

LIDOCAINE HYDROCHLORIDE

SYNONYMS

Lignocaine hydrochloride

BRAND NAME

LIDOCAINE BAXTER, LIGNOCAINE PFIZER, XYLOCAINE , XYLOCARD, XYLOCAINE WITH ADRENALINE

DRUG CLASS

Local anaesthetic, antiarrhythmic

AVAILABILITY

Plain lidocaine solutions :

Lidocaine Baxter or Pfizer ampoules or vials contain lidocaine hydrochloride 1% (50 mg/5 mL or 200 mg/20 mL) or 2% (100 mg/5 mL or 400 mg/20 mL). Also contain sodium chloride.¹

Xylocaine ampoules contain lidocaine hydrochloride 1% (20 mg/2 mL, 50 mg/5 mL or 200 mg/20 mL) or 2% (40 mg/2 mL, 100 mg/5 mL or 400 mg/20 mL). Also contain hydrochloric acid, sodium chloride and sodium hydroxide.¹

Xylocard ampoule contains lidocaine hydrochloride 10% (500 mg/5 mL). Also contains sodium hydroxide.¹

Lidocaine with adrenaline solutions :

Xylocaine with adrenaline ampoule or vial contains 0.5%, 1% or 2% of lidocaine hydrochloride with adrenaline (epinephrine) acid tartrate 1/80 000, 1/100 000 or 1/200 000 in 5 mL or 20 mL.

Also contains hydrochloric acid, sodium chloride, sodium hydroxide and sodium metabisulfite.¹

All solutions are clear and colourless and are isotonic.¹

WARNING

Check carefully that the correct product is selected. Solutions with adrenaline (epinephrine) are used for local anaesthesia and nerve block, and are contraindicated for IV regional anaesthesia.

Anaphylactic reactions have been reported.¹ Resuscitation facilities must be readily available.

The administration and compatibility information in this monograph is for lidocaine-only solutions .

pH

Plain lidocaine solution: 5–7¹

Lidocaine with adrenaline (epinephrine): 3–5.5¹

PREPARATION

Not required

STABILITY

Lidocaine-only solutions: store below 25 °C.¹

Xylocaine with adrenaline: store below 25 °C. Protect from light.¹

Lidocaine infusion solution: stable for 24 hours below 25 °C.²

ADMINISTRATION

IM injection : Suitable.² See SPECIAL NOTES

SUBCUT infusion : Suitable in palliative care.³ Seek specialist advice.

IV injection : Suitable for Lidocaine Baxter and Lignocaine Pfizer.

Inject the dose over 1 to 2 minutes at a maximum rate of 25–50 mg/minute. Onset of effect is 2 to 4 minutes and maximum effect takes about 10 minutes.¹

Practical example: use the 2% solution and inject at a maximum rate of 1.25–2.5 mL/minute.¹

IV infusion : Suitable for Lidocaine Baxter, Lignocaine Pfizer and Xylocard.¹ Use an infusion pump.

Dilute in a compatible fluid to a usual concentration of 1–2 mg/mL.¹ Concentrations up to 8 mg/mL can be used in fluid-restricted patients.²

Practical example: use the 10% solution (Xylocard) if possible e.g. dilute 500 mg (5 mL) in 500 mL to make a concentration of 1 mg/mL.

For cardiac arrhythmias infuse at a rate of 1–4 mg/minute.¹

For refractory migraine infuse at a rate of 1–2 mg/minute.⁴

See [INFUSION RATE CALCULATIONS](#) for assistance if required.

Seek specialist advice for use in neuropathic pain, acute pain and perioperative settings.⁵

IV use for infants and children : Suitable for Lidocaine Baxter and Lignocaine Pfizer. The 1% solution is preferred.¹

Dilute to 20 mg/mL or weaker and inject over 2 to 3 minutes. Do not exceed a rate of 0.7 mg/kg/minute or 50 mg/minute, whichever is slower. Faster rates may be used in cardiac emergency situations. Dilute to 8 mg/mL for continuous infusion.⁶

Epidural : Lidocaine Baxter, Lignocaine Pfizer and Xylocaine are suitable for epidural injection.¹

Other : Local or regional techniques (e.g. infiltration, nerve block) are used in adults and children. Inject slowly to avoid inadvertent intravascular injection.¹

COMPATIBILITY

Fluids : Glucose 5%¹, sodium chloride 0.9%¹, sodium chloride 0.45%², Ringer's¹, Hartmann's², Plasma-Lyte 148 via Y-site⁷

Y-site : Alteplase², amikacin⁸, amiodarone², argatroban², bivalirudin², buprenorphine⁸, calcium chloride⁸, calcium gluconate⁸, cefazolin⁸, cefotaxime⁸, cefoxitin⁸, ceftazidime⁸, ceftaroline, ceftolozane-tazobactam², ceftriaxone⁸, cefuroxime⁸, ciclosporin⁸, ciprofloxacin², clindamycin⁸, ephedrine sulfate⁸, eptifibatid¹, fluconazole⁸, furosemide⁸, gentamicin⁸, haloperidol lactate (in glucose)², heparin sodium², hydrocortisone sodium succinate², isavuconazole², labetalol², linezolid², magnesium sulfate⁸, meropenem², metoclopramide⁸, micafungin², morphine sulfate², nicardipine², palonosetron², paracetamol², pethidine², remifentanyl², tigecycline², tirofiban², tobramycin⁸, vancomycin⁸

INCOMPATIBILITY

Fluids : Some sodium bicarbonate solutions²

Drugs : Aciclovir⁹, azathioprine⁹, caspofungin⁹, ganciclovir⁹, metoprolol², milrinone⁹, phenobarbital⁹, thiopental sodium⁹

SPECIAL NOTES

Continuous ECG monitoring is necessary during IV administration for cardiac arrhythmias.¹

Baseline and daily ECG monitoring is recommended when given by IV infusion for pain and migraine.¹

Monitor for early symptoms of toxicity including numbness of the tongue, tingling sensation, tinnitus and sensitivity to sound.¹

Adverse effects are generally dose related and include nervousness, dizziness, blurred vision, tremor, drowsiness, nausea and vomiting.¹

Large or repeated doses of lidocaine for local anaesthesia may lead to plasma levels that are high enough to cause adverse effects associated with IV use.¹

IM administration may increase creatine kinase for up to 48 hours, interfering with diagnosis of myocardial infarction.¹

Xylocaine with adrenaline contains sodium metabisulfite which may cause allergic reactions in susceptible people.

REFERENCES

1. Product information. Available from www.tga.gov.au. Accessed. Accessed 03/11/2022.
2. ASHP Injectable drug information 2021. Bethesda, MD: American Society of Health-System Pharmacists; 2021.
3. Wilcock A, Howard P, Charlesworth S, editors. Palliative care formulary. 8th ed. London: Pharmaceutical Press; 2022.

4. Rosen N, Marmura M, Abbas M, Silberstein S. Intravenous lidocaine in the treatment of refractory headache: a retrospective case series. *Headache* 2009; 49: 286-91.
5. Schug SA, Palmer GM, Scott DA, Alcock M, Halliwell R, Mott JF; APM:SE Working group of the Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine. *Acute pain management: scientific evidence* 5th ed. Melbourne: ANZCA & FPM; 2020.
6. Phelps SJ, Hageman TM, Lee KR, Thompson AJ. *Pediatric injectable drugs*. 11th ed. Bethesda, MD: American Society of Health-System Pharmacists; 2018.
7. Medical information. Plasma-Lyte 148 compatibility summary. Toongabbie, NSW: Baxter; March 2022.
8. Trissel LA, Leissing NC. *Trissel's Tables of physical compatibility*. Lake Forest IL: Multimatrix; 1996.
9. Lidocaine hydrochloride. In: *IV index* [internet]. Trissel's 2 clinical pharmaceuticals database (parenteral compatibility). Greenwood Village, CO: IBM Watson Health. Accessed 03/11/2022.

VERSION

Version 9

ABOUT AIDH

Copyright © SHPA 2024 Copyright © Health Communication Network 2024 - Site Last Updated - 24 May 2024