

For *topical anaesthesia*, a 4% gel is used as a *percutaneous local anaesthetic* before *venepuncture* or *venous cannulation*. The gel is applied to the centre of the area to be anaesthetised and covered with an occlusive dressing. Gel and dressing are removed after 30 minutes for venepuncture and after 45 minutes for venous cannulation. A single application generally provides anaesthesia for 4 to 6 hours. This method is not suitable for premature infants or those less than 1 month of age. A transdermal patch containing tetracaine 70 mg with lidocaine 70 mg is available for surface anaesthesia of intact skin in connection with *needle puncture* and in cases of *superficial surgical procedures*. A cream or an ointment has been used for painful conditions of the *anus* or *rectum*.

Tetracaine hydrochloride has also been used in the *mouth* in sprays and lozenges.

Tetracaine hydrochloride has also been used for *spinal block* usually as a 0.5% solution.

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

Spinal block. A study¹ in 40 patients indicated that for patients undergoing caesarean section with spinal anaesthesia (see Central Nerve Block, p.1853) doses of 12 or 14 mg of tetracaine provided better intraoperative analgesia than doses of 8 or 10 mg without leading to excessive spread of the block.

1. Hirabayashi Y, *et al.* Visceral pain during Caesarean section: effect of varying dose of spinal amethocaine. *Br J Anaesth* 1995; **75**: 266–8.

Surface anaesthesia. A topical gel formulation of tetracaine 4% appears to provide more rapid and prolonged surface anaesthesia (see p.1853) than a eutectic mixture of lidocaine and prilocaine.^{1,2} In a double-blind placebo-controlled study³ the tetracaine gel formulation was significantly better than the eutectic mixture in reducing pain caused by laser treatment of portwine stains. Similar findings were also seen in a comparative study⁴ and a systematic review⁵ in children requiring venous cannulation, although others have questioned the efficacy of tetracaine gel in peripheral insertion of a central catheter.⁶ The same formulation appears to be effective when incorporated into a transdermal patch.⁷ Patches containing a mixture of lidocaine and tetracaine have also been tried^{8,9} and are licensed in some countries for surface anaesthesia of intact skin in connection with needle puncture and in cases of superficial surgical procedures.

There have been reports of seizures and death in children after the use of a mixture of tetracaine, adrenaline, and cocaine on mucosal surfaces;¹⁰ application of preparations of tetracaine to highly vascular surfaces is contra-indicated. A gel containing a mixture of lidocaine, adrenaline, and tetracaine has been found to be an effective alternative to the cocaine-containing preparation.¹¹

Tetracaine has also been incorporated into a mucosa-adhesive polymer film to relieve the pain of oral lesions resulting from radiation and antineoplastic therapy.¹² Liposome-encapsulated tetracaine has also been shown to provide adequate surface anaesthesia.¹³

- McCafferty DF, *et al.* In vivo assessment of percutaneous local anaesthetic preparations. *Br J Anaesth* 1989; **62**: 17–21.
- Rømsing J, *et al.* Tetracaine gel vs EMLA cream for percutaneous anaesthesia in children. *Br J Anaesth* 1999; **82**: 637–8.
- McCafferty DF, *et al.* Effect of percutaneous local anaesthetics on pain reduction during pulse dye laser treatment of portwine stains. *Br J Anaesth* 1997; **78**: 286–9.
- Arrowsmith J, Campbell C. A comparison of local anaesthetics for venepuncture. *Arch Dis Child* 2000; **82**: 309–10.
- Lander JA, *et al.* EMLA and amethocaine for reduction of children's pain associated with needle insertion. Available in The Cochrane Database of Systematic Reviews, Issue 3. Chichester: John Wiley; 2006 (accessed 23/04/08).
- Lemyre B, *et al.* How effective is tetracaine 4% gel, before a peripherally inserted central catheter, in reducing procedural pain in infants: a randomized double-blind placebo controlled trial. *BMC Med* 2006; **4**: 11. Available at: <http://www.biomedcentral.com/content/pdf/1741-7015-4-11.pdf> (accessed 21/06/06)

- McCafferty DF, Woolfson AD. New patch delivery system for percutaneous local anaesthesia. *Br J Anaesth* 1993; **71**: 370–4.
- Berman B, *et al.* Self-warming lidocaine/tetracaine patch effectively and safely induces local anaesthesia during minor dermatologic procedures. *Dermatol Surg* 2005; **31**: 135–8.
- Schechter AK, *et al.* Randomized, double-blind, placebo-controlled study evaluating the lidocaine/tetracaine patch for induction of local anaesthesia prior to minor dermatologic procedures in geriatric patients. *Dermatol Surg* 2005; **31**: 287–91.
- Wong S, Hart LL. Tetracaine/adrenaline/cocaine for local anaesthesia. *DICP Ann Pharmacother* 1990; **24**: 1181–3.
- Ernst AA, *et al.* Lidocaine adrenaline tetracaine gel versus tetracaine adrenaline cocaine gel for topical anaesthesia in linear scalp and facial lacerations in children aged 5 to 17 years. *Pediatrics* 1995; **95**: 255–8.
- Yotsuyanagi T, *et al.* Mucosa-adhesive film containing local analgesic. *Lancet* 1985; **ii**: 613.
- Fisher R, *et al.* Topical anaesthesia of intact skin: liposome-encapsulated tetracaine vs EMLA. *Br J Anaesth* 1998; **81**: 972–3.

Preparations

BP 2008: Tetracaine Eye Drops;

USP 31: Benzocaine, Butamben, and Tetracaine Hydrochloride Gel; Benzocaine, Butamben, and Tetracaine Hydrochloride Ointment; Benzocaine, Butamben, and Tetracaine Hydrochloride Topical Aerosol; Benzocaine, Butamben, and Tetracaine Hydrochloride Topical Solution; Cocaine and Tetracaine Hydrochlorides and Epinephrine Topical Solution; Procaine and Tetracaine Hydrochlorides and Levonordefrin Injection; Tetracaine and Menthol Ointment; Tetracaine Hydrochloride Cream; Tetracaine Hydrochloride for Injection; Tetracaine Hydrochloride in Dextrose Injection; Tetracaine Hydrochloride Injection; Tetracaine Hydrochloride Ophthalmic Solution; Tetracaine Hydrochloride Topical Solution; Tetracaine Ointment; Tetracaine Ophthalmic Ointment.

Proprietary Preparations (details are given in Part 3)

Arg.: Tray-Te; **Braz.:** Anestésico; **Canad.:** Ametop; Cepacol Viractin†; Pontocaine; Viractin; **Fr.:** Solutricine Moux de Gorge; **Ger.:** Ophthocain N; **Hong Kong:** Ametop; **Irl.:** Ametop†; **Israel:** Pontocaine†; **Mex.:** Ponti; **NZ:** Ametop†; **S.Afr.:** Covostet; **Spain:** Anestesia Topi Braun C/A; Anestesia Topi Braun S/A; Anestésico; Hemonet; Lubrificante Urol; **Swed.:** Tetrakain; **UK:** Ametop; Anethaine; **USA:** Cepacol Viractin Cold Sore Treatment; Pontocaine.

Multi-ingredient: **Arg.:** Bagociletas con Anestesia; Clevosan; Drill; **Austria:** Dynexan; Herviros; Neocones; **Braz.:** Anesdente do Bebe†; Anestésio†; Hexomedine; Oto Betnovate; Oto-Biotic†; Um Instante†; **Canad.:** Endospray†; **Cz.:** Drill; **Fr.:** Aphtoral; Broncorinol moux de gorge†; Cantalene; Codetrinic vitamine C†; Drill; Eludil; Hexomedine†; Oromedine; Solutricine Moux de Gorge; **Ger.:** Acoin; Gingicain D; Herviros†; **Hung.:** Drill; **Israel:** Anaesthetic Ear Drops; Otidin; Conzina†; Donalg; Odongi; Recto-Repari; Ruscoroid; **NZ:** Topicaine; **Pol.:** Ruskorex; **Port.:** Anucet; Colirus; Anestésico; Drill; Hemofissural; Lubrificante Anestésico; Rapydan; Xilonibsa†; **Rus.:** Drill (Дрилл); **S.Afr.:** Dynexan; **Spain:** Anestesi Doble; Blastostimulina; Carbocaina†; Dentikrisos; Neocones; Otogen Calmante; Resorborina; Topicaina†; Vinciseptil Otico; **Switz.:** Angidine; Eludil; Tyrothincine + Gramicidine; **Turk.:** Hemoralgine; Otimisin; **UK:** Eludil; Rapydan; **USA:** Cetacaine; Plagiis; Stypto-Caine; Synera.

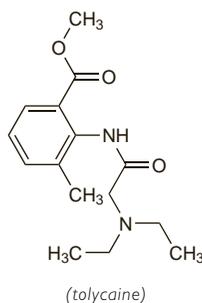
Tolycaine Hydrochloride (BANM, rINNM)

Hidrocloruro de tolicaína; Tolycaine, Chlorhydrate de; Tolycaini Hydrochloridum. Methyl 2-(2-diethylaminoacetamido)-m-toluato hydrochloride.

Толикаина Гидрохлорид

$C_{15}H_{22}N_2O_3 \cdot HCl = 314.8$.

CAS — 3686-58-6 (tolycaine); 7210-92-6 (tolycaine hydrochloride).



Profile

Tolycaine hydrochloride is an amide local anaesthetic (p.1850) included in some preparations to reduce the pain of injection.

Preparations

Proprietary Preparations (details are given in Part 3)

Used as an adjunct in: **Ger.:** Tardocillin.

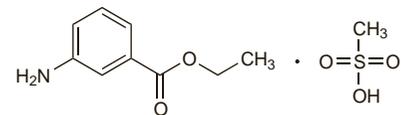
Tricaine Mesilate

Metacaine Mesylate; Tricaína, mesilato de; Tricaine Mesylate; TS-222. Ethyl 3-aminobenzoate methanesulphonate.

$C_{10}H_{13}NO_5S = 261.3$.

CAS — 886-86-2.

ATC Vet — *QN01AX93*.



Profile

Tricaine mesilate is a derivative of an isomer of benzocaine (see p.1854) and although it has been used as a local anaesthetic in human medicine it is now mainly used as an anaesthetic and tranquilliser for fish and other cold-blooded animals.

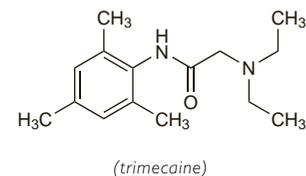
Trimecaine Hydrochloride (rINNM)

Hidrocloruro de trimecaína; Trimecaine, Chlorhydrate de; Trimecaini Hydrochloridum; Trimecainium Chloratum; Trimecainium hydrochlorid. 2-Diethylamino-2',4',6'-trimethylacetanilide hydrochloride.

Тримекаина Гидрохлорид

$C_{15}H_{24}N_2O \cdot HCl = 284.8$.

CAS — 616-68-2 (trimecaine); 1027-14-1 (trimecaine hydrochloride).



Profile

Trimecaine hydrochloride is an amide local anaesthetic (p.1850) included in some preparations to reduce the pain of injection.

Preparations

Proprietary Preparations (details are given in Part 3)

Cz.: Mesocain.

Multi-ingredient: **Cz.:** Mesocain; Septonex Plus; **Rus.:** Levosin (Левосин); Simetrid (Симетрид).

Used as an adjunct in: **Austria:** Ketazon†.