC (not proved)
- Monitor HR; withhold dose if > 180 bpm

Prescription

كافينوسبير شراب (٢٠ مجم/سم) ← ... سم بالفم بعد الرضاعة / ٢٤ ساعة
كافينوسبير ورید (٢٠ مجم/سم) ← ... سم ورید على مدى نصف ساعة / ٢٤ ساعة

Serum Level

- Therapeutic trough level on D₅ of therapy 5-25 µg/mL



Calcium Chloride 10%

Acute Treatment of Symptomatic Hypocalcemia Neofax2011

0.35-0.7 mL/kg/dose IV

Dilute, then infuse over 10-30 min while monitoring for bradycardia; stop if HR < 100 bpm

Uses

Dose

Maintenance Replacement

Neofax2011

0.75-3 mL/kg/day IVI for 3-5 days

During Exchange Transfusion

Neofax2011

0.33 mL/100 mL blood exchanged, IVI over 10-30 min

Adverse Effects

- Metabolic acidosis (more likely than calcium gluconate)
- Bradycardia or cardiac standstill with rapid infusion
- Skin necrosis or calcium deposition with extravasation
- Bolus infusion by UAC is associated with intestinal bleeding and lower-extremity tissue necrosis
- Infusion by UVC may result in hepatic necrosis if it is lodged in a branch of the portal vein

Prescription

كالمسيوم كلورايد ١٠٪ ← سم ... + سم ج ٥٪ ورید ببطء شديد / ٦ ساعات

Preparation

- Each 1 mL = 100 mg Ca chloride = 27 mg elemental Ca
- Don't give intra-arterially
- **Compatible with** D₅W, D₁₀W, NS, amikacin, amiodarone, dobutamine, dopamine, epinephrine, hydrocortisone, milrinone, morphine, and prostaglandin E1
- **Incompatible with** amphotericin B, NaHCO₃, and Mg salts



Calcium Gluconate 10%

Acute Treatment of Symptomatic Hypocalcemia Neofax2011

1-2 mL/kg/dose IV

Dilute, then infuse over 10-30 min while monitoring for bradycardia; stop if HR < 100 bpm

Uses

Dose

Maintenance Replacement

Neofax2011

2-8 mL/kg/day IVI for 3-5 days

During Exchange Transfusion

Neofax2011

1 mL/100 mL blood exchanged, IVI over 10-30 min

Administration by continuous infusion is more efficacious than intermittent bolus dosing due to less renal calcium loss

Adverse Effects

- Bradycardia or cardiac standstill with rapid infusion
- Skin necrosis or calcium deposition with extravasation
- Bolus infusion by UAC is associated with intestinal bleeding and lower-extremity tissue necrosis
- Infusion by UVC may result in hepatic necrosis if it is lodged in a branch of the portal vein

Prescription

كالمسيوم جلوكونات ١٠٪ ← سم + سم ج ٥٪ ورید ببطء شديد / ٦ ساعات

Preparation

- Each 1 mL = 100 mg Ca chloride = 9.3 mg elemental Ca
- Don't give intra-arterially
- **Compatible with** D₅W, D₁₀W, NS, amikacin, amiodarone, dobutamine, dopamine, epinephrine, hydrocortisone, milrinone, morphine, and prostaglandin E1
- **Incompatible with** amphotericin B, NaHCO₃, and Mg salts



Capoten™

Captopril 25 mg tab.

1

Uses

Dose

Moderate to Severe Hypertension

Afterload Reduction in Patients with CHF

0.01 - 0.05 mg/kg/dose PO q8-12h

Neofax2011

PT infants: 0.01 - 0.05 mg/kg/dose PO q8-12h

FT infants: 0.05 - 0.1 mg/kg/dose PO q8-24h

Max. dose: 0.5 mg/kg/dose PO q6-24h

MNC2012

Administer 1 h before feeding

Prescription

كابوتين (½ قرص ٢٥ مجم / ١٢.٥ سم ماء مقطر) ← ... شرطة بيسرنجة انسولين ١٠٠ بالفم
قبل الرضاعة بساعة / ١٢ ساعة

Adverse Effects

- **Jaundice or ↑ liver enzymes indicate immediate drug withdrawal**

MNC2012

- Hypotension, rash, and fever
- Eosinophilia, and neutropenia
- GI disturbances
- ↓ Cerebral blood flow (seizures, apnea, and lethargy)
- ↓ Renal blood flow (oliguria)
- ↑ K⁺ (if receiving K-sparing diuretics or K⁺ supplements)

Contra-indications

- Bilateral renovascular disease or with unilateral renal artery stenosis in a solitary kidney

Note

- **Onset of action** is 15 min after a dose, with **peak effects** seen in 30-90 minutes. **Duration of action** is usually 2-6 hours, but may be significantly longer (>24 hours)



Capoten™

Captopril 25 mg tab.

2

Drug Interactions

General Anesthetics

↑ Hypotensive effect

NSAIDs

↑ Risk of renal impairment

Antagonize hypotensive effect

Antacids

Absorption of ACE inhibitors possibly ↓

Heparins

↑ Risk of hyperkalemia

Beta-blockers

↑ Hypotensive effect

Calcium-channel Blockers

↑ Hypotensive effect

Digoxin

Captopril possibly ↑ plasma concentration of digoxin

Corticosteroids

Hypotensive effect of ACE-i is antagonized

Diazoxide

↑ Hypotensive effect

Diuretics

↑ Hypotensive effect

↑ K⁺ with K⁺-paring diuretics and aldosterone antagonists

Potassium Salts

↑ Risk of severe hyperkalemia

Prostaglandins

↑ Hypotensive effect



CecloR™

Cefaclor susp. 125 mg / 5 mL

Uses

Dose

Acute Otitis Media Infection, H. Influenzae Pneumonia, Lower Respiratory Infections, Pharyngitis, Pneumonia, Skin Infection, Strept. Pneumonia, Tonsillitis, URT Infection, and UTI Infections

(For children 1 m - 12 y)

20 mg/kg/day in 3 divided doses, doubled for severe infection (usual max. 1 g daily)

BNFC2014-15

Adverse Effects

Most Frequent

Serum Sickness, Vulvovaginal Candidiasis

Less Frequent

Diarrhea, Oral Candidiasis, Vomiting

Rare

Allergic Reactions, Fever, Erythema Multiforme, Hemolytic Anemia, Hypoprothrombinemia, Pseudomembranous Enterocolitis, Renal Disease, Seizure, Stevens-Johnson Syndrome

Prescription

سيكلور شراب (١٢٥ مجم / ٥ سم) ← ... سم بالفم / ٨ ساعات

Use in Renal Impairment

- No dosage adjustment required



Cefazolin

Zinol™ Vial 1 g / 10 mL

Uses
Dose

Peri-operative Infection Prophylaxis

UTI and soft tissue infections

e.g. penicillin resistant Staph. aureus, Klebsiella, and Proteus

25 mg/kg/dose IV slow push or IM

Neofax2011

PMA (wk)	Postnatal (d)	Interval (h)
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

Bactericidal 1st generation cephalosporin

Mainly G+ve with Poor CNS Penetration

Adverse
Effects

- Phlebitis
- Eosinophilia

Prescription

زینول (۱ جم / ۱۰ سم) (۱ سم + ۹ سم) ← ... سم ورید / ۸ ساعات
زینول (۱ جم / ۴ سم) ← ... سم عضل / ۸ ساعات

Preparation

Compatible with D₅W, D₁₀W, and NS



CefdinTM

Cefdinir 125 mg / 5 mL susp.

Uses

Dose

3rd generation cephalosporin Active against

G+ve organisms

e.g. H. influenza, Enterobacteriaceae, Citrobacter sp., E. coli, Klebsiella, and Proteus

G+ve organisms

e.g. Staph. aureus, Staph. epidermidis, strept. Pneumonia, and Strept. pyogenes

14 mg/kg/day PO

Once-daily dosing is as effective as twice daily dosing

Adverse Effects

- Diarrhea, loose stools
- Nausea, vomiting, abdominal pain
- Abnormal liver tests
- Allergic reactions

Prescription

سيفدين شراب (١٢٥ مجم / ٥ سم) ← ... سم بالقلم / ١٢ ساعة

Storage

Keep suspension in the fridge for up to 10 days after reconstitution



Cetal™

Acetaminophen 250 mg / 5 mL syrup

Uses Dose

Fever Reduction

Neofax2011

Mild to Moderate Pain

Loading of 20-25 mg/kg **PO** then 12-15 mg/kg/dose

Loading of 30 mg/kg **rectal** then 12-18 mg/kg/dose

IV Dose for PT neonate > 32 weeks PMA

7.5 mg/kg q8h; max. 25 mg/kg/day

BNFC2014-15

Gestational Age	Interval	Neofax2011
FT	q6h	
PT ≥ 32 wk PMA	q8h	
PT < 32 wk PMA	q12h	

Brands

- Abimol™ 300 mg ped. supp.
- Abimol™ syrup 125 mg / 5 mL
- Cetal™ 120 mg supp.
- Cetal™ Abimol™ Pyral™ drops 100 mg / mL
- Paracetamol™ Paramol™ syrup 120 mg / 5 mL
- Perfalgan™ Injectamol™ 10 mg / mL IV vials
- Pyral™ syrup 125 mg / 5 mL
- Tempra™ syrup 160 mg / 5 mL

Adverse Effects

- Liver toxicity
(if prolonged administration > 48h or excessive dosing)
- Rash, fever
- Thrombocytopenia, leucopenia, and neutropenia
- Routine prophylactic use of acetaminophen at the time of vaccination is not recommended because of a potential reduction in antibody response

Prescription

سيتال شراب (٢٥٠ مجم / ٥ سم) ← ... سم بالفم / ... ساعة
 سيتال قطارة (١٠٠ مجم / ١ سم) ← ٢ نقطة لكل ١ كجم بالفم / ... ساعة
 سيتال لبوس أطفال (١٢٥ مجم) ← ... لبوس شرجي / ... ساعة
 بيرفالجان (١٠٠ مجم / سم) ← ... سم ويريد على مدى ربع ساعة

IV Preparation

- Use **Perfalgan™** either undiluted or dilute to a concentration of 1 mg/mL in D₅W or NS
- Use within 1h of dilution



Chloral Hydrate 10%

500 mg / 5 mL

Uses

Sedative-Hypnotic (short term use only)

Onset within 10-15 min

Dose

25-50 mg/kg/dose **PO**

MNC2012

No analgesic properties

Adverse Effects

- Gastric irritation
- Paradoxical excitation in infants with pain
- Allergic manifestation
- **Acute overdose:** CNS, respiratory and myocardial depression, cardiac arrhythmias, ileus, and bladder atony
- Indirect hyperbilirubinemia

Contra-indications

Significant hepatic or renal disease

Prescription

كلورال هيدرات شراب ← ... سم بالفم عند اللزوم (نصف الوزن)

Storage

- Oral preparation should be diluted or administrated after a feeding to reduce gastric irritation
- Preparation is light sensitive



Cidamex™

Acetazolamide 250 mg tab.

Uses Dose

Diuretic

5 mg/kg/dose q24h **IV** or **PO**

Anticonvulsant (Refractory Neonatal Seizures)

4-16 mg/kg/day **PO** divided q6-8h
(max. 30 mg/kg/day or 1 g/day)

Urine Alkalinization

5 mg/kg/dose **PO** 2-3 times over 24h

↓ CSF production in Post-hemorrhagic Hydrocephalus

5 mg/kg/dose **IV** or **PO** q6h increased by 25 mg/kg/day to a
max. of 100 mg/kg/day

Lasix™ may be used in combination

Adverse Effects

- GI irritation
- Anorexia
- Transient hypokalemia
- Hyperchloremic metabolic acidosis
- Growth retardation
- Bone marrow suppression, thrombocytopenia, hemolytic anemia, pancytopenia and leucopenia
- Drowsiness
- Paresthesias

Prescription

سیدامکس (۲۵۰ مجم قرص / ۱۰ سم) ← ... بالرائیل بعد الرضاعة / ۶ ساعات

Monitor

- Serum electrolytes (contraindicated with ↓K⁺ and ↓Na⁺)
- Plasma pH and Chloride

Brands

- **Diamox™** 250 mg tab.



Ciprofloxacin

Rancif™ vial 200 mg / 100 mL

Uses Dose

Septicemia caused by multi-resistant organisms
Complicated Urinary Tract Infections
Severe Respiratory and GI Tracts Infections

6-10 mg/kg/dose q12h **IVI** over 60 min

BNFC2014-15

Pseudomonal lower respiratory-tract infection in infants with cystic fibrosis > 1 mo

10 mg/kg **IV** q8h

BNFC2014-15

Spectrum

- **Mainly G-ve**
e.g. Salmonella, Shigella, Campylobacter, Neisseria and Pseudomonas
- **Moderate activity against G+ve**
e.g. Strept. pneumoniae and Enterococcus faecalis
- **Chlamydia and some mycobacteria**
- Most anaerobes are **not** susceptible
- **Avoid** use with MRSA (resistant)
- **Not** used for pneumococcal pneumonia

Adverse Effects

- Nausea, vomiting, and diarrhea
- Skin rash
- Abnormal liver function
- Arthropathy in the weight-bearing joints (significance in humans is uncertain) BNFC2014-15
- Used with caution with seizures, G6PD deficiency, myasthenia gravis (risk of exacerbation) BNFC2014-15
- Used with caution with risk factors for QT interval prolongation BNFC2014-15

Prescription

سيبرو (٢٠٠ جم / ١٠٠ سم) ← سم ويريد على مدى ساعة / ١٢ ساعة

Use in Renal Impairment

- Cr Cl <20 mL/min/1.73 m² ⇔ use half normal dose



Claforan™

Cefotaxime 500 mg / 5 mL

Uses Dose

Neonatal Meningitis and Sepsis

50 mg/kg/dose **IVI** over 30 min, or **IM**

Neofax2011

Dose doubled in severe infection and meningitis **BNFC2014-15**

PMA (wks)	Postnatal (D)	Interval (h)
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

Disseminated Gonococcal Infections

Neofax2011

25 mg/kg/dose **IVI** over 30 min, or **IM** q12h for 7 days (up to 10-14 days if meningitis is documented)

Spectrum

- G-ve Organisms

e.g. E. coli, H. influenzae and Klebsiella

Adverse Effects

- Rash, Phlebitis and Diarrhea
- Leucopenia, granulocytopenia, and eosinophilia

Prescription

كلافوران (٥٠٠ مجم / ٥ سم) ← ... سم وريد على مدى نصف ساعة / ... ساعة
كلافوران (٥٠٠ مجم / ٢ سم) ← ... شرطة بـ ١٠٠ أنسولين / ... عضل ... ساعة

IV Preparation

- **Compatible with** D₅W, D₁₀W and NS

Use in Renal Impairment

- Cr Cl <5 mL/min/1.73 m² ⇒ use usual initial IV dose then half dose



Clexane™

Enoxaparin sodium (LMWH) 100 mg / mL

Uses Dose

Initial Treatment of Thrombosis

Neofax2011

Adjust dose to maintain anti-factor Xa level between 0.5-1 units/mL

(FT infants) 1.7 mg/kg/dose **SubQ** q12h

(PT infants) 2 mg/kg/dose **SubQ** q12h

(> 3 mo of age) 1 mg/kg/dose **SubQ** q12h

Low Risk Prophylaxis

Neofax2011

Adjust dose to maintain anti-factor Xa level 0.1-0.4 units/mL

0.75 mg/kg/dose **SubQ** q12h

0.5 mg/kg/dose **SubQ** q12h (> 3 mo of age)

Adverse Effects

- Bleeding (even in therapeutic range)
- Hematoma at administration site
- Compartment syndrome
- IC and GI hemorrhage

Prescription

كلكيان (١٠٠ مجم / سم) ← ... شرطة تحت الجلد / ١٢ ساعة

Preparation

- **Compatible with** NS and sterile water
- **Clexane™** 0.2, 0.4, 0.6, and 0.8 mL prefilled syringes
- **Each 2000 anti-Xa IU is equivalent to 20 mg**

Monitor

- Anti-factor Xa 4h after a dose.
- Dose adjustment 1-2 times/month after attaining target



Coenzyme Q10™

Ubiquinone 30 mg cap.

Uses

Dose

Inherited Mitochondrial Respiratory Chain Disorders

(1) encephalomyopathy characterized by the triad of recurrent myoglobinuria, brain involvement and ragged red fibres; (2) severe infantile multi-systemic disease; (3) cerebellar ataxia; (4) Leigh syndrome; (5) steroidresistant nephrotic syndrome; and (6) isolated myopathy

Begin with 5-15 mg/kg/day in 3-4 divided doses with food.

The dose should be adjusted according to response (up to 200-300 mg daily may be required)

nnf7

Adverse Effects

- Nausea
- Diarrhea

Prescription

كوانزيم-كيو (٣٠ مجم كبسول / ٥ سم) ← ... سم بالرايل / ٨ ساعات



Colimex™

Colistin Sulphate 50.000 unit / mL

Uses

Gut Sterilization

Dose

150.000 units/kg **PO** divided into 3-4 doses

Prescription

كوليمكس شراب (٥٠٠٠٠ وحدة / سم) ← ... سم بالفم / ٨ ساعات

Preparation

- Not used for GI infections by oral route
- Colistin Sulfate 3.000.000 units equiv. to Colistin Base 100 mg



Curosurf™

Poractant alfa Suspension 1.5-3 mL vials

1

Treatment of RDS

100-200 mg/kg (1.25-2.5 mL/kg); further doses of 100 mg/kg (1.25 mL/kg) may be repeated at intervals of 12 hours
BNFC2014-15

Uses

Dose

Prophylaxis of RDS

100-200 mg/kg (1.25-2.5 mL/kg) soon after birth (preferably within 15 min); further doses of 100 mg/kg (1.25 mL/kg) may be repeated q6-12 h later and after a further 12 h if still intubated
BNFC2014-15

Maximum total dose 300-400 mg/kg (3.75-5 mL/kg)

BNFC2014-15

Preparation

- Curosurf™ is supplied in single-use glass vials containing **1.5 mL** (120 mg phospholipids) or **3 mL** (240 mg phospholipids)
- Stored in a refrigerator at +2° to +8°C

Adverse Effects

- Rarely hypotension
BNFC2014-15
- Babies born following very prolonged rupture of membranes (>3 weeks) may not show optimal response
Product Leaflet

Monitor

- ETT patency and position
- O₂ saturation, ECG, and blood pressure
- Impaired gas exchange caused by blockage of the airway
- Frequent assessment of oxygenation / ventilation



Curosurf™

Poractant alfa Suspension 1.5-3 mL vials

2

Administration

- 1 | Before use, vials should be warmed to 37°C and gently turned upside down in order to obtain a uniform suspension
- 2 | Suspension should be withdrawn from the vial using a sterile syringe and instilled as a single bolus directly into the lower trachea
- 3 | This is followed by 1 minute of manual ventilation (or connected to the ventilator) with FiO₂ equivalent to that on the ventilator
- 4 | Reconnection to the ventilator is initially made at the same settings as before administration. However, prompt adjustment may then be required according to the clinical status and blood gas analysis (monitor for hyperoxia)



The choice of surfactant for treatment of RDS in preterm infants: A review of the evidence



Cymevene™

Ganciclovir 500 mg / 10 mL

Uses Dose

Symptomatic Congenital CMV Infection of the CNS
Prevents progressive hearing loss and developmental delays

6 mg/kg/dose q12h **IVI** over 1h for a minimum of 6 weeks

Chronic Oral Suppression

30-40 mg/kg/dose q8h **PO**

Adverse Effects

- **Significant neutropenia**
Reduce the dose by half if < 500 cells/mm³
Stop if not resolved
- **Anemia and thrombocytopenia**
Monitor CBC every 2-3 days during 1st 3 wks, then weekly if stable

Prescription

سيميفين (٥٠٠ مجم / ١٠ سم) (١ سم + ٩ سم) ← ... سم وريد على مدى ساعة / ١٢ ساعة



Dalacin-C™

Clindamycin 600 mg / 4 mL

Bacteremia, pulmonary and deep tissue infections (bacteriostatic)

5-7.5 mg/kg/dose **IVI** over 30 minutes, or **PO** Neofax2011

Uses

Dose

PMA (wks)	Postnatal (D)	Interval (h)
≤ 29	0-28 >28	12 8
30-36	0-14 >14	12 8
37-44	0-7 >7	12 8
≥ 45	All	6

Should NOT be used in ttt of meningitis (poor CSF penetration)

Spectrum

- **Aerobic bacteria**
- **Some G+ve cocci**

Adverse Effects

- **Pseudomembranous colitis**
Bloody diarrhea, abdominal pain, and fever
Treatment with drug discontinuation, bowel rest, TPN, and consider oral metronidazole

Therapeutic Serum Level

- 2-10 µg/mL

Prescription

دالاسين-سي (٦٠٠ مجم / ٤ سم) (٠.٥ سم + ١٤.٥ سم) ← ... سم وزيد على مدى نصف ساعة / ٨ ساعات

IV Preparation

- **Compatible with** D₅W, D₁₀W and NS

Hepatic Impairment

- Increase dosing interval



Dexamethasone

Decadron™ 8 mg/2 mL amp.

Orazone™ 0.5 mg /5 mL syrup

1

Anti-inflammatory to facilitate extubation and Improve Lung Function in Infants at higher risk for BPD

Uses

Dose

Begin Treatment after D7 but before D14 of Life

Short Course
may repeat weekly if
necessary

D1

0.1 mg/kg q12h

D2

0.075 mg/kg q12h

D3

0.05 mg/kg q12h

Long Course

D1

0.1 mg/kg q12h

D2

0.1 mg/kg q12h

If no response after 48-72h, Stop
If patient responds, continue

D3

0.075 mg/kg q12h

D4

0.075 mg/kg q12h

D5

0.05 mg/kg q12h

D6

0.05 mg/kg q12h

D7

0.05 mg/kg q12h

D8

Off

D9

0.05 mg/kg q12h

D10

End

MNC2008

DART (Dexamethasone: A Randomized Trial) Protocol (IV, PO)

0.075 mg/kg/dose

q12h

for 3 days

0.05 mg/kg/dose

q12h

for 3 days

0.025 mg/kg/dose

q12h

for 2 days

Neofax2011

Extubation/Airway Edema

0.25-0.5 mg/kg once, ay repeat q8h for a total of 4 doses
starting 4h before extubation

MNC2012

Prescription

ديكادرون (8 مجم / 2 سم) (1 سم + 3 سم م م) ← ... وريد ببطء / ١٢ ساعة
أورازون شراب (0.5 مجم / 5 سم) ← ... سم بالفم / ١٢ ساعة

**IV
Preparation**

- **Compatible with D₅W and D₁₀W**

Brands

- **Phenadone™** syrup contains 0.5 mg dexamethasone and 2 mg chlorpheniramine maleate per 5 mL



Dexamethasone

Decadron™ 8 mg/2 mL amp.

Orazone™ 0.5 mg /5 mL syrup

2

Brands

- Epidron™ 4 mg/mL vial

Adverse Effects

- ↑ Risk of CP (no ↑ in risk of ROP)
- ↑ Risk of sepsis
- Adrenal insufficiency due to pituitary suppression
- Cardiac effects on D₁₄ of therapy include ↑ LV wall thickness with outflow tract obstruction, transient impairment of LV filling, and ST segment depression
- GI perforation and hemorrhage occur more in patients treated beginning in D₁ of life and in those treated concurrently with indomethacin
- Hyperglycemia, and glycosuria
- Hypertension, Na⁺ and water retention
- Hypokalemia, hypocalcemia, and hypertriglyceridemia
- Osteopenia and inhibition of growth
- Renal stones (in patients receiving Lasix™)

Monitor

- Blood pressure and hyperglycemia during acute illness
- Lipid profile (hyperlipidemia)
- Guaiac gastric aspirate
- Echocardiography if treating longer than 7 days

Monitor

- Blood pressure and hyperglycemia during acute illness
- Lipid profile (hyperlipidemia)
- Guaiac gastric aspirate
- Echocardiography if treating longer than 7 days



Dexamethasone

Decadron™ 8 mg/2 mL amp.

Orazone™ 0.5 mg / 5 mL syrup

3

Drug Interactions

ACE Inhibitors

Corticosteroids antagonize hypotensive effect

Analgesics

↑ Risk of GI bleeding and ulceration when given with NSAIDs

Antibacterials

Metabolism is possibly inhibited by erythromycin

Antiepileptics

Metabolism is ↑ by phenytoin (↓ effect)

Amphotericin

↑ Risk of hypokalemia - avoid concomitant use unless corticosteroids needed to control reactions

Barbiturates

Metabolism is ↑ by barbiturates (↓ effect)

Beta-blockers

Corticosteroids antagonise hypotensive effect

Calcium Salts

Corticosteroids ↓ absorption

Cardiac Glycosides

↑ Risk of hypokalemia

Diuretics

Corticosteroids antagonize effect

↑ Risk of hypokalemia

Sodium Benzoate

Corticosteroids possibly ↓ effects

Theophylline

↑ Risk of hypokalemia

Vaccines

Avoid concomitant use with live vaccines

Hydralazine

Corticosteroids antagonize its hypotensive effect



Diflucan™

Fluconazole 2 mg / mL vial
5 mg / mL susp.

1

Uses Dose

Invasive Candidiasis

Loading of 12-25 mg/kg followed by 6-12 mg/kg/dose
IVI over 30 min or PO

GA (wk)	Postnatal (d)	Interval (h)
≤ 29	0-14	48
	>14	24
≥30	0-7	48
	>7	24

Neofax2011

Consider higher doses for treating severe infections

Prophylactic in High Risk VLBW Infants

Neofax2011

3-6 mg/kg/dose twice weekly **IVI over 30 min or PO**

Thrush

Neofax2011

Loading of 6 mg/kg followed by 3 mg/kg/dose q24h PO

Adverse Effects

- Reversible ↑ AST, ALT (in 12%)
- Interfere with metabolism of barbiturates and phenytoin, aminophylline, caffeine, theophylline and midazolam

Prescription

ديفلوكان (٢ مجم/١ سم) ← (١ سم...+سم ج.٥٪) وريد على مدى ساعة الآن ثم (١ سم ... سم ج.٥٪) وريد على مدى ساعة / ... ساعة
ديفلوكان (٢ مجم/١ سم) ← (١ سم...+سم ج.٥٪) وريد على مدى ساعة مرتين أسبوعياً
ديفلوكان (٥ مجم / سم) شراب ← ... سم بالفم في اليوم الاول ثم ... سم بالفم / ٢٤ ساعة

Preparation for IV use

- **Compatible with D₅W and D₁₀W**

Use in Renal Impairment

- Use extended dosing intervals when serum creatinine > 1.3 mg/dL
- Cr Cl < 50 mL/min/1.73 m² ⇒ usual initial dose then halve subsequent doses



Diflucan™

Fluconazole 2 mg / mL vial
5 mg / mL susp.

2

Drug Interactions

Analgesics

Fluconazole possibly ↑ plasma concentration of fentanyl

Antibacterials

Rifampicin ↓ plasma concentration

Antiepileptics

Fluconazole ↑ plasma concentration of phenytoin (consider ↓ dose of phenytoin)

Antifungals

Triazoles possibly antagonise effects of amphotericin

Anxiolytics and Hypnotics

Fluconazole ↑ plasma concentration of midazolam (risk of prolonged sedation)

Theophylline

↑ Plasma concentration of theophylline



Digibind™

Digoxin immune Fab (38 mg per vial)

Uses

Dose

Life Threatening Digoxin Toxicity

$$\text{Dose (number of vials)} = \frac{\text{serum digoxin concentration} \times \text{wt in kg}}{100}$$

IVI over 30 minutes

If cardiac arrest is imminent, it can be given as a bolus injection

Contents

- Each vial contains 38 mg and will bind 0.5 mg digoxin

IV Preparation

- Contents in each vial to be used should be dissolved with 4 mL of Sterile Water for Injection, by gentle mixing, to give a clear, colorless, isosmotic solution with a protein concentration of 9.5 mg/mL
- Reconstituted product should be used promptly, if it is not used immediately, it may be stored under refrigeration at 2-8°C for up to 4h



Dobutamine

250 mg / 5 mL amp.

High Alert
Medication

Neofax2011

Hypoperfusion and Hypotension
especially if related to myocardial dysfunction

2-25 $\mu\text{g/kg/min}$ **IVI**

Begin low and titrate by monitoring effect, **Onset of action** is 1-2 min after IVI with **peak effect** in 10 min., **serum half-life** is several minutes

Uses

Dose

Brand	Concentration	Total Daily Dose
Dobutamine™	250 mg / 5 mL	$\frac{\text{Dose} \times 1.44 \times \text{wt} \times 5}{250}$
Dobutrex™	250 mg / 15 mL	$\frac{\text{Dose} \times 1.44 \times \text{wt} \times 20}{250}$

Adverse
Effects

- Arrhythmias, hypertension, and cutaneous vasodilatation
- Hypotension if patient is hypovolemic. Volume loading is recommended before starting therapy
- Increases myocardial oxygen consumption
- Tachycardia at high dosage
- Tissue ischemia occurs with infiltration

Contra-
indications

- Idiopathic hypertrophic subaortic stenosis

Prescription

دوبوتامين (٢٥٠ مجم / ٥ سم) ← ... شرطة بسرنجة انسولين ١٠٠ + ٢٤ سم ج ٥/٥ وريد على مدى ٢٤ ساعة بمعدل ١ سم / الساعة

IV
Preparation

- **Incompatible with** NaHCO_3 and Lasix™
- **Compatible with** Alprostadil, dopamine, epinephrine, fentanyl, heparin, insulin, MgSO_4 , midazolam, KCl, D₅W, D₁₀W, LR, and NS

$10 \mu\text{g/kg/min} = 0.29 \text{ mL/kg/24h}$ of Dobutamine 250 mg/5 mL = 1.15 mL/kg/24h of Dobutrex™ 250 mg/20 mL



Dopamine

200 mg / 5 mL amp.

**High Alert
Medication**

Neofax2011

Hypotension

2-20 µg/kg/min **IVI**

Begin low and titrate by monitoring effect

Uses

Dose

B and	Concentration	Total Daily Dose
Dopamine™	200 mg / 5 mL	$\frac{\text{Dose} \times 1.44 \times \text{wt} \times 5}{200}$

Adverse Effects

- Tachycardia and arrhythmias
- May increase pulmonary artery pressure
- Reversible suppression of prolactin and thyrotropin
- Tissue sloughing may occur with IV infiltration
- Use higher doses with caution in patients with PPHN

Contra- indications

- Pheochromocytoma
- Tachyarrhythmias or hypovolemia
- Use with caution in pulmonary hypertension

Prescription

دوبوتامين (٢٥٠ مجم / ٥ سم) ← ... شرطة بـسرنجة انسولين ١٠٠ + ٢٤ سم ج ٥ / وريد على مدى ٢٤ ساعة بمعدل ١ سم / الساعة

IV Preparation

- **Incompatible with** NaHCO₃, Insulin, and Lasix™
- **Compatible with** Dobutamine, epinephrine, fentanyl, heparin, MgSO₄, midazolam, KCl, PGE1, D₅W, D₁₀W, LR and NS
- Admixtures exhibiting a color change should not be used

5 µg/kg/min = 0.18 mL/kg/24h of Dopamine 200 mg/5 mL



Dormicum™

Midazolam 15 mg / 3 mL

**High Alert
Medication**

Uses Dose

Sedative

Neofax2011

0.05-0.15 mg/kg **IV over at least 5 min. (or IM)** q2-4h

0.01-0.06 mg/kg/h **IVI**

↑ Dose after several days of therapy due to tolerance or ↑ clearance

0.2-0.3 mg/kg/dose **intranasal** using injectable form.

0.2 mg/kg/dose **sublingual** using injectable form mixed with a small amount of flavored syrup

Anticonvulsant

Neofax2011

Loading of 0.15 mg/kg **IV over at least 5 min**, followed by **IVI** 0.06-0.4 mg/kg/h (1-7 µg/kg/min)

Adverse Effects

- Respiratory depression and respiratory arrest especially when used for sedation in non-critical care settings
- Severe hypotension and seizures with bolus infusion
- Burning sensation with nasal administration
- Seizure-like myoclonus

Prescription

دورميكيم (١٥ مجم / ٣ سم) (٢٠ شرطة بيسرنجة انسولين ١٠٠ مركز وتكمل الى ١٠٠ شرطة ج
٪) ← ... شرطة بيسرنجة انسولين ١٠٠ ورید علی مدى ٥ دقائق / ٢-٤ ساعات
دورميكيم (١٥ مجم / ٣ سم) ← ١,٥ سم لكل ١ كجم وتستكمل حتى ٢٥ سم ج ٥٪ أو محلول
ملح ٠,٩٪ ورید علی مدى ٢٤ ساعة بالسرطنة الكهربائية بمعدل ٠,١ سم / الساعة

Brands

- **Midathetic™** 5 mg / mL amp.

IV Preparation

- For IVI; dilute 7.5 mg/kg to a final volume of 25 mL with D₅W or NS ; an IVI rate of 0.1 mL/h provides a dose of 0.03 mg/kg/h

Modified from BNFC2014-15

- **Incompatible with** albumin, Lasix™ and NaHCO₃
- **Compatible with** D₅W, NS, sterile water for injection, dopamine, dobutamine, epinephrine, fentanyl, heparin, insulin, milrinone, morphine, and KCl



Edemex™

Bumetanide 0.5 mg / 2 mL amp.
1 mg tab.

Uses Dose

Potent loop diuretic used in RF, CHF or significant edema that is refractory to Lasix™

0.005-0.1 mg /kg/dose **IV** slow push, **IM**, or **PO** Neofax2011

Given q24h in the 1st 2 months of life then q12h afterwards

Infants with lung disease and normal kidneys should be started on a low dose while those with CHF or RF will need a higher dose

Adverse Effects

- Water and electrolytes imbalances; hyponatremia, hypokalemia and hypochloremic alkalosis
- Potentially ototoxic (less than Lasix™)
- May displace bilirubin from albumin binding sites when given in high doses or for prolonged periods

Prescription

إديمكس (٠.٥ مجم / ٢ سم) ← ... شرطة بيسرنجة انسولين ١٠٠ وريد / ١٢ ساعة
إديمكس أقراص (١ مجم / ١٠ سم) ← ... شرطة بيسرنجة انسولين ١٠٠ بالفم / ١٢ ساعة

Note

- Monitor serum K⁺ level specially when receiving digoxin concurrently

IV Preparation

- Compatible with D₅W, NS, Lasix™, milrinone and morphine
- Incompatibe with dobutamine and midazolam



Eltroxen™ tab.

Levothyroxine T₄ 50 µg

Uses Dose

Hypothyroidism

Initial Oral Dose is 10-14 µg/kg/dose q24h (37.5-50 µg/dose for an average term infant).

Dosage is adjusted in 12.5 µg increments.

Initial IV Dose is 5-8 µg/kg/dose q24h

Neofax2011

Adverse Effects

- Prolonged overtreatment can produce premature craniosynostosis and acceleration of bone age

Prescription

التروكسين (قرص ٥٠ ميكروجرام يذاب في ٥ سم ماء مقطر) ← ... سم بالفم كل ٢٤ ساعة

Laboratory Follow up

- **T₄ and TSH are measured at 2 weeks of age, then every 1-2 months or 2 weeks after any change in dosage**
- **After 2 weeks of treatment Serum**
T₄ level should be in the high normal range (10-16 µg/dL) and should be maintained in this range for the 1st year of life. T₃ level should be normal (70-220 ng/dL) and TSH should have declined from initial value
- **After 12 weeks of treatment**
Serum TSH should be in the normal range (< 15 mU/L)

Clinical Follow up

- **Signs of Hypothyroidism**
Lethargy, poor feeding, prolonged neonatal jaundice, constipation, and intermittent cyanosis
- **Signs of Thyrotoxicosis**
Hyperactivity, altered sleep pattern, fever, tachycardia, tachypnea, exophthalmos, and goiter
- **Growth, development, and bone-age advancement**



EMLA™ cream

Lidocaine 2.5% and Prilocaine 2.5%

Uses

Dose

Topical Analgesia for Circumcision

Apply 1-2 gm to distal half of penis then wrap with the occlusive dressing. Allow dressing to remain intact for 60-90 min, remove and clean treated area completely prior to circumcision to avoid systemic absorption

Neofax2011

Maximum 1 dose in 24 hours

BNFC2014-15

Adverse Effects

- Blanching and redness resolve without treatment
- Methemoglobinemia (with application of > 3 gm)

Contra-indications

- Congenital or idiopathic methemoglobinemia
- With other drugs causing methemoglobinemia
e.g. sulfonamides, acetaminophen, nitrates, nitroglycerin, nitroprusside, phenobarbital, and phenytoin

Note

- Not effective for heel lancing



Epanutin™ or Ipanten™

Phenytoin

Uses Dose

Anticonvulsant for seizures refractory to phenobarbital

LD: 15-20 mg/kg IVI over at least 30 min

Neofax2011

MD: 4-8 mg/kg q24h IV slow push or PO

Up to 8 mg/kg/dose q8-12h after 1 week of age

Flush IV with saline before and after administration

Adverse Effects

- Extravasation → inflammation and necrosis
- Hypersensitivity reactions
- High serum concentration is associated with seizures
- **With long term therapy**
Arrhythmias, hypotension, gingivitis, nystagmus, rickets, hyperglycemia, and hypoinsulinemia

Prescription

إيبانوتين (٢٥٠ مجم / ٥ سم) (١ سم + ٩ سم م ملح ٠.٩٪) ← ... سم ورید علی مدى نصف ساعة ثم ... سم ورید ببطء / ١٢ ساعة
إيبانتن شراب (٣٠ مجم / ٥ سم) ← ... سم بالشم / ١٢ ساعة

Serum Level

- Therapeutic level is 6-15 µg/mL in the 1st weeks, then 10-20 µg/mL due to change in protein binding
- Obtain initial trough level after 48h of IV LD

IV Preparation

- Incompatible with D₅W, and D₁₀W
- Avoid use in central lines; may precipitate.
- Not to be given IM



Epicephin™

Ceftriaxone 0.5 - 1 g Vials

Uses Dose	G-ve Sepsis Neofax2011 e.g. <i>E. coli</i> , <i>Pseudomonas</i> , <i>Klebsiella</i> , <i>H. influenzae</i> 50 mg/kg q24h IVI over 30 min, or IM
	Meningitis Neofax2011 100 mg/kg LD then 80 mg/kg q24h
	Disseminated Gonococcal Infection Neofax2011 25-50 mg/kg q24h IVI over 30 min, or IM in a single daily dose for 7 days with a duration of 10-14 days if meningitis is documented
	Gonococcal Infection, Prophylaxis Neofax2011 Uncomplicated Gonococcal Ophthalmia 25-50 mg/kg (maximum 125 mg) IVI or IM single dose

Adverse Effects	- Not recommended for use with hyperbilirubinemia; it displaces bilirubin from albumin binding sites - Concurrent use of Ca-Containing solutions or products is contraindicated within 48h of the last dose of ceftriaxone - Eosinophilia, thrombocytosis, and leukopenia - Rash - ↑ Bleeding time - Diarrhea - Transient gall bladder precipitations (± abdominal pain, nausea, and vomiting) - ↑ AST, ALT, BUN, and serum creatinine
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Prescription	ابيسفين وريد (١ جم / ١٠ سم ماء مقطر) ← ... سم وريد على مدى نصف ساعة / ٢٤ ساعة ابيسفين عضل (٥٠٠ مجم / ٢ سم) ← ... سم عضل / ٢٤ ساعة
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Brands (IM and IV)	- Ceftriaxone™ 250, 500, and 1000 mg vials - Longacef™ 1000 mg vial - Rociphen™ (not available anymore) - Triaxone™ 500, and 1000 mg vials
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IV Preparation	- Compatible with D₅W, D₁₀W and NS
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Epoetin alpha

Eprex™ 2000 iu / 0.5 mL

Uses Dose

↓ Need for PRBCs transfusion in high risk preterms (ELBW < 800 gm with phlebotomy losses > 30 ml/kg)

200-400 iu/kg/dose, 3-5 times per week for 2-6 weeks

Total dose per week is 600-1400 iu/kg

Neofax2011

Administer **SubQ** or **IVI** (over ≥ 4h or continuously in TPN)

Supplemental iron, adequate proteins and Vit-E should be initiated concurrently

Increases Feeding Tolerance in Preterm Infants

88 IU/ kg q24h **PO** (diluted into 1 ml distilled water) till the enteral intake reached 100 mL/kg of milk, or after a maximum of 7 days

Awad et al., 2014

Adverse Effects

- Neutropenia

Rare, resolves with discontinuation of the drug

Monitor CBC weekly

Prescription

إيبركس (٢٠٠٠ وحدة / ٠.٥ سم) ← ... شرطة تحت الجلد يوم بعد يوم

Storage

- Store between 2-8°C
- Don't shake or freeze
- Undiluted epoetin is stable plastic syringes for 2 weeks

IV Preparation

- Dilute in 2 mL of solutions containing at least 0.05% protein and infuse over 4 hours
- Stable for 24h

Awad HA, El-Ganzoury MM, El-Farrash RA, et al. (2014): Enteral Granulocyte-Colony Stimulating Factor and Erythropoietin Early in Life Improves Feeding Tolerance in Preterm Infants: A Randomized Controlled Trial. *J Pediatr*; 165(6) 1140-5.e1



Erythromycin

Erythrocin™ 200 mg / 5 mL

Uses Dose

Chlamydia trachomatis Conjunctivitis and Pneumonitis
12.5 mg/kg/dose **PO** q6h for 14 days

Other Infections and Prophylaxis
10 mg/kg/dose **PO** q6h

Treatment and Prophylaxis of Pertussis
12.5 mg/kg/dose **PO** q6h for 14 days (Azithromycin is the drug of choice in neonates)
Neofax2011

Feeding Intolerance due to Dysmotility
10 mg/kg/dose **PO** q6h for 2 days followed by 4 mg/kg/dose **PO** q6h for 5 days
Neofax2011

Prophylaxis of Ophthalmia Neonatorum
Ribbon of Terramycin™ 0.5% ointment instilled in each conjunctival sac
Neofax2011

Adverse Effects

- Loose stools
- Intrahepatic cholestasis
- x10 ↑ risk of hypertrophic pyloric stenosis in neonates under 2 wks of age
- ↑ Serum concentration of digoxin, midazolam, theophylline, and carbamazepine

Prescription

إريثروسين شراب (٢٠٠ مجم / ٥ سم) ← ... بالفم مع الرضاعة / ٦ ساعات



Famotidine

Antodine™ 20 mg / 2 mL amp.

Uses

Prevention and Treatment of Stress Ulcers and GI Hemorrhage aggravated by Gastric Acid Secretion

0.25-0.5 mg/kg/dose **IV** q24h

Neofax2011

Dose

Continuous IVI of the daily dose in adults provides better gastric suppression than intermittent dosing

0.5-1 mg/kg/dose **PO** q24h

Neofax2011

Adverse Effects

- ↑ Risk of late-onset bacterial and fungal sepsis
Routine gastric acid suppression in neonates should be avoided
- **In adults (<5%)**
Headache, dizziness, constipation, and diarrhea

Prescription

انتودين أقراص (٢٠ مجم / ١٠ سم) ← ... بالقلم / ٢٤ ساعة
انتودين (٢٠ مجم / ٢ سم) (١ سم + ٩ سم) ← ... ورید ببطء / ٢٤ ساعة

IV Preparation

Compatible with D₅W, D₁₀W, NS, calcium gluconate, dobutamine, dopamine, epinephrine, heparin, insulin, MgSO₄, midazolam, morphine, KCl, and NaHCO₃



Fentanyl

Fentanyl-Janssen™ 50 µg / mL

High Alert
Medication

Uses Dose

Sedation and Analgesia

Neofax2011

0.5-4 µg/kg/dose **IV** slow push q2-4h

1-5 µg/kg/h **IVI** (quickly develop tolerance)

Anesthesia

Neofax2011

5-50 µg/kg/dose **IV**

Adverse Effects

- Respiratory depression with anesthetic dose ($> 5 \mu\text{g/kg}$)
- Chest wall rigidity (in 4% of neonates who received 2.2-6.5 µg/kg/dose) with laryngospasm, reversible with **Narcan™**
- Urinary retention with continuous infusion
- Tolerance to analgesic doses with prolonged use
- Withdrawal symptoms after **IVI** for 5 days or longer

Prescription

فنتانیل (۵۰ میکروگرام / سم) (۱/۲ سم + ۱۲ سم) ←...سم ورید ببطء / ۴ ساعات

IV Preparation

- Stable for 24h refrigerated after dilution
- Protect from light
- **Compatible with** D₅W, D₁₀W, and NS



Flagyl™

Metronidazole 500 mg / 100 mL Vial

Meningitis, Ventriculitis And Endocarditis

by Bacteroides Fragilis and other Anaerobes Resistant to Penicillin

Intra-Abdominal Infections and C. Difficile Colitis

Trichomonas Vaginalis Infections

Loading of 15 mg/kg PO or IVI over 1h followed by

7.5 mg/kg/dose PO or IVI over 1h

Uses

Dose

PMA (wks)	Postnatal (d)	Interval (h)
≤ 29	0-28	48
	>28	24
30-36	0-14	24
	>14	12
37-44	0-7	24
	>7	12
≥ 45	All	8
Neofax2011		

Adverse Effects

- Carcinogenic in rodents
- Seizures, sensory polyneuropathy (in adults receiving high doses over a prolonged period)
- Brownish discoloration of urine

Prescription

فلاجيل (٥٠٠ مجم / ١٠٠ سم) ← ... سم + ... سم ج ٥٪ وريد على مدى ساعة ثم بعد ... ساعة
 ... سم + ... سم ج ٥٪ وريد على مدى ساعة / ... ساعة
 فلاجيل شراب (١٢٥ مجم / ٥ سم) ← ... سم بالضم / ... ساعة

Preparation

- Na⁺ content is 14 mEq per 100 mL
- Compatible with D₅W, and NS

Renal Impairment

- No dose adjustment is needed

Hepatic Impairment

- Reduce total daily dose to one third and give once daily
- Use with caution in hepatic encephalopathy



Fludrocortisone

Astonin-H™ 0.1 mg tab.

Uses

Dose

Mineralocorticoid Replacement

Initially 0.05 mg **PO** once daily, adjusted according to response; **usual range** 0.05–0.2 mg/day; higher doses may be required

BNFC2014-15

Adverse Effects

- Hypertension
- Na⁺ and water retention
- K⁺ and Ca⁺⁺ loss

Prescription

استونين - ه أفراص (٠.١ مجم) ← ... قرص يذاب في ٥ سم ماء مقطّر بالشّم / ٢٤ ساعة

Brands

- Cortilon™ 0.1 mg tab.



Folic Acid

Folicap™ 500 µg cap.

Megaloblastic and Macrocytic anemia

Neofax2011

15 µg/kg/dose (max. 50 µg/day) **PO**, deep IM, IV or SubQ

Prevention of Megaloblastic Anemia associated with Pyrimethamine and Sulfadiazine (Treatment of Congenital Toxoplasmosis)

BNFC2014-15

Uses

Dose

(Neonate)

5 mg 3 times a week (max. 20 mg 3 times a week if neutropenic)

(Child 1 mo - 1 yr)

10 mg 3 times a week

Adverse Effects

- May mask hematological defects of Vit B₁₂ deficiency, but it will not prevent the progression of irreversible neurologic abnormalities
- GI upset
- Slight flushing
- May decrease phenytoin serum concentration

Prescription

فوليك أسيد (½ مجم / ١٠٠ سم) ← ١ سم بالقم / ٢٤ ساعة

Contra-indications

- Pernicious anemia



Fortum™

Ceftazidime 1 g / 40 mL

Uses

Dose

Neonatal Meningitis and Sepsis by G-ve organisms

e.g. E. coli, H. influenza, Neisseria, Klebsiella, Proteus, and Pseudomonas

PMA (wks)	Postnatal (d)	Dosage (IV/IM)
≤ 29	0-28	30 mg/kg/dose q12h
	>28	30 mg/kg/dose q8h
30-36	0-14	30 mg/kg/dose q12h
	>14	30 mg/kg/dose q8h
37-44	0-7	30 mg/kg/dose q12h
	>7	30 mg/kg/dose q8h
≥ 45	All	30 mg/kg/dose q8h

Neofax2011

Age	Weight	Dosage (IV/IM)
All neonates	< 1,200 g	50 mg/kg/dose q12h
Postnatal age ≤ 7d	1,200-2,000 g	50 mg/kg/dose q12h
Postnatal age ≤ 7d	> 2,000 g	50 mg/kg/dose q8h
Postnatal age > 7d	> 1,200 g	50 mg/kg/dose q8h

MNC2012

Adverse Effects

- Diarrhea
- Rash, and Eosinophilia
- ↑ Hepatic ALT, AST
- False positive direct Coombs' test

Prescription

فورتام (١ جم / ٤٠ سم م) ← سم وريد على مدى نصف ساعة / ... ساعات
فورتام (٥٠٠ مجم / ٢ سم) ← سم عضل / ... ساعات

Preparation

- Also available as 250 mg and 1 g vials
- Compatible with D₅W, D₁₀W, and NS.



Fungizone™

Amphotericin-B 50 mg / 10 mL

1

Uses

Systemic Fungal Infections/Severe Superficial Mycoses

1-1.5 mg/kg **IVI** over 2-6h q24h

Neofax2011

Dose

Initially 0.25-0.5 mg/kg **IVI** over 4-6h followed by

0.5-1 mg/kg **IVI** over 2-6h q24-48h for 2-6 wks or longer

Gomella 2009

Adverse Effects

- Hypokalemia
- Transient ↑ in serum creatinine
- ↑ K⁺ and Mg loss due to tubular injury
- ↓ Reabsorption of Na⁺ and renal tubular acidosis
Na intake > 4 mEq/kg/day may prevent or ↓ nephrotoxicity
- Anemia or thrombocytopenia
- Consider analgesia before infusion
- Fever, chills, nausea or vomiting
- Cardiac arrest
in patients who received 10 times the recommended dose
- Anaphylaxis (rare)

A test dose is advisable before the 1st infusion in children > 1 month; patient should be observed for at least 30 minutes after the test dose

Prophylactic antipyretics or hydrocortisone should only be used in patients previously experienced acute adverse reactions

BNFC2014-15

Prescription

فنجيزون (٥٠ مجم / ١٠ سم) (½ سم + ٢٤.٥ سم ج ٥) ← ... سم ويريد على مدي ساعتين
بمعدل ... سم / الساعة كل ٢٤ ساعة

Preparation for IV use

- Compatible with D₅W, D₁₀W, D₁₅W, and D₂₀W.
- **Don't mix with NS and Protect from light**
- Stable for 24h at room temperature or 7 days in refrigerator



Fungizone™

Amphotericin-B 50 mg / 10 mL

2

Use in Renal Impairment

- If creatinine increases > 0.4 mg/dL from baseline during therapy, hold dose for 2-5 days **Neofax 2011**
- Alternate-day dosing is recommended over decreasing daily dose in patients experiencing renal toxicity **Neofax 2011**
- Discontinue if BUN > 40 mg/dL, serum creatinine is > 3 mg/dL, or liver function tests are abnormal



Garamycin™ amp.

Gentamicin 80 mg / 2 mL

Aerobic G-ve Bacilli

e.g. Pseudomonas, Klebsiella, and E. coli

IV Dose shown in table; given over 30 minutes Neofax2011

Uses

Dose

PMA (wks)	Postnatal (d)	Dose (mg/kg)	Interval (h)
≤ 29 *	0-7	5	48
	8-28	4	36
	≥ 29	4	24
30-3	0-7	4.5	36
	≥ 8	4	24
≥ 35	All	4	24

* or significant asphyxia, PDA or ttt with indomethacin

Intrathecal or Intraventricular Injection

1 mg daily (max. 5 mg) in children 1 mo - 18 yrs BNFC2014-15

Adverse Effects

- Transient and reversible renal tubular dysfunction (↑ urinary loss of Na, Ca, and Mg)
- Vestibular, and auditory ototoxicity
- ↑ Neuromuscular blockade with with hypermagnesemia
- Gentamicin ointment used for newborn ocular prophylaxis is associated with periocular ulcerative dermatitis

Prescription

جاراميسين (٨٠ مجم / ٢ سم) (١ سم + ١٩ سم ج ٥٪) ← ... سم وزيد على مدى نصف ساعة / ٢٤ ساعة

Preparation

- **Compatible with** D₅W, D₁₀W, and NS
- IM injection is associated with variable absorption, especially in the very small infant.

Serum Level

- Obtain **peak level** 30 minutes after end of infusion and **trough level** just prior to the next dose
- Refrigerate blood sample soon
- **Peak:** 5-12 µg/mL - **Trough:** 0.5-1 µg/mL

Neofax2011



Gastrazole™ cap.

Omeprazole 20 mg

Uses

Short-term (< 8 weeks) Treatment of Documented Refractory Reflux Esophagitis or Duodenal Ulcer

Dose

0.5-1.5 mg/kg/dose PO q24h

Neofax2011

Onset of action within 1h with duration of action of 72h

Adverse Effects

- Mild ALT, AST elevation

Brands

- Losec™ Risek™ 40 mg vials

Prescription

جاسترازول (٢٠ مجم / ١٠ سم صوديوم بيكربونات ٨.٤٪) ← ... سم بالفم / ٢٤ ساعة
لوسيك (٤٠ مجم / ١٠ سم) (١ سم + ٩ سم) ← ... سم ورید ببطء شديد / ٢٤ ساعة

IV Preparation

- Dilute with D₅W or NS

BNFC2014-15

Monitor

- Intra-esophageal pH to assess efficacy (pH > 4.0)



Gaviscon™

Alginate Raft-Forming Oral Suspensions

Uses

Antacid and Mechanical Barrier to Esophageal Reflux

Dose

2.5 mL after feeding PO

**Adverse
Effects**

- Metabolic alkalosis
- Hyponatremia

Gaviscon™

- Sodium alginate 250 mg per 5 mL
- Sodium bicarbonate 133.5 mg per 5 mL
- Calcium carbonate 80 mg per 5 mL
- 3.1 mEq Na⁺ per 5 mL

BNFC2014-15

**Gaviscon™
Advance**

- Sodium alginate 500 mg per 5 mL
- Potassium bicarbonate 100 mg per 5 mL
- 2.3 mEq Na⁺ and 1 mEq K⁺ per 5 mL

BNFC2014-15



Gaviscon™ Infant Sachets

Powder for oral suspension

Uses

For breast-fed infants (max. 6 times in 24 hours):

< 4.5 kg, one dose and 2 doses if > 4.5 kg

Add 5 mL of cooled boiled water to the powder in a glass. Mix to a smoothpaste and add another 10 mL water and mix.

Give after each feed using a spoon or feeding bottle.

Dose

For bottle-fed infants (max. 6 times in 24 hours):

(BW < 4.5 kg) one dose to be mixed into not less than 115 mL of each feed in the bottle and shaken well.

(BW > 4.5 kg) 2 doses to be mixed into not less than 225 mL of each feed in the bottle and shaken well.

Young children:

2 doses to be taken after each meal.

**½ of the
dual sachet
“one dose”**

- Sodium alginate 225 mg per dose
- Magnesium alginate 87.5 mg per dose
- 0.92 mEq Na⁺ per dose

BNFC2014-15



Glypressin™

Terlipressin 1 mg Vial

High Alert
Medication

Uses Dose

Catecholamine-resistant Hypotension and PPHN

i.e. hypotension resistant to 0.2 µg/kg/min of adrenaline with adequate vascular filling, peripheral perfusion and a good cardiac output

7-20 µg/kg/dose IV bolus q4-6h **or** 5 µg/kg/h IVI nnf7
(both are equally effective)

Terlipressin (Glypressin™) is a long-acting vasopressin agonist which has been used as rescue therapy in infants with refractory PPHN as well as in infants with refractory hypotension nnf7

Adverse Effects

- Diarrhea BNFC2014-15
- Hypertension, Arrhythmia, and Bradycardia
- Peripheral ischemia
- Pallor
- **Less commonly**
Vomiting, Hot flushes, Tachycardia, Intestinal ischemia, Bronchospasm, Convulsions, and Hyponatremia
- **Very rarely**
Hyperglycemia, Heart failure, and Skin necrosis

Prescription

جلايپريسين (1 مجم / ٢٠ سم م) ←وريد على مدى ٢٤ ساعة بمعدل ٠.١ سم / كجم

Preparation

- 1 mg vials of terlipressin acetate (Glypressin™) for reconstitution with 5 ml of diluent
- **To give an infusion of 5 µg/kg/h;** take the reconstituted solution (1 mg) and further dilute to 20 ml with 0.9% NaCl. Infuse at a rate of 0.1 ml/kg/h nnf7



GlucaGen™ HypoKit 1 mg

Glucagon 1 mg vial

Uses

Dose

Hypoglycemia refractory to IV dextrose infusions, or when Dextrose Infusion is unavailable or due to Documented Glucagon Deficiency

0.2 mg/kg/dose IV push, IM or SubQ (max. 1 mg)

For IVI, begin with 0.01-0.02 mg/kg/h (max. 0.05 mg/kg/h)
(effect within 1h)

Neofax2011 & BNFC2014-15

Adverse Effects

- Vomiting, and diarrhea
- Tachycardia
- Ileus
- Hypokalemia
- Thrombocytopenia
- Rebound hypoglycemia (rise in glucose will last ~2h)

Contra-indications

- Pheochromocytoma

Preparation

- Do not add to infusion fluids containing calcium (precipitation may occur)

Note

Glucagon is **not** effective in the treatment of hypoglycemia due to fatty acid oxidation or glycogen storage disorders.



Heparin 5000 i.u. / mL

Uses Dose

To Maintain Patency of Vascular Catheters

0.5-1 units/mL of fluids to be infused

Neofax2011

Heparin Lock For Central Lines

1-2 mL of 10 units/mL solution q4-6h and as needed MNC2012

Treatment of Thrombosis

75 units/kg IV over 10 min, followed by 28 units/kg/h IVI

- Measure aPTT 4h after initiating therapy
- Adjust dose to achieve aPTT of 60-85 seconds (corresponds to an anti-factor Xa level of 0.35-0.7)
- Limit treatment to 10-14 days

Neofax2011

Adverse Effects

- Heparin-induced thrombocytopenia (HIT) (1%)
Monitor platelet count every 2-3 days
- Osteoporosis (with long-term use)
- Fatal hemorrhage with incorrect concentration used
Achieve aPTT of 60-85 seconds

Contra-indications

- Evidence of intracranial or GI bleeding or thrombocytopenia ($< 50.000/\text{mm}^3$)

IV Preparation

- **For treatment of thrombosis**, dilute 1250 units/kg (0.25 mL/kg) to a final volume of 50 mL with D₅W or NS; an IVI rate of 1 mL/h provides a dose of 25 units/kg/h BNFC2014-15
- **Compatible with** D₅W, D₁₀W and NS

Prescription

هيبارين (٥٠٠ وحدة / ١ سم) (١ سم + ٩ سم) ← ٥ شرطات بيسرنجة انمولين ١٠٠ لكل ٥٠ سم محاليل



Hepatitis B Immune Globulin

Hepabig™ 200 iu / mL Vial

Passive Immunization of Newborns whose Mothers have active Hepatitis B infection at the time of delivery

0.5 mL given in the anterolateral thigh IM

Neofax2011

Uses

Dose

For term and preterm infants with HBsAg +ve mother and preterms < 2 kg with unknown status of mother's HBsAg	Within 12h of birth
Term and preterm infants ≥ 2 kg with unknown status of mother's HBsAg	As soon as it is determined that the mother is HBsAg +ve, and within 7 days of birth

Adverse Effects

- Local pain and tenderness
- Systemic reactions if given IV

Precautions

- Don't administer IV
- Draw back on the plunger of the syringe before injection to be certain the needle is not in a blood vessel
- Use universal precautions with neonates born to HBsAg +ve mothers until they have been bathed carefully



Hepatitis B Recombinant Vaccine

Euvax B™

Immunoprophylaxis against Hepatitis B

0.5 mL given in the anterolateral thigh IM

Neofax2011

Uses Dose

Maternal HBsAg +ve	Give 1 st dose before 12h of birth (regardless of birth weight) If < 2 kg, give 3 additional doses beginning at 1-2 months of age
Maternal HBsAg unknown	Give 1 st dose before 12h of birth (regardless of birth weight)
Maternal HBsAg -ve	Give 1 st dose shortly after birth, before hospital discharge If < 2 kg and medically stable, give 1 st dose at 30d of chronologic age or at time of hospital discharge if before 30d of chronologic age

Adverse Effects

- Soreness at injection site
- Fever > 37.7°C (in 1-6%)

Precautions

- Vaccine is safe for use in infants born to HIV-positive mothers, although it may be less effective
- Store refrigerated at 2-8°C - Don't freeze



Hyaluronidase

Hyalase™ 1500 iu amp.

Uses

Dose

Prevention of tissue injury cause by IV extravasation of drugs with hyperosmolarity or extreme pH

e.g. aminophylline, amphotericin B, calcium, phenytoin, KCl, rifampicin, NaHCO₃, vancomycin, TPN and concentrated IV solutions

Inject 1 mL (150 units) as 5 separate 0.2 mL SubQ injections around the periphery of the extravasation site using 25- or 26- gauge needle, changed after each injection

Neofax2011

Preparation

- Compatible with D₅W, D₁₀W, and NS

Note

- **Not** indicated for treatment of extravasations of vasoconstrictive agents (e.g. dopamine, epinephrine and norepinephrine)
- **Not** recommended for IV use

Prescription

هيازالاز (١٥٠٠ وحدة / ١٠ سم م) ← ١ سم تحت الجلد ..



Hydralazine

Slowapresoline™ 50 mg tab

Apresoline™ 20 mg vial

Uses

Dose

Mild to Moderate Hypertension

Afterload Reduction in Patients with CHF

Begin with 0.1 - 0.5 mg/kg/dose **IV** q6-8h
(max. of 2 mg/kg/dose q6h)

Neofax2011

0.25-1 mg/kg/dose **PO** q6-8h (twice the required IV dose)

Administer with food to enhance absorption

Neofax2011

Preparation

- **IV solution is compatible with NS**
- **To prepare an oral suspension**, crush a 50 mg tablet in 4 mL of 5% mannitol then add 46 mL of sterile water to make a final concentration of 1 mg/mL. Stable for 7 days refrigerated.

Neofax2011

Adverse Effects

- Diarrhea, and emesis
- Temporary agranulocytosis
- Tachycardia, postural hypotension, headache, nausea, and a lupus-like syndrome (10-20% of adults)
- GI irritation, bleeding, drug fever, rash, conjunctivitis, and bone marrow suppression (in adults, uncommon)

Prescription

هيدرالازين (٢٠ مجم / ٢٠ سم م م) ← ... سم وريد / ٦-٨ ساعات
هيدرالازين (٥٠ مجم قرص + ٤ سم مانيتول ٥٪ + ٤٦ سم ماء مقطر) ← ... سم بالفم مع
الرضاعة / ٦-٨ ساعات

Note

Use with β -Blockers $\uparrow$ the anti-hypertensive effect and $\downarrow$ the magnitude of the reflex tachycardia. This is expected to reduce hydralazine requirements to < 0.15 mg/kg/dose



Hydrochlorothiazide

Hydretic™ 12.5 mg tab.

Uses

Mild to moderate Edema

Mild to moderate Hypertension

May improve Pulmonary Function in Patients with BPD

1-2 mg/kg/dose **PO** q12h

Neofax2011

Dose

Administration with food improves absorption

Effects are increased when used in combination with furosemide or spironolactone

Adverse Effects

- Hypokalemia and other electrolytes abnormalities
- Hyperglycemia
- Hyperuricemia

Contra-indications

- Significant impairment of renal or hepatic function

Prescription

هيدريتك (قرص ١٢.٥ مجم / ٥ سم م م) ← ... سم بالضم مع الرضاعة / ١٢ ساعة

Note

Hydrochlorothiazide ↓ renal excretion of calcium, inhibits pancreatic release of insulin and displaces bilirubin from albumin



Hydroferrin™ or Ferose™

Iron Polymaltose Complex

Uses

Dose

Prevention and Treatment of Anemia

For growing PT infants: 2 mg/kg/day (max. 15 mg/day), begin after 2 weeks of age

For PT < 1.000 kg birth weight: 4 mg/kg/day

With Erythropoietin: 6 mg/kg/day

Given in 1 or 2 doses, diluted in formula

Adverse Effects

- In growing PT infants, iron supplementation should not be started until adequate vitamin E is supplied in their diet; otherwise iron may ↑ hemolysis
- Constipation, and black stools
- Erosion of gastric mucosa
- Lethargy
- Hypotension

Contra-indications

- Significant impairment of renal or hepatic function

Prescription

فروز شراب (٥٠ مجم / ٥ سم) ← ... سم بالفم مع الرضاعة / ٢٤ ساعة
هيدروفيرين نقط (٥٠ مجم / سم) ← ... نقطة بالفم مع الرضاعة / ٢٤ ساعة

Note

- Each **Hydroferrin™** drop contains 1.67 mg elemental iron



Intravenous Immune Globulin

Octagam™ 5% (Human)

Adjuvant Treatment of Fulminant Sepsis Hemolytic Jaundice

500-750 mg/kg/dose (over 2-6h)

Neofax2011

Additional doses may be given at 24h interval

Total IgG titers in treated, septic neonates remain ↑ for ~10 days

Uses

Dose

Neonatal Alloimmune Thrombocytopenia

400 mg – 1 g/kg

Neofax2011

Start with 0.01 – 0.02 mL/kg/min over 30 minutes then the rest of the amount over 1½ h

Rate/h in 1st 30 min = 0.02 X wt (kg) X 60

Adverse Effects

- Hypoglycemia (rare)
- Transient tachycardia and hypotension, resolved after stopping the infusion
- ↑ Risk of NEC in term and late preterm infants treated for isoimmune hemolytic jaundice
- Acute kidney injury (AKI) and osmotic nephrosis; use minimum concentration with minimum rate of infusion in patients predisposed to AKI

Prescription

... سم امينوجلوبيولين (١ جم / ٢٠ سم) على مدى ساعتين وريد بمعدل ... سم / الساعة في أول نصف ساعة ثم بمعدل ... سم / الساعة خلال ساعة ونصف

Note

Available as

1g in 20 mL – 2.5 g in 50 mL – 5 g in 100 mL



Indomethacin

Liometacen™ 50 mg amp.

1

Closure of PDA

Neofax2011

Dose as chart IVI over at least 30 minutes.

Usually 3 doses per course, maximum 2 courses

Age at 1 st dose	1 st dose	2 nd dose	3 rd dose
< 48 h	0.2 mg/kg	0.1 mg/kg	0.1 mg/kg
2 – 7 d	0.2 mg/kg	0.2 mg/kg	0.2 mg/kg
> 7 d	0.2 mg/kg	0.25 mg/kg	0.25 mg/kg

Uses

Dose

Give at 12-24h intervals with close monitor to UOP, if anuria or severe oliguria, delay subsequent dose.

Longer treatment courses may be used: 0.2 mg/kg/24h for a total of 5-7 days

Neofax2011

Prevention of IVH

0.1 mg/kg q24h, 3 doses start at 6-12h of age

Neofax2011

Adverse Effects

- Oliguria
 - Hypoglycemia (avoided by ↑ GIR by 2 mg/kg/min).
 - GI perforation if used concurrently with steroids
- Consider withholding feedings

Contra-indications

- Active bleeding
- Significant thrombocytopenia or coagulation defects
- NEC
- Significantly impaired renal function

Prescription

ليومتاسين (٥٠ مجم / ١٠٠ سم) ← ... سم وزيد على مدى نصف ساعة / ١٢-٢٤ ساعة

Preparation

- Stable for 12d when stored at room temperature or refrigerated.
- **Compatible with** sterile water, D₅W, NS, Lasix, insulin, KCl and NaHCO₃
- **Incompatible with** D_{7.5}W, D₁₀W, calcium gluconate, dobutamine and dopamine



Indomethacin

Liometacen™ 50 mg amp.

2

Interactions

ACE Inhibitors

↑ Risk of renal impairment

NSAIDs antagonize hypotensive effect

Antibacterials

↑ Plasma concentration of amikacin and gentamicin

↑ Risk of convulsions when given with quinolones

Antiepileptics

NSAIDs possibly ↑ effects of phenytoin

Beta-blockers and Calcium-channel Blockers

NSAIDs antagonize hypotensive effect

Cardiac Glycosides

NSAIDs ↑ plasma concentration

Possible exacerbation of heart failure

↓ Renal function

Corticosteroids

↑ Risk of GI bleeding and ulceration

Diazoxide

NSAIDs antagonize hypotensive effect

Diuretics

↑ Risk of hyperkalemia when given with K⁺ sparing diuretics and aldosterone antagonists

Risk of nephrotoxicity of NSAIDs ↑ by diuretics

Indometacin antagonizes effects of diuretics

Pentoxifylline

Possible ↑ risk of bleeding

Hydralazine

NSAIDs antagonize hypotensive effect



Inderal™

Propranolol 10 mg tab

1

Uses Dose

Hypertension
SVT (esp. Wolff-Parkinson-White Syndrome)
Palliation of TOF and HCM
Adjuvant Treatment of Neonatal Thyrotoxicosis

0.01 mg/kg **IV** q6h over 10 min, increase as needed to max.
 0.15 mg/kg/dose q6h

0.25 mg/kg/dose **PO** q6h, increase as needed to max. 3.5 mg/kg/dose q6h Neofax2011

Infantile Hemangiomas Neofax2011

2-3 mg/kg/day **PO** in 3 divided doses
 (start 0.3-1 mg/kg/day and increase to 2 mg/kg/day over several days)
 Tapering over 2 weeks to 1 month

Adverse Effects

- Hypotension, bradycardia
- Bronchospasm
- Hypoglycemia

Regular, frequent food intake (q3-4h) is important

- Withdrawal syndrome (nervousness, tachycardia, sweating, hypertension) with sudden cessation of the drug

Contra- indications

- Cardiogenic shock
- Sinus bradycardia greater than 1st degree block
- Reactive airway disease
- Diminished myocardial contractility.

Prescription

اندرال (١ مجم / سم) (١ سم + ٩ سم) ← ... وزيد على مدى ١٠ دقائق / ٦ ساعات
 اندرال أقراص (١٠ مجم / ١٠ سم ماء مقطر) ← ... بالفم / ٦ ساعات

Brands

Mayestrotense™ 1 mg/mL amp.

IV Preparation

Compatible with D₅W, and NS



Inderal™

Propranolol 10 mg tab

2

Interactions

Cardiac Glycosides

↑ Risk of AV block and bradycardia

Corticosteroids

Antagonizes hypotensive effect of beta-blockers

Diazoxide

Enhances hypotensive effect

Diuretics

Enhances hypotensive effect

Thyroid Hormones

Metabolism of propranolol is accelerated

Hydralazine

Enhances hypotensive effect



Human Insulin, short-acting Actrapid™ 100 Units / mL

Persistent Hyperglycemia > 250 mg/dL

Neofax2011

0.01-0.1 unit/kg/h **continuous IVI**

0.1-0.2 unit/kg **SubQ** q6-12h

Uses

Dose

Hyperkalemia

IVI dextrose (0.5 g/kg/h) and regular insulin (0.1-0.2 u/kg/h)
Neofax2011

Begin with a bolus of insulin (0.05 u/kg) with 2 mL/kg of D₁₀W followed by **IVI** of D₁₀W at 2-4 mL/kg/h and regular insulin (0.1 u/mL) at 1 mL/kg/h
MNC2012

The two solutions may be prepared individually to allow adjustments in response to hyper- or hypoglycemia

Adverse Effects

- Hypoglycemia
- Insulin resistance
- Euglycemic hyperinsulinemia due to exogenous insulin administration may cause metabolic acidosis
- ↓ Glucose level gradually to avoid rapid fluid shifts

Monitor

- Blood glucose q15-30 min after starting/changing dose

Prescription

اكترابيد (انسولين ماني) (٥ شرطات بـسرنجة ١٠٠ + ٥٠ سم ج ٥٪) ويتم التخلص من ٢٥ سم من خلال جهاز الوريد قبل البدء ثم يعطى على مدى ٢٤ ساعة وريد بالـسرنجة الكهربائية بمعدل ١ سم / كجم / الساعة في البداية ويزيد حسب الاستجابة حتى ١ سم / كجم / الساعة
اكترابيد (انسولين ماني) (١٠ شرطات بـسرنجة انسولين ١٠٠ + ١٠ سم ماء مقطر) ← ...
شرطة بـسرنجة انسولين ١٠٠ تحت الجلد كل ... ساعة

IV Preparation

- **Compatible with** D₅W, D₁₀W, NS, dobutamine, heparin, midazolam, milrinone, KCl and NaHCO₃
- **Incompatible with** dopamine
- To ↓ absorption to IV solution bag or tubing, flush the line, wait 20-30 min then flush the line again prior to initiation. The actual amount of insulin being administrated could be less than the apparent amount. So, adjustment of the insulin rate should be based on the effect and not solely on the apparent insulin dose
Gomella2009&Neofax2011



Kapron™ (Cyklokapron)

Tranexamic acid 100 mg / mL amp.

Uses Dose	Bleeding nnf7 Antidote for Streptokinase and Urokinase 10 mg/kg IV over 10 min; repeat if necessary after 8-12 h
	Hereditary Angioedema BNFC2014-15 (Child 1 month-18 years) 15-25 mg/kg (max. 1.5 g) PO q8-12h
Adverse Effects	Tranexamic acid inhibits activation of plasminogen to plasmin
	- Vomiting, diarrhea (reduce dose) - <u>Less commonly:</u> Dermatitis - <u>Rarely:</u> Thromboembolic events Visual disturbances (discontinue) Hypotension on rapid intravenous injection Convulsions (usually with high doses)
Contra-indications	- Thromboembolic disease - Fibrinolytic conditions following DIC (unless predominant activation of fibrinolytic system with severe bleeding) - History of convulsions
Prescription	كابرون (١٠٠ مجم / ١ سم) (١ سم + ٩ سم) ← ... سم وريد / ٨-١٢ ساعة كابرون (قرص ٥٠٠ مجم) (½ قرص / ١٠ سم) ← ... سم بالفم / ٨-١٢ ساعة
Use in Renal Impairment	- Reduce dose in mild to moderate impairment - Avoid in severe impairment
IV Preparation	- Compatible with NS and D₅W - Can be used undiluted
	PNDH21



Kayexalate™

Sodium Polystyrene Sulfonate

Uses

Treatment of Hyperkalemia

Dose

1 g/kg/dose **PO** q6h via NGT or **PR** q2-6h

Adverse Effects

- Hypokalemia
- Sodium retention
- Hypocalcemia and hypomagnesemia
- Fecal impaction

Instructions for Use

- **PO:** Dilute in 3-4 mL water per 1 g of resin
- **PR:** Dilute in water at a concentration of 0.3-0.5 g/mL; retain enema for at least 30-60 min or several hours if possible

Prescription

كايكسالات حقنة شرجية كل ٦ ساعات

Note

- Na⁺ content of **Kayexalate™** is ~100 mg/g (4.1 mEq/g)

Brands

- **Sorbisterit™** (calcium polystyrene sulfonate)



Klacid™

Clarithromycin 125 mg / 5 mL

Uses

Dose

Respiratory tract infections

Atypical pneumonias

Soft tissue infections

Active mainly against G+ve organisms and H influenzae

7.5 mg/kg/dose PO q12h

BNFC2014-15

Adverse Effects

An enzyme inhibitor that increases the effects of some drugs
e.g. theophylline

Prescription

كلاسيك شراب (١٢٥ مجم / ٥ سم) ← ... سم بالفم / ١٢ ساعة

Brands

- Klacid™ 250 mg / 5 mL susp.
- Klarimix™ 125 mg / 5 mL susp.



Konakion™ MM

Vitamin K₁ 10 mg / ml

Prophylaxis at Birth

Neofax2011

Term infants: 0.5 - 1 mg IM (0.05-0.1 mL)

PT < 32 wk (≥ 1 kg): 0.5 mg IM (0.05 mL)

PT < 32 wk (≤ 1 kg): 0.3 mg IM (0.03 mL)

Uses

Dose

Severe Hemorrhagic Disease

Neofax2011

1-10 mg IV slow push, monitor PT 2-4 h later

Vit-K₁ may require 3h or more to stop active bleeding; so FFP (10 mL/kg) may be necessary when bleeding is severe

Infants receiving TPN or Antibiotics for > 2 Weeks

At least 0.5 mg IM or IV weekly

MNC2012

Adverse Effects

- Pain and swelling at IM site.
- Efficacy is decreased in liver disease.

Preparation

- IV infusion rate should not exceed 1 mg/min
- Protect from light
- Compatible with D₅W, D₁₀W, and NS

Prescription

كوناكيون (١٠ مجم / سم) ← ٥ - ١٠ شرطات بيسرنجة انسولين ١٠٠ عضل
كوناكيون (١٠ مجم / سم) (١ سم + ٩ سم) ← ١ سم ورید ببطء مرتين اسبوعيا

Note

- The drug has **no** antagonistic effects against heparin

Brands

- **Konakion™ MM paediatric** 2 mg / 0.2 mL amp.
- **Phytomenadione™** 10 mg / mL amp.
- **Phytovit™ MM** 10 mg / mL amp.



L-Carnitine™

300 mg/ml Oral Liquid

1 g/5 ml amp.

Uses Dose

Maintenance

Gomella2009

Starting dose of 10 mg/kg/day (**added to TPN**)

25 mg/kg/dose **PO** q6h

Primary Carnitine Deficiency

Organic Acidemias

BNFC2014-15

50 mg/kg **PO** q12h (up to 200 mg/kg/day)

100 mg/kg **IVI** over 30 min followed by **IVI** of 4 mg/kg/h

100 mg/kg/day **IV** **slowly** in 2–4 divided doses

Adverse Effects

- Nausea, vomiting, abdominal pain, and diarrhea
- Fishy body odour
- Side-effects may be dose-related - monitor tolerance during 1st week and after any dose increase

Note

- L-Carnitine is essential for the entry of long-chain fatty acids into the mitochondria, where they are oxidized



Lanoxin™

Digoxin 50 µg / mL Elixir

1

High Alert Medication

**Uses
Dose**

**Heart Failure (Diminished Myocardial Contractility)
SVT, atrial flutter and AF**

Total Loading Dose			Maintenance Dose			
PMA wks	IV µg/kg	PO µg/kg	PMA wks	IV µg/kg	PO µg/kg	Interval hours
≤ 29	15	20	≤ 29	4	5	24
30-36	20	25	30-36	5	6	24
37-48	30	40	37-48	4	5	12
≥ 49	40	50	≥ 49	5	6	12
Divide into 3 doses over 24h			Titrate based on clinical response			

LD “digitalization” is used only when treating arrhythmias and acute CHF. Give over 24h as 3 divided doses IV slow push over 5-10 min

Oral doses should be 25% greater than IV doses

Don't administer IM

Neofax2011

Adverse Effects

- **Toxic Cardiac Effects:**
PR interval prolongation
Atrial or nodal ectopic beats
Sinus bradycardia or SA block
Ventricular arrhythmias
- **Non Toxic Cardiac Effects:**
QTc interval shortening
T-wave amplitude dampenin
ST segment sagging
HR slowing
- Feeding intolerance, vomiting, and diarrhea
- Lethargy

Therapeutic serum level

- 1-2 ng/mL

Prescription

لانوكسين (٥٠٠ ميكروجرام / سم) (١سم + ٤ سم) ← ... ويستكمل الى ... (٤ أضعاف كمية الجرعة ج ٥/٥) ويعطى ورید ببطء شديد/ ... ساعة
لانوكسين شراب (٥٠ ميكروجرام / سم) ← ... شرطة بمرنجة انسولين ١٠٠ بالفم/ ... ساعة



Lanoxin™

Digoxin 50 µg / mL Elixir

2

High Alert
Medication

Interactions

ACE Inhibitors

Plasma concentration possibly ↑ by captopril

Analgesics

Plasma concentration possibly ↑ by NSAIDs

Possible exacerbation of heart failure

Reduction of renal function

Antibacterials

Plasma concentration ↑ by gentamicin and trimethoprim

Plasma concentration ↓ by rifampicin

Plasma concentration ↑ by macrolides (↑ risk of toxicity)

Antiepileptics

Plasma concentration possibly ↓ by phenytoin

Amphotericin

↑ Cardiac toxicity if hypokalemia occurs

Corticosteroids

↑ Risk of hypokalemia

Diuretics

↑ Cardiac toxicity if hypokalemia occurs with acetazolamide, loop diuretics or thiazides and related diuretics

Plasma concentration ↑ by spironolactone



Lanzor™

Lanzoprazole 15 and 30 mg cap.

Uses

Reflux Esophagitis

Neofax2011

Dose

0.73 - 1.66 mg/kg/dose **PO** q24h

Preparation

- The contents of a capsule can be mixed in 40 mL of **apple juice** and administrated by NG tube. **Do not use other liquids.** The NG tube should be flushed with additional apple juice after administration

Neofax2011

Adverse Effects

- Mild ALT, AST elevation

Prescription

لانزور كبسول (٣٠ مجم / ٤٠ سم) ← ... سم بالرايل / ٢٤ ساعة

Monitor

- Intra-esophageal pH monitor to assess efficacy (pH > 4.0)
- ALT, AST if duration of therapy > 8 wks



Lasix™ amp.

Furosemide 20 mg / 2 mL

1

Uses Dose

Diuretic (may improve pulmonary function)

Neofax2011

1 mg/kg IV slow push, IM or PO

Max. 2 mg/kg/dose IV or 6 mg/kg/dose PO

Initial intervals: PT q24h – FT q12h – FT > 1m q6-8h

Consider alternate-day therapy for long term use

Adverse Effects

- Water and electrolyte imbalances esp. ↓ Na⁺, ↓ K⁺ and hypochloremic alkalosis

Risk for ↓ K⁺ is increased with inadequate oral intake, cirrhosis, corticosteroids, ACTH, or prolonged use of laxatives

- ↑ Serum creatinine (with indomethacin)

- Hypercalciuria, renal calculi and bone demineralization

- Ototoxic (tinnitus and reversible or irreversible hearing impairment); especially with rapid injection, severe renal impairment, higher doses, hypoproteinemia, or aminoglycosides or other ototoxic drugs

- Cholestatic jaundice and Cholelithiasis (in PT infants receiving long-term TPN and lasix)

- Hypotension, fatigue, nausea, and muscle cramps

Prescription

لازكس (٢٠ مجم / ٢ سم) ← ... شرطة بيسرنجة انسولين ١٠٠ وريد أو عضل / ١٢ ساعة

لازكس (٤٠ مجم قرص / ١٠ سم) ← ... شرطة بيسرنجة انسولين ١٠٠ بالرايل / ١٢ ساعة

Brands

- **Salurin™** syrup 5 mg/5 mL (not available in Egypt)

IV Preparation

- **Compatible with** NS, D₅W, D₁₀W, and sterile water for injection

- Injectable solution may also be used for orally



Lasix™ amp.

Furosemide 20 mg / 2 mL

2

Monitor

- Weight changes
- Urine output
- Electrolytes and renal function periodically
- Serum K⁺ at initiation, in patients receiving other diuretics or digoxin concurrently
- Renal US for PT infants for nephrocalcinosis and nephrolithiasis

Renal Impairment

- May need high doses
- Deafness and tinnitus may follow rapid IV injection

Hepatic Impairment

- ↓ K⁺ may precipitate coma



Lidocaine hydrochloride

Debocaine™ 2%

Uses

Dose

Infiltration Anesthesia

According to nature of procedure, up to 3 mg/kg (0.3 mL/kg of 1% solution), repeated not more often than q4h ^{BNFC2014-15}

Adverse Effects

- Generally without systemic side effects unless inadvertently injected intravenously

Contra-indications

- Inflamed or injured tissues nor should they be applied to damaged skin
- Complete heart block ^{BNFC2014-15}

Brands

- Xylocaine™ 2% vial



Magnesium Sulphate

MgSO₄ 10%

High Alert Medication

Uses Dose	Resuscitation (Pulseless Torsades) (Polymorphic VT associated with long QT interval) 25-50 mg/kg IV/intraosseous rapid infusion Neofax2011
	Hypomagnesemia PNDH21 25-50 mg/kg IVI over 30-60 min; q8-12h for 2-3 doses For hypomagnesemia/torsades with pulses, an infusion time of 10-20 min is recommended
	Daily Maintenance (added to TPN) Neofax2011 0.25-0.5 mEq (0.3-0.6 mL)/kg/24h IVI
	In PPHN BNFC2014-15 Loading of 200 mg (2 mL = 1.6 mEq)/kg IVI over 20-30 min followed by 20-75 mg (0.2-0.75 mL = 0.16-0.6 mEq)/kg/h IVI to maintain plasma-Mg concentration between 8.5-13.4 mg/dL (3.5-5.5 mmol/L), for up to 5 days
	Adverse Effects - Hypotension and bradycardia (with rapid infusion) - Flushing - Depression of reflexes - Depressed cardiac, CNS, and respiratory function
Contra-indications	- Heart block - Myocardial damage or serious renal impairment - Colostomy or ileostomy - Intestinal obstruction or perforation
Prescription	ماغنسيوم سلفات ١٠ ٪ ← سم ... سم ج ٥ ٪ وريد على مدى نصف ساعة ثم ... سم يكمل حتى ٢٤ سم ج ٥ ٪ بمعدل ١ سم / الساعة وريد على مدى ٢٤ ساعة
Preparation	- Compatible with D₅W, NS, LR, dobutamine, heparin sodium, insulin, milrinone, morphine, and KCl - Incompatible with calcium chloride, and NaHCO₃
1 mL MgSO ₄ 10% = 100 mg MgSO ₄ = 9.7 mg elemental Mg = 0.8 mEq Mg	



Maxical-D™

Calcium Carbonate 150 mg / 5 mL

Uses

Non-acute Hypocalcemia

Neofax2011

Dose

20-80 mg elemental Ca/kg/day **PO** in divided doses

Adverse Effects

- Gastric irritation and diarrhea (hypertonic)
- Use with caution in infants who are at risk for NEC
- Interferes with absorption of levothyroxine

Prescription

ماكسيكال شراب (١٥٠ مجم / ٥ سم) ← ... سم بالرايل / ١٢ ساعة

Maxical-D® Preparation

Each 10 mL contains: calcium carbonate 750 mg (eq. to elemental calcium 300 mg), 347 mg magnesium and 200 IU Vit D₃ (each 2.5 mg Ca Carbonate eq. to 1 mg elemental Ca)

Brands

Hical™ syrup contains 1.2 gm calcium glubionate (eq. to 87 mg elemental calcium) per 5 mL



Maxipime™

Cefepime 1 g Vials

G+ve organisms

e.g. E.coli, H.influenza, Enterobacter, Klebsiella, Morganella, Neisseria, Serratia, Proteus species, and Pseudomonas aeruginosa that is resistant to 3rd generation cephalosporins

G+ve organisms

e.g. Pneumococci, Strept pyogenes, Strept agalactiae, and Staph aureus

Dose given over 30 minutes IVI, or IM.

Neofax2011

Uses

Dose

FT, and PT ≤ 28 days	30 mg/kg q12h
FT, and PT > 28 days	50 mg/kg q12h
Meningitis and severe infections with pseudomonas or enterobacter	50 mg/kg q12h

Meningitis and/or Pseudomonas

PNDH21

BW (kg)	Postnatal (d)	Dose (mg/kg)	Interval (h)
< 1	0-14	50	12
	≥ 14	50	8
1-2	0-7	50	12
	≥ 8	50	8
> 2	All	50	8

Adverse Effects

- Rash, and eosinophilia
- Diarrhea
- ↑ Hepatic ALT, AST
- Fungal or bacterial superinfection (prolonged use)

Prescription

ماكسيم (1 جم / 250 سم ج ٥) ← ... سم وريد على مدى نصف ساعة / ١٢ ساعة
ماكسيم (1 جم / ٤ سم) ← ... سم عضلي / ١٢ ساعة

IV Preparation

- **Maximum Infusion solution concentration** 160 mg/mL
- Stable for **24h** at room temp., and **7 days** refrigerated
- Compatible with **D₅W**, **D₁₀W**, and **NS**

Renal Impairment

- Cr Cl 10-50 mL/min/1.73 m² ⇒ 50 mg/kg/dose q24h
- Cr Cl < 10 mL/min/1.73 m² ⇒ 50 mg/kg/dose q48h



MeroneTM

Meropenem 500 mg Vials

Uses Dose

Sepsis

20 mg/kg/dose **IVI** over 30 min

Neofax2011

GA (wk)	Postnatal (d)	Interval (h)
< 32	≤ 14	12
	> 14	8
≥ 32	≤ 7	12
	> 7	8

Meningitis and Pseudomonas Infection (all ages)

40 mg/kg/dose **IVI** over 30 min q8h

Neofax2011

Longer infusion times (up to 4h) may be associated with improved therapeutic efficacy.

PNDH21

Adverse Effects

- Diarrhea (4%), nausea, and vomiting (1%)
- Rash (2%)
- Inflammation at injection site
- Thrombocytopenia
- ↑ Risk of pseudomembranous colitis and fungal infections

Prescription

ميرونيم (500 مجم/100 سم م م) ← ... سم وريد على مدى نصف ساعة / ٨ ساعات

IV Preparation

- **Maximum Infusion solution concentration** 50 mg/mL
- Compatible with **D₅W**, **D₁₀W**, and **NS**

Renal Impairment

- Cr Cl 26-50 mL/min/1.73 m² ⇨ use normal dose q12h
- Cr Cl 10-25 mL/min/1.73 m² ⇨ use half normal dose q12h
- Cr Cl < 10 mL/min/1.73 m² ⇨ use half normal dose q24h



MiconazTM Cream or Oral gel

Miconazole 2%

Uses Dose

Prevention and treatment of oral candidiasis

1 mL 2-4 times daily smeared around the inside of the mouth after feeds, continued for at least 7 days after lesions have healed or symptoms have cleared

BNFC2014-15

Topical treatment of superficial fungal infections

Twice daily for 2-4 weeks

PNDH21

Adverse Effects

- Maceration
- Urticaria, rash, pruritis, and allergic contact dermatitis
- Avoid use in hepatic impairment

BNFC2014-15

Brands

DaktarinTM cream and oral gel.

Precautions

- To prevent re-infection; it is important to ensure that the mother's breast nipples and the teats of feeding bottles are cleaned adequately.
- Systemic absorption may follow use of oral gel.

BNFC2014-15



Minophylline™

Aminophylline 250 mg / 10 mL amp.

Uses

Neonatal Apnea, including post-extubation and post-anesthesia and prostaglandin E1-induced

Dose

Bronchodilator

LD: 8 mg/kg IVI over 30 min or PO

Neofax2011

MD (8-12h Later): 1.5-3 mg/kg/dose PO or IV q8-12h

Adverse Effects

- GI irritation
- Tachycardia (withhold next dose if > 180 bpm)
- Hyperglycemia
- CNS irritability and sleeplessness
- Renal calcifications when used with Lasix™ and/or dexamethasone

Prescription

مينوفيللين (٢٥٠ مجم / ١٠ سم) (١ سم + ٤ سم م م) ← ... سم وريد على مدى نصف ساعة
ثم ... شرطة لسرنجة أنسولين ١٠٠ وريد ببطء / ٨ ساعات
مينوفيللين (٥٠٠ مجم / ٥ سم) (½ سم + ٩.٥ سم م م) ← ... سم وريد على مدى نصف ساعة
ثم ... شرطة لسرنجة أنسولين ١٠٠ وريد ببطء / ٨ ساعات
مينوفيللين شراب (٥٠ مجم / ٥ سم) ← ... شرطة بسرنجة أنسولين ١٠٠ بالرايل / ٨ ساعات

Serum Level and Toxicity

- **Therapeutic level** in apnea of prematurity 7-12 µg/mL and in bronchospasm 10-20 µg/mL
- **Signs of Toxicity:** sinus tachycardia, failure to gain weight, vomiting, jitteriness, hyperreflexia, and seizures
- **Treatment:** activated charcoal 1 g/kg PO q2-4h

IV Preparation

- **Compatible with** D₅W, D₁₀W, and NS



Milrinone

Primacor™ 1 mg / mL

**High Alert
Medication**

Uses

Short term (<72h) Treatment of Acute Low Cardiac Output after Cardiac Surgery or due to Septic Shock

Loading of 75 µg/kg IVI over 60 min, immediately followed by 0.5-0.75 µg/kg/min Neofax2011

Dose

For Premature Infants < 30 weeks GA

Loading of 135 µg/kg IVI for 3h, immediately followed by 0.2 µg/kg/min Neofax2011

Reduce or omit initial dose if at risk of hypotension BNFC2014-15

Adverse Effects

- BP will fall after LD but will gradually ↑ to baseline by 24h
- **Assure adequate vascular volume before therapy**
- ↑ HR by 5-10% (common)
- Thrombocytopenia
- Arrhythmia (occasionally)

Prescription

بريماكور (1مجم/1سم) (1سم + 49سم) ← وزيد على مدى ٢٤ ساعة بمعدل ... سم/الساعة
لمدة ساعة ثم تعدل الى ١.٥ - ٢.٢٥ سم / كجم / الساعة
بريماكور (1مجم/1سم) (1سم + 49سم) ← وزيد على مدى ٢٤ ساعة بمعدل ... سم/الساعة
لمدة ٣ ساعات ثم تعدل الى ٠.٦ سم / كجم / الساعة

IV Preparation

- **Maximum concentration for infusion 200 µg/mL**
- **Compatible with** dopamine, dobutamine, epinephrine, fentanyl, heparin, insulin, calcium chloride, calcium gluconate, KCl, NaHCO₃, D₅W, NS, and LR
- **Incompatible** with Lasix™



Morphine Sulphate

10 mg /mL

High Alert
Medication

Uses Dose

Analgesic and Sedative

Neofax2011

0.05-0.2 mg/kg/dose IV (over 5 min), IM or SubQ repeat as required, usually q4h

For IVI, 100-150 µg/kg over 1h followed by 10-20 µg/kg/h

Opioid Dependence

Neofax2011

Begin at most recent IV morphine dose equivalent. Taper to 10-20% per day as tolerated. PO dose is ~ 3-5 times IV dose.

Initial Treatment of Neonatal Narcotic Abstinence

Neofax2011

0.03-0.1 mg/kg/dose PO q3-4h

Wean dose by 10-20% every 2-3 day based on abstinence scoring (the Finnegan score should be < 9)

Use the 0.4 mg/mL oral morphine solution

Adverse Effects

- Respiratory depression
Naloxone should be readily available to reverse adverse effects
- Hypotension and bradycardia
- Transient hypertonia, ileus, and delayed gastric emptying
- Urine retention
- Tolerance – wean slowly

Prescription

مورفين (١٠ مجم / سم) (٠.٥ سم + ٩.٥ سم) ← ... سم وريد ببطء شديد / ٤ ساعات
مورفين (١٠ مجم / سم) ← ٢٥ شرطة بيسرنجة انسولين ١٠٠ لكل كجم وتستكمل حتى ٥٠ سم ج ٥٪ وريد على مدى ٢٤ ساعة بمعدل ٠,٢ سم / الساعة
مورفين شراب (٠.٤ مجم / سم) ← ... سم بالقلم / ٤ ساعات

Preparation

- **For IVI**, dilute 2.5 mg/kg to a final volume of 50 mL with D₅W, D₁₀W or NS; an IVI rate of 0.2 mL/h provides a dose of 10 µg/kg/h

Modified from BNFC2014-15

- A 0.4 mg/mL **oral morphine solution** is made by adding 0.4 mL of concentrated injectable solution to 9.6 mL of NS. Stable for 7 days refrigerated and protected from light

Neofax2011



Finnegan's Neonatal Abstinence Scoring System



Motinorm™ Susp.

Domperidone 5 mg / 5 mL

Uses

Symptomatic Relief of Nausea and Vomiting
(Infants > 1 month and BW ≤ 35 kg)

Dose

0.25 mg/kg/dose up to 3 times daily

BNFC2014-15

Prescription

موتینورم شراب (۵ مجم / ۵ سم) ← ... سم بالفم / ۸ ساعات

Adverse Effects

- Dry mouth
- Diarrhea
- QT-interval prolongation
- Ventricular arrhythmias
- Sudden cardiac death

Precautions

- Should be used at the lowest effective dose for the shortest possible duration (max. treatment duration should not normally exceed 1 week)

BNFC2014-15

Contra-indication

- Impaired cardiac conduction (underlying cardiac disease)
- Concomitant use of drugs that prolong the QT interval or potent enzyme inhibitors
- Severe hepatic impairment

Use in Renal Impairment

- Reduce frequency



Mucosolvan™

Solution for oral or inhalation use

Ambroxol hydrochloride 15 mg / 2 mL

Uses

Dose

Mucokinetic and Secretolytic

1.2-1.6 mg/kg/day (4-5 drops/kg/day) **PO** or **inhalation**

Prescription

ميوكوسولفان (١٥ مجم / ٢ سم) ← ... نقطة بالفم / ١٢ ساعة

ميوكوسولفان (١٥ مجم / ٢ سم) ← ... نقطة + ٢ سم م نبيولايزر / ١٢ ساعة

Preparation

1 mL = 25 drops



Mycostatin™ Cream or Oral drops

Nystatin 100.000 U / mL

Uses

Dose

Oral and Perioral Fungal Infections

1 mL (PT) to 2 mL (FT) divided and applied with swab to each side of mouth q6h after feeds. Continue for 3 days after symptoms have subsided.

Neofax2011

Topical Treatment of Candida Skin Infections

Apply q6h. Continue for 3 days after symptoms have subsided.

Neofax2011

Prophylaxis against Invasive Fungal Infections in high risk VLBW infants

Neofax2011

1 mL PO or via oro/nasogastric tube 3 times per day.

Prescription

ميكوستاتين قطارة (١٠٠٠٠ وحدة / سم) ← ٢-١ سم مسحة بالفم بعد الرضاعة / ٦ ساعات
ميكوستاتين بيبى كريم (١٠٠٠٠ وحدة / جم) ← دهان مكان الحفاظ / ٦ ساعات

Adverse Effects

Skin rash caused by vehicle in cream/ointment

Brands

Fungistatin™ oral drops

Note

Nystatin is not absorbed from the gastro-intestinal tract



Narcan™

Naloxone 0.4 mg / mL

Uses

Narcotic Antagonist; Adjuvant resuscitation efforts for narcotic-induced respiratory (CNS) depression

Dose

0.1 mg/kg IV push or IM

Neofax2011

onset within minutes (IV) or within 1h (IM; if adequate perfusion).

Prescription

ناركان (٠.٤ مجم / ١ سم) ← ... شرطة بـسرنجة انسولين ١٠٠ وريد أو عضل
(٢٥ شرطة بـسرنجة انسولين ١٠٠ لكل كجم)

Adverse Effects

- No short-term toxicity reported
- Monitor respiratory effort, and neurologic status

Note

- Tracheal administration is **not** recommended.
- Store at room temperature and protect from light.



Tobrin™ Eye drops or Ointment

Tobramycin 0.3%

Uses Dose

Local Treatment of Eye Infections

PNDH21

Instill 1-2 drops into each eye q4h or more often if severe infection (q30-60 min), or apply a small amount of ointment into each eye 2-3 times/day or for severe infections q3-4h

Prescription

توبرين (توبراميسين) ٠.٣٪ قطرة للعين كل ٤ ساعات
توبرين (توبراميسين) ٠.٣٪ مرهم للعين كل ٨ ساعات

Adverse Effects

- Conjunctival erythema
- Lid swelling

Brands

- **Tobrex™** eye drops (Tobramycin 0.3%)
- **Tobrex™** ophthalmic ointment (Tobramycin 0.3%)
- **Tobradex™** eye drops (Tobramycin 0.3% + Dexamethasone 0.1%)



Neomaint™ Solution

Contents Per 1000 mL

- Glucose 120 gm/L (12%)
 - NaCl 1.7535 gm/L
 - KCl 0.7445 gm/L
 - K 10 mEq/L
 - Na 30 mEq/L
 - Cl 40 mEq/L
 - Osmolarity 746.7 mOsm/L
-



Neostigmine™

0.5 mg / mL amp.

15 mg tab.

Uses

Dose

Transient or Congenital Myasthenia Gravis

BNFC2014-15

0.15 mg/kg **IM** or **SubQ** q6-8h (30 min before feed), max. 0.3 mg/kg q4h

Initially 1-2 mg **PO**, then 1-5 mg q4h (30 min before feed)

Reversal of Neuromuscular Blockade

Neofax2011

0.04-0.08 mg/kg **IV**, in addition to atropine 0.02 mg/kg

Preparation

- Compatible with D₅W and NS

Prescription

نيوستجمين (٠.٥ مجم / سم) ← ... شرطه بيسرنجة انسولين ١٠٠ عضل (أو تحت الجلد)
نيوستجمين (١٥ مجم قرص / ١٠ سم) ← ... سم بالفم نصف ساعة قبل الرضاعة / ٤ ساعات

Adverse Effects

- Muscle weakness, and tremors
- Bradycardia, and hypotension
- Respiratory depression, and bronchospasm
- Diarrhea, and excessive salivation

Contra-indication

- Urinary or intestinal obstruction
- Bradycardia or hypotension



Neupogen™

Filgrastim (Recombinant Human - Granulocyte Colony-Stimulating Factor)

Uses

Dose

Neonatal Neutropenia

10 µg/kg/dose **SubQ** q24h

BNFC2014-15

Discontinue if WBCs exceeds $50 \times 10^9/L$

Increases Feeding Tolerance in Preterm Infants

4.5 µg/ kg q24h **PO** (diluted into 1 ml distilled water) till the enteral intake reached 100 mL/kg of milk, or after a maximum of 7 days

Awad et al., 2014

Prescription

نيبوجين (٣٠٠ ميكروجرام / سم) ← ... شرطة بـسرنجة انسولين ١٠٠ تحت الجلد / ٢٤ ساعة
نيبوجين (٣٠٠ ميكروجرام / سم) ← ... شرطات بـسرنجة انسولين ١٠٠ وتضاف الى ١٠ سم ج
٥٪ وزيد على مدى نصف ساعة بمعدل ٢٠ سم / الساعة

Adverse Effects

- Fever
 - Vomiting
 - Leucocytosis
- CBC (including differential WBC count and platelet count) should be monitored**

Contra-indications

- Severe congenital neutropenia (Kostman's syndrome) with abnormal cytogenetics

IV Preparation

- For subcutaneous or IVI, dilute with Glucose 5% to a concentration of not $<15 \mu\text{g/mL}$; to dilute to a concentration of $2-15 \mu\text{g/mL}$, add albumin to produce a final albumin solution of 2 mg/mL ; not compatible with NaCl solutions.

BNFC2014-15

- **30 million units equal 300 micrograms**

Brands

- **Geneleukim™** (filgrastim 300 µg per 1 ml vial)
- **Neupogen™** syringe 30 MU/0.5 mL (prefilled syringes)

Awad HA, El-Ganzoury MM, El-Farrash RA, et al. (2014): Enteral Granulocyte-Colony Stimulating Factor and Erythropoietin Early in Life Improves Feeding Tolerance in Preterm Infants: A Randomized Controlled Trial. *J Pediatr*; 165(6) 1140-5.e1



Nexium™

Esomeprazole 40 mg vial
20 or 40 mg tab.

Uses	Erosive Esophagitis associated with GERD 0.5 mg/kg/dose PO or IV q24h for 7d PNDH21
Dose	Oral therapy beyond 6 wks have not been studied IV therapy beyond 10d have not been studied PNDH21
Adverse Effects	- Diarrhea - Agranulocytosis (rare)
Prescription	نكسيم (٢٠ مجم قرص / ١٠ سم) ← ... سم بالفم / ٢٤ ساعة نكسيم (٤٠ مجم / ١٠ سم) (١ سم + ٩ سم) ← ... سم ورید ببطء شديد / ٢٤ ساعة
IV Preparation	- Dilute with D₅W, LR or NS PNDH21
Monitor	- Intra-esophageal pH to assess efficacy (pH > 4.0)



Noradrenaline

Levophrine™ 4 mg / 4 mL amp.

High Alert
Medication

Uses

Dose

**Persistent Shock after Adequate Volume Replacement
Severe Hypotension
Cardiogenic Shock**

0.05-0.1 µg/kg/min IVI; max. dose 1-2 µg/kg/min MNC2012

0.02-0.1 µg/kg/min IVI; max. 1 µg/kg/min BNFC2014-15

1 mg of noradrenaline acid tartrate is equivalent to 500 micrograms of the base. Dose is expressed as the base.

Adverse Effects

- Extravasation may cause severe tissue necrosis
- Hypertension
- Bradycardia and arrhythmias
- Peripheral ischemia

Contra- indications

- Peripheral or mesenteric vascular thrombosis (ischemia may be increased and the area of infarct extended) MNC2012
- Blood/volume depletion should be corrected, if possible, before norepinephrine therapy.

Prescription

نورادرينالين (٤ مجم / ٤ سم) (٢ سم + ١٨ سم ج ٥ / ٥) ← ورید علی مدى ٢٤ ساعة بمعدل ...
سم / الساعة

Preparation

- Dilute in D₅W (dilution in NS is not recommended)
- Infuse through CVC MNC2012
- Incompatible with bicarbonate or alkaline solutions



Orelox™

Cefpodoxime 40 mg / 5 mL susp.

Uses

Dose

Respiratory tract infections

Skin and soft tissue infections

Uncomplicated urinary tract infections

(Infants from 15 d to 6 mo)

4 mg/kg/dose PO q12h

BNFC2014-15

Prescription

أوريلوكس شراب (٤٠ مجم / ٥ سم) ← ... سم بالفم / ١٢ ساعة

Adverse
Effects

- **Most Frequent:**

Serum Sickness, Vulvovaginal Candidiasis

- **Less Frequent:**

- Diarrhea, Nausea, Oral Candidiasis, Vomiting

- **Rare:**

Allergic Reactions, Fever, Hemolytic Anemia, Seizure, Hypoprothrombinemia, Pseudomembranous Enterocolitis, Stevens-Johnson Syndrome.

Storage

- Keep suspension in the fridge for up to 10 days after reconstitution.

Use in Renal
Impairment

- GFR 10-40 mL/min/1.73 m² ⇒ ↑ dose interval to q24h

- GFR <10 mL/min/1.73 m² ⇒ ↑ dose interval to q48h



Pediamaint™ Solution

Contents Per 1000 mL

- Glucose 100 gm/L (10%)
 - NaCl 2.164 gm/L
 - KCl 1.49 gm/L
 - Ca Gluconate 4 gm/L
 - K 20 mEq/L
 - Na 37 mEq/L
-



Phentolamine

Rogitine™ 10 mg / 1 mL

Uses

Dose

Prevention of dermal necrosis and sloughing caused by extravasation of vasoconstrictive agents e.g. dopamine

1-5 mL SubQ of a 0.5 mg/mL solution in NS

Neofax2011

Divided into 5 aliquots, each is injected SubQ in 5 sites around the leading area of infiltrate using 25-or 27-gauge needle. Change needle after each skin entry

Don't exceed **0.1 mg/kg** or **2.5 mg total**

Prescription

روجيتين (١٠ مجم / ١ سم) (١/٢ سم + ٩ سم) ← ... سم تحت الجلد

Adverse Effects

- Hypotension (if a very large dose is used)
- Consider using **topical 2% nitroglycerin** ointment if affected extremity is significantly swollen

Brands

- Rogitamine™



Polyvit™ Drops

Contents Per mL (20 drops)

- **Vit-A** 10.000 IU
- **Vit-D** 2.000 IU (100 IU/drop)
- **Vit-E** 2 mg
- **Vit-C** 25 mg
- **Thiamine (B₁)** 25 mg
- **Riboflavin (B₂)** 1 mg
- **Nicotinamide (B₃)** 20 mg
- **Pyridoxine (B₆)** 3 mg

بولي فيت قطارة ← ١ سم بالفم أو بالرايل / ٢٤ ساعة



Polyvital™ Drops

Contents Per mL (20 drops)

- Vit-A 5000 iu
- Vit-D₃ 300 iu
- Vit-E 2.5 mg
- Vit-C 60 mg
- Thiamine (B₁) 1.5 mg
- Riboflavin (B₂) 1.7 mg
- Nicotinamide (B₃) 19 mg
- Pyridoxine (B₆) 2.2 mg

بوليفيتال قطارة ← ١ سم بالفم أو بالرايل / ٢٤ ساعة

Medical Management of Persistent Cholestasis

Clinical Impairment	Management
Malabsorption of dietary long-chain triglycerides	Replace with dietary formula or supplements containing medium-chain triglycerides
Fat-Soluble Vitamin Malabsorption	
Vitamin A deficiency (night blindness, thick skin)	10,000–15,000 IU/day as Aquasol A
Vitamin E deficiency (neuromuscular degeneration)	Replace with 50–400 IU/day as oral α -tocopherol or TPGS
Vitamin D deficiency (metabolic bone disease)	5,000–8,000 IU/day of Vit-D ₂ or 3–5 μ g/kg/day of 25-OH cholecalciferol
Vitamin K deficiency (hypoprothrombinemia)	2.5–5.0 mg every other day vit-K
Micronutrient deficiency	Calcium, phosphate, or zinc supplementation
Water-soluble vitamins	Twice the RDA
Retention of Biliary Constituents such as Cholesterol	
Itch or Xanthomas	Choleretic bile acids Ursodeoxycholic acid (15–20 mg/kg/day)
Progressive Liver Disease; Portal Hypertension	
Variceal bleeding, Ascites and hypersplenism	Control bleeding Salt restriction Spironolactone
End-Stage Liver Disease	
Liver failure	Transplantation
TPGS, D-tocopherol polyethylene glycol succinate, RDA , recommended daily allowance	



Potassium Chloride

KCl 15%

Uses

Dose

Acute Treatment of Symptomatic Hypokalemia

0.5-1 mEq/kg **IV** over 1 hour then reassess

Neofax2011

Potassium Deficit (mEq) =

$$(K^+ \text{ normal lower limit} - K^+ \text{ measured}) \times \text{body weight (kg)} \times 0.4$$

The injectable form may be given in divided doses PO and diluted in the infant's formula

Gomella2009

Preparation

- **1 mEq K⁺ = 74.6 mg KCl = 0.5 mL KCl 15%**
- Max. peripheral IV solution concentration 40 mEq/L
- Max. central IV solution concentration 80 mEq/L

Adverse Effects

- Arrhythmias (peaked T-waves, widened QRS, flattened P waves, bradycardia, heart block and cardiac arrest)
- Thrombophlebitis and pain at site of infusion



Potassium M™ syrup

KCl 165 mg / 5 mL

Uses

Dose

Oral Replacement Therapy

0.5-1 mEq/kg/day divided and administrated with feedings

Preparation

- Each 5 mL contains about **2.2 mEq K⁺**

Adverse Effects

- GI irritation (diarrhea, vomiting, and bleeding) → divide dose and administer with feeding
- Use with caution (if at all) in patients receiving K⁺ sparing diuretics e.g. spironolactone

Prescription

بوتاسيوم شراب (١٦٥ مجم / ٥ سم) ← ... سم بالفم مع الرضاعة / ٨ ساعات



Prostin-VR™

Prostaglandin E₂ 500 µg / mL

1

Uses

Dose

Promote Dilatation of Ductus Arteriosus in Duct-dependant Congenital Heart Diseases MNC2012

Initial Dose 0.05 µg/kg/min IVI

Maintenance 0.01-0.4 µg/kg/min IVI

Higher doses are not likely to produce additional benefits and have a higher incidence of side effects MNC2012

May be given via UAC positioned near ductus arteriosus Neofax2011

Adverse Effects

Be prepared to intubate / resuscitate

Extravasation may cause tissue sloughing and necrosis

Common (6-15%):

- Apnea (consider treatment with aminophylline), seen most often in neonates < 2kg at birth and usually appears during the 1st of drug infusion MNC2012
- Hypotension, cutaneous flushing, and bradycardia
- Fever, and leukocytosis
- Hypokalemia with long term therapy (> 20 days), especially with doses > 0.05 µg/kg/min
- Gastric outlet obstruction and reversible cortical proliferation of long bones after prolonged ttt (> 120h)

Uncommon (1-5%):

- Seizures
- Hypoventilation, Tachycardia, Cardiac arrest
- Edema, Sepsis, diarrhea, and DIC

Rare (<1%):

- Urticaria, and bronchospasm
- Hemorrhage
- Hypoglycemia and hypocalcemia

Musculoskeletal changes:

- Widened fontanels
- Pretibial and soft tissue swelling of the extremities may occur after 9 days of therapy
- Cortical hyperostosis and periostitis may occur with long term use (> 3 months)
- Changes resolve over weeks after discontinuation



Prostin-VR™

Prostaglandin E₂ 500 µg / mL

2

Prescription

بروستين (٥٠٠ ميكروجرام / سم) (١ سم + ٩ سم) ← ١,٥ سم من المحلل لكل ١ كجم وتستكمل حتى ٢٥ سم ج ٥٪ أو محلول ملح ٠,٩٪ ويريد عن طريق السرنجة الكهربائية على مدى ٢٤ ساعة بمعدل ٠,١ سم / الساعة في البداية

Preparation

- **For IVI**; dilute 75 µg/kg to a final volume of 25 mL with D₅W or NS; an IVI rate of 0.1 mL/h provides a dose of 0.05 µg/kg/min
Modified from BNFC2014-2015
- Max. solution concentration 20 µg/mL (min. 10 µg/mL)
- Must be refrigerated
- Prepare fresh infusion solutions every 24h
- Undiluted solution must not come into contact with the barrel of the plastic syringe; add the required volume of **Prostin-VR™** to a volume of infusion fluid in the syringe, and then make up to final volume
BNFC2014-2015
- **Compatible with** dopamine, dobutamine, epinephrine, Lasix™, heparin, midazolam, fentanyl, and KCl
- **Compatible with** D₅W, and NS

Note

- Maximum effect seen within 30 min in cyanotic lesions, may take several hours in acyanotic lesions



Protam™

Protamine Sulfate 10 mg / mL vial

Neofax2011

Heparin Antagonist

(dose according to time since last heparin dose given)

<30 min: 1 mg / 100 units of heparin given

30-60 min: 0.5-0.75 mg / 100 units of heparin given

60-120 min: 0.375-0.5 mg / 100 units of heparin given

>120 min: 0.25-0.375 mg / 100 units of heparin given

Maximum dose is 50 mg (one vial)

Uses

Dose

Preparation

- Compatible with D₅W and NS

Adverse Effects

- Excessive doses can cause serious bleeding problems (protamine is an anticoagulant when given alone)
- Hypotension, bradycardia, dyspnea, and transitory flushing (in adults)



Pulmicort™ Respules

Budesonide 0.25 or 0.5 mg / mL

Uses

BPD with Assisted Ventilation

0.4 mg twice daily **by nebulizer**

BNFC2014-15

Dose

BPD with Spontaneous Respiration

0.5 mg twice daily **by nebulizer**

BNFC2014-15

Prescription

بلميكورت نيبولايزر (0.5مجم / سم) ← ... سم + ٢ سم م / ١٢ ساعة

Note

Postnatal steroid treatment should only be considered in babies who are ill and ventilator dependent more than a week after birth



Pulmozyme™ amp.

Dornase alfa 2.5 mg / 2.5 mL

Uses Dose

Reduce Sputum Viscosity in Cystic Fibrosis (children 5–18 years)

BNFC2014-15

2500 units (2.5 mg) once daily by inhalation using a jet nebuliser, at least 1h before physiotherapy

Alternate-day therapy may be as effective as daily treatment

Adverse Effects

- Pharyngitis, voice changes, and chest pain.
- **Occasionally**
Laryngitis, rashes, urticaria, and conjunctivitis.

Prescription

بلموزيم (٢٥٠٠ وحدة / ٢,٥ سم) ← ٢,٥ سم عن طريق النيبولايزر / ٢٤ ساعة

Note

Improvement occurs within 2 wks, but in more severely affected children a trial of 6–12 wks may be required

BNFC2014-15



Pyridostigmine

Mestinon™ 60 mg tab.

Uses

Dose

Treatment of Myasthenia Gravis

BNFC2014-15

Initially 1-1.5 mg/kg **PO**, increased gradually to max. 10 mg, repeated throughout the day, give 30-60 min before feeds

Prescription

مستينون (٦٠ مجم قرص / ١٠ سم) ← ... سم بالفم نصف ساعة قبل الرضاعة / ٤ ساعات

Adverse Effects

- Muscle weakness, and tremors
- Bradycardia, and hypotension
- Respiratory depression, and bronchospasm
- Diarrhea, and excessive salivation

Contra-indication

- Urinary or intestinal obstruction
- Bradycardia or hypotension

Renal Impairment

- Reduce dose; excreted by kidney



Rifampicin

Rimactane™ syrup 2%

Uses Dose

Treatment of Persistent Staphylococcal Infection
(in combination with vancomycin or aminoglycosides)

5-10 mg/kg/dose **IVI** over 30 min q12h

10-20 mg/kg/dose **PO** q24h

Neofax2011

Prophylaxis for contacts of invasive *N. meningitidis*

5 mg/kg/dose **PO** q12 for 2d

Neofax2011

Prophylaxis for contacts of invasive *H. influenzae* type b

10 mg/kg/dose **PO** q24 for 4d

Neofax2011

Treatment of Tuberculosis

nnf7

10 mg/kg q24h **PO** (20 mg/kg if meningitis is suspected),
together with **isoniazid** 10 mg/kg
(**Rimactazide™** 300 mg rifampicin + 150 mg INH tab)

Give 1 mg of **IM vit-K** if the child is <3 months old to minimise the
risk of vit-K deficiency bleeding

Adverse Effects

- Orange/red discoloration of body secretions
- Extravasation may cause local irritation and inflammation
- Potent CP450 enzyme inducer; ↓ Effect of aminophylline, fluconazole, midazolam, morphine, phenobarbital, phenytoin, propranolol, and zidovudine

Prescription

ريمكتان شراب (١٠٠ مجم / ٥ سم) ← ... بالفم / ٢٤ ساعة

Brands

- **Rifocin™** amp. 250 mg / 3 mL for IV use only

Hepatic Impairment

- Avoid use or don't exceed 8 mg/kg daily



Ringer's Lactate

Contents Per 1000 mL

- Na^+ 130 mEq/L
 - K^+ 4 mEq/L
 - Ca^{++} 2.7 mEq/L
 - Bicarbonate (as lactate) 28 mEq/L
 - Cl^- 108.7 mEq/L
 - Osmolarity 273 mOsm/L (isotonic)
-



Sandostatin™

Octreotide 0.1 mg / mL amp.

Uses Dose

Hyperinsulinemic Hypoglycemia

Neofax2011

Initially 1 µg/kg/dose q6h **SubQ** or **IV** (max. 10 µg/kg/dose)

Titrate upward to desired effect

Initial response should occur within 8h

Chylothorax

Neofax2011

Initially 1 µg/kg/h **IVI** (max. 10 µg/kg/h)

Titrate upward as needed based on reduction in chyle production

Adverse Effects

- Vomiting, diarrhea, abdominal distension, and steatorrhea
- Pulmonary hypertension (in PT with CLD)
- Hyperglycemia in patients treated for chylothorax
- NEC has been reported in term neonates

Prescription

ساندوستاتين (0.1 مجم / ١ سم) ← ... شرطة تحت الجلد بـسرعة انسولين ٦ / ١٠٠ ساعات

Preparation

- **Compatible with** D₅W and NS
- For **SubQ** injection, use undiluted drug
- For **IVI**, dilute to 10-25 µg/mL

Neofax2011



Salbutamol (Albuterol)

Farcolin™ 5 mg/mL Respirator Solution

Uses Dose

Bronchodilator

Neofax2011

0.1-0.5 mg (0.02-0.1 mL)/kg/dose q2-6h **via nebulizer**

0.1-0.3 mg/kg/dose **PO** q6-8h

Hyperkalemia

Neofax2011

0.4 mg (0.08 mL)/kg/dose q2h **via nebulizer**

Adverse Effects

- Tachycardia (stop if HR > 180 bpm)
- Arrhythmia
- Tremor, Irritable behavior
- Hypokalemia (drives K⁺ intracellularly)

Prescription

سالبوتامول نيبولايزر (٥ مجم / ١ سم) ... شرطة ٢ سم م م / ٦ ساعات
فنتولين شراب (٢ مجم / ٥ سم) ← ... سم بالفم / ٦ - ٨ ساعات

Brands

- **Salamol™** respirator solution 5 mg / 2.5 mL
- **Ventolin™** amp. 0.5 mg/mL
- **Ventolin™ Salbovent™** syrup 2 mg / 5 mL

Oral Use

- **Onset of action** is 30 min; **duration of action** is 4-8h
- Tolerance may develop

Nebulization Use

- A 0.1 mg/mL dilution for inhalation can be made by adding 0.5 mL of **Salbutamol™** (5 mg/mL) to 24.5 mL of NS
- Label for inhalation only
- Stable for 7 days refrigerated

Modified from Neofax2011



Simethicone™ 2%

Activated Dimethicone drops or emulsion

Uses

Dose

Colic or Wind Pain

21 mg with or after each feed (max. 6 doses in 24h); may be added to bottle feed



Dentinox™ Colic Drops

Simeticone

Uses

Dose

Colic or Wind Pain

2.5 mL with or after each feed (max. 6 doses in 24 hours); may be added to bottle feed.

Prescription

سایمیتیکون ۲٪ / نقط ← ۱ سم بالقم بعد الرضاعة / ۸-۴ ساعات

دنتینوکس نقط ← ۲.۵ سم بالقم بعد الرضاعة / ۸-۴ ساعات



SMOFlipids™

Lipid Emulsion 20%

Uses Dose

Parenteral Source of Calories “2 Kcal/mL” and Essential Fatty Acids

Starting Dose: 0.5 g/kg/day IVI

Increased by: 0.5 g/kg/day (max. 3 g/kg/day)

24h infusion time is preferred

Neofax2011

Adverse Effects

- Hypertriglyceridemia and hyperglycemia
- Extravasation may cause tissue inflammation and necrosis
- Use minimum dose in severe hyperbilirubinemia, sepsis or severe pulmonary dysfunction

Monitor

- Serum triglycerides (< 200 mg/dL)
- Liver function test
- Platelet count, Glucose, Bilirubin, and Albumin

Brands

- **Intralipid™ 20% Solution**
- **Lipovenös™ 20% Lipid emulsion**

Destabilization of lipid emulsions (flocculation and separation) may occur when they are co-infused with Dex/AA solutions containing calcium and high concentration of heparin (> 1 u/mL). This may be decreased by:

- Minimizing the contact time
- Using low (≤ 1 u/mL) concentrations of heparin
- Adding a multivitamin preparation to the Dex/AA solution

Neofax2011



Solu-Cortef™ vial

Hydrocortisone 100 mg

1

Chorioamnionitis-exposed ELBW Infants (↓ risk of CLD)

0.5 mg/kg/dose **IV** q12h for 12 days, then 0.25 mg/kg q12h for 3d

Neofax2011

Acute Adrenocortical Insufficiency (Addisonian Crisis)

Initial dose	10 mg/dose IV slowly
Acute Replacement	100 mg/m ² /day IV (divided q6-8h)
Withdrawal to maintenance	Over 4-5 days when stable

BNFC2014-15

Adrenal Hypoplasia, Addison's Disease, Chronic Maintenance or Replacement Therapy

BNFC2014-15

8–10 mg/m²/day **PO** in 3 divided doses

Higher doses may be needed

Vasopressor-resistant Hypotension (3 regimens)

Initial dose	2.5 mg/kg/dose IV (± repeat 4h)
Maintenance	2.5 mg/kg/dose IV q6h for 48h
Withdrawal	Over 48h after BP normalizes

BNFC2014-15

Day 1 initial dose	1 mg/kg/dose IV q8h X 3 doses
Day 2 follow in 12 h with	0.5 mg/kg/dose IV q12h X 2 doses
Day 3 follow in 12 h with	0.25 mg/kg/dose IV q12h X 2 doses
Day 4 follow in 24 h with	0.125 mg/kg/dose IV X 1 dose

MNC2012

1 mg/kg/dose IV q8h

Neofax2011

Hypoglycemia (despite GIR of 12-15 mg/kg/min) ^{MNC2012}

5 mg/kg/day **IV** in 2 divided doses

Dose can then be rapidly tapered over few days

Before administration, measure glucose, insulin and cortisol levels at a time when serum glucose is < 40 mg/dL

Bronchopulmonary Dysplasia (BPD)

First 3 days	5 mg/kg/day IV (divided q6-8h)
Tapering	Over 7-10 days
Stop if no response is seen by 2-3 days	
MNC2012	

MNC2012

Uses
Dose



Solu-Cortef™ vial

Hydrocortisone 100 mg

2

Adverse Effects

- Hyperglycemia
- Hypertension, salt and water retention
- ↑ Risk of GI perforation when used with indomethacin
- ↑ Risk of disseminated Candida infections
- Early, low dose hydrocortisone treatment was not associated with increased CP

Neofax2011

Prescription

سوليكورتيف (١٠٠ مجم / ١٠ سم) ← ... سم وزيد / ٨ - ١٢ ساعة

Brands

- Flebocortid™ 100 mg vial
- Hydrocortisone-Roussel™ 10 mg tab.

Preparation

Compatible with D₅W, D₁₀W, and NS

Note

Body Surface Area (m²) = (0.05 X kg) + 0.05

Neofax2011



Soluvit N™

Water-Soluble Vitamins

Contents Per Vial

- Biotin 60 µg
- Cyanocobalamin 5 µg
- Edetate sodium 500 µg
- Folic acid 400 µg
- Glycine 300 mg
- Nicotinamide 40 mg
- Pantothenic acid 15.0 mg
- Preservative (500 µg methyl hydroxybenzoate)
- Pyridoxine hydrochloride 4.9 mg (eq. to Vit-B₆ 4 mg)
- Sodium ascorbate 113 mg (eq. to Vit-C 100 mg)
- Sodium riboflavine phosphate 4.9 mg (eq. to Vit-B₂ 3.6 mg)
- Thiamine nitrate 3.1 mg



Sominaletta™

Phenobarbital

Anticonvulsant

LD: 20 mg/kg IV slowly over 10-15 min, with refractory seizures add 5 mg/kg doses, up to a total of 40 mg/kg

MD: 3-4 mg/kg/day (12-24 after LD) IV, IM, PO or PR. Given daily (q12h probably unnecessary) Neofax2011

Uses

Dose

Neonatal Abstinence Syndrome (in nonopiate- or polydrug- exposed infants)

LD: 16 mg/kg PO on D1

MD: 1-4 mg/kg/dose PO q12h

Based on [abstinence scoring](#), weaning can be acheived by decreasing dose 20% every other day Neofax2011

Adverse Effects

- Sedation at serum level > 40 µg/mL
- Respiratory depression at serum level > 60 µg/mL
- Irritating to veins

Prescription

سوميناليتا (٤٠ مجم / سم) (١ سم + ٣ سم ج ٥٪) ← ٢ سم لكل كجم ثم ١/٢ سم لكل كجم
بعد أقصى ٤ جرعات ثم بعد ١٢ ساعة ... شرطة بسرنجة انسولين ١٠٠ ورید ببطء شديد كل
١٢ ساعة
سوميناليتا شراب (١٥ مجم / ٥ سم) ← ... سم / ١٢ ساعة بالقلم

Serum Level

- **Therapeutic level** 15-40 µg/mL
- In neonatal abstinence syndrome, serum levels of 20-30 µg/mL are associated with adequate symptom control.
- ↑ Serum levels if used with phenytoin or valproate.

Preparation

Compatible with **D₅W**, **D₁₀W** and **NS**

Renal Impairment

Use with caution, serum levels need to be monitored MNC2012

Hepatic Impairment

May precipitate coma, avoid in severe impairment



Finnegan's Neonatal Abstinence Scoring System



Spironolactone

Aldactone™ 25 mg tab.

Uses

Dose

CHF and BPD (combination with other diuretics)

Ascites and Edema

Hypokalemia (induced by diuretics or amphotericin B)

1-2 mg/kg/day **PO** in 1-2 divided doses; up to 7 mg/kg/day
in resistant ascites

BNFC2014-15

Adverse Effects

- Rash
- Hyperkalemia, and hyponatremia
- Vomiting, and diarrhea
- False positive ELISA screening for adrenal hyperplasia
- Gynecomastia in males

Prescription

الداكتون (٢٥ مجم قرص / ١٠ سم) ← ... شرطة بـسرنجة أنسولين ١٠٠ بالفم / ٢٤ ساعة

Precautions

- May require several days of therapy before effect is seen
- Discontinue if ↑ serum K⁺ with long term therapy
- Measuring urinary K⁺ is a useful indicator of effectiveness

Contra-indications

- Hyperkalemia
- Anuria
- Addison's disease

Renal Impairment

- Avoid in acute renal insufficiency or severe impairment



Sulperazon™ Vial

Cefoperazone / Sulbactam 1.5 g / 25 mL

Uses

Dose

Treatment of Susceptible Infections

30-40 mg/kg/dose **IV** q12h

*Could be given q8h after 1 week of age



Cefobid™

Cefoperazone 0.5, 1 and 1.5 g vial

Uses

Dose

Treatment of Susceptible Infections

25-50 mg/kg/dose **IM** q12h

Adverse Effects

- Hypersensitivity, skin reactions, fever, and a change in Coombs' test.
- Reversible neutropenia, ↓ hemoglobin or hematocrit, or transient eosinophilia.
- Diarrhea, or loose stools.
- Pseudomembranous colitis.
- Transient elevations of BUN and serum creatinine.

Prescription

سليبيرازون (١.٥ جم / ٢٥ سم ماء مقطر) ← ... سم وزيد / ١٢ ساعة

سيفوبيد (٥٠٠ جم / ٥ سم ماء مقطر) ← ... سم عضل / ١٢ ساعة



Survanta™

Beractant, Intratracheal Suspension 4-8 mL vials

1

Prophylaxis for RDS (< 29wk gestation)

Neofax2011

Rescue Treatment of Moderate to Severe RDS

MAS, pneumonia, and PPHN in Term Infants

4 mL/kg/dose, intratracheally, divided into 4 aliquots, preferably within 8h of birth; may be repeated within 48h (at least 6h apart) for up to 4 doses

Uses

Dose

Survanta™ Dosing Chart

Wt (gm)	Dose (mL)	Wt (gm)	Dose (mL)
600- 650	2.6	1301- 1350	5.4
651- 700	2.8	1351- 1400	5.6
701- 750	3.0	1401- 1450	5.8
751- 800	3.2	1451- 1500	6.0
801- 850	3.4	1501- 1550	6.2
851- 900	3.6	1551- 1600	6.4
901- 950	3.8	1601- 1650	6.6
951- 1000	4.0	1651- 1700	6.8
1001- 1050	4.2	1701- 1750	7.0
1051- 1100	4.4	1751- 1800	7.2
1101- 1150	4.6	1801- 1850	7.4
1151- 1200	4.8	1851- 1900	7.6
1201- 1250	5.0	1901- 1950	7.8
1251- 1300	5.2	1951- 2000	8.0

Lung Lavage with Diluted Surfactant in Meconium Aspiration Syndrome

Two aliquots of 15 mL/kg of diluted Survanta™ (1:5) (final concentration 5 mg/mL), each aliquot is followed by 3 positive pressure inflations by Ambu bag, followed by suction of the instilled fluid

lessMAS2010

Preparation

- **Survanta™** is an off-white to light brown liquid supplied in single-use glass vials containing **4 mL** (100 mg phospholipids) or **8 mL** (200 mg phospholipids)
- Used vials with residual drug should be discarded

Adverse Effects

- **Dosing should be slowed or halted if:**
Infant becomes dusky or agitated, HR slows, O₂ saturation falls > 15%, or Surfactant backed up in the ETT
- **Pulmonary hemorrhage** (2-4%), mostly the smallest infants with untreated PDA

Monitor

- ETT patency and position
- O₂ saturation, ECG, and blood pressure
- Impaired gas exchange caused by blockage of the airway



Survanta™

Beractant, Intratracheal Suspension 4-8 mL vials

2

Administration

1 | Swirl the vial gently (DO NOT SHAKE) to redisperse settling

2 | Warm the vial by standing at room temperature for at least 20 minutes or warm in the hand for at least 8 minutes. Artificial warming methods shouldn't be used. If a prevention dose is to be given, preparation of Survanta™ should begin before the infant's birth

3 | Unopened vials of Survanta™ that have been warmed to room temperature may be returned to the refrigerator within 24h of warming, and stored for future use. Survanta™ should not be removed from the refrigerator for > 24 h. Survanta™ should not be warmed and returned to the refrigerator > once

4 | Survanta™ is administered intratracheally through a 5-F end-hole catheter. The length of the catheter should be shortened so that the tip of the catheter protrudes just beyond the end of the ET above the infant's carina. Survanta™ should not be instilled into a mainstem bronchus

5 | Catheter can be inserted into the infant's trachea by briefly disconnecting the ET from the ventilator. After administration of each quarter-dose, the catheter is removed and the infant is ventilated for at least 30 seconds until stable

6 | To ensure homogenous distribution of Survanta™ throughout the lungs, each dose is divided into four *quarter-doses*. Each quarter-dose is administered with the infant in a different position. The recommended positions are:

- Head and body inclined 5-10° down, head turned to the right
- Head and body inclined 5-10° down, head turned to the left
- Head and body inclined 5-10° up, head turned to the right
- Head and body inclined 5-10° up, head turned to the left



The choice of surfactant for treatment of RDS in preterm infants: A review of the evidence



Lung lavage for meconium aspiration syndrome in newborn infants (Review)



Sutrim™ (Co-trimoxazole)

Trimethoprim+Sulfamethoxazole 40+200 mg / 5 mL

Uses Dose

Susceptible infections including *Stenotrophomonas* (for infants > 6 wks of age)

24 mg/kg q12h **PO**

BNFC2014-15

Treatment of *Pneumocystis jirovecii* (*P. carinii*) (for children 1 mo – 18 years)

60 mg/kg q12h **PO** for 14-21 days; total daily dose may alternatively be given in 3-4 divided doses

BNFC2014-15

Prophylaxis of *Pneumocystis jirovecii* (*P. carinii*) (for children 1 mo – 18 years)

450 mg/m² (max. 960 mg) **PO** twice daily for 3 days per week (either consecutively or on alternate days)

BNFC2014-15

Adverse Effects

- Rash (discontinue immediately)
- Hyperkalemia, and hyponatremia
- Vomiting, and diarrhea
- False positive ELISA screening for adrenal hyperplasia
- Gynecomastia in males

Brands

Septrin™ susp.

Prescription

ستريم (سيترين) شراب (٢٤٠ مجم / ٥ سم) ← ... سم بالقم / ١٢ ساعة

Precautions

- Co-trimoxazole should be avoided in children < 6 weeks of age (except for treatment and prophylaxis of pneumocystis pneumonia) because of the risk of kernicterus.
- Risk of hemolytic anemia if used in G6PD deficiency
- Maintain adequate fluid intake
- Discontinue if blood disorders or rash develop
- Co-trimoxazole increases the plasma half life of phenytoin

Use in Renal Impairment

- GFR 15–30 mL/min/1.73 m² ⇒ Use half normal dose
- If GFR < 15 mL/min/1.73 m² or if plasma level of sulfamethoxazole can't be monitored ⇒ Avoid use



Targocid™

Teicoplanin 200 mg / 3 mL vial

Uses

Dose

Potentially Serious G+ve Infections

e.g. endocarditis, and infections due to *Staph aureus* (including MRSA)

Loading 16 mg/kg IV **followed by** 8 mg/kg IV or IM q24h

Treat proven septicemia for at least 7 days

Neofax2011

Adverse Effects

- Leucopenia and thrombocytopenia
- Disturbances of liver function

Prescription

تارجوسيد (٢٠٠ مجم / ٣ سم) ← ... شريطة بيسرنجة الانسولين ١٠٠ عضل أو تكمل حتى ١٠ سم وتعطى وريد على مدى نصف ساعة / ٢٤ ساعة

Renal Impairment

Reduce dose on day 4 then

- Use $\frac{1}{2}$ normal dose if GFR is 40-60 mL/min/1.73 m²
- Use $\frac{1}{3}$ normal dose if GFR is < 40 mL/min/1.73 m²

Note

Rifampicin may be synergistic with **Targocid™** in the management of Staph. infection



Tazocin™

Piperacillin + Tazobactam 4.5 g / 90 mL

Non-CNS Infections

e.g. *E. coli*, *Enterobacter*, *Klebsiella*, *H. influenzae*, *Proteus mirabilis*, *Pseudomonas* spp., *Staph. Aureus*, and group B *Streptococcus*

50-100 mg/kg/dose **IVI** over 30 min

Neofax2011

Dose is calculated as for piperacillin component

Uses

Dose

PMA (wk)	Postnatal (d)	Interval (h)
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	8

Adverse Effects

- Eosinophilia
- Hyperbilirubinemia
- ↑ AST, ALT, BUN, and serum creatinine

Prescription

تازوسين (٤.٥ جم / ٩٠ سم) ← ... سم وريد على مدى نصف ساعة / ٨ ساعات

Renal Impairment

- GFR < 50 mL/min/1.73 m² ⇒ 78.75 mg/kg/8h

Note

Na content is 11.16 mEq/4.5 g vial

BNFC2014-15



Tienam™

Imipenem / Cilastatin 500 mg / 100 mL

Uses

Dose

Non-CNS Infections

e.g. Enterobacteriaceae and anaerobes

20-25 mg/kg/dose q12h IVI over 30 min

Neofax2011

Adverse Effects

- Seizures in patients with meningitis, preexisting CNS pathology, and severe renal dysfunction
- Local reaction at injection site
- Increased platelet count, and Eosinophilia
- Elevated liver enzymes
- Diarrhea (> 5 % of patients)

Prescription

تاينام (٥٠٠ مجم / ١٠٠ سم م م) ← ... سم وزيد على مدى نصف ساعة / ١٢ ساعة

Spectrum

- Broad-spectrum; G+ve and G-ve bacteria and anaerobes
- Good activity against *Pseudomonas aeruginosa*
- Not active against MRSA and *Enterococcus fecium*

IV Preparation

- **Compatible with** D₅W, D₁₀W, and NS

Use in Renal Impairment

- Not licensed for use in children with renal impairment
- Cr Cl < 70 mL/min/1.73 m² ⇒ Reduce dose



Tracrium™ amp.

Atracurium besilate 10 mg / mL

BNFC2014-15

Uses Dose

Neuromuscular Blockade (short to intermediate duration)

Initially 0.3–0.5 mg/kg **IV** followed either by
IV dose of 0.1–0.2 mg/kg repeated as necessary, or
IVI of 0.3–0.4 mg/kg/h adjusted according to response

Adverse Effects

- Skin flushing
- Hypotension, tachycardia
- Bronchospasm
- Anaphylactoid reactions (very rarely)

Prescription

اتراكيوريم (١٠ مجم / ١ سم) (١ سم + ٩ سم) ← ... سم وريد عند اللزوم أو بأمر الطبيب
اتراكيوريم (١٠ مجم / ١ سم) ← ٣ سم لكل ١ كجم وتستكمل حتى ٢٥ سم ج ٥٪ أو محلول
ملح ٩٪ وريد على مدى ٢٤ ساعة بالسرعة الكهربية بمعدل ٠,٣ سم / الساعة

Brands

- **Atracurium™** 10 mg/mL amp.

IV Preparation

- Dilute 30 mg/kg to a final volume of 25 mL with **D₅W** or **NS**; min. concentration of 0.5 mg/mL, max. concentration of 5 mg/mL; an IVI rate of 0.3 mL/h provides a dose of 0.36 mg/kg/h

Modified from BNFC2014-15

Renal or Hepatic Impairment

- Atracurium undergoes non-enzymatic metabolism which is independent of liver and kidney function, thus allowing its use in children with hepatic or renal impairment

BNFC2014-15



Unasyn™

Ampicillin/Sulbactam 750 mg / 20 mL

Broad-Spectrum bactericidal against GBS, Listeria monocytogenes and susceptible E. coli species

150 mg/kg/day IV

Dose is doubled in meningitis

BNFC2014-15

Uses

Dose

PMA (wks)	Postnatal (days)	Interval (h)
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

Oral Dose

25-50 mg/kg/day PO in 2 divided doses

Product leaflet

Adverse Effects

- Large doses may result in CNS excitation or seizure activity
- Hypersensitivity reactions (rare, maculopapular rash, urticarial rash or fever)
- Moderate prolongation of bleeding times (by ~60 seconds)

Prescription

يوناسين (٧٥٠ مجم / ٢٠ سم) ← ... سم وريد ببطء / ٨-١٢ ساعة
يوناسين شراب (٢٥٠ مجم / ٥ سم) ← ... سم بالفم / ١٢ ساعة

Brands

- Sulbin™ Unasyn™ Unictam™ 375, 750, and 1500 mg vial
- Sigmacyn™ Unasyn™ Unictam™ 250 mg / 5 mL susp.

Preparation

- Unasyn™ vials contains Ampicillin:Sulbactam in a 2:1 concentration

Renal Impairment

- Reduce dose or frequency if GFR < 10 mL/min/1.73 m²
- Rashes are more common



Ursogall™

Ursodeoxycolic acid 158.5 mg / 5 mL

Uses

Dose

Cholestasis

associated with TPN, biliary atresia and cystic fibrosis

Dissolve Cholesterol Gallstones

may take several months

10-15 mg/kg/dose **PO** q12h

Neofax2011

Adverse Effects

- Nausea, and vomiting
- Abdominal pain
- Constipation
- Flatulence
- Aluminum-containing antacids inhibit absorption

Prescription

أورسوجول شراب (١٥٨.٥ مجم / ٥ سم) ← ... سم بالقم / ١٢ ساعة

Hepatic Impairment

- Avoid in chronic liver disease (but used in primary biliary cirrhosis)



Vancomycin

Vancocin™ 500 mg / 100 mL

1

Bacteremia

Neofax2011

10 mg/kg/dose **IVI** over 1h

Meningitis

15 mg/kg/dose **IVI** over 1h

Uses

Dose

PMA (wks)	Postnatal (d)	Interval (h)
≤ 29	0-14	18
	>14	12
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

Adverse Effects

- **Nephrotoxicity** (higher incidence with serum trough concentration > 10 µg/mL); enhanced by aminoglycoside
- **Ototoxicity** (with prolonged peak level > 40 µg/mL)
- Rash and hypotension (**red man syndrome**), resolves within minutes to hours → ↑ infusion time
- Neutropenia (if administrated > 3 wks)
- Phlebitis → ↓ Rate, dilute drug or rotate infusion sites

Prescription

فانكوميسين (٥٠٠ مجم / ١٠٠ سم) ← سم ورید علی مدى ساعة / ٨ ساعات

Spectrum

- **Bactericidal** against aerobic and anerobic G+ve bacteria including MRSA, *Staph epidermidis* and penicillin-resistant *Pneumococci*
- **Bacteriostatic** for *Enterococci*
- Penetration in to CSF is poor
- If *Staphylococci* exhibit tolerance to the drug, combine it with an **aminoglycoside ± rifampicin**

IV Preparation

- **Compatible** with NS, D₅W, and D₁₀W
- IV form can be used to prepare solution for oral use



Vancomycin

Vancocin™ 500 mg / 100 mL

2

Serum Level

- Should be measured after 3-4 doses if renal function is normal, earlier if there's renal impairment
- **Trough:** 5-10 µg/mL – 15-20 µg/mL when treating MRSA pneumonia, endocarditis or bone/joint infections (Draw 30 minutes prior to scheduled dose)
- **Peak:** 30-40 µg/mL when treating meningitis (draw 30 minutes after end of infusion)

Renal Impairment

- Reduce dose
- Monitor plasma concentration and renal function regularly

Drug Interactions

General Anesthetics

Hypersensitivity-like reactions

Aminoglycosides

↑ Risk of nephrotoxicity and ototoxicity

Amphotericin

Possible ↑ risk of nephrotoxicity

Loop diuretics

↑ Risk of ototoxicity



Valium™

Diazepam 10 mg / 2 mL

**High Alert
Medication**

Uses Dose

Status Epilepticus

Convulsions caused by Poisoning

0.3 mg/kg/h **IVI** (more effective)

MNC2012

0.1-0.3 mg/kg/dose slow **IV** q15-30 min , if needed (max. total dose of 2 mg)

PNDH21

1.25-2.5 mg **PR** repeated once after 10 min if necessary

BNFC2014-15

Adverse Effects

- Sedation
- Respiratory depression
- Muscle weakness
- Hypotension
- GI disturbances, incontinence, urinary retention
- Blood disorders and jaundice reported; skin reactions
- IV injection → Pain and thrombophlebitis

Contra- indications

Respiratory depression or neuromuscular weakness

Prescription

فاليام (١٠ مجم / ٢ سم) ← ... سم وزيد ببطء شديد الآن فقط

Brands

- **Stesolid™** Rectal Tubes 2.5, 5, or 10 mg
- **Epival™ Neuril™** 10 mg / 2mL amp.

Renal Impairment

- Start with small doses
- Increased cerebral sensitivity

Hepatic Impairment

- ↓ Dose; may precipitate coma
- Avoid in severe impairment

Note

The anticonvulsant effect lasts minutes, whereas the sedative effect exceeds 24 hours



Vfend™

Voriconazole 50 mg tab.
200 mg vial

1

Uses Dose

Invasive Aspergillosis

Invasive Fluconazole-Resistant Candida Spp.

12-20 mg/kg/day **IV** or **PO** divided q8-12h

PNDH21

(max. reported dose was up to 24 mg/kg/day)

The recommended duration of therapy is 2-3 weeks

Steinbach and Benjamin, 2005

Earlier data describes lower doses of 4-8 mg/kg/day divided q12h

Adverse Effects

- Vomiting, diarrhea, jaundice, edema, hypotension, RDS, hypoglycemia, hematuria, blood disorders (including anemia, thrombocytopenia, leucopenia, pancytopenia), ARF, hypokalemia, visual disturbances, (including altered perception, blurred vision and photophobia), rash, photosensitivity, alopecia, cheilitis, injection site reactions
- **Less commonly** hepatitis, constipation, arrhythmias (including QT interval prolongation), ↑ cholesterol, hypersensitivity reactions (including flushing), nystagmus, adrenocortical insufficiency, arthritis, blepharitis, optic neuritis, Stevens-Johnson syndrome
- **Rarely** pseudomembranous colitis, hearing disturbances, convulsions, extrapyramidal effects, hypertonia, hypothyroidism, hyperthyroidism, discoid lupus, toxic epidermal necrolysis, pseudoporphyria, retinal hemorrhage, optic atrophy; also reported squamous cell carcinoma of skin (particularly in presence of phototoxicity)

Prescription

فيقند (قرص ٥٠ مجم / ١٠ سم) ← ... سم بالرايل / ١٢ ساعة
فيقند (٢٠٠ مجم / ٢٠ سم) (٠.٥ سم + ٩.٥ سم م م) ← ... سم ويريد على مدى ٣ ساعات كل
١٢ ساعة



Vfend™

Voriconazole 50 mg tab.
200 mg vial

2

Contra-indications

- Acute porphyria

IV Preparation

- Reconstitute each 200 mg with 19 mL Water for Injections to produce a 10 mg/mL solution; dilute dose to concentration of 0.5-5 mg/mL with D₅W or NS and give at a rate not exceeding 3 mg/kg/h BNFC2014-15

Renal Impairment

- IV form is not recommended in renal failure Bliss et al., 2003
- IV vehicle may accumulate if estimated GFR < 50 mL/min/1.73 m², use IVI only if potential benefit outweighs risk, and monitor renal function; alternatively, use tablets (no dose adjustment required) BNFC2014-15

Hepatic Impairment

- In mild to moderate hepatic cirrhosis use usual initial dose then halve subsequent doses BNFC2014-15
- No information available for severe hepatic cirrhosis, manufacturer advises use only if potential benefit outweighs risk

Note

- **Vfend™** has a broader spectrum of activity and higher potency than fluconazole, and a better safety profile than amphotericin B Bliss et al., 2003



Bliss JM, Wellington M and Gigliotti F (2003): Antifungal pharmacotherapy for neonatal candidiasis. *Semin Perinatol*; 27(5):365-74



Steinbach WJ and Benjamin DK (2005): New antifungal agents under development in children and neonates. *Curr Opin Infect Dis*; 18:484-9



Viagra™ tab.

Sildenafil 50 mg

Uses

Pulmonary Arterial Hypertension

0.5-2 mg/kg/dose **PO** q6-12h (max. of 3 mg/kg/dose q6h)
Neofax 2011

Dose

Start with lower dose and frequency especially if used with other vasodilators
BNFC2014-15

Prescription

فياجرا (½ قرص ٥٠ مجم / ٢٥ سم) ← ... سم بالرايل / ٦ - ١٢ ساعة بعد قياس الضغط

Brands

- Erec™ 100 mg tab.
- Viavag™ 25 mg tab.

Adverse Effects

- Worsening oxygenation and systemic hypotension.
- Use with caution in infants with sepsis.
- ↑ Risk of ROP, bleeding??

Precautions

- Avoid abrupt withdrawal

BNFC2014-15

Contra-indication

- Sickle-cell anemia
- Severe hypotension

Renal Impairment

- Reduce dose if not tolerated



Vitalipid N™

Fat-Soluble Vitamins

**Per mL
Vitalipid N™
Adult**

**Retinol 99 mcg, calciferol 0.5 mcg, α -tocopherol 0.91 mg,
phytomenadione 15 mcg, fractionated soybean oil 100
mg, fractionated egg phospholipids 12 mg**

**Per mL
Vitalipid N™
Infant**

**Retinol 69 mcg, calciferol 1 mcg, α -tocopherol 0.64 mg,
phytomenadione 20 mcg, fractionated soybean oil 100
mg, fractionated egg phospholipids 12 mg**



Vitamin A

A-viton™ 50000 u cap.

Dose Uses

To reduce risk of CLD in High Risk Premature Neonates with Vit-A Deficiency

Neofax2011

5000 units **IM** 3 times weekly for 4 weeks
(no IM preparation is available in Egypt)

Prevention of Deficiency in Biliary Obstruction

50,000 units **IM** once a month
(no IM preparation is available in Egypt)

Contra- indications

- Avoid coincident treatment with glucocorticoids

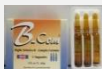
Vit-A Toxicity

- Full fontanel
- Lethargy
- Irritability
- Hepatomegaly
- Edema
- Mucocutaneous lesions
- Bony tenderness

Serum Level

- Consider measuring plasma retinol concentrations if available, especially if the patient is also receiving glucocorticoids; desired concentrations are 30-60 µg/dL
- Concentrations < 20 µg/dL indicate deficiency while those > 100 µg/dL are potentially toxic

Vitamin B Complex



Bécozyme™ (or B-com™) contents Per 2 mL amp.

- Thiamin (vit-B₁) 10 mg
- Riboflavin (vit-B₂) 5.47 mg
- Nicotinamide 40 mg
- Pyridoxine (vit-B₆) 4 mg
- Dexpanthenol (vit-B₅) 6 mg

Vitamin Uses/Doses

Thiamine (Vit-B ₁)		BNFC2014-15
Maple Syrup Urine Disease	5 mg/kg/day PO	
Metabolic disorders including congenital lactic acidosis	50-200 mg once daily (or divided into 2-3 divided doses) PO or by IVI over 30 min	
Riboflavin (Vit-B ₂)		BNFC2014-15
Metabolic Diseases	50 mg 1-2 times daily PO	
Pyridoxine (Vit-B ₆)		BNFC2014-15
Metabolic Diseases including Cystathioninuria and Homocystinuria	50-100 mg 1-2 times daily PO	
Treatment of Isoniazid-Induced Neuropathy	5-10 mg daily PO	
Prevention of Isoniazid-Induced Neuropathy	5 mg daily PO	
Pyridoxine-dependent Seizures	Initial test dose 50-100 mg by IV injection, may be repeated; if responsive followed by an oral maintenance dose of 50-100 mg once daily	



Vitamin D Preparations

Supplementation in breastfed babies

10 µg/day (400 u/day) **PO**

MNC2012

Vit-D deficiency

(Levels of ALP 7.5 times above the adult range indicates active disease)

1000 u/day **PO**

Neofax2011

Dose of Alfacalcidol in Neonates

0.05-0.1 µg/kg/day. With severe hypocalcemia, up to 2 µg/kg/day **PO** may be needed

Products information leaflet

Adverse Effects

- Acidosis, Hypertension, and Arrhythmia
- **Hypervitaminosis D** (25(OH)-D > 250 nmol/L); hypercalcemia, azotemia, diarrhea, polyuria, hypokalemia, metastatic calcification, and nephrocalcinosis

Neofax2011

Prescription

ديكال- ب ١٢ شراب (١٠٠ وحدة / سم) ← ٢-٤ سم بالفم / ٢٤ ساعة
في - دروب نقط (٢٨٠٠ وحدة / سم) ← ٤-٨ نقط بالفم / ٢٤ ساعة
وان - ألفا نقط (٢ ميكروجرام / سم) ← ... نقط بالفم / ٢٤ ساعة

Brands

- **Alfacareno™ (or One-Alpha™) drops:**
Alfacalcidol 2 µg / ml oral drops (0.1 µg per 1 drop)
- **Decal-B₁₂™, contents per 5 mL:**
Vit D₃ 1000 u
Ca 50 mg
Vit B₁₂ 10 µg
- **ViDrop™, contents per 1 mL (28 drops):**
Vit D₃ 2800 u
- **IM Preparations:**
Devarol-S™ 60.000 u / 2 mL amp.
Sterogel™ "H" 60.000 u / 1.5 mL amp.



Vitaphos™ Elixir

Appetizer and General Tonic with Vitamin B Complex

Contents Per 15 mL

- **Vit-B₁** 2 mg
- **Vit-B₂** 1 mg
- **Vit-B₆** 2 mg
- **Nicotinamide** 10 mg
- **Calcium glycerophosphate** 114.5 mg
- **Sodium glycerophosphate** 114.5 mg
- **Potassium glycerophosphate** 114.5 mg
- **Magnesium glycerophosphate** 57 mg



Zantac™ amp.

Ranitidine 50 mg / 2 mL

Uses

Dose

Prevention and Treatment of Stress ulcers and GI hemorrhage aggravated by gastric acid secretion

2 mg/kg/dose **PO** q8h (max. 3 mg/kg q8h)

(Term) 1.5 mg/kg/dose q8h **IV** slow push

(Preterm) 0.5 mg/kg/dose q12h **IV** slow push

0.0625 mg/kg/h **IVI** (range 0.04-0.1 mg/kg/h)

Neofax2011

Adverse Effects

- ↑ Risk for late-onset bacterial and fungal sepsis, and NEC
- Thrombocytopenia
- **In adults;** ↑AST, ALT, leucopenia, and bradycardia
- **Very rarely;** interstitial nephritis

Prescription

زانتاك (٥٠ مجم / ٢ سم) (١/٢ سم + ١٢ سم ج ٠.٥) ← ...سم وريد ببطء / ٨-١٢ ساعة
 زانتاك أقراص (١٥٠ مجم / ٣٠ سم ماء مقطر) ← ... سم بالرايل / ٨ ساعات

Precautions

- Routine gastric acid suppression should be avoided

Renal Impairment

- Use ½ normal dose if GFR < 50 mL/min/1.73 m²



Zithromax™

Azithromycin 200 mg / 5 ml Susp.
500 mg Vial

Uses Dose

Treatment and Postexposure Prophylaxis of Pertussis

10 mg/kg/dose **IV** or **PO** q24h for 5 days PNDH21

Chlamydial Conjunctivitis or Chlamydial Pneumonia

20 mg/kg/dose **IV** or **PO** q24h for 3 days PNDH21

Prevention of Bronchopulmonary Dysplasia (BPD)

10 mg/kg/dose IV or PO q24h	For 7 days
5 mg/kg/dose IV or PO q24h	For 5 weeks
PNDH21	

Spectrum

- Slightly less activity than erythromycin against G+ve bacteria, but enhanced activity against some G-ve organisms including *Haemophilus influenzae*
- *Chlamydia*, *Mycoplasma* and *Ureaplasma* infections

Adverse Effects

- Diarrhea and/or vomiting (5-12%)
- Irritability, rash and blood in stool
- Pyloric stenosis ?!

Prescription

زيتروماكس شراب (٢٠٠ جم / ٥ سم) ← ... قبل الرضاعة بـساعة بالقم / ٢٤ ساعة
زيتروماكس (٥٠٠ مجم / ٤.٨ سم) (١/٢ سم + ٤٩.٥ سم) ← ... سم وريد على مدى ساعة / ٢٤ ساعة

Oral Suspension

- Don't refrigerate
- Use within 10 days once bottle has been opened
- Available as (600) 15-mL, (900) 22.5-mL, or (1200) 30-mL

Renal Impairment

Use with caution if estimated GFR < 10 mL/min/1.73 m²

Hepatic Impairment

Avoid, jaundice reported

Nutritionals



Breast Milk

Per 100 mL

Term Human Milk		Preterm Human Milk	
En	68 kcal	En	67 kcal
Pr	1.05 g	Pr	1.41 g
Fat	3.91 g	Fat	3.89 g
CHO	7.2 g	CHO	6.6 g
Na	17.7 mg (0.77 mEq)	Na	24.8 mg (1.08 mEq)
K	53.1 mg (1.36 mEq)	K	57.0 mg (1.46 mEq)
Ca	27.9 mg (1.39 mEq)	Ca	24.8 mg (1.24 mEq)
PO ₃	14.3 mg	PO ₃	12.8 mg
Mg	3.47 mg	Mg	3.09 mg



Aptamil™ 1

Infant Milk Formula with Iron

Scoop weight approx. 4.7 g : 1 litre = 900 ml water + 141 g powder

Average Analysis Per 100 mL feeding (14 g)

Energy	67 kcal (20.1 kcal / 30 mL)	
Protein	1.4 g	
Taurine	6.7 mg	
Fat	3.5 g	
CHO	7.5 g	
Lactose	7.2 g	
Na	20 mg (0.87 mEq)	
K	71 mg (1.82 mEq)	
Cl	47 mg	
Ca	52 mg (2.6 mEq)	
PO ₃	26 mg	
Mg	5.1 mg	
Mn	8.3 µg	
Zn	0.46 mg	
Cu	42 µg	
Fe	0.75 mg	
I	9.3 µg	
Se	1.4 µg	
Vit A (inc. β carotene)	51 µg	
Vit D ₃	1.3 µg	
Vit K ₁	3.6 µg	
L-carnitine	0.74 mg	
Vit B ₁	39 µg	
Vit B ₂	119 µg	
Niacin	0.79 mg	
Vit B ₆	41 µg	
Folic acid	15 µg	
Vit B ₁₂	0.22 µg	
Pantothenic acid	294 µg	
Vit C	8.8 mg	
Biotin	1.6 µg	
Choline	8.4 mg	
Vit E	1.1 iu	
Inositol	3.4 mg	

Bebelac™ 1

Infant Milk Formula

Scoop weight approx. 4.7 g : 1 litre = 900 ml water + 141 g powder

Average Analysis Per 100 mL feeding (14.1 g)

Energy	67 kcal (20.1 kcal / 30 mL)	
Protein	1.4 g	
Taurine	6.7 mg	
Fat	3.5 g	
CHO	7.5 g	
Na	20 mg (0.87 mEq)	
K	71 mg (1.82 mEq)	
Cl	47 mg	
Ca	52 mg (2.6 mEq)	
PO ₃	26 mg	
Mg	5.1 mg	
Mn	8.3 µg	
Zn	0.46 mg	
Cu	42 µg	
Fe	0.75 mg	
I	9.3 µg	
Se	1.4 µg	
Vit A (inc. β carotene)	51 µg	
Vit D ₃	1.3 µg	
Vit K ₁	3.6 µg	
L-carnitine	0.74 mg	
Vit B ₁	39 µg	
Vit B ₂	119 µg	
Niacin	0.76 mg	
Vit B ₆	41 µg	
Folic acid	15 µg	
Vit B ₁₂	0.22 µg	
Pantothenic acid	294 µg	
Vit C	8.8 mg	
Biotin	1.6 µg	
Choline	8.4 mg	
Vit E	1.1 iu	
Inositol	3.4 mg	

Bebelac™ EC

Infant Milk for Extra Care

Scoop weight approx. 4.6 g

Average Analysis Per 100 mL feeding (13.7 g)

Energy	66 kcal (19.8 kcal / 30 mL)
--------	-----------------------------

Protein	1.3 g
Taurine	5.2 mg
Fat	3.5 g
CHO	7.3 g
Lactose	4.6 mg
Na	19 mg (0.83 mEq)
K	68 mg (1.74 mEq)
Cl	41 mg
Ca	47 mg (2.35 mEq)
PO ₃	26 mg
Mg	5.1 mg
Mn	7.6 µg
Zn	0.47 mg



Cu	40 µg
Fe	0.53 mg
I	12 µg
Se	1.5 µg
Vit A	50 µg
Vit D ₃	1.2 µg
Vit K ₁	3.5 µg
L-carnitine	0.94 mg
Vit B ₁	48 µg
Vit B ₂	100 µg
Niacin	0.42 mg
Vit B ₆	40 µg
Folic acid	12 µg
Vit B ₁₂	0.16 µg
Pantothenic acid	294 µg
Vit C	9 mg
Biotin	1.4 µg
Choline	10 mg
Vit E	1 iu
Nucleotides	3.2 mg
Inositol	4.1 mg

Bebelac™ FL

Infant Milk Free of Lactose

Scoop weight approx. 4.3 g

Average Analysis Per 100 mL feeding (12.8 g)

Energy	66 kcal (19.8 kcal / 30 mL)	
Protein	1.3 g	
Taurine	5.3 mg	
Fat	3.5 g	
CHO	7.3 g	
Lactose	<0.006 mg	
Na	17 mg (0.73 mEq)	
K	65 mg (1.67 mEq)	
Cl	41 mg	
Ca	55 mg (2.75 mEq)	
PO ₃	30 mg	
Mg	5.1 mg	
Mn	44 µg	
Zn	0.56 mg	
Cu	42 µg	
Fe	0.79 mg	
I	12 µg	
Se	0.98 µg	
Vit A	55 µg	
Vit D ₃	1.2 µg	
Vit K ₁	3.5 µg	
L-carnitine	0.9 mg	
Vit B ₁	49 µg	
Vit B ₂	100 µg	
Niacin	0.78 mg	
Vit B ₆	40 µg	
Folic acid	8.9 µg	
Vit B ₁₂	0.11 µg	
Pantothenic acid	330 µg	
Vit C	9.3 mg	
Biotin	1.8 µg	
Choline	10 mg	
Vit E	1.1 µg	
Inositol	3.8 mg	

Bebelac™ premature

Milk Formula for Low Birth Weight Infants

Scoop weight approx. 5.1 g : 1 litre = 900 ml water + 154 g powder

Average Analysis Per 100 mL feeding (15.4 g)

Energy	80 kcal (24 kcal / 30 mL)
Protein	2.4 g
Taurine	5.5 mg
Fat	4.4 g
CHO	7.8 g
Lactose	6 mg
Na	32 mg (1.39 mEq)
K	75 mg (1.92 mEq)
Cl	48 mg
Ca	100 mg (5 mEq)
PO ₃	50 mg
Mg	10 mg
Mn	10 µg
Zn	0.7 mg
Cu	0.08 mg
Fe	0.9 mg
I	25 µg
Se	1.9 µg
Vit A	220 µg
Vit D	5 µg
Vit K	6.6 µg
Carotenes	6.6 µg
L-carnitine	2 mg
Vit B ₁	0.14 mg
Vit B ₂	0.2 mg
Niacin	3 mg
Vit B ₆	0.12 mg
Folic acid	48 µg
Vit B ₁₂	0.2 µg
Pantothenic acid	1 mg
Vit C	16 mg
Biotin	3 µg
Choline	10 mg
Vit E	3 µg
Inositol	30 mg



Hero™ Baby 1

Infant Formula from Birth

Scoop weight approx. 4.3 g : 1 litre = 900 ml water + 130 g powder

Average Analysis Per 100 mL feeding (13 g)

Energy	66 kcal (19.8 kcal / 30 mL)	
Protein	1.4 g	
Taurine	6 mg	
Fat	3.5 g	
CHO	7.2 g	
Na	20.2 mg (0.88 mEq)	
K	65 mg (1.67 mEq)	
Cl	41.6 mg	
Ca	50.1 mg (2.5 mEq)	
PO ₃	29.9 mg	
Mg	5.9 mg	
Mn	16.9 µg	
Zn	0.6 mg	
Cu	50.1 µg	
Fe	0.8 mg	
I	10 µg	
Se	2.5 µg	
Fluoride	2.5 µg	
Vit A	70.2 µg	
Vit D ₃	1.2 µg	
Vit K ₁	5.1 µg	
L-carnitine	2 mg	
Vit B ₁	58.5 µg	
Vit B ₂	91 µg	
Niacin	0.5 mg	
Vit B ₆	39 µg	
Folic acid	10.4 µg	
Vit B ₁₂	0.2 µg	
Pantothenic acid	0.3 mg	
Vit C	9.1 mg	
Biotin	1.4 µg	
Choline	13.7 mg	
Inositol	3.9 mg	
Vit E	0.9 mg	

Infatrini™

Average Analysis Per 100 mL feeding (20 g, 4 scoops)

Energy	100 kcal (30 kcal / 30 mL)
Protein	2.6 g
Taurine	6.9 mg
Fat	5.04 g
CHO	10 g
Na	37 mg (1.6 mEq)
K	100 mg (2.56 mEq)
Cl	55 mg
Ca	100 mg (5 mEq)
PO ₃	56 mg
Mg	8 mg
Mn	0.05 mg
Zn	0.9 mg
Cu	60 µg
Fe	1 mg
I	15 µg
Se	2 µg
Vit A	83 µg
Vit D	2 µg
Vit K ₁	5.9 µg
L-carnitine	1.2 mg
Vit B ₁	0.15 mg
Vit B ₂	0.15 mg
Niacin	1.2 mg
Vit B ₆	0.06 µg
Folic acid	15 µg
Vit B ₁₂	0.41 µg
Pantothenic acid	0.45 mg
Vit C	11 mg
Biotin	2.3 µg
Choline	14 mg
Vit E	1.1 mg



NAN™ 1

Starter Infant Formula with Iron

Scoop weight approx. 4.5 g : 1 litre = 900 ml water + 136 g powder

Average Analysis Per 100 mL feeding (13.59 g)

Energy	67 kcal (20.1 kcal / 30 mL)
Protein	1.27 g
Taurine	4.7 mg
Fat	3.58 g
CHO	7.42 g
Lactose	7 g
Na	15.37 mg (0.67 mEq)
K	60.65 mg (1.56 mEq)
Cl	42.17 mg
Ca	38.12 mg (1.9 mEq)
PO ₃	21 mg
Mg	5 mg
Mn	10.87 µg
Zn	0.59 mg
Cu	0.04 mg
Fe	0.57 mg
I	8.15 µg
Se	1 µg
Vit A	75.3 µg (190.94 iu)
Vit D	0.79 µg (31.53 iu)
Vit K	4.67 µg
L-carnitine	0.87 mg
Vit B ₁	0.06 mg
Vit B ₂	0.12 mg
Niacin	0.49 mg
Vit B ₆	0.04 mg
Folic acid	8.05 µg
Vit B ₁₂	0.12 µg
Pantothenic acid	0.53 mg
Vit C	9.46 mg
Biotin	1.28 µg
Choline	10.22 mg
Vit E	0.91 mg
Inositol	8.7 mg
Nucleotides	1.48 mg



Neocate™

Hypoallergenic Formula for infants under one year of age

Average Analysis Per 100 mL feeding (15 g)

Energy	71 kcal (21.3 kcal / 30 mL)	
Protein	1.95 g	
Taurine	4.5 mg	
Fat	3.5 g	
CHO	8.1 g	
Na	18 mg (0.78 mEq)	
K	63 mg (1.6 mEq)	
Cl	43.5 mg (1.2 mEq)	
Ca	49 mg (2.45 mEq)	
PO₃	35 mg	
Mg	5.1 mg	
Mn	0.06 mg	
Zn	0.75 mg	
Cu	60 µg	
Fe	1.05 mg	
I	7 µg	
Se	1.65 µg	
Vit A	79 µg	
Vit D₃	1.3 µg	
Vit K	3.2 µg	
L-carnitine	1.5 mg	
Vit B₁	60 µg	
Vit B₂	90 µg	
Niacin	0.68 mg	
Vit B₆	80 µg	
Folic acid	5.7 µg	
Vit B₁₂	0.19 µg	
Pantothenic acid	0.4 mg	
Vit C	6 mg	
Biotin	3.9 µg	
Choline	7.5 mg	
Vit E	0.57 mg	
Inositol	15 mg	
Chromium	1.5	
Molybdenum	2.14 µg	

Nestogen™

Starter Infant Formula with Iron

Scoop weight approx. 4.5 g : 1 litre = 900 ml water + 136 g powder

Average Analysis Per 100 mL feeding (13.6 g)

Energy	67 kcal (19.8 kcal / 30 mL)	
Protein	1.27 g	
Taurine	4.28 mg	
Fat	3.58 g	
CHO	7.43 g	
Na	15.37 mg (0.67 mEq)	
K	60.66 mg (1.56 mEq)	
Cl	42 mg	
Ca	38 mg (1.9 mEq)	
PO ₃	21 mg	
Mg	5 mg	
Mn	10.88 µg	
Zn	0.59 mg	
Cu	0.04 mg	
Fe	0.54 mg	
I	8 µg	
Se	1 µg	
Vit E	0.91 mg	
Vit A	190.81 µg (57.27 iu)	
Vit D ₃	37.3 iu	
Vit K ₁	4.68 µg	
L-carnitine	0.87 mg	
Vit B ₁	0.06 mg	
Vit B ₂	0.12 mg	
Niacin	0.5 mg	
Vit B ₆	0.04 mg	
Folic acid	7.48 µg	
Vit B ₁₂	0.12 µg	
Pantothenic acid	0.53 mg	
Vit C	7 mg	
Biotin	1.28 µg	
Choline	10.23 mg	
Inositol	8.7 mg	

Primavita™ 1

Average Analysis Per 100 mL feeding (13.7 g)

Energy	69.32 kcal (21 kcal / 30 mL)	
Protein	1.58 g	
Taurine	5.89 mg	
Fat	3.56 g	
CHO	7.8 g	
Lactose	7.27 g	
Saturated fat	1.88 g	
Na	25.07 mg (1.09 mEq)	
K	68.5 mg (1.77 mEq)	
Cl	50.14 mg	
Ca	69.87 mg (3.5 mEq)	
PO ₃	36.58 mg	
Mg	6.44 mg	
Mn	2.88 µg	
Zn	0.66 mg	
Cu	45.07 mg	
Fe	0.84 mg	
I	11.23 µg	
Se	2.88 µg	
Vit A	65.62 µg	
Vit D ₃	1.37 µg	
Vit K ₁	5.48 µg	
L-carnitine	2.19 mg	
Vit B ₁	0.08 mg	
Vit B ₂	0.26 mg	
Niacin	0.79 mg	
Vit B ₆	0.08 mg	
Folic acid	11.1 µg	
Vit B ₁₂	0.29 µg	
Pantothenic acid	0.63 mg	
Vit C	8.49 mg	
Biotin	1.51 µg	
Choline	8.49 mg	
β carotene	27.4 mg	
Vit E	0.66 mg	
Inositol	6.3 mg	

S-26™ AR

Milk-Based Lactose-Free Infant Formula

Average Analysis Per 100 mL feeding (12.7 g)

Energy	67 kcal (20.1 kcal / 30 mL)	
Protein	1.6 g	
Fat	3.6 g	
CHO	7 g	
Lactose	5 gm	
Na	22 mg (0.97 mEq)	
K	80 mg (2.05 mEq)	
Cl	55 mg	
Ca	56 mg (2.8 mEq)	
PO ₃	44 mg	
Mg	5.3 mg	
Mn	5 µg	
Zn	0.6 mg	
Cu	56 µg	
Fe	0.8 mg	
I	10 µg	
Se	1.4 µg	
Vit A	250 iu	
β-Carotene	15 µg	
Vit D	43 iu	
Vit K	6.7 µg	
L-carnitine	1 mg	
Vit B ₁	100 µg	
Vit B ₂	150 µg	
Niacin	0.5 mg	
Vit B ₆	60 µg	
Folic acid	8 µg	
Vit B ₁₂	0.2 µg	
Pantothenic acid	0.3 mg	
Vit C	9 mg	
Biotin	2 µg	
Choline	6.7 mg	
Vit E	1.1 iu	

S-26™ Gold

Infant Formula

Average Analysis Per 100 mL feeding (12.5 g)

Energy	67 kcal (20.1 kcal / 30 mL)	
Protein	1.3 g	
Taurine	4.7 mg	
Fat	3.6 g	
CHO	7.3 g	
Lactose	7.3 g	
Na	16 mg (0.7 mEq)	
K	65 mg (1.67 mEq)	
Cl	43 mg	
Ca	42 mg (2.1 mEq)	
PO ₃	24 mg	
Mg	4.5 mg	
Mn	5 µg	
Zn	0.6 mg	
Cu	33 µg	
Fe	0.8 mg	
I	10 µg	
Se	1.4 µg	
Vit A	220 iu	
β-Carotene	21 µg	
Vit D	48 iu	
Vit K	6.7 µg	
L-carnitine	1 mg	
Vit B ₁	100 µg	
Vit B ₂	110 µg	
Niacin	0.5 mg	
Vit B ₆	55 µg	
Folic acid	11 µg	
Vit B ₁₂	0.18 µg	
Pantothenic acid	0.35 mg	
Vit C	9 mg	
Biotin	2 µg	
Choline	10 mg	
Vit E	1.1 iu	
Nucleotides	2.6 mg	
Inositol	4.6 mg	

S-26™ HA

Hypo-antigenic Formula

Average Analysis Per 100 mL feeding (12.7 g)

Energy	68 kcal (20.4 kcal / 30 mL)	
Protein	1.6 g	
Taurine	4.7 mg	
Fat	3.6 g	
CHO	7.66 g	
Na	20 mg (0.87 mEq)	
K	77 mg (1.97 mEq)	
Cl	53 mg	
Ca	46 mg (2.3 mEq)	
PO ₃	33 mg	
Mg	6.4 mg	
Mn	5 µg	
Zn	0.6 mg	
Cu	56 µg	
Fe	1.33 mg	
I	10 µg	
Se	1.4 µg	
Vit A	220 iu	
Vit D	43 iu	
Vit K	6.7 µg	
Carotenes	21 µg	
L-carnitine	1 mg	
Vit B ₁	100 µg	
Vit B ₂	150 µg	
Niacin	0.5 mg	
Vit B ₆	55 µg	
Folic acid	8 µg	
Vit B ₁₂	0.2 µg	
Pantothenic acid	0.3 mg	
Vit C	9 mg	
Biotin	2 µg	
Choline	10 mg	
Vit E	1.1 iu	
Inositol	3.3 mg	
Nucleotides	2.6 mg	

S-26™ PDF GOLD

Milk for Premature Infants' Growth

Average Analysis Per 100 mL feeding (14 g)

Energy	73 kcal (21.9 kcal / 30 mL)	
Protein	1.9 g	
Taurine	5 mg	
Fat	3.9 g	
CHO	7.5 g	
Na	27 mg (1.17 mEq)	
K	71 mg (1.82 mEq)	
Cl	58 mg	
Ca	73 mg (3.65 mEq)	
PO₃	42 mg	
Mg	6.6 mg	
Mn	5 µg	
Zn	0.73 mg	
Cu	62 µg	
Fe	1.2 mg	
I	10 µg	
Se	1.5 µg	
Vit A	335 iu	
β-Carotene	16 µg	
Vit D	60 iu	
Vit K	6.3 µg	
L-carnitine	1.1 mg	
Vit B₁	109 µg	
Vit B₂	164 µg	
Niacin	1 mg	
Vit B₆	80 µg	
Folic acid	15 µg	
Vit B₁₂	0.22 µg	
Pantothenic acid	0.4 mg	
Vit C	11 mg	
Biotin	2.1 µg	
Choline	13 mg	
Vit E	2.2 iu	
Nucleotides	2.8 mg	
Inositol	26 mg	

Similac™ NeoSure™

Average Analysis Per 100 mL feeding (14.5 g)

Energy	74.4 kcal (22 kcal / 30 mL)	
Protein	1.93 g	
Taurine	4.99 mg	
Fat	4.09 g	
CHO	7.66 g	
Na	24.5 mg (1.06 mEq)	
K	105.6 mg (2.71 mEq)	
Cl	55.7 mg	
Ca	78.2 mg (3.91 mEq)	
PO ₃	46.1 mg	
Mg	6.67 mg	
Mn	7.4 µg	
Zn	0.88 mg	
Cu	89.3 µg	
Fe	1.33 mg	
I	11.17 µg	
Se	1.55 µg	
Vit A	342.2 iu	
Vit D	52.1 iu	
Vit K ₁	8.2 µg	
L-carnitine	4 mg	
Vit B ₁	163.7 µg	
Vit B ₂	111.7 µg	
Niacin	1.45 mg	
Vit B ₆	74.4 µg	
Folic acid	18.6 µg	
Vit B ₁₂	0.3 µg	
Pantothenic acid	0.59 mg	
Vit C	11.17 mg	
Biotin	6.67 µg	
Choline	11.89 mg	
Vit E	2.68 iu	
Nucleotide (equiv.)	49.7 mg	

Neonatologists' Pocket Drug Reference

2015



Special care is required in managing neonatal conditions with unlicensed drugs or with licensed drugs for unlicensed uses. Responsibility for the appropriate use of drugs lies solely with the individual health professional.

Keynotes