tolerance or sedation (but see below). It is also used in the short-term treatment of acute anxiety.

As an adjunct in **epilepsy** usual oral doses in the UK are 20 to 30 mg daily, increased if necessary to a maximum of 60 mg daily.

For doses in children, see below.

As with other antiepileptics, withdrawal of clobazam therapy or transition to or from another type of antiepileptic therapy should be made gradually to avoid precipitating an increase in the frequency of seizures. For a discussion on whether or not to withdraw antiepileptic therapy in seizure-free patients, see p.465 and under Clonazepam, below.

For the short-term management of acute **anxiety** usual oral doses of 10 to 30 mg daily may be taken in divided doses or as a single dose at night; up to 80 mg daily has been used in hospitalised patients with severe anxiety states. Low initial doses and cautious increments to a usual daily dose of 10 to 20 mg are recommended in elderly or debilitated patients.

Administration in children. In the UK, clobazam is licensed for use as an adjunct in epilepsy in children over 3 years of age; no more than half the adult dose (see above) should be given. Alternatively, the *BNFC* suggests the following oral doses according to age:

- 1 month to 12 years: initially 125 micrograms/kg twice daily, increased every 5 days to a usual maintenance dose of 250 micrograms/kg twice daily. The maximum dose is 500 micrograms/kg twice daily and should not exceed 15 mg twice daily
- 12 to 18 years: initially 10 mg twice daily, increased every 5 days to a usual maintenance dose of 10 to 15 mg twice daily. The dose should not exceed 30 mg twice daily

The *BNFC* also suggests that clobazam may be given for cluster seizures and as monotherapy under specialist supervision for catamenial seizures (usually for 7 to 10 days each month just before and during menstruation).

Epilepsy. Benzodiazepines are sometimes used in the management of epilepsy (p.465), but their long-term use is limited by problems of sedation, dependence, and tolerance to the antiepileptic effects.

Clobazam, a 1,5-benzodiazepine, is considered to be somewhat better tolerated than conventional benzodiazepines, and has been widely used for adjunctive oral therapy in patients with epilepsy.[1,2] Clobazam is active against partial and generalised seizures in epilepsy of widely differing aetiology in patients of all ages and has also been used for short-term cover in patients with intermittent seizures, including in women with catamenial epilepsy (seizures associated with menstruation) or patients whose epileptic attacks occur in clusters. Clobazam has also been tried with some success in children, including those with refractory epilepsy[3-5] and epileptic encephalopathy.[6] However, a recent systematic review[7] concluded that although clobazam may reduce seizure frequency and may be most effective in partial onset seizures, it was not clear who would best benefit from its use and over what time-frame.

1. Trimble MR. On the use of tranquillisers in epilepsy. *Epilepsia* 2002; **43** (suppl 2): 25–7.
2. Ng Y-T, Collins SD. Clobazam. *Neurotherapeutics* 2007; **4:** 138–44.
3. Munn R, Farrell K. Open study of clobazam in refractory epilepsy. *Pediatr Neurol* 1993; **9:** 465–9.
4. Sheth RD, *et al.* Clobazam for intractable pediatric epilepsy. *J Child Neurol* 1995; **10:** 205–8.
5. Canadian Study Group for Childhood Epilepsy. Clobazam has equivalent efficacy to carbamazepine and phenytoin as monotherapy for childhood epilepsy. *Epilepsia* 1998; **39:** 952–9.
6. Silva RC, *et al.* Clobazam as add-on therapy in children with epileptic encephalopathy. *Can J Neurol Sci* 2006; **33:** 209–13.
7. Michael B, Marson AG. Clobazam as an add-on in the management of refractory epilepsy. Available in The Cochrane Database of Systematic Reviews; Issue 2. Chichester: John Wiley; 2008 (accessed 16/06/08).

Neuropathic pain. There has been a mention[1] of the complete relief of *phantom limb pain* (p.9) refractory to other therapy in an elderly patient given clobazam 10 mg three times daily.

1. Rice-Oxley CP. The limited list: clobazam for phantom limb pain. *BMJ* 1986; **293:** 1309.

Preparations

BP 2008: Clobazam Capsules.

Proprietary Preparations (details are given in Part 3)
Arg.: Karidium; ***Austral.:*** Frisium; ***Austria:*** Frisium; ***Belg.:*** Frisium; ***Braz.:*** Frisium; Urbanil; ***Canad.:*** Frisium; ***Chile:*** Frisin†; Grifoclobam; ***Cz.:*** Frisium; ***Denm.:*** Frisium; ***Fin.:*** Frisium; ***Fr.:*** Urbanyl; ***Ger.:*** Frisium; ***Gr.:*** Frisium; ***Hong Kong:*** Frisium; ***Hung.:*** Frisium; ***India:*** Frisium; ***Indon.:*** Asabium; Clobium; Frisium; Proclozam; ***Irl.:*** Frisium; ***Israel:*** Frisium; ***Ital.:*** Frisium; ***Malaysia:*** Frisium; ***Mex.:*** Frisium; ***Neth.:*** Frisium; ***NZ:*** Frisium; ***Pol.:*** Frisium; ***Port.:*** Castilium; Urbanil†; ***S.Afr.:*** Urbanol; ***Singapore:*** Frisium†; ***Spain:*** Noiafren; ***Switz.:*** Urbanyl; ***Thai.:*** Frisium; ***UK:*** Frisium; ***Venez.:*** Frisium.

Clonazepam *(BAN, USAN, rINN)*

Clonazépam; Clonazepamum; Klonatsepaami; Klonazepám; Klonazepam; Klonazepamas; Ro-5-4023. 5-(2-Chlorophenyl)-1,3-dihydro-7-nitro-1,4-benzodiazepin-2-one.

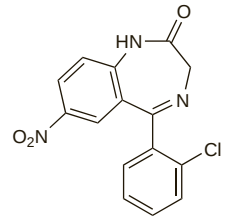
Клоназепам

$C_{15}H_{10}ClN_3O_3$ = 315.7.

CAS — 1622-61-3.

ATC — N03AE01.

ATC Vet — QN03AE01.



NOTE. The following terms have been used as 'street names' (see p.vi) or slang names for various forms of clonazepam:
K-Pins; Klondike Bars; Klonnies; Klons; La Roche; Pins; R2; R-2; Roaches; Roachies; Roche.

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

Ph. Eur. 6.2 (Clonazepam). A slightly yellowish, crystalline powder. Practically insoluble in water; slightly soluble in alcohol and in methyl alcohol. Protect from light.

USP 31 (Clonazepam). A light yellow powder having a faint odour. Insoluble in water; slightly soluble in alcohol and in ether; sparingly soluble in acetone and in chloroform. Store in airtight containers. Protect from light.

Sorption. Significant loss of clonazepam (up to 50% over 24 hours) has been reported[1] from solutions infused through PVC tubing; the effect was concentration dependent. The authors recommended that non-PVC tubing should always be used.

1. Schneider JJ, *et al.* Effect of tubing on loss of clonazepam administered by continuous subcutaneous infusion. *J Pain Symptom Manage* 2006; **31:** 563–7.

Dependence and Withdrawal

As for Diazepam, p.987.

Withdrawal. A study[1] of the withdrawal of clonazepam therapy in 40 epileptic children found that 19 had withdrawal symptoms of increased seizure frequency, either alone or with other symptoms but that this effect was transient. Withdrawal seizures and status might become an obstacle to the removal of useless or even deleterious therapy with clonazepam because the transient nature of these effects was not always recognised. Clonazepam should not be used for more than 3 to 6 months and should be stopped if clear and lasting therapeutic benefit could not be shown.

See also Uses and Administration, below.

1. Specht U, *et al.* Discontinuation of clonazepam after long-term treatment. *Epilepsia* 1989; **30:** 458–63.

Adverse Effects, Treatment, and Precautions

As for Diazepam, p.987.

The principal adverse effect of clonazepam is drowsiness, which occurs in about 50% of all patients when starting therapy. Salivary or bronchial hypersecretion may cause respiratory problems in children. Thrombophlebitis has been associated with intravenous use and may be avoided by injection into a large vein at a rate not exceeding 500 micrograms/minute. Respiration and blood pressure should also be monitored.

Care is required when withdrawing clonazepam therapy—see above.

Breast feeding. Benzodiazepines, such as clonazepam, given to the mother may cause neonatal sedation and breast feeding should be avoided. For comments on antiepileptic therapy and breast feeding, see p.467.

Driving. For a comment on antiepileptic drugs and driving, see p.468.

Effects on the endocrine system. Precocious development of secondary sexual characteristics occurred in a 15-month-old girl 2 months after starting treatment with clonazepam 500 micrograms twice daily for convulsions.[1] Symptoms regressed upon withdrawal of clonazepam.

1. Choonara IA, *et al.* Clonazepam and sexual precocity. *N Engl J Med* 1985; **312:** 185.

Effects on mental function. For a review of the effects of antiepileptic therapy, including clonazepam, on *cognition* and mood, including the risk of suicidal ideation, see p.468.

Effects on the mouth. A 52-year-old woman developed burning mouth syndrome after starting clonazepam;[1] some improvement was noted when the dose was reduced but symptoms were still intolerable and clonazepam was withdrawn. Subsequently, symptoms resolved within 3 weeks.

1. Culhane NS, Hodle AD. Burning mouth syndrome after taking clonazepam. *Ann Pharmacother* 2001; **35:** 874–6.

Effects on sexual function. Sexual dysfunction was reported[1] in 18 of 42 male patients receiving clonazepam for the treatment of post-traumatic stress disorder; symptoms resolved when therapy was changed to diazepam in 17 patients and lorazepam in the remaining patient.

1. Fossey MD, Hamner MB. Clonazepam-related sexual dysfunction in male veterans with PTSD. *Anxiety* 1994-95; **1:** 233–6.

Extrapyramidal disorders. For reference to extrapyramidal disorders associated with the use of benzodiazepines including clonazepam, see Effects on the Nervous System in Diazepam, p.988. However, clonazepam is also used in the treatment of some extrapyramidal disorders as discussed under Uses and Administration, below.

Porphyria. Clonazepam is considered to be unsafe in patients with porphyria although there is conflicting evidence of porphyrinogenicity.

For comments on the use of benzodiazepines in porphyria, see p.471.

Pregnancy. For comments on the management of epilepsy during pregnancy, see p.468.

Interactions

As for Diazepam, p.989.

Antiepileptics. For reference to possible interactions between clonazepam and other antiepileptics, see under Diazepam, p.990 and Benzodiazepines under Interactions of Phenytoin, p.499.

Pharmacokinetics

Clonazepam is quickly absorbed after oral doses with a bioavailability of about 90%; peak plasma concentrations are reached between 1 and 4 hours after ingestion. It is extensively metabolised in the liver, its principal metabolite being 7-aminoclonazepam, which has no antiepileptic activity; minor metabolites are the 7-acetamido- and 3-hydroxy-derivatives. It is excreted mainly in the urine almost entirely as its metabolites in free or conjugated form. It is about 85% bound to plasma proteins and estimations of its elimination half-life range from about 20 to 40 hours, and occasionally more.

A therapeutic range of plasma concentrations has not been established.

Clonazepam crosses the placental barrier and is distributed into breast milk.

The pharmacokinetics of clonazepam may be affected by use with other antiepileptics (see under Interactions, above).

◊ A single-dose pharmacokinetic study[1] in healthy subjects found that absorption of clonazepam was slower and intersubject variability was greater after intramuscular injection than after an oral dose. The pharmacokinetics of a modified-release subcutaneous injection have also been studied in healthy subjects;[2] plasma-clonazepam concentrations were sustained and elimination occurred slowly over 13 days.

1. Crevoisier C, *et al.* Comparative single-dose pharmacokinetics of clonazepam following intravenous, intramuscular and oral administration to healthy volunteers. *Eur Neurol* 2003; **49:** 173–7.
2. Greenblatt DJ, *et al.* Clonazepam pharmacokinetics: comparison of subcutaneous microsphere injection with multiple-dose oral administration. *J Clin Pharmacol* 2005; **45:** 1288–93.

Bioavailability. It has been suggested, on the basis of anecdotal evidence,[1] that there may be differences in bioavailability, and hence in clinical effect, between formulations of clonazepam tablets.

1. Rapaport MH. Clinical differences between the generic and non-generic forms of clonazepam. *J Clin Psychopharmacol* 1997; **17:** 424.

Uses and Administration

Clonazepam is a benzodiazepine derivative similar to diazepam (p.992), with marked antiepileptic properties.

It may be used in the treatment of all types of epilepsy and seizures (p.465), including status epilepticus (p.469), but its usefulness in chronic treatment is sometimes limited by the development of tolerance and by sedation, and other antiepileptics are often preferred. It may also be used in myoclonus (p.470) and associated

abnormal movements, and for the treatment of panic disorder (see Psychiatric Disorders, below).

For **epilepsy** and **myoclonus** treatment is started with small doses that are progressively increased to an optimum dose according to response. Total daily doses may initially be taken in 3 or 4 divided doses; however, once the maintenance dose has been reached, the daily amount may be given as a single dose at night. In the UK the initial oral dose is 1 mg (500 micrograms in the elderly) at night for 4 nights gradually increased over 2 to 4 weeks to a usual maintenance dose of 4 to 8 mg daily; it is recommended that the total dose should not exceed 20 mg daily. Dosage recommendations in the USA are generally similar although initial doses of up to 1.5 mg daily are permitted and dosage increments of 0.5 to 1 mg every 3 days are recommended. There is little value in routinely monitoring plasma-clonazepam concentrations.

Clonazepam may be an alternative to other benzodiazepines in the emergency management of **status epilepticus**. The usual dose is 1 mg given by slow intravenous injection over at least 2 minutes or by intravenous infusion, repeated if necessary to a maximum total dose of 20 mg.

For doses in children, see below.

As with other antiepileptics, withdrawal of clonazepam therapy or transition to or from another type of antiepileptic therapy should be made gradually to avoid precipitating an increase in the frequency of seizures. For a discussion on whether or not to withdraw antiepileptic therapy in seizure-free patients, see p.465 and above.

In the treatment of **panic disorder**, clonazepam is given in an initial oral dose of 250 micrograms twice daily. This may be increased after 3 days to a total of 1 mg daily; a few patients may benefit from further increases, up to a maximum of 4 mg daily. In order to minimise drowsiness, clonazepam may be taken as a single dose at bedtime. Withdrawal should again be gradual.

Administration. Serum concentrations of clonazepam after buccal, intranasal, or intravenous dosage were measured in a crossover study[1] in 7 healthy males. The results showed that intranasal clonazepam may offer an alternative to buccal use in patients with serial seizures but the initial concentrations were too low to recommend its use as an alternative to intravenous clonazepam in the management of status epilepticus. The nasal formulation used in this study contained dimethyl-β-cyclodextrin as a solubiliser and absorption enhancer.

1. Schols-Hendriks MWG, *et al.* Absorption of clonazepam after intranasal and buccal administration. *Br J Clin Pharmacol* 1995; **39:** 449–51.

Administration in children. For **epilepsy** and **myoclonus** treatment with clonazepam is started with small doses that are progressively increased to an optimum dose according to response. Total daily doses are taken in 3 divided doses; however, once the maintenance dose has been reached, the daily amount may be given as a single dose at night. Alternatively, the *BNFC* suggests giving the initial dose at night for 4 nights and gradually increasing it over 2 to 4 weeks. In the UK, the recommended initial oral daily dose is up to 250 micrograms for infants and children aged up to 5 years, or up to 500 micrograms for older children. The following usual maintenance doses are given according to age:

- neonate to 1 year (although the BNFC recommends a minimum age of 1 month): 0.5 to 1 mg daily
- 1 to 5 years: 1 to 3 mg daily
- 5 to 12 years: 3 to 6 mg daily

Older children may be given the usual adult dose (see above).

If control of childhood epilepsy ceases to be adequate with clonazepam, the dose may be increased, or treatment interrupted for 2 or 3 weeks. The *BNFC* states that the UK injection formulation (*Rivotril; Roche, UK*) can be given orally if necessary; this may not apply to other injection formulations available elsewhere.

In the USA, doses may be given according to body weight. Infants and children aged up to 10 years or weighing up to 30 kg may be given an initial daily dose of 10 to 30 micrograms/kg (maximum 50 micrograms/kg) in 2 or 3 divided doses. This may be increased by a total of 250 to 500 micrograms every 3 days to a maintenance dose of 100 to 200 micrograms/kg daily given in 3 divided doses.

In the emergency management of **status epilepticus**, clonazepam is used as an alternative to other benzodiazepines. The usual dose in children is 500 micrograms given by slow intravenous injection or by intravenous infusion. Alternatively, the *BNFC* suggests giving the following doses by slow intravenous injection over at least 2 minutes according to age:

- neonates: 100 micrograms/kg, repeated if necessary after 24 hours
- 1 month to 12 years: 50 micrograms/kg (maximum 1 mg), repeated if necessary

Older children may be given the usual adult dose.

In children aged over 1 month, these doses by injection may be followed by an intravenous infusion of 10 micrograms/kg per hour, adjusted according to response to a maximum of 60 micrograms/kg per hour.

Extrapyramidal disorders. Clonazepam may be of benefit in some extrapyramidal disorders. It has been tried in the management of patients with *tic disorders* such as *Tourette's syndrome* (p.954) but evidence of efficacy from controlled studies is limited.[1] Some use clonazepam in preference to haloperidol[2] since it does not carry the risk of tardive dyskinesia associated with such antipsychotics and a case report[3] described the successful use of clonazepam for haloperidol-induced tardive Tourette's syndrome in an adult patient. There is also limited evidence of benefit with clonazepam in antipsychotic-induced *akathisia*[4,5] and *tardive dyskinesia*[6,7] (see under Extrapyramidal Disorders, p.971), and of improvement in *dysarthria* in a study in patients with parkinsonism.[8]

1. Goetz CG. Clonidine and clonazepam in Tourette syndrome. *Adv Neurol* 1992; **58:** 245–51.
2. Truong DD, *et al.* Clonazepam, haloperidol, and clonidine in tic disorders. *South Med J* 1988; **81:** 1103–5.
3. Reid SD. Neuroleptic-induced tardive Tourette treated with clonazepam: a case report and literature review. *Clin Neuropharmacol* 2004; **27:** 101–4.
4. Kutcher S, *et al.* Successful clonazepam treatment of neuroleptic-induced akathisia in older adolescents and young adults: a double-blind, placebo-controlled study. *J Clin Psychopharmacol* 1989; **9:** 403–6.
5. Pujalte D, *et al.* A double-blind comparison of clonazepam and placebo in the treatment of neuroleptic-induced akathisia. *Clin Neuropharmacol* 1994; **17:** 236–42.
6. Thaker GK, *et al.* Clonazepam treatment of tardive dyskinesia: a practical GABAmimetic strategy. *Am J Psychiatry* 1990: **147:** 445–51.
7. Shapleske J, *et al.* Successful treatment of tardive dystonia with clozapine and clonazepam. *Br J Psychiatry* 1996; **168:** 516–18.
8. Biary N, *et al.* A double-blind trial of clonazepam in the treatment of parkinsonian dysarthria. *Neurology* 1988; **38:** 255–8.

Hiccup. For the management of intractable hiccups see under Chlorpromazine, p.976. Clonazepam may also be of value, especially in neurogenic hiccups.

Neuropathic pain. The management of *phantom limb pain* (p.9) can be difficult, and tricyclic antidepressants and antiepileptics are used for the neuropathic components of the pain. Rapid and marked pain relief was achieved in 2 patients with lancinating phantom limb pain after treatment with clonazepam with or without amitriptyline.[1]

Although carbamazepine is the drug of choice in the treatment of *trigeminal neuralgia* (p.9), clonazepam may be used in carbamazepine-intolerant patients.

1. Bartusch SL, *et al.* Clonazepam for the treatment of lancinating phantom limb pain. *Clin J Pain* 1996; **12:** 59–62.

Psychiatric disorders. Although the risk of dependence with benzodiazepines may outweigh their benefits in panic disorder (p.952), clonazepam has been used for the treatment of panic disorder with or without agoraphobia, and reported benefit in such patients[1] suggests a similar action to alprazolam. A literature review[2] evaluated the use of clonazepam in a range of psychiatric disorders and found that it may also be effective in the treatment of social anxiety disorder (see Phobic Disorders, p.953) although further studies are warranted. There was evidence to suggest that clonazepam may be useful in acute mania (p.372) and for the augmentation of antidepressant therapy with SSRIs in depression (p.373). A study[3] found that augmentation was significantly more effective with a daily dose of 3 mg of clonazepam than with lower doses.

1. Davidson JRT, Moroz G. Pivotal studies of clonazepam in panic disorder. *Psychopharmacol Bull* 1998; **34:** 169–74.
2. Nardi AE, Perna G. Clonazepam in the treatment of psychiatric disorders: an update. *Int Clin Psychopharmacol* 2006; **21:** 131–42.
3. Morishita S, Aoki S. Clonazepam in the treatment of prolonged depression. *J Affect Disord* 1999; **53:** 275–8.

Sleep-associated movement disorders. Treatment of sleep-associated movement disorders (p.958) including sleep behaviour disorder, restless legs syndrome, and periodic limb movements in sleep is largely empirical, but benzodiazepines such as clonazepam are often used.[1] Small studies have provided some evidence for benefit with clonazepam therapy in these disorders,[2-4] including bruxism.[5]

1. Schenck CH, Mahowald MW. Long-term, nightly benzodiazepine treatment of injurious parasomnias and other disorders of disrupted nocturnal sleep in 170 adults. *Am J Med* 1996; **100:** 333–7.
2. Montagna P, *et al.* Clonazepam and vibration in restless legs syndrome. *Acta Neurol Scand* 1984; **69:** 428–30.
3. Peled R, Lavie P. Double-blind evaluation of clonazepam on periodic leg movements in sleep. *J Neurol Neurosurg Psychiatry* 1987; **50:** 1679–81.
4. Saletu M, *et al.* Restless legs syndrome (RLS) and periodic limb movement disorder (PLMD): acute placebo-controlled sleep laboratory studies with clonazepam. *Eur Neuropsychopharmacol* 2001; **11:** 153–61.
5. Saletu A, *et al.* On the pharmacotherapy of sleep bruxism: placebo-controlled polysomnographic and psychometric studies with clonazepam. *Neuropsychobiology* 2005; **51:** 214–25.

Stiff-man syndrome. Clonazepam has been used as an alternative to diazepam in the management of stiff-man syndrome (see under Muscle Spasm, p.993) and is reported[1] to be effective for familial startle disease, a rare congenital form of stiff-man syndrome.

1. Ryan SG, *et al.* Startle disease, or hyperekplexia: response to clonazepam and assignment of the gene (STHE) to chromosome 5q by linkage analysis. *Ann Neurol* 1992; **31:** 663–8.

Tinnitus. Clonazepam is one of many drugs that have been tried in tinnitus (p.1866), but although it has been reported to be effective in some patients it is rarely used because of problems with adverse effects.

References.

1. Ganança MM, *et al.* Clonazepam in the pharmacological treatment of vertigo and tinnitus. *Int Tinnitus J* 2002; **8:** 50–3.
2. Albertino S, *et al.* Pulsatile tinnitus: treatment with clonazepam and propranolol. *Rev Bras Otorrinolaringol (Engl Ed)* 2005; **71:** 111–13.

Preparations

BP 2008: Clonazepam Injection;
USP 31: Clonazepam Oral Suspension; Clonazepam Tablets.

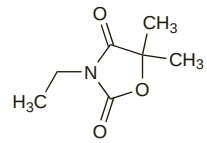
Proprietary Preparations (details are given in Part 3)
Arg.: Alerion; Ciclox; Clonabay; Clonagin; Clonax; Clonazen 2; Cloner; Diocam; Edictum; Felanor; Flozepan; Induzepam; Leptic; Miozepam; Neuryl; Olimer; Placidiax; Riuclonaz; Rivotril; Sedovanon; Sensaton; Solfidin; ***Austral.:*** Paxam; Rivotril; ***Austria:*** Rivotril; ***Belg.:*** Rivotril; ***Braz.:*** Clonotril; Clopan; Epileptil; Navotrax; Rivotril; Uni Clonazepax; ***Canad.:*** Clonapam†; Rivotril; ***Chile:*** Acepran; Clonapam; Clonex; Clozanil; Crismol; Neuryl; Ravotril; Ropsil; Valpax; ***Cz.:*** Antelepsin†; Rivotril; ***Denm.:*** Rivotril: ***Fin.:*** Rivatril; ***Fr.:*** Rivotril; ***Ger.:*** Antelepsin; Rivotril; ***Gr.:*** Rivotril; ***Hong Kong:*** Rivotril; ***Hung.:*** Clonapam; Clonogal†; Rivotril; ***India:*** Epitril; Epizam; Ozepam; ***Indon.:*** Rivotril; ***Irl.:*** Rivotril; ***Israel:*** Clonex; Rivotril; ***Ital.:*** Rivotril; ***Malaysia:*** Rivotril; ***Mex.:*** Kenoket; Kriadex; Rivotril; Zymanta; ***Neth.:*** Rivotril; ***Norw.:*** Rivotril; ***NZ:*** Paxam; Rivotril; ***Philipp.:*** Rivotril; ***Pol.:*** Rivotril; ***Port.:*** Rivotril; ***S.Afr.:*** Rivotril; ***Spain:*** Rivotril; ***Swed.:*** Iktorivil; ***Switz.:*** Rivotril; ***Thai.:*** Povanil; Rivotril; ***Turk.:*** Rivotril; ***UK:*** Rivotril; ***USA:*** Klonopin; ***Venez.:*** Rivotril.

Ethadione

Etadiona. 3-Ethyl-5,5-dimethyl-2,4-oxazolidinedione.

Этадион

$C_7H_{11}NO_3$ = 157.2.
CAS — 520-77-4.
ATC — N03AC03.
ATC Vet — QN03AC03.



Profile

Ethadione is an oxazolidinedione antiepileptic that has been given orally to treat epilepsy in patients with absence seizures resistant to other therapy.

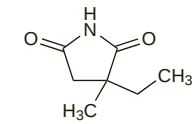
Preparations

Ethosuximide *(BAN, USAN, rINN)*

CI-366; CN-10395; Ethosuximid; Éthosuximide; Ethosuximidum; Etosüksimid; Etosuksimidas; Etosuksimidi; Etosuksymid; Etosuximid; Etosuximida; Etoszuximid; NSC-64013; PM-671. 2-Ethyl-2-methylsuccinimide.

Этосуксимид

$C_7H_{11}NO_2$ = 141.2.
CAS — 77-67-8.
ATC — N03AD01.
ATC Vet — QN03AD01.



Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), *Int.*, *Jpn*, and *US*.
Ph. Eur. 6.2 (Ethosuximide). A white or almost white powder or waxy solid. It exhibits polymorphism. Freely soluble in water;