# Amphotericin (Liposomal) - AmBisome Intravenous Infusion for Adults

## Who can administer

May be administered by registered competent doctor or nurse/midwife

## Important information

- Prescribe by **brand name** - Ambisome is **not** interchangeable with other amphotericin preparations
- **Initial test dose must be given** before each new course of this drug - in case of anaphylaxis (but see Further information below)
- Line must be **flushed before and after** with Glucose 5%
- **Reserve antimicrobial**: Restricted to indications in the antimicrobial prescribing guidelines, or following approval by microbiology/infectious diseases
- AmBisome contains soya oil. Should not be used in patients with **peanut or soya allergy**

## Available preparations

AmBisome 50mg vial (50,000 units encapsulated in liposomes))

## Reconstitution

**Water for injection**

- Add 12ml per 50mg vial and **immediately shake** vials vigorously for 30 seconds or longer
- This produces a dispersion of 50mg in 12.5mL (4mg/1ml))
- Withdraw calculated amount of Ambisome into a sterile syringe and **dilute further prior to administration**
- Using the 5 micron filter provided, add the required dose to a suitable volume of infusion fluid
- Use a new filter for each vial (ref 1)

## Infusion fluids

Glucose 5% **ONLY**

## Methods of intravenous administration

**Flush line before and after with Glucose 5%**

**Intermittent intravenous infusion (using an electronically controlled infusion device)**

**Test dose required (1mg over 10 minutes) - see below**

The volume for dilution depends on dose as the final concentration must be between 0.2 and 2mg/ml

| Dose | Final recommended infusion volume | Nearest available bag/bottle size |
|---|---|---|
| 50mg (in 12.5ml) | 25 to 250ml | 100 or 250ml bag (* see below) |
| 70mg (in 17.5ml) | 35 to 350ml | 100 or 250ml bag (* see below) |
| 100mg (in 25ml) | 50 to 500ml | 100, 250 or 500ml bag (* see below) |
| 150mg (in 37.5ml) | 75 to 750ml | 100, 250 or 500ml bag |
| 200mg (in 50ml) | 100 to 1000ml | 100, 250, 500 or 1000ml bag |
| 300mg (in 75ml) | 150 to 1500ml | 250, 500 or 1000ml bag |
| 400mg (in 100ml) | 200 to 2000ml | 250, 500 or 1000ml bag |
| 500mg (in 125ml) | 250 to 2500ml | 250, 500 or 1000ml bag |

- Withdraw the same volume from the infusion bag as the volume of drug to be added e.g 100mg dose - remove 25ml from bag before addition of drug
- **Administration rate**
  - Doses up to and including 5mg/kg - administer over 30 to 60 minutes
  - Doses greater than 5mg/kg should be given over 120 minutes
  - **See under Monitoring re management of infusion related reactions**
- *Doses of 50 to 100mg may be added to a 50ml infusion 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

**Fluid restriction** (ref 2)

- Critical care units only
- Some centres have used 4mg/ml via central line (anecdotal)

## Dose in adults

**Test dose**

- All patients must receive a test dose before a new course of drug. **In order to minimise waste of a very expensive product**, prepare as follows
- Make up the dose for day 1 in the largest allowable volume e.g. 200mg in 1000mL
- Calculate the volume which contains 1mg
- Set the pump at a rate which will deliver the 1mg dose over 10 minutes
- Stop the infusion pump, and **observe the patient for 30 minutes**
- If no severe allergic or adverse reactions develop, restart the infusion pump and administer the remainder of the dose over 30 to 60 minutes

**Micro/ID consult recommended for all patients and indications**

**Treatment of fever of unknown origin in neutropenic patients**

- Give 3mg/kg once daily

**Treatment of systemic fungal infections**

- Give 1 to 3mg/kg once daily

**Prophylaxis in neutropenic patients (unlicensed)** (ref 3)

- Give 1mg/kg three times per week

- Doses tend to be rounded to vial size- usually rounded up- ie 80kg give 100mg, 45kg, give 50mg

**Notes**

- Higher doses (up to 10mg/kg - single one-off dose) may rarely be indicated (e.g.Cryptococcal meningitis) [ref 4]- **used on direction of Micro/ID only**

**Renal impairment**

- Ambisome has been successfully administered to patients with pre-existing renal impairment in clinical trials, and no adjustment in dose or frequency of administration was required
- Caution should be exercised particularly when prolonged therapy is required
- If clinically significant reduction in renal function or worsening of other parameters occurs, consideration should be given to dose reduction, treatment interruption or discontinuation

# Monitoring

- Monitor potassium, magnesium, and renal function - before and during treatment
- If potassium levels are decreased, consider amiloride 5mg po once daily [unlicensed] with potassium supplements. Magnesium replacement may also be needed
- Monitor LFTs and blood counts
- **Infusion related reactions** - monitor for infusion related reactions at every infusion
  - If **severe** anaphylactic/anaphylactoid reaction occurs- **stop the infusion.** The patient should not receive any further liposomal amphotericin infusions
  - If **non-severe** infusion rate reaction
    - Consider pausing the infusion and observe the patient [ref 1]
    - These reactions resolve rapidly on stopping the infusion and may not occur with every subsequent dose [ref 1]
    - Slower infusion times are recommended e.g. 120 minutes
    - Routine doses of antihistamines, paracetamol, and/or hydrocortisone have been reported as successful in the prevention or treatment of infusion related reactions

# Further information

- **Test dose:** The UK SPC no longer recommends a test dose. However the Irish SPC still recommends a test dose - confirmed with Gilead March 2025 that we should continue to follow Irish SPC guidance [ref 5]

# Storage

- Unopened vials: store below $25^{0}$C
- Infusion: once diluted in Glucose 5% should be used as soon as possible

# References

SPC April 2024

1: Injectable medicines guide, downloaded from Medusa 25/02/2025

2: Minimum Infusion Volumes UKCPA December 2012 - accessed 13/03/2025

3. GUH guidelines for the management of neutropenic sepsis July 2014 Q pulse CLN-HAEM-020

4: Single-Dose Liposomal Amphotericin B Treatment for Cryptococcal Meningitis NEJM March 24, 2022 vol. 386 no. 12 (attached)

5: Email correspondence on file from Gilead Sciences, Feb 27th 2025

## Therapeutic classification

Antifungal

**BNF**
Fungal infection