

# Tobramycin Intravenous (patients of all ages)

## Who can administer

May be administered by registered competent doctor or nurse/midwife

## Important information

- **Dose MUST be individualised** according to renal function and weight - a tobramycin **dose calculator on the GAPP antimicrobial app for once-daily dosing for non-cystic fibrosis patients** should be used to calculate the dose. For Cystic fibrosis (CF) patients- see below Dose
- **Once daily dosing** is recommended for most patients
- **Monitoring** requirements - see overleaf
- **Do NOT hold** dose in patients less than 65 years of age, with good renal function ( $\text{CrCl} > 80 \text{ ml/min}$  with good urine output) while waiting for levels to be reported **unless** there are reasonable grounds for suspecting toxicity
- **However**, in patients **over 65 years**, or with **abnormal renal function** ( $\text{CrCl} < 80 \text{ ml/min}$ ) -it is generally preferable to await the result of the first tobramycin level (before the second dose) before giving the next dose. If the level is  $< 1 \text{ mg/L}$  and renal function is stable, it is **not necessary** to routinely hold subsequent doses pending levels, unless there are obvious signs of toxicity
- Prolonged duration of treatment and co-administration with nephrotoxins (eg diuretics, NSAIDs, vancomycin) increases the risk of toxicity and should be avoided where possible
- Effective use of tobramycin is complex and should normally be discussed with micro/ID/CF consultants

## Available preparations

Tobramycin 80mg per 2ml vial

## Reconstitution

Already in solution

## Infusion fluids

Sodium chloride 0.9% or glucose 5%

## Methods of intravenous administration

### Intermittent intravenous infusion

- Once daily dose: Add required dose to 100ml infusion fluid and administer over 20 to 60 minutes
- A 50ml infusion may be used if required (eg fluid restriction) but the residual volume in the infusion line must be flushed through at the same rate to avoid significant underdosing

## Dose in adults

### For non-Cystic Fibrosis patients <sup>(ref 1)</sup>

- Use the **Tobramycin dosing calculator** in the GAPP app to calculate **once-daily** tobramycin once-daily dose in **non-CF patients**

- See also [this table](#)

### Cystic fibrosis patients

- Give 10mg/kg as a single daily dose if renal function is normal <sup>(ref 1)</sup>
- Maximum dose is **660mg in children** less than 18 years, and 700mg for all other patients
- If Actual Body Weight exceeds Ideal Body Weight by more than or equal to 20% <sup>(ref 2)</sup>, an Adjusted Dosing Weight should be used to calculate the dose - contact Pharmacy for advice
- **Renal impairment:** Contact Microbiology

## Monitoring

- Monitor for **ototoxicity** and **nephrotoxicity**
- Monitor tobramycin levels and urine output
- Monitor renal function also as toxicity may occur in patients in whom the aminoglycoside levels have never exceeded the acceptable range
- Take the first level before the second dose. Take the level within one hour before the dose is due
- Blood samples must be labelled with the time sample was taken

Single daily dose	Pre-dose (trough)
	Taken just before next dose i.e. 24 hours
	Less than 1mg/L

**Non-CF patients** - Levels twice weekly

**Cystic fibrosis patients** - take level once weekly (if stable renal function)

**Renal impairment/nephrotoxic risk/diuretic therapy** -- take levels more frequently

## Storage

Store below 25°C

## References

SPC Mylan 10/2022

1: [GUH antimicrobial guidelines](#)

2: Sanford guide to antimicrobial therapy (Feb 2021)- digital copy accessed Jan 2025

## Therapeutic classification

Aminoglycoside antibiotic

**BNF**

[Bacterial infection](#)