9. Klieser E, *et al.* Randomized, double-blind, controlled trial of risperidone versus clozapine in patients with chronic schizophrenia. *J Clin Psychopharmacol* 1995; **15** (suppl 1): 45S–51S.
10. Gilbody SM, *et al.* Risperidone versus other atypical antipsychotic medication for schizophrenia. Available in The Cochrane Database of Systematic Reviews; Issue 3. Chichester: John Wiley; 2000 (accessed 30/05/05).
11. Csernansky JG, *et al.* A comparison of risperidone and haloperidol for the prevention of relapse in patients with schizophrenia. *N Engl J Med* 2002; **346:** 16–22.
12. Hosalli P, Davis JM. Depot risperidone for schizophrenia. Available in The Cochrane Database of Systematic Reviews; Issue 4. Chichester: John Wiley; 2003 (accessed 30/05/05).

Stuttering. Risperidone 0.5 to 2 mg daily was found to be of benefit in the management of stuttering in a placebo-controlled study[1] involving 16 patients but there has also been a case report[2] of a patient whose stuttering returned during treatment with risperidone.

1. Maguire GA, *et al.* Risperidone for the treatment of stuttering. *J Clin Psychopharmacol* 2000; **20:** 479–82.
2. Lee H-J, *et al.* A case of risperidone-induced stuttering. *J Clin Psychopharmacol* 2001; **21:** 115–16.

Tourette's syndrome. When drug treatment is required for tics and behavioural disturbances in Tourette's syndrome (see Tics, p.954) haloperidol or pimozide are commonly used but atypical antipsychotics, especially risperidone, are being increasingly tried.[1-3]

1. Bruun RD, Budman CL. Risperidone as a treatment for Tourette's syndrome. *J Clin Psychiatry* 1996; **57:** 29–31.
2. Bruggeman R, *et al.* Risperidone versus pimozide in Tourette's disorder: a comparative double-blind parallel-group study. *J Clin Psychiatry* 2001; **62:** 50–6.
3. Scahill L, *et al.* A placebo-controlled trial of risperidone in Tourette syndrome. *Neurology* 2003; **60:** 1130–5.

Preparations

USP 31: Risperidone Tablets.

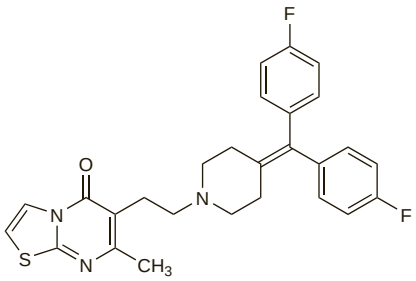
Proprietary Preparations (details are given in Part 3)
Arg.: Dozic; Dropicine; Edalen; Restelea; Riatul; Risper; Risperdal; Risperin; Rispex; Sequinan; ***Austral.:*** Risperdal; ***Austria:*** Belivon†; Risperdal; Rispolin; ***Belg.:*** Risperdal; ***Braz.:*** Respidon; Risperdal; Viverdal; Zargus; ***Canad.:*** Risperdal; ***Chile:*** Dagotil; Goval; Radigen; Risperdal; Spiron; ***Cz.:*** Apo-Risper; Medorisper; Ridoner; Rigenin; Rileptid; Ripetomar; Risepro; Rispadim; Rispedep; Rispedolet; Rispedospes; Rispemar; Rispen; Rispera; Risperdal; Risperinin; Risperit; Rispimed; Rispolux; Risset; Rorendo; ***Denm.:*** Risperdal; ***Fin.:*** Risperdal; ***Fr.:*** Risperdal; ***Ger.:*** Risperdal; ***Gr.:*** Adovia; Axelabron; Depolan; Depredon; Dixine; Helposper; Isipredon; Lassen; Lucipral; Nerve; Novoris; Preridon; Rifocus; Ripepral; Risenar; Risgal; Risidral; Rispalm; Rispefar; Risperascol; Risperdal; Risperom; Risperoprol; Rispogen; Wisperdon; Zafitral; ***Hong Kong:*** Risperdal; ***Hung.:*** Hunperdal; Perdox; Ripedon; Risperdal; Rispolux; Rispons; Ronkal; Rosipin; Torendo; Ziperid; ***India:*** Respidon; Risnia; Risperdal; Rispid†; Rozidal; Sizorisp†; ***Indon.:*** Neripros; Persidal; Risperdal; Rizodal; Zofredal; ***Irl.:*** Risperdal; ***Israel:*** Risperdal; ***Ital.:*** Belivon; Risperdal; ***Jpn:*** Risperdal; ***Malaysia:*** Risperdal; ***Mex.:*** Risperdal; ***Neth.:*** Belivon; Risperdal; Rispimed; Rispimedica; ***Norw.:*** Risperdal; ***NZ:*** Ridal; Risperdal; ***Philipp.:*** Risperdal; ***Pol.:*** Lioxam; Mepharis; Rispen; Risperatio; Risperiwin; Risperon; Rispolept; Rispolux; Risset; Ryspolit; Speridan; Ziperid; ***Port.:*** Belivon†; Perdin; Risperdal; ***Rus.:*** Rileptid (Рилептид); Risdonal (Рисдонал); Rispolept (Рисполепт); Risset (Риссет); Speridan (Сперидан); ***S.Afr.:*** Risperdal; ***Singapore:*** Risperdal; ***Spain:*** Arketin; Diaforin; Risfarmal; Risperdal; ***Swed.:*** Risperdal; ***Switz.:*** Risperdal; ***Thai.:*** Risperdal; ***Turk.:*** Risperdal; ***UK:*** Risperdal; ***USA:*** Risperdal; ***Venez.:*** Ridal; Risperdal; Risperid.

Ritanserin *(BAN, USAN, rINN)*

R-55667; Ritanserina; Ritansérine; Ritanserinum. 6-{2-[4-(4,4′-Difluorobenzhydrylidene)piperidino]ethyl}-7-methyl[1,3]thiazolo[3,2-*a*]pyrimidin-5-one.

Ритансерин

$C_{27}H_{25}F_2N_3OS$ = 477.6.
CAS — 87051-43-2.



Profile

Ritanserin is a serotonin antagonist that has been studied in a variety of disorders including anxiety disorders, depression, and schizophrenia. It is reported to have little sedative action.

Action. Ritanserin is a relatively selective antagonist at serotonin (5-hydroxytryptamine, 5-HT) receptors of the 5-HT_2 subtype, although it also has appreciable affinity for 5-HT_{1C} receptors.[1] Unlike ketanserin (p.1320), it does not block α_1-adrenergic receptors. Ritanserin has anxiolytic activity; it also hastens the onset of slow-wave sleep although sleep may be impaired on withdrawal.

Ritanserin may interfere with platelet function[2,3] but has been reported to have no significant effect on blood pressure, blood flow, or heart rate in patients with hypertension.[2,4] Features characteristic of class III antiarrhythmic activity have also been noted.[2]

1. Marsden CA. The pharmacology of new anxiolytics acting on 5-HT neurones. *Postgrad Med J* 1990; **66** (suppl 2): S2–S6.
2. Stott DJ, *et al.* The effects of the 5HT antagonist ritanserin on blood pressure and serotonin-induced platelet aggregation in patients with untreated essential hypertension. *Eur J Clin Pharmacol* 1988; **35:** 123–9.
3. Wagner B, *et al.* Effect of ritanserin, a 5-hydroxytryptamine - receptor antagonist, on platelet function and thrombin generation at the site of plug formation in vivo. *Clin Pharmacol Ther* 1990; **48:** 419–23.
4. Chau NP, *et al.* Comparative haemodynamic effects of ketanserin and ritanserin in the proximal and distal upper limb circulations of hypertensive patients. *Eur J Clin Pharmacol* 1989; **37:** 215–20.

Substance dependence. Despite some encouraging preliminary data[1] suggesting that ritanserin might influence the desire to drink alcohol, subsequent studies[2,3] have failed to support a role for ritanserin in patients with *alcohol* dependence (p.1626).

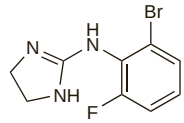
1. Meert TF. Ritanserin and alcohol abuse and dependence. *Alcohol Alcohol* 1994; **2** (suppl): 523–30.
2. Johnson BA, *et al.* Ritanserin Study Group. Ritanserin in the treatment of alcohol dependence—a multi-center clinical trial. *Psychopharmacology (Berl)* 1996; **128:** 206–15.
3. Wiesbeck GA, *et al.* The effects of ritanserin on mood, sleep, vigilance, clinical impression, and social functioning in alcohol-dependent individuals. *Alcohol Alcohol* 2000; **35:** 384–9.

Romifidine *(BAN, rINN)*

Romifidiini; Romifidin; Romifidina; Romifidinum; STH-2130. 2-Bromo-6-fluoro-*N*-(1-imidazolin-2-yl)aniline.

Ромифидин

$C_9H_9BrFN_3$ = 258.1.
CAS — 65896-16-4.
ATC Vet — QN05CM93.



Profile

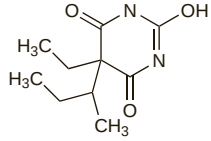
Romifidine is an α_2-adrenoceptor agonist with sedative, muscle relaxant, and analgesic properties and is used in veterinary medicine.

Secbutabarbital *(rINN)*

Butabarbital; Butabarbitone; Secbutabarbitalum; Secbutobarbital *(BAN)*; Secbutobarbitone. 5-sec-Butyl-5-ethylbarbituric acid.

Секбутабарбитал

$C_{10}H_{16}N_2O_3$ = 212.2.
CAS — 125-40-6.



NOTE. Butabarbital should be distinguished from Butobarbital (p.967).

Pharmacopoeias. In *US*.
USP 31 (Butabarbital). A white, odourless, crystalline powder. Very slightly soluble in water; soluble in alcohol, in chloroform, in ether, and in aqueous solutions of alkali hydroxides and carbonates. Store in airtight containers.

Secbutabarbital Sodium *(rINNM)*

Butabarbital Sodium; Natrii Secbutabarbitalum; Secbutabarbital sódico; Secbutabarbital Sodique; Secbutobarbital Sodium *(BANM)*; Secbutobarbitone Sodium; Secumalnatrium; Sodium Butabarbital. Sodium 5-sec-butyl-5-ethylbarbiturate.

Натрий Секбутабарбитал

$C_{10}H_{15}N_2NaO_3$ = 234.2.
CAS — 143-81-7.

Pharmacopoeias. In *US*.
USP 31 (Butabarbital Sodium). A white powder. Soluble 1 in 2 of water, 1 in 7 of alcohol, and 1 in 7000 of chloroform; practically insoluble in absolute ether. pH of a 10% solution in water is between 10.0 and 11.2. Store in airtight containers.

Profile

Secbutabarbital is a barbiturate with general properties similar to those of amobarbital (p.961). It was used as a hypnotic and sedative although barbiturates are no longer considered appropriate for such purposes. For the short-term management of insomnia (p.957) it was usually given as the sodium salt in oral doses of 50 to 100 mg at night; as a sedative 15 to 30 mg has been given 3 or 4 times daily. Secbutabarbital base has also been given.

Preparations

USP 31: Butabarbital Sodium Elixir; Butabarbital Sodium Tablets.

Proprietary Preparations (details are given in Part 3)
USA: Butisol.

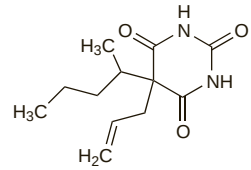
Multi-ingredient: ***USA:*** Butibel; Phenazopyridine Plus; Urelief Plus; ***Venez.:*** Butropina; Eumidral.

Secobarbital *(rINN)*

Meballymal; Quinalbarbitone; Sécobarbital; Secobarbitalum; Secobarbitone; Sekobarbitaali. 5-Allyl-5-(1-methylbutyl)barbituric acid.

Секобарбитал

$C_{12}H_{18}N_2O_3$ = 238.3.
CAS — 76-73-3.
ATC — N05CA06.
ATC Vet — QN05CA06; QN51AA02.



NOTE. The following terms have been used as 'street names' (see p.vi) or slang names for various forms of secobarbital: F-40s; Marshmallow reds; M&Ms; Mexican reds; Pink ladies; Pink lady; Pinks; RDs; Red birds; Red bullets; Red devil; Red devils; Red dolls; Red lillies; Reds; Seccies; Seccy; Seco; Seggy.

Pharmacopoeias. In *US*.
USP 31 (Secobarbital). A white amorphous or crystalline odourless powder. Very slightly soluble in water; freely soluble in alcohol, in ether, and in solutions of fixed alkali hydroxides and carbonates; soluble in chloroform; soluble 1 in 8.5 of 0.5N sodium hydroxide. A saturated solution in water has a pH of about 5.6. Store in airtight containers.

Secobarbital Sodium *(BAN, rINNM)*

Meballymalnatrium; Natrii Secobarbitalum; Quinalbarbitone Sodium; Secobarbital sódico; Sécobarbital Sodique; Secobarbitalum Natricum; Secobarbitone Sodium. Sodium 5-allyl-5-(1-methylbutyl)barbiturate.

Натрий Секобарбитал

$C_{12}H_{17}N_2NaO_3$ = 260.3.
CAS — 309-43-3.
ATC — N05CA06.
ATC Vet — QN05CA06.

Pharmacopoeias. In *Chin.* and *US*.
USP 31 (Secobarbital Sodium). A white odourless hygroscopic powder. Very soluble in water; soluble in alcohol; practically insoluble in ether. pH of a 10% solution in water is between 9.7 and 10.5. Solutions decompose on standing, heat accelerating the decomposition. Store in airtight containers.

Incompatibility. Secobarbital may be precipitated from preparations containing secobarbital sodium depending on the concentration and pH. Secobarbital sodium has, therefore, been reported to be incompatible with many other drugs, particularly acids and acidic salts.

Dependence and Withdrawal

As for Amobarbital, p.962.

Adverse Effects, Treatment, and Precautions

As for Amobarbital, p.962.

Breast feeding. No adverse effects have been seen in breast-fed infants whose mothers were receiving secobarbital, and the American Academy of Pediatrics considers[1] that it is therefore usually compatible with breast feeding. However, for the view that barbiturates should not be used in women who are breast feeding, see under Amobarbital, p.962.

1. American Academy of Pediatrics. The transfer of drugs and other chemicals into human milk. *Pediatrics* 2001; **108:** 776–89. Correction. *ibid.*; 1029. Also available at: http://aappolicy.aappublications.org/cgi/content/full/pediatrics%3b108/3/776 (accessed 28/04/04)

Industrial exposure. Exposure to secobarbital sodium among 6 workers in the pharmaceutical industry resulted in absorption of substantial amounts of the drug, with blood concentrations approaching those expected after a therapeutic dose.[1] There continued to be evidence of absorption, despite protective masks to reduce inhalation, and it appeared that substantial absorption was taking place through the skin.

1. Baxter PJ, *et al.* Exposure to quinalbarbitone sodium in pharmaceutical workers. *BMJ* 1986; **292:** 660–1.

Porphyria. Secobarbital has been associated with acute attacks of porphyria and is considered unsafe in porphyric patients.

Interactions
As for Amobarbital, p.962.

Pharmacokinetics
Secobarbital is well absorbed from the gastrointestinal tract after oral doses and is reported to be about 46 to 70% bound to plasma proteins. The mean elimination half-life is reported to be 28 hours. It is metabolised in the liver, mainly by hydroxylation, and excreted in urine as metabolites and a small amount of unchanged drug.

Uses and Administration
Secobarbital is a barbiturate that has been used as a hypnotic and sedative. It has general properties similar to those of amobarbital (p.962). As a hypnotic in the short-term management of insomnia (p.957) it was usually given in an oral dose of 100 mg of the sodium salt at night, but barbiturates are no longer considered appropriate for such use.

Secobarbital sodium has also been given orally or by intramuscular or intravenous injection for premedication in anaesthetic procedures (p.1780) but barbiturates for pre-operative sedation have been replaced by other drugs.

Preparations
USP 31: Secobarbital Elixir; Secobarbital Sodium and Amobarbital Sodium Capsules; Secobarbital Sodium Capsules; Secobarbital Sodium for Injection; Secobarbital Sodium Injection.

Proprietary Preparations (details are given in Part 3)
UK: Seconal; ***USA:*** Seconal.

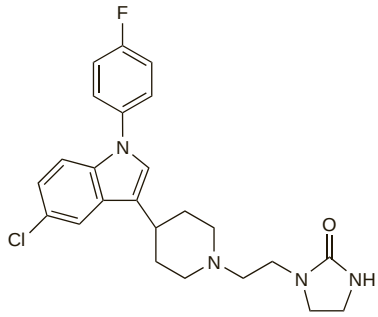
Multi-ingredient: ***Port.:*** Vesparax†; ***UK:*** Tuinal; ***USA:*** Tuinal.

Sertindole *(BAN, USAN, rINN)*

Lu-23-174; Sertindol; Sertindoli; Sertindolum. 1-(2-{4-[5-Chloro-1-(*p*-fluorophenyl)indol-3-yl]piperidino}ethyl)-2-imidazolidinone.

Сертиндол

$C_{24}H_{26}ClFN_4O$ = 440.9.
CAS — 106516-24-9.
ATC — N05AE03.
ATC Vet — QN05AE03.



Adverse Effects, Treatment, and Precautions
Although sertindole may share some of the adverse effects seen with the classical antipsychotics (see Chlorpromazine, p.969), the incidence and severity of such effects may vary. Sertindole is associated with a low incidence of extrapyramidal adverse effects and does not appear to cause sedation. Prolactin elevation may be less frequent. The most common adverse effects with sertindole are peripheral oedema, rhinitis, dyspnoea, sexual dysfunction, dizziness, dry mouth, orthostatic hypotension, weight gain, and paraesthesia. Hyperglycaemia, convulsions, and tardive dyskinesia are uncommon.

Marketing of sertindole has been restricted because of cardiac arrhythmias and sudden cardiac deaths associated with its use (see below). Since sertindole has been associated with prolongation of the QT interval, usually during the first 3 to 6 weeks of treatment, it is recommended that patients should have an ECG before the start of therapy and periodically during treatment. Patients with pre-existing prolongation of the QT interval or a family history of congenital QT prolongation should not be given sertindole and sertindole should be stopped if such prolongation occurs during treatment. In addition, sertindole is contra-indicated in patients with a history of cardiovascular disease, heart failure, cardiac hypertrophy, arrhythmias, or bradycardia. Certain medications may also increase the risk (see Interactions, below).

Sertindole should not be given to patients with uncorrected hypokalaemia or hypomagnesaemia. Baseline serum potassium and magnesium screening should be performed before starting sertindole therapy in patients who are at risk of significant electrolyte disturbances. Serum potassium should be monitored in patients with electrolyte disturbances, vomiting or diarrhoea, or receiving diuretics during sertindole treatment. It is also recommended that blood pressure should be monitored during dose titration and in early maintenance therapy.

Sertindole is contra-indicated in patients with severe hepatic impairment. It should be used with caution in the elderly and in patients with Parkinson's disease, mild to moderate hepatic impairment, or a history of seizures.

Sertindole may affect the performance of skilled tasks including driving.

Gradual withdrawal of sertindole is recommended because of the risk of withdrawal symptoms such as sweating, nausea and vomiting, and rebound psychosis, with abrupt cessation.

Dementia. The FDA has issued advice against the use of atypical antipsychotics in the treatment of behavioural problems in elderly patients with dementia after analysis of placebo-controlled studies showed an increased risk of mortality with certain drugs in this class. See under Risperidone, p.1024.

Effects on body-weight. The increased risk of weight gain with some atypical antipsychotics is discussed under Adverse Effects of Clozapine, p.981.

Effects on carbohydrate metabolism. The increased risk of glucose intolerance and diabetes mellitus with some atypical antipsychotics, and recommendations on monitoring, are discussed under Adverse Effects of Clozapine, p.981.

Effects on the cardiovascular system. Prolongation of the QT interval is said by the manufacturer to be common in patients given sertindole, with the effect being greater at the upper end of the dose range. In addition, the QT interval is prolonged to a greater extent than that seen with some other antipsychotics. QT interval prolongation is a known risk factor for the development of serious arrhythmias such as torsade de pointes although such arrhythmias are uncommon with sertindole.

In evidence presented to the FDA it was reported that as of 1st June 1996 there had been 27 deaths, 16 due to adverse cardiac events, among the 2194 patients given sertindole in clinical studies.[1] By the end of November 1998, the UK CSM was aware of 36 suspected adverse drug reactions with a fatal outcome, 9 of which originated in the UK.[2] There had also been 13 reports of serious but non-fatal cardiac arrhythmias in the UK. Although not all the fatalities were related to sudden cardiac events, at the time the CSM considered that, given the number of serious arrhythmias and sudden cardiac deaths, the risk-benefit ratio of sertindole was no longer favourable. The drug was withdrawn from the market in the UK and subsequently in a number of other countries, although it remained available on a named-patient basis. However, in 2001, the issue was re-evaluated by the CSM and the European advisory body, the Committee on Proprietary Medicinal Products, and it was recommended that sertindole could be reintroduced in Europe under certain restrictions.[3] Initially sertindole should only be prescribed to patients enrolled in clinical studies to ensure that they are carefully selected and monitored. In the UK, sertindole was remarketed in September 2002.

1. Barnett AA. Safety concerns over antipsychotic drug, sertindole. *Lancet* 1996; **348:** 256.
2. CSM/MCA. Suspension of availability of sertindole (Serdolect). *Current Problems* 1999; **25:** 1. Also available at: http://www.mhra.gov.uk/home/idcplg?IdcService=GET_FILE&dDocName=CON2023233&RevisionSelectionMethod=LatestReleased (accessed 16/05/06)
3. CSM/MCA. Restricted re-introduction of the atypical antipsychotic sertindole (Serdolect) (issued 10th September, 2002). Available at: http://www.mhra.gov.uk/Safetyinformation/Safetywarningsalertsandrecalls/Safetywarningsandmessagesformedicines/CON019523 (accessed 21/08/08)

Effects on lipid metabolism. The increased risk of hyperlipidaemia with some atypical antipsychotics is discussed under Adverse Effects of Chlorpromazine, p.970. See also Effects on Carbohydrate Metabolism under Adverse Effects of Clozapine, p.981.

Pregnancy. For comments on the use of some atypical antipsychotics during pregnancy, see under Precautions of Clozapine, p.983.

Interactions
The risk of arrhythmias with sertindole may be increased by other drugs that prolong the QT interval and use together should be avoided. Sertindole should be given with caution with drugs that produce electrolyte disturbances; monitoring of serum potassium is recommended if given with potassium-depleting diuretics.

Sertindole may antagonise the effects of dopaminergics.

Sertindole is extensively metabolised by the cytochrome P450 isoenzymes of the group CYP3A and by CYP2D6. The use of potent inhibitors of CYP3A such as indinavir, itraconazole, and ketoconazole with sertindole is contra-indicated. Minor increases in sertindole plasma concentrations have been noted in patients also given macrolide antibacterials or calcium-channel blockers which also inhibit CYP3A; however, despite the small increase, the use of these CYP3A4 inhibitors with sertindole is not recommended. Fluoxetine and paroxetine, potent inhibitors of CYP2D6, have increased plasma concentrations of sertindole by a factor of 2 to 3 and lower maintenance doses of sertindole may be required. In contrast, enzyme inducers such as rifampicin, carbamazepine, phenytoin, and phenobarbital may decrease sertindole plasma levels by a factor of 2 to 3; in such cases, higher doses of sertindole may be required.

Pharmacokinetics
Sertindole is slowly absorbed with peak concentrations occurring about 10 hours after oral doses. It is about 99.5% bound to plasma proteins and readily crosses the placenta. Sertindole is extensively metabolised in the liver by the cytochrome P450 isoenzymes CYP2D6 and CYP3A. There is moderate interindividual variation in the pharmacokinetics of sertindole due to polymorphism in the isoenzyme CYP2D6. Poor metabolisers, deficient in this isoenzyme, may have plasma concentrations of sertindole 2 to 3 times higher than other patients. The two major metabolites, dehydrosertindole and norsertindole, appear to be inactive. Sertindole and its metabolites are excreted slowly, mainly in the faeces with a minor amount appearing in the urine. The mean terminal half-life is about 3 days.

Uses and Administration
Sertindole is an atypical antipsychotic that is an antagonist at central dopamine (D_2), serotonin ($5\text{-}HT_2$), and adrenergic (α_1) receptors. It is used in the treatment of schizophrenia (p.955) in patients who are unable to tolerate at least one other antipsychotic. In addition, sertindole should only be prescribed to patients enrolled in clinical studies to ensure adequate monitoring, especially regular ECG measurements (see Adverse Effects, above).

Sertindole is given in an initial oral dose of 4 mg once daily, increased gradually in steps of 4 mg every 4 or 5 days to a usual maintenance dose of 12 to 20 mg once daily. The maximum dose is 24 mg daily. Slower dose titration and lower maintenance doses are advisable for the elderly and patients with mild to moderate hepatic impairment.

If therapy is interrupted for 1 week or more, the dose of sertindole should be re-titrated. An ECG should also be undertaken before re-starting sertindole.

◊ References.

1. Lewis R. *et al.* Sertindole for schizophrenia. Available in The Cochrane Database of Systematic Reviews; Issue 3. Chichester: John Wiley; 2005 (accessed 16/05/06).

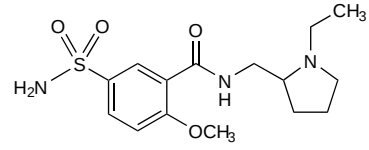
Preparations
Proprietary Preparations (details are given in Part 3)
Austria: Serdolect; ***Cz.:*** Serdolect; ***Fr.:*** Serdolect; ***Gr.:*** Serdolect; ***Hung.:*** Serdolect; ***Neth.:*** Serdolect; ***Port.:*** Serdolect; ***Rus.:*** Serdolect (Сердолект); ***Switz.:*** Serdolect; ***UK:*** Serdolect.

Sulpiride *(BAN, USAN, rINN)*

Sulpirid; Sulpirida; Sulpiridas; Sulpiridi; Sulpiridum; Sülprid; Szulpirid. *N*-(1-Ethylpyrrolidin-2-ylmethyl)-2-methoxy-5-sulphamoylbenzamide.

Сульпирид

$C_{15}H_{23}N_3O_4S$ = 341.4.
CAS — 15676-16-1 (sulpiride).
ATC — N05AL01.
ATC Vet — QN05AL01.



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

Ph. Eur. 6.2 (Sulpiride). A white or almost white crystalline powder. Practically insoluble in water; slightly soluble in alcohol and in dichloromethane; sparingly soluble in methyl alcohol. It dissolves in dilute solutions of mineral acids and in alkali hydroxides.

Levosulpiride *(rINN)*

Levosulpirida; Lévosulpiride; Levosulpiridum; Levosulpride; L-Sulpiride.

Левосульпирид

$C_{15}H_{23}N_3O_4S$ = 341.4.
CAS — 23672-07-3.
ATC — N05AL07.
ATC Vet — QN05AL07.

Adverse Effects, Treatment, and Precautions
As for Chlorpromazine, p.969.

Sleep disturbances, overstimulation, and agitation may occur. Extrapyramidal effects appear to be as frequent as with chlorpromazine but have usually been mild. It has been suggested that sulpiride is less likely to cause tardive dyskinesia but good evidence of any important difference is lacking. Sulpiride is less likely to cause sedation than chlorpromazine and antimuscarinic ef-