Status epilepticus. Lidocaine hydrochloride may be used to control status epilepticus (p.469) resistant to more conventional treatment, particularly in those with respiratory disease. It has a rapid onset of action but its effect is short-lived and continuous infusion may be necessary.[1] It should also be noted that doses producing high plasma concentrations of lidocaine can result in CNS toxicity including seizures.[1] Recurrence of seizures associated with the withdrawal of prolonged lidocaine therapy may be due to its accumulated metabolites exerting an excitatory effect on the nervous system when the inhibitory effect of lidocaine is being reduced.[2]

Lidocaine was used instead of diazepam for 42 episodes of status epilepticus in 36 patients who either had limited pulmonary reserve or who had not responded to intravenous diazepam.[3] Lidocaine 1.5 to 2 mg/kg (usually a dose of 100 mg) was given as a single intravenous dose over 2 minutes. This dose was repeated once if there was no positive response to the first dose (11 episodes) or if the seizures recurred (19 episodes). Subsequently a continuous infusion of lidocaine at a rate of 3 to 4 mg/kg per hour was given in the 7 episodes that recurred after the second dose; 5 of these showed a positive response. The 11 episodes not responding to the first dose did not respond to the second dose or to a continuous infusion. In a retrospective analysis[4] of 37 children with status epilepticus, lidocaine was effective in only 19 of 53 episodes; however, in a few cases it was effective where other drugs had failed, and those patients who responded did so rapidly (within 5 minutes of being given the drug).

1. Bauer J, Elger CE. Management of status epilepticus in adults. *CNS Drugs* 1994; **1:** 26–44.
2. Wallin A, *et al.* Lidocaine treatment of neonatal convulsions, a therapeutic dilemma. *Eur J Clin Pharmacol* 1989; **36:** 583–6.
3. Pascual J, *et al.* Role of lidocaine (lignocaine) in managing status epilepticus. *J Neurol Neurosurg Psychiatry* 1992; **55:** 49–51.
4. Hamano S-I, *et al.* Intravenous lidocaine for status epilepticus during childhood. *Dev Med Child Neurol* 2006; **48:** 220–2.

Surface anaesthesia. ***EUTECTIC MIXTURES.*** A cream containing lidocaine 2.5% and prilocaine 2.5% as a eutectic mixture can produce local anaesthesia when applied topically to intact skin. It appears to be of value in minor medical or surgical procedures in *adults* and *children*,[1-3] such as venepuncture, intravenous or arterial cannulation, retrobulbar injections, lumbar puncture, curettage of molluscum contagiosum lesions, genital wart removal, split skin grafting, laser treatment, extracorporeal shock wave therapy, separation of preputial adhesions, and circumcision. It has also been tried as an anaesthetic for the ear drum in preparation for otological procedures such as myringotomy and grommet insertion but is potentially ototoxic and should not be used in the presence of a perforation. Postherpetic neuralgia (p.9) has also been treated with some success.[4,5]

The eutectic cream is usually applied to skin under an occlusive dressing for at least 60 minutes although it has been suggested that for children aged 1 to 5 years 30 minutes may be sufficient.[6] The manufacturers suggest a maximum application time of 5 hours. The onset and duration of the effect may be affected by the site of application.[2] When used for the removal of genital warts an occlusive dressing is not necessary and the application time recommended by the manufacturer is 5 to 10 minutes. The level of anaesthesia begins to decline after 10 to 15 minutes when applied to the genital mucosa and any procedure should be started immediately.

Eutectic mixtures of lidocaine and prilocaine have also been used in *neonates* to reduce the pain of puncture procedures[7] and for circumcision,[8,9] and appear to be safe and efficacious. There has been concern that excessive absorption (particularly of prilocaine) might lead to methaemoglobinaemia (see p.1850), and UK licensing information recommends that the eutectic cream not be used in children less than 1 year old. However, there seems to be little evidence of this, and the *BNF* considers that it may be used under specialist supervision in infants over 1 month of age. Similarly, in other countries, including the USA, the cream is licensed for use in neonates provided that their gestational age is at least 37 weeks, and that methaemoglobin values are monitored in those aged 3 months or less; it should not be used in infants under 1 year who are receiving methaemoglobin-inducing drugs.

Systemic absorption of both drugs from the eutectic cream appears to be minimal across intact skin[6] even after prolonged or extensive use.[10] However, it should not be used on wounds or mucous membranes (except for genital warts in adults) and should not be used for atopic dermatitis. It should not be applied to or near the eyes because it causes corneal irritation, and it should not be instilled in the middle ear. It should be used with caution in patients with anaemia or congenital or acquired methaemoglobinaemia. Transient paleness, redness, and oedema may occur following application.

Some studies suggest that a topical gel formulation of tetracaine 4% can produce longer and more rapid anaesthesia than the above lidocaine with prilocaine cream (see Surface Anaesthesia, under Uses and Administration of Tetracaine, p.1872). It has also been suggested[11] that topical tetracaine may have practical advantages over the eutectic mixture of lidocaine and prilocaine, which has to be applied for at least one hour, and causes vasoconstriction at the site of application which can make venepuncture difficult.

1. Lee JJ, Rubin AP. Emla cream and its current uses. *Br J Hosp Med* 1993; **50:** 463–6.
2. Buckley MM, Benfield P. Eutectic lidocaine/prilocaine cream: a review of the topical anaesthetic/analgesic efficacy of a eutectic mixture of local anaesthetics (EMLA). *Drugs* 1993; **46:** 126–51.
3. Koren G. Use of the eutectic mixture of local anesthetics in young children for procedure-related pain. *J Pediatr* 1993; **122** (suppl): S30–S35.
4. Litman SJ, *et al.* Use of EMLA cream in the treatment of postherpetic neuralgia. *J Clin Anesth* 1996; **8:** 54–7.
5. Kost RG, Straus SE. Postherpetic neuralgia—pathogenesis, treatment, and prevention. *N Engl J Med* 1996; **335:** 32–42.
6. Hanks GW, White I. Local anaesthetic creams. *BMJ* 1988; **297:** 1215–16.
7. Gourrier E, *et al.* Use of EMLA cream in a department of neonatology. *Pain* 1996; **68:** 431–4.
8. Taddio A, *et al.* Efficacy and safety of lidocaine-prilocaine cream for pain during circumcision. *N Engl J Med* 1997; **336:** 1197–1201.
9. Brady-Fryer B, *et al.* Pain relief for neonatal circumcision. Available in The Cochrane Database of Systematic Reviews; Issue 3. Chichester: John Wiley; 2004 (accessed 16/06/05).
10. Scott DB. Topical anaesthesia of intact skin. *Br J Parenter Ther* 1986; **7:** 134–5.
11. Russell SCS, Doyle E. Paediatric anaesthesia. *BMJ* 1997; **314:** 201–3.

Tinnitus. Tinnitus is the perception of a noise that arises or appears to arise within the head.

Objective tinnitus may be audible to others and arises from lesions outside the auditory system. Subjective tinnitus (tinnitus aurium) originates from sites within the auditory system and is perceived only by the patient. A simple and remediable cause of tinnitus can be impacted ear wax. Tinnitus is often associated with head injury, vertigo, and hearing loss, including age-related and noise-induced hearing loss. It may also be a symptom of an underlying disorder such as Ménière's disease, may be associated with anxiety or depressive disorders, or may be a manifestation of drug toxicity (for example with aspirin or quinine). In such cases, treatment of the underlying disorder or removal of the offending drug can resolve the tinnitus.

Treatment of tinnitus is difficult although reassurance and counselling are often effective in helping patients to tolerate their condition. Maskers or, if the tinnitus is associated with hearing loss, hearing aids are also used; surgery is rarely indicated. Intravenous lidocaine has proven to be effective in reducing or eliminating tinnitus but the effect only lasts for a few hours and is, therefore, impractical for most patients. Efforts to find an effective oral analogue of lidocaine have not, so far, been successful. Other drugs that have been tried include benzodiazepines such as alprazolam and clonazepam, the antiepileptics carbamazepine and phenytoin, tricyclic antidepressants, and the loop diuretic furosemide, but adverse effects limit their use. Ginkgo biloba has been tried but there are doubts about its value.

References.

1. Luxon LM. Tinnitus: its causes, diagnosis, and treatment. *BMJ* 1993; **306:** 1490–1.
2. Robson AK, Birchall JP. Management of tinnitus. *Prescribers' J* 1994; **34:** 1–7.
3. Coles RRA. Drug treatment of tinnitus in Britain. In: Reich GE, Vernon JA, eds. *Proceedings of the fifth international tinnitus seminar.* Portland: American Tinnitus Association, 1995.
4. Vesterager V. Tinnitus—investigation and management. *BMJ* 1997; **314:** 728–31.
5. Simpson JJ, Davies WE. Recent advances in the pharmacological treatment of tinnitus. *Trends Pharmacol Sci* 1999; **20:** 12–18.
6. Dobie RA. A review of randomized clinical trials in tinnitus. *Laryngoscope* 1999; **109:** 1202–11.
7. Lockwood AH, *et al.* Tinnitus. *N Engl J Med* 2002; **347:** 904–10.

Preparations

BP 2008: Lidocaine and Adrenaline Injection; Lidocaine and Chlorhexidine Gel; Lidocaine Gel; Lidocaine Injection; Lidocaine Ointment; Sterile Lidocaine Solution;

USP 31: Lidocaine and Prilocaine Cream; Lidocaine Hydrochloride and Dextrose Injection; Lidocaine Hydrochloride and Epinephrine Injection; Lidocaine Hydrochloride Injection; Lidocaine Hydrochloride Jelly; Lidocaine Hydrochloride Oral Topical Solution; Lidocaine Hydrochloride Topical Solution; Lidocaine Ointment; Lidocaine Oral Topical Solution; Lidocaine Topical Aerosol; Neomycin and Polymyxin B Sulfates and Lidocaine Cream; Neomycin and Polymyxin B Sulfates, Bacitracin Zinc, and Lidocaine Ointment; Neomycin and Polymyxin B Sulfates, Bacitracin, and Lidocaine Ointment.

Proprietary Preparations (details are given in Part 3)

Arg.: Fidecaina; Gobbicaina; Indican; Larjancaina; Regiocaina; Solvente Indoloro; Xylocaina; ***Austral.:*** Lignospan†; Nurocain; Stud 100; Xylocaine; Xylocaine Special Adhesive; Xylocard; ***Austria:*** Lidocorit; Neo-Xylestesin; Neo-Xylestesin forte; Xylanaest; Xylocain; Xylocard; Xyloneural; ***Belg.:*** Linisol†; Xylocaine; Xylocaine Visqueuse; Xylocard; ***Braz.:*** Dermomax; Gel-Lido; Lidial; Lidocabbott; Lidocalm†; Lidogel; Lidogeyer†; Lidojet†; Lidospray; Lidoston; Xylestesin; Xylocaina; ***Canad.:*** Afterburn; Betacaine; Lidodan; Solarcaine Lidocaine; Xylocaine; Xylocard; Zilactin-L; ***Chile:*** Calmante de Denticion†; Dentaliv; Dimecaina; Exido; Gelcain; Odongel; Prolong; Solin; Xylocaina; ***Cz.:*** Trachisan; Xylestesin-A†; Xylestesin†; Xylocaine; ***Denm.:*** Xylocain; Xyloplyin; ***Fin.:*** Lidocard; Xylocain; ***Fr.:*** Dynexan; Mesocaine; Versatis; Xylocaine; Xylocard; ***Ger.:*** Gelicain; Haemo-Exhirud Bufexamac; Heweneural; Licain; Lidesthesin; Lidocard; Lidoject; LidoPosterine; Rowo-629†; Trachisan Halsschmerztabletten; Xylestesin-A; Xylestesin centro†; Xylestesin-S†; Xylestesin, Xylestesin-F†; Xylocain; Xylocain f.d. Kardiologie; Xylocitin; Xylocitin cor; Xyloneural; ***Gr.:*** Ecocain†; Lidoderm; Osagel; Sensolid; Utiblack; Xylocaine; Xylol; Xylozan; ***Hong Kong:*** Xylestesin-A; Xylocaine; Xylocard†; ***India:*** Gesicain; Tivision; Xylocaine; Xylocard; ***Indon.:*** Extracaine; Garianes; Lidodex; Lidonest; Pehacain; Xylocaine; ***Irl.:*** Xylocaine; ***Israel:*** After Burn; Esracain; Lidocadren†; LidoPen; Stud 100; Xylocaine; ***Ital.:*** Basicaina; Ecocain; Lident Adrenalina†; Lident Andrenor†; Lidofast; Lidomol†; Lidosen; Lidrian; Luan; Odontalg; Ortodermina; Xilomyl; Xylocaina; Xylonor; Xyloplyina; ***Jpn:*** Penles; ***Malaysia:*** Denkan; Xylocaine; Xylocard†; ***Mex.:*** Betacaine; Hipoden; Pharmacaine; Pisacaina; Sensipharma; Sunicaine; Unicaine; Uvega; Xylocaina; ***Neth.:*** Dentinox; Lepan; Lignospan; Nolaid; Otalgan; Unguentum contra haemorrhoides PCH; Xylocaine; ***Norw.:*** Xylocain; ***NZ:*** Virasolve; Xylestesin-A; Xylocaine; Xylocard; ***Philipp.:*** Dentocaine; Lygnonex; Xylocaine; Xylocard; ***Pol.:*** Lidoposterin; Xylocaine; ***Port.:*** Lidonostrum; Lincaina; Octocaine; Xilonibsa; Xylocaina; Xylocard†; ***Rus.:*** Lidochlor (Лидохлор); Versatis (Версатис); ***S.Afr.:*** Lignospan Special†; Peterkaien; Remicaine; Remicard; Xylocaine; Xylotox; ***Singapore:*** Dube†; Xylocaine; ***Spain:*** Aeroderm†; Dermovagisil; Octocaine; Xilonibsa; Xylocaina; Xylonor 2% Sin Vasoconst; Xylonor Especial; ***Swed.:*** Xylocain; Xylocard; ***Switz.:*** Dynexan nouvelle formule; Kenergon; Lignospan†; Neo-Sinedol; Neurodol Tissugel; Rapidocaine; Sedagul; Solarcaine; Xylesine; Xylestesin-F†; Xylestesin-S "special"†; Xylocain; Xylocard; Xyloneural; Xyloplyin†; ***Thai.:*** Docaine; LD-Caine; Lido Spray†; Lidocation; Lidocaton†; Neo-Lidocaton†; Udocaine; Xylocaine; Xylocard†; ***Turk.:*** Anestol; Aritmal; Jetokain; Jetosel; Ksilidin; Lidobag; Lidosel; Lokalen; Xylocain; ***UAE:*** Ecocain; ***UK:*** Dequaspray; Laryng-O-Jet; Lignostab-A†; Premjact; Stud; Vagisil; Versatis; Xylocaine; Xylotox†; ***USA:*** Anestacon; Anestafoam; Dentipatch; Dilocaine; Dr Scholl's Cracked Heel Relief; Duo-Trach Kit; L-M-X4; LidaMantle; Lidoderm; LidoPen; Lidosense†; Lidosite; LTA; Nervocaine; Octocaine; Xylocaine; Zilactin-L; Zingo; ***Venez.:*** Cifarcaina; Farmacaina; Nenedent; Xylocaina†.

Multi-ingredient: numerous preparations are listed in Part 3.

Mepivacaine Hydrochloride

(BANM, rINNM)

Hidrocloruro de mepivacaína; Mépivacaïne, chlorhydrate de; Mepivacaini Chloridum; Mepivacaini hydrochloridum; Mepivakainihydrokloridi; Mepivakain-hidroklori d; Mepivakain-hydrochlorid; Mepivakainhydroklorid; Mepivakaino hidrochloridas. (1-Methyl-2-piperidyl)formo-2′,6′-xylidide hydrochloride.

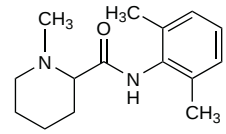
Мепивакаина Гидрохлорид

$C_{15}H_{22}N_2O,HCl$ = 282.8.

CAS — 96-88-8 (mepivacaine); 22801-44-1 ((±)-mepivacaine); 1722-62-9 (mepivacaine hydrochloride).

ATC — N01BB03.

ATC Vet — QN01BB03.



(mepivacaine)

Pharmacopoeias. In *Eur.* (see p.vii), *Jpn*, and *US*.

Ph. Eur. 6.2 (Mepivacaine Hydrochloride). A white or almost white crystalline powder. Freely soluble in water and in alcohol; very slightly soluble in dichloromethane. A 2% solution in water has a pH of 4.0 to 5.0.

USP 31 (Mepivacaine Hydrochloride). A white, odourless, crystalline solid. Freely soluble in water and in methyl alcohol; very slightly soluble in chloroform; practically insoluble in ether. A 2% solution in water has a pH of about 4.5.

pH of solutions. For a discussion of the effect that pH has on the stability of local anaesthetic solutions and the pain associated with their injection, see p.1852.

Adverse Effects, Treatment, and Precautions

As for Local Anaesthetics in general, p.1850.

Porphyria. Mepivacaine is considered to be unsafe in patients with porphyria because it has been shown to be porphyrinogenic in *in-vitro* systems.

Interactions

For interactions associated with local anaesthetics, see p.1851.

Local anaesthetics. Studies *in vitro* showed that *bupivacaine* dramatically reduced the binding of mepivacaine to α-1-acid glycoprotein.[1]

1. Hartrick CT, *et al.* Influence of bupivacaine on mepivacaine protein binding. *Clin Pharmacol Ther* 1984; **36:** 546–50.

Pharmacokinetics

Mepivacaine is about 78% bound to plasma proteins. The plasma half-life has been reported to be about 2 to 3 hours in adults and about 9 hours in neonates. It is rapidly metabolised in the liver and less than 10% of a dose is reported to be excreted unchanged in the urine. Over 50% of a dose is excreted as metabolites into the bile but these probably undergo enterohepatic circulation as only small amounts appear in the faeces. Several metabolites are also excreted via the kidneys and include glucuronide conjugates of hydroxy compounds

and an *N*-demethylated compound, 2′,6′-pipecoloxylidide. Mepivacaine crosses the placenta.

See also under Local Anaesthetics, p.1852.

Pregnancy. There is considerable transfer of mepivacaine across the placenta after maternal doses and the ratio of fetal to maternal concentrations[1] is about 0.7. Although neonates have a very limited capacity to metabolise mepivacaine it appears they are able to eliminate the drug.[2]

1. Lurie AO, Weiss JB. Blood concentration of mepivacaine and lidocaine in mother and baby after epidural anesthesia. *Am J Obstet Gynecol* 1970; **106:** 850–6.
2. Meffin P, *et al*. Clearance and metabolism of mepivacaine in the human neonate. *Clin Pharmacol Ther* 1973; **14:** 218–25.

Uses and Administration

Mepivacaine hydrochloride is a local anaesthetic of the amide type with actions and uses similar to those described on p.1852. It is mainly used for infiltration anaesthesia, peripheral nerve block, and epidural block. (Local anaesthetic techniques are discussed on p.1853.) Mepivacaine has a rapid onset and an intermediate duration of action. The speed of onset and duration of action are increased by the addition of a vasoconstrictor and absorption into the circulation from the site of injection is reduced.

The dosage of mepivacaine hydrochloride varies with the site of injection and the type of **local anaesthetic procedure**. In adults, the **maximum single dose** of mepivacaine hydrochloride should not generally exceed 400 mg and the total dose in 24 hours should not exceed 1 g. Doses should be reduced in the elderly, in debilitated patients, and in those with cardiac or hepatic impairment. Concentrations of less than 2% should be used in children under 3 years or weighing less than about 14 kg (30 pounds); the dose in children should not exceed 5 to 6 mg/kg.

- For *infiltration anaesthesia* up to 400 mg as a 1% (40 mL) or 0.5% (80 mL) solution is used. For *dental infiltration and nerve block* a 2% solution with a vasoconstrictor or a 3% plain solution is used. For anaesthesia at a single site in the jaw a dose of 36 mg (1.8 mL) as a 2% solution or 54 mg (1.8 mL) as a 3% solution is used. For anaesthesia of the entire oral cavity 180 mg (9 mL) as a 2% solution or 270 mg (9 mL) as a 3% solution is used. Some recommend that no more than 400 mg should be given at a single dental sitting.
- For *peripheral nerve blocks*, namely *cervical*, *brachial plexus*, *intercostal*, and *pudendal blocks*, 1 or 2% solutions may be used in doses of 50 to 400 mg (5 to 40 mL) as a 1% solution, or 100 to 400 mg (5 to 20 mL) as a 2% solution. For pudendal block half of the dose is injected on each side. For *paracervical block* a dose of up to 100 mg (10 mL) as a 1% solution on each side has been suggested allowing an interval of 5 minutes between sides. This may be repeated at an interval of not less than 90 minutes, and for a combined paracervical and pudendal block up to 150 mg (15 mL) as a 1% solution is injected on each side. For therapeutic nerve block in the management of pain 10 to 50 mg (1 to 5 mL) as a 1% solution or 20 to 100 mg (1 to 5 mL) as a 2% solution may be given.
- For *epidural block* usual doses are: 150 to 300 mg (15 to 30 mL) as a 1% solution, 150 to 375 mg (10 to 25 mL) as a 1.5% solution, or 200 to 400 mg (10 to 20 mL) as a 2% solution. Hyperbaric solutions of mepivacaine hydrochloride without adrenaline have also been used for *spinal block*.

Mepivacaine has been included in the intramuscular injections of other drugs to minimise the pain produced at the injection site.

Mepivacaine has also been used as a surface anaesthetic but other local anaesthetics such as lidocaine are more effective.

Action. For a comparison of the vasoactivity of mepivacaine and some other local anaesthetics, see p.1852.

Preparations

USP 31: Mepivacaine Hydrochloride and Levonordefrin Injection; Mepivacaine Hydrochloride Injection.

Proprietary Preparations (details are given in Part 3)
Arg.: Mepigobbi; ***Austral.:*** Carbocaine; Scandonest†; ***Austria:*** Mepinaest; Scandicain; Scandonest; ***Belg.:*** Scandicaine; ***Canad.:*** Carbocaine; Polocaine†; ***Cz.:*** Mepivastesin; Scandonest; ***Denm.:*** Carbocain; Carboplyin; Scandonest; ***Fr.:*** Carbocaine; ***Ger.:*** Meaverin; Mecain; Mepihexal; Mepivastesin; Scandicain; ***Hong Kong:*** Mepivastesin; ***Ital.:*** Carbocaina; Carbosen; Mepi-Mynol; Mepibil; Mepicain; Mepident; Mepiforan; Mepisolver; Mepivamol; Mepivirgi; Molcain†; Optocain; Pericaina; Scandonest; ***Neth.:*** Scandicaine; Scandonest; ***Norw.:*** Carbocain; Scandonest; ***Port.:*** Isogaine; Mepivastesin; Scandinibsa; Scandonest; ***S.Afr.:*** Carbocaine; Scandonest†; ***Spain:*** Isogaine; Scandinibsa; ***Swed.:*** Carbocain; ***Switz.:*** Scandicain; Scandonest; ***Thai.:*** Mepicaton; ***USA:*** Carbocaine; Carbocaine with Neo-Cobefrin; Isocaine; Polocaine.

Multi-ingredient: ***Ger.:*** Meaverin†; Thesit†.

Used as an adjunct in: ***Austria:*** Estradurin; ***Belg.:*** Estradurine; ***Denm.:*** Estradurin; ***Fin.:*** Estradurin; ***Ger.:*** Estradurin†; ***Jpn:*** Amasulin; Bestcall; Lilacillin†; Panspori; Takesulin; ***Malaysia:*** Nevramin†; ***Neth.:*** Estradurin; ***Norw.:*** Estradurin; ***Port.:*** Linamin Plus†; ***Singapore:*** Nevramin; ***Swed.:*** Estradurin; ***Switz.:*** Estradurin; ***Thai.:*** Nevramin.

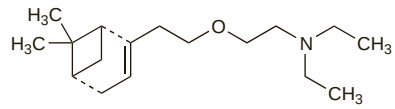
Myrtecaine *(rINN)*

Mirtecaína; Myrtécaïne; Myrtecainum; Nopoksamin; Nopoxamine. 2-[2-(10-Norpin-2-en-2-yl)ethoxy]triethylamine.

Миртекаин

$C_{17}H_{31}NO$ = 265.4.

CAS — 7712-50-7.



Profile

Myrtecaine is a local anaesthetic (p.1850) used topically as the base or laurilsulfate in rubefacient preparations for the treatment of muscle and joint pain. Myrtecaine laurilsulfate is also used in preparations with antacids for the symptomatic relief of gastrointestinal disorders.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** Algesal; Flexicamin Crema†; ***Austria:*** Algesal; Latesyl; Rheugesal; ***Chile:*** Sinacid; ***Cz.:*** Algesal; ***Fr.:*** Acidrine; Algesal Suractive; ***Ger.:*** Acidrine†; Algesal; Algesalona†; ***Gr.:*** Algesal Suractive; ***Hung.:*** Algesal; ***Indon.:*** Acidrine; Algesal Superactive; ***Ital.:*** Acidrine; ***Mex.:*** Algesal†; ***Neth.:*** Algesal Forte; ***Port.:*** Algesal; Latesil; ***Spain:*** Algesal; ***Switz.:*** Algesal†; Algesalona†; ***Turk.:*** Algesal Suractive; ***Venez.:*** Lemazol.

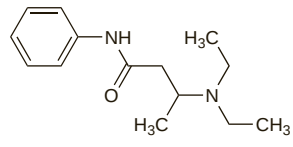
Octacaine Hydrochloride *(pINNM)*

Hidrocloruro de octacaína; Octacaïne, Chlorhydrate d'; Octacaini Hydrochloridum. 3-Diethylaminobutyranilide hydrochloride.

Октакаина Гидрохлорид

$C_{14}H_{22}N_2O$,HCl = 270.8.

CAS — 13912-77-1 (octacaine); 59727-70-7 (octacaine hydrochloride).



(octacaine)

Profile

Octacaine hydrochloride is a local anaesthetic (p.1850) that has been used for surface anaesthesia.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Switz.:*** Batramycine†.

Oxetacaine *(BAN, rINN)*

Oksetakaiini; Oksetakain; Oxetacaína; Oxétacaïne; Oxetacainum; Oxetakain; Oxethazaine *(USAN)*; Wy-806. 2,2′-(2-Hydroxyethylimino)bis[*N*-(αα-dimethylphenethyl)-*N*-methylacetamide].

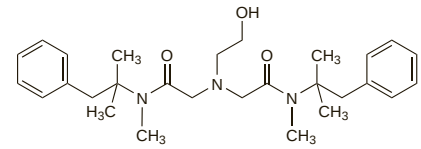
Оксетакаин

$C_{28}H_{41}N_3O_3$ = 467.6.

CAS — 126-27-2 (oxetacaine); 13930-31-9 (oxetacaine hydrochloride).

ATC — C05AD06.

ATC Vet — QC05AD06.



Pharmacopoeias. In *Br.* and *Jpn*.
BP 2008 (Oxetacaine). A white or almost white powder. Practically insoluble in water; freely soluble in methyl alcohol; very soluble in chloroform; soluble in ethyl acetate.

Profile

Oxetacaine is an amide anaesthetic (p.1850) that is stated to have a prolonged action. It is administered orally with antacids for the symptomatic relief of gastro-oesophageal reflux disease (p.1696). It has also been used as the hydrochloride in ointments and suppositories for the relief of pain associated with haemorrhoids.

Preparations

Proprietary Preparations (details are given in Part 3)
India: Tricaine-MPS; ***Ital.:*** Emoren; ***Jpn:*** Strocain.

Multi-ingredient: ***Arg.:*** Mucaine; ***Austral.:*** Mucaine; ***Austria:*** Tepilta; ***Belg.:*** Muthesa; ***Braz.:*** Droxaine; ***Canad.:*** Mucaine; ***Chile:*** Mucaine†; ***Cz.:*** Muthesa Compositum†; ***Fr.:*** Mutesa; ***Ger.:*** Tepilta; ***Gr.:*** Oxaine-M; ***Hong Kong:*** Antacaine; Gastrocaine; Milzine†; Mucaine; Oxema Improved; Strocain; ***India:*** Mucaine; Pepticaine; ***Ital.:*** Gastrodue†; ***NZ:*** Mucaine†; ***Philipp.:*** Geltazine; ***S.Afr.:*** Mucaine; ***Singapore:*** Mucaine; Strocain; ***Spain:*** Natrocitral; Roberfarin; ***Switz.:*** Muthesa; ***Thai.:*** Mucaine; Strocain; ***Turk.:*** Mucaine.

Oxybuprocaine Hydrochloride

(BANM, rINNM)

Benoxinate Hydrochloride; Hidrocloruro de oxibuprocaína; Oksibuprokaiinihydrokloridi; Oksibuprokain Hidroklorür; Oksibuprokaino hidrochloridas; Oxibuprokain-hidroklorid; Oxibuprokainhydroklorid; Oxybuprocaïne, chlorhydrate d'; Oxybuprocaini hydrochloridum; Oxybuprokain hydrochlorid. 2-Diethylaminoethyl 4-amino-3-butoxybenzoate hydrochloride.

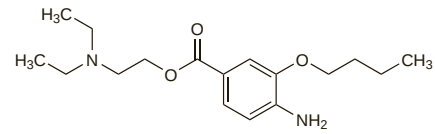
Оксибупрокаина Гидрохлорид

$C_{17}H_{28}N_2O_3$,HCl = 344.9.

CAS — 99-43-4 (oxybuprocaine); 5987-82-6 (oxybuprocaine hydrochloride).

ATC — D04AB03; S01HA02.

ATC Vet — QD04AB03; QS01HA02.



(oxybuprocaine)

NOTE. OXB, formerly BNX, is a code approved by the BP 2008 for use on single unit doses of eye drops containing oxybuprocaine hydrochloride where the individual container may be too small to bear all the appropriate labelling information.

Pharmacopoeias. In *Eur.* (see p.vii), *Jpn*, and *US*.
Ph. Eur. 6.2 (Oxybuprocaine Hydrochloride). A white or almost white, crystalline powder or colourless crystals. It exhibits polymorphism. Very soluble in water; freely soluble in alcohol. A 10% solution in water has a pH of 4.5 to 6.0. Protect from light.
USP 31 (Benoxinate Hydrochloride). White or slightly off-white, crystals or crystalline powder, odourless or with a slight characteristic odour. Soluble 1 in 0.8 of water, 1 in 2.6 of alcohol, and 1 in 2.5 of chloroform; insoluble in ether. A 1% solution in water has a pH of 5.0 to 6.0.

Adverse Effects, Treatment, and Precautions

As for Local Anaesthetics in general, p.1850.

Effects on the eyes. Fibrinous iritis and moderate corneal swelling occurred in 2 patients after the use of a 0.4% or 1% solution of oxybuprocaine hydrochloride for topical anaesthesia of the eye for minor surgery.[1] The effects may have been due to inadvertent entry of the drug into the anterior chamber of the eye.

1. Haddad R. Fibrinous iritis due to oxybuprocaine. *Br J Ophthalmol* 1989; **73:** 76–7.

Interactions

For interactions associated with local anaesthetics, see p.1851.