Colistimethate (Colistin) Intravenous for Adult patients

Who can administer

May be administered by registered competent doctor or nurse/midwife

Important information

- **Restricted antibiotic (unless for Cystic Fibrosis)**: The **intravenous route** is reserved for serious infections with limited treatment options, following approval by microbiology/infectious diseases/CF consultant. Should be used only as part of combination therapy.
- The dosing regimen depends on the indication.
    - **Conventional dose** - for cystic fibrosis patients (as per Leeds guideline) [ref 1]
    - **High Dose Regimen** (as per SPC)
    - **The dose in renal impairment differs for the two regimens**
- Commonly used in **cystic fibrosis patients by inhalation** via a nebuliser - see under 'Further information'
- Nephrotoxic and neurotoxic. Risk factors include IV route, high doses, cumulative dose, and other nephrotoxins [ref 2]
- See **monitoring** requirements
- **See under 'Dose' for adjustments required in renal impairment**

Available preparations

Colomycin 1 million units vial

Colomycin 2 million units vial

Reconstitution

Sodium Chloride 0.9% or Water for Injection

Usually: 10ml per vial

Infusion fluids

Sodium chloride 0.9%

Methods of intravenous administration

Intravenous infusion (preferred method)

- Dilute to 100ml with infusion fluid and administer over 30 to 60 minutes [ref 3]
- The residual volume in the infusion line must be flushed through at the same rate to avoid significant underdosing
- **For the 9 Million unit dose:** Reconstitute each 1 million unit vial with **5ml.** Remove 50ml infusion fluid from a 100ml bag and add 45ml (9 million units) of drug solution to produce a final volume of 95ml

Slow intravenous injection (Patient must have Totally Implantable Venous Access Device)

- This route is only for doses of up to 2 million units (in 10ml)
- Administer required dose over at least 5 minutes

Dose in adults

Conventional dosing regimen (cystic fibrosis) [ref 1]

- Patients greater than 40kg: 2 million units every eight hours
- Patients less than 40kg: give 1 million units every eight hours

NON-Cystic Fibrosis HIGH DOSE REGIMEN

- **Restricted antibiotic**: see Important Information
- Loading dose of 9 million units, followed twelve hours later by 4.5 million units every twelve hours
- The **loading dose** applies to patients with both **normal and impaired renal function, including those on renal replacement therapy**

Renal impairment

Cystic fibrosis:

- Dosage in Cystic Fibrosis patients with renal impairment is individualised (Consultant and CF Pharmacist input required)

Non- Cystic Fibrosis patients - see table below

Renal impairment - NON-CYSTIC FIBROSIS - High Dose Regimen

Creatinine clearance (ml/min)- **calculate using Cockcroft and Gault equation**	Dose	Frequency
30 to 49	Give 9 million units loading dose, followed 12 hours later by 2.75 to 3.75 million units	every twelve hours
10 to 29	Give 9 million units loading dose, followed 12 hours later by 2.25 to 2.75 million units	every twelve hours
less than 10	Give 9 million units loading dose, followed 12 hours later by 1.75 million units	every twelve hours
Renal replacement therapy	Consult pharmacy or see specialist texts	

Monitoring

- Monitor carefully for **parasthesias,** which may indicate neurotoxicity as a sign of overdose
- **Monitor renal function** carefully at the start of, and regularly during treatment
- The BNF recommends the monitoring of levels, especially in renal impairment
- Levels are not routinely available- if required consult microbiology

Further information

- Confusion and medication errors have occurred because of the different expression of dose in the EU (units) and the US (mg) markets
- 1 million units of Colistin is approximately equal to 80mg Colistin
- i.e. 1mg of Colistin is approximately equal to 12,500units of Colistin (However Colistin is normally prescribed in units)

Nebulised colistin

Required equipment (available from stores) (ref 4)

- Nebuliser compressor
- Jet nebuliser e.g PARI PL PLUS (022G8000) or PARI LC SPRINT (023G6001)
- PARI tubing (041B4592)
- PARI filter set (041G0500)
- Use mouthpiece rather than a mask
- The filters should be changed after each use of the nebuliser

Dose and preparation

- Dose **by inhalation** (adults and children>2 years): 1 to 2 Million units every 8 to 12 hours
- Reconstitute each vial (1 or 2MU) with 4ml of sodium chloride 0.9% (preferred), or Water for Injection and give via nebuliser (ref 4)

Contact details

- Contact the respiratory nurse for additional information on equipment

Storage

- Store below 25^{0}C

References

SPC Colomycin June 2023

1: Leeds Centre for Cystic Fibrosis December 2023 - advised by Dr O Mahony that this is our preferred reference for adult doses of colomycin in cystic fibrosis patients

2: Renal drug database accessed online 20/04/2026

3: Injectable drugs guide- Medusa, accessed online 20/04/2026

4. Galway University Hospitals Inhaled Antibiotic Guidelines in Adults Version 2.0, Nov 2024

Therapeutic classification

Polymixin antibiotic