L-arginine intravenous infusion for adults

Who can administer

May be administered by registered competent doctor or nurse/midwife

Important information

- Unlicensed drug
- This monograph has been prepared for guidance on the use of the L-arginine in stroke associated with MELAS syndrome (mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes)
- For other indications- see the BIMDG guideline

Available preparations

L-Arginine Hydrochloride 50%w/v ampoule (5g/10ml) (Amargine)

Reconstitution

Not required- already in solution

Draw up using a 5 micron filter needle

Further dilution required prior to administration

Infusion fluids

Glucose 10% (preferred) or 5% [ref 1]

Methods of intravenous administration

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

- Add the required dose to infusion fluid - recommended maximum concentration 50mg/ml [ref 1]
- **Administer via central line (preferable),** or a large peripheral vein due to high osmolarity [ref 1]
- **Initial dose:** administer first stat dose over 30 minutes [ref 2], then use continuous infusion
- An in-line 0.2 micron filter **must** be used, available from Pharmacy [ref 1] (Braun filter 409 9303)

Dose in adults

Acute stroke associated with MELAS [ref 2]

- Give 10g/m^2 (max 30g) by intravenous infusion over 30 minutes within 3 hours of symptom onset
- Followed immediately by 10g/m^2 as a continuous intravenous infusion (but see below re max daily dose)
- Repeat 10g/m^2 continuous infusion daily for 3 to 5 days
- **Maximum dose** 30g per day (on day one, the continuous infusion dose may need to be capped to avoid exceeding 30g)
- Example: patient BSA 1.8m^2
    - Give 18g over 30 minutes, followed by **12g** over 24 hours (so as not to exceed 30g total daily dose)
    - On day 2 onwards, give 18g over 24 hours
- Use MdCalc to work out Body Surface Area in m^2
- See under Further information below re oral doses

For other indications- see the BIMDG guideline

Monitoring

- Monitor for allergic reactions and stop treatment if serious [ref 1]
- Infusion site reactions (high osmolarity)[ref 1]
- Monitor plasma pH and chloride levels[ref 1]
- Monitor blood glucose levels [ref 2]
- Monitor blood pressure[ref 1]

Further information

- Further information on adverse reactions etc may be found on the attached SPC
- Patients may be transferred to maintenance dose orally (150 to 300mg/kg/day), in three divided doses (max 24grams/day)
- The injection solution may be administered orally , if oral tablets are not available [ref 2]

Storage

Store ampoules below 25^0C

Do not refrigerate

References

SPC version 11 received from manufacturer 26/05/2026

1: Injectable Medicines Guide Version 5 Medusa NHS. Downloaded 27/04/2026

2: British Inherited Metabolic Diseases Group IMDGBIMDG guideline 2024