

# NEW ZEALAND DATA SHEET

## **OXYNORM® Capsules** **OXYNORM® Oral Solution**

Oxycodone hydrochloride

### **1 PRODUCT NAME**

OXYNORM® 5mg Capsules  
OXYNORM® 10mg Capsules  
OXYNORM® 20mg Capsules  
OXYNORM® 5mg/5mL Oral Solution

### **2 QUALITATIVE AND QUANTITATIVE COMPOSITION**

OXYNORM capsules contain Oxycodone hydrochloride 5 mg, 10 mg or 20 mg.  
Each 5 mg capsule contains 4.5 mg of oxycodone as 5 mg of oxycodone hydrochloride  
Each 10 mg capsule contains 9.0 mg of oxycodone as 10 mg of oxycodone hydrochloride  
Each 20 mg capsule contains 18.0 mg of oxycodone as 20 mg of oxycodone hydrochloride

OXYNORM oral solution contains Oxycodone hydrochloride 5 mg/5 mL.  
Each 1 mg/ml oral solution contains 1 mg of oxycodone hydrochloride per 1 ml.  
For the full list of excipients, see section 6.1

### **3 PHARMACEUTICAL FORM**

OXYNORM capsules 5 mg  
Each 5 mg capsule is a size 4, hard gelatin, orange/beige, opaque capsule printed with ONR and 5.  
OXYNORM capsules 10mg  
Each 10 mg capsule is a size 4, hard gelatin, white/beige, opaque capsule printed with ONR and 10.  
OXYNORM capsules 20 mg  
Each 20 mg capsule is a size 4, hard gelatin, pink/beige, opaque capsule printed with ONR and 20.  
OXYNORM liquid 5 mg/5 mL is a clear, colourless to straw-coloured solution

### **4 CLINICAL PARTICULARS**

#### **4.1 Therapeutic indications**

The management of opioid-responsive moderate to severe pain.

#### **4.2 Dose and method of administration**

The dose should be adjusted to the intensity of the pain and the sensitivity of the individual patient. The patient's previous history of analgesic requirements, their body weight, and sex (higher plasma concentrations are produced in females), should also be taken into account when determining the dose.

Generally, the lowest effective dose for analgesia should be selected. If higher doses are necessary, increases should be made in 25% - 50% increments where possible.

It is recommended that patients take the medication in a consistent manner in relation to the timing of meals. (See section 5.2)

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The correct dosage per individual patient is that which controls the pain with no or tolerable side effects.

### ***Adults, elderly and children over 18 Years***

Prior to initiation and titration of doses, refer to the Section 4.4 for information on special risk groups such as females and the elderly.

OXYNORM capsules or liquid should be taken at 4-6 hourly intervals. The dosage is dependent on the severity of the pain, and the patient's previous history of analgesic requirements.

Increasing severity of pain will require an increased dosage of OXYNORM capsules or liquid. The correct dosage for any individual patient is that which controls the pain and is well tolerated throughout the dosing period. Patients should be titrated to pain relief unless unmanageable adverse drug reactions prevent this.

OXYNORM capsules or liquid will generally be used in a short term trial (4-6 weeks) to determine if the pain is opioid responsive, before transferring to a longer acting oxycodone preparation such as OXYCONTIN<sup>®</sup> tablets, in accordance with the clinical guidelines on the use of opioid analgesics in such patients (e.g. those published by the Australian Pain Society in the Medical Journal of Australia 1997; 167: 30-4). However, OXYNORM liquid may be used longer term in patients unable to take solid oral dosage forms, or when more precise dose titration is necessary.

The usual starting dose for opioid-naïve patients or patients presenting with severe pain uncontrolled by weaker opioids is 5mg, 4-6 hourly. The dose should then be carefully titrated, as frequently as once a day if necessary, to achieve pain relief. The majority of patients will not require a daily dose greater than 400 mg. However, a few patients may require higher doses.

Patients receiving oral morphine before oxycodone therapy should have their daily dose based on the following ratio: 10 mg of oral oxycodone is equivalent to 20 mg of oral morphine. It must be emphasized that this is a guide to the dose of OXYNORM capsules or liquid required only. Inter-patient variability requires that each patient be carefully titrated to the appropriate dose.

Controlled pharmacokinetic studies in elderly patients (aged over 65 years) have shown that compared with younger adults, the clearance of oxycodone is only slightly reduced. No untoward adverse drug reactions were seen based on age, therefore, adult doses and dosage intervals are appropriate.

### ***Transferring patients between oral and parenteral oxycodone:***

The dose should be based on the following ratio: 2 mg of oral oxycodone is equivalent to 1 mg of parenteral oxycodone. It must be emphasised that this is a guide to the dose required. Inter-patient variability requires that each patient is carefully titrated to the appropriate dose.

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## ***Conversion from morphine:***

It must be emphasised that this is a guide to the dose of oxycodone required. Inter-patient variability requires that each patient is carefully titrated to the appropriate dose. Initially, a lower-than-equivalent dose may be advisable.

Patients receiving oral morphine before oxycodone therapy should have their daily dose based on the following ratio: 10 mg of oral oxycodone is equivalent to 20 mg of oral morphine.

## ***Adults with mild to moderate renal impairment and mild hepatic impairment***

The plasma concentration in this patient population may be increased. Therefore, dose initiation should follow a conservative approach (refer Section 4.4).

The recommended adult starting dose should be reduced by 50%, and each patient should be titrated to adequate pain control according to their clinical situation.

## ***Children under 18 years***

OXYNORM capsules or liquid should not be used in patients under 18 years.

## ***Method of administration***

OXYNORM capsules should be swallowed whole and not opened, chewed or crushed.

Limited data suggest that food may significantly increase the amount of oxycodone absorbed from an oral solution – see ‘Absorption’ under **Pharmacokinetics**.

Alcoholic beverages should be avoided while the patient is being treated with OXYNORM capsules or liquid.

## ***Use in Non-malignant pain***

Opioids are not first-line therapy for chronic non-malignant pain, nor are they recommended as the only treatment. The need for continued treatment in non-malignant pain should be assessed at regular intervals (refer to Section 4.4 – Non-malignant pain).

## **4.3 Contraindications**

Hypersensitivity to oxycodone, or to any of the excipients of OXYNORM capsules or liquid listed in section 6.1, acute respiratory depression, *cor pulmonale*, cardiac arrhythmias, acute asthma or other obstructive airways disease, paralytic ileus, suspected surgical abdomen, severe renal impairment (creatinine clearance < 10mL/min refer to Section 4.4), severe hepatic impairment, delayed gastric emptying, acute alcoholism, brain tumour, increased cerebrospinal or intracranial pressure, head injury (due to risk of raised intracranial pressure), severe CNS depression, convulsive disorders, *delirium tremens*, hypercarbia, concurrent administration of monoamine oxidase inhibitors or within two weeks of discontinuation of their use. Pregnancy.

Not recommended for pre-operative use.

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## 4.4 Special warnings and precautions for use

Oxycodone has to be administered with caution in the debilitated elderly or patients with:

- Severely impaired respiratory function
- Sleep apnoea
- CNS depressants co-administration (see below and section 4.5) Tolerance, physical dependence and withdrawal (see below)
- Psychological dependence (addiction), abuse profile and history of substance and/or alcohol abuse (see below)
- Intracranial lesions, reduced level of consciousness of uncertain origin
- Hypotension
- Pancreatitis
- Myxedema
- Hypothyroidism
- Addison's disease
- Prostate hypertrophy
- Alcoholism
- Toxic psychosis
- Constipation
- Hypovolaemia
- Inflammatory bowel disorders
- Chronic pulmonary

### ***Respiratory depression and sedation***

The primary risk of opioid excess is respiratory depression.

Opioids may cause sleep-related breathing disorders including central sleep apnoea (CSA) and sleep-related hypoxemia. Opioid use may increase the risk of CSA in a dose-dependent manner in some patients. Opioids may also cause worsening of pre-existing sleep apnoea (see section 4.8). In patients who present with CSA, consider decreasing the total opioid dosage.

### ***CNS depressants co-administration***

Concomitant use of OXYNORM and sedative medicines such as benzodiazepines or related drugs may result in sedation, respiratory depression, coma and death. Because of these risks, concomitant prescribing with these sedative medicines should be reserved for patients for whom alternative treatment options are not possible. If a decision is made to prescribe OXYNORM concomitantly with sedative medicines, the lowest effective dose should be used, and the duration of treatment should be as short as possible.

The patients should be followed closely for signs and symptoms of respiratory depression and sedation. In this respect, it is strongly recommended to inform patients and their caregivers to be aware of these symptoms (see section 4.5).

Observational studies have demonstrated that concomitant use of opioid analgesics and benzodiazepines increases the risk of medicine-related mortality compared to use of opioid analgesics alone. Because of similar pharmacological properties, it is reasonable to expect similar risk with the concomitant use of other CNS depressant drugs with opioid analgesics (see Section 4.5 Interactions with other medicines and other forms of interaction).

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If the decision is made to prescribe a benzodiazepine or other CNS depressant concomitantly with an opioid analgesic, prescribe the lowest effective dosages and minimum durations of concomitant use. In patients already receiving an opioid analgesic, prescribe a lower initial dose of the benzodiazepine or other CNS depressant than indicated in the absence of an opioid, and titrate based on clinical response. If an opioid analgesic is initiated in a patient already taking a benzodiazepine or other CNS depressant, prescribe a lower initial dose of the opioid analgesic, and titrate based on clinical response. Follow patients closely for signs and symptoms of respiratory depression and sedation.

Advise both patients and caregivers about the risks of respiratory depression and sedation when OXYNORM is used with benzodiazepines or other CNS depressants (including alcohol and illicit drugs). Advise patients not to drive or operate heavy machinery until the effects of concomitant use of the benzodiazepine or other CNS depressant have been determined. Screen patients for risk of substance use disorders, including opioid abuse and misuse, and warn them of the risk for overdose and death associated with the use of additional CNS depressants including alcohol and illicit drugs (see Section 4.5 Interactions with other medicines and other forms of interaction).

### ***Tolerance, physical dependence and withdrawal***

The patient may develop tolerance to the drug with chronic use and require progressively higher doses to maintain pain control. Prolonged use of this product may lead to physical dependence and a withdrawal syndrome may occur upon abrupt cessation of therapy. When a patient no longer requires therapy with oxycodone, it may be advisable to taper the dose gradually to prevent symptoms of withdrawal.

Opioids are not first-line therapy for chronic non-malignant pain, nor are they recommended as the only treatment. Opioids should be used as part of a comprehensive treatment programme involving other medications and treatment modalities. Patients with chronic non-malignant pain should be assessed and monitored for addiction and substance abuse. There must be frequent contact between physician and patient so that dosage adjustments can be made. It is strongly recommended that the physician defines treatment outcomes in accordance with pain management guidelines. The physician and patient can then agree to discontinue treatment if these objectives are not met.

### ***Psychological dependence (addiction), abuse profile and history of substance and/or alcohol abuse***

There is potential for development of psychological dependence (addiction) to opioid analgesics, including oxycodone. Oxycodone has an abuse profile similar to other strong agonist opioids. Oxycodone may be sought and abused by people with latent or manifest addiction disorders. OXYNORM capsules or liquid should be used with particular care in patients with a history of substance misuse disorder (including alcohol misuse) or mental health disorder.

Parenteral abuse of dosage forms not approved for parenteral administration can be expected to result in serious adverse events, which may be fatal.

### ***Pre- and post-operative use***

As with all opioid preparations, patients who are to undergo cordotomy or other pain-relieving surgical procedures should not receive OXYNORM capsules or liquid for 6 hours before surgery. As

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with all opioid preparations, OXYNORM capsules or liquid should be used with caution pre-operatively and within the first 12-24 hours post-operatively. Caution should be used in abdominal surgery as opioids are known to impair intestinal motility and should not be used until the physician is assured of normal bowel function. Should paralytic ileus be suspected or occur during use, OXYNORM capsules or liquid should be discontinued immediately.

### ***Effects on hypothalamic-pituitary-adrenal or gonadal axes***

Opioids, such as oxycodone hydrochloride, may influence the hypothalamic-pituitary-adrenal or gonadal axes. Some changes that can be seen include an increase in serum prolactin, and decreases in plasma cortisol and testosterone. Clinical symptoms may manifest from these hormonal changes. As with all opioids, a reduction in dosage may be advisable in hypothyroidism.

### ***Hyperalgesia***

Hyperalgesia that will not respond to a further dose increase of oxycodone may very rarely occur in particular at high doses. An oxycodone dose reduction or change in opioid may be required.

### ***Special Risk Groups***

#### ***Use in renal and hepatic impairment***

In renal and hepatic impairment, the administration of OXYNORM capsules or liquid does not result in significant levels of active metabolites. However, the plasma concentration of oxycodone in this patient population may be increased compared with patients having normal renal or hepatic function. Therefore, initiation of dosing in patients with renal impairment ( $CL_{Cr} < 60 \text{ mL/min}$ ) or hepatic impairment should be reduced to  $\frac{1}{2}$  of the usual dose with cautious titration.

#### ***Use in the elderly***

The plasma concentrations of oxycodone are only nominally affected by age, being approximately 15% greater in elderly as compared with young subjects. There were no differences in adverse event reporting between young and elderly subjects.

#### ***Use in the elderly, debilitated patients***

As with other opioid initiation and titration, doses in elderly patients who are debilitated should be reduced to  $\frac{1}{3}$  to  $\frac{1}{2}$  of the usual doses.

#### ***Gender***

Female subjects have, on average, plasma oxycodone concentrations up to 25% higher than males on a body weight adjusted basis. The reason for this difference is unknown. There were no significant male/female differences detected for efficacy or adverse events in clinical trials.

## **4.5 Interaction with other medicines and other forms of interaction**

### ***Anticholinergic agents***

Concomitant administration of oxycodone with anticholinergics or medications with anticholinergic activity (e.g. tricyclic antidepressants, antihistamines, antipsychotics, muscle relaxants, anti-Parkinson drugs) may result in increased anticholinergic adverse effects.

### ***Antihypertensive agents***

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Hypotensive effects of these medications may be potentiated when used concurrently with oxycodone, leading to increased risk of orthostatic hypotension.

### **CNS Depressants**

The concomitant use of opioids with sedative medicines such as benzodiazepines or related drugs increases the risk of sedation, respiratory depression, coma and death because of additive CNS depressant effect.

Reserve concomitant prescribing of these drugs for use in patients for whom alternative treatment options are inadequate. The dose and duration of concomitant use should be limited. Follow patients closely for signs of respiratory depression and sedation (see Section 4.4 Warnings and Precautions).

The dose and duration of concomitant use should be limited (see section 4.4). Drugs which depress the CNS include, but are not limited to: other opioids, gabapentinoids such as pregabalin, anxiolytics, hypnotics and sedatives (incl. benzodiazepines), tranquilizers, muscle relaxants, drugs with antihistamine-sedating actions such as antipsychotics, antidepressants, phenothiazines and alcohol.

Intake of alcoholic beverages while being treated with OXYNORM capsules or liquid should be avoided because this may lead to more frequent undesirable effects such as somnolence and respiratory depression. Oxycodone hydrochloride containing products should be avoided in patients with a history of, or present alcohol, drug or medicines abuse.

### ***Coumarin derivatives***

Although there is little substantiating evidence, opiate agonists have been reported to potentiate the anticoagulant activity of coumarin derivatives.

### ***CYP2D6 and CYP3A4 inhibitors and inducers***

Oxycodone is metabolized mainly by CYP3A4 with a contribution from CYP2D6. The activities of these metabolic pathways may be inhibited or induced by various co-administered drugs or dietary elements. Oxycodone doses may need to be adjusted accordingly.

CYP3A4 inhibitors, such as macrolide antibiotics (e.g., clarithromycin), azole-antifungal agents (e.g., ketoconazole), protease inhibitors (e.g., ritonavir), and grapefruit juice may cause decreased clearance of oxycodone which could lead to an increase in oxycodone plasma concentrations. Oxycodone metabolism may be blocked by a variety of medicines (e.g. cimetidine, certain cardiovascular drugs and antidepressants), although such blockade has not yet been shown to be of clinical significance with OXYNORM capsules or liquid.

CYP3A4 inducers, such as rifampin, carbamazepine, phenytoin and St John's wort, may induce the metabolism of oxycodone and cause increased clearance of the drug, resulting in a decrease in oxycodone plasma concentrations.

Drugs that inhibit CYP2D6 activity, such as paroxetine and quinidine, may cause decreased clearance of oxycodone which could lead to an increase in oxycodone plasma concentrations. Concurrent administration of quinidine does not alter the pharmacodynamic effects of oxycodone.

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Oxycodone did not inhibit the activity of P450 isozymes 2D6, 3A4, 1A2, 2A6, 2C19 or 2E1 in human liver microsomes in vitro. Non-clinical data in vitro and in vivo indicate that oxycodone can act as a P-glycoprotein substrate and can induce overexpression of P-glycoprotein in rats.

### ***Serotonin Agents***

Concomitant administration of oxycodone with serotonin agents, such as a Selective Serotonin Re-uptake Inhibitor (SSRI) or a Serotonin Norepinephrine Re-uptake Inhibitor (SNRI) may cause serotonin toxicity. The symptoms of serotonin toxicity may include mental-status changes (e.g., agitation, hallucinations, coma), autonomic instability (e.g., tachycardia, labile blood pressure, hyperthermia), neuromuscular abnormalities (e.g., hyperreflexia, incoordination, rigidity), and/or gastrointestinal symptoms (e.g., nausea, vomiting, diarrhea). Oxycodone should be used with caution and the dosage may need to be reduced in patients using these medications.

### ***Metoclopramide***

Concurrent use with oxycodone may antagonise the effects of metoclopramide on gastrointestinal motility.

### ***Monoamine Oxidase Inhibitors (MAOIs)***

Non-selective MAOIs intensify the effects of opioid agents which can cause anxiety, confusion and significant respiratory depression. Severe and sometimes fatal reactions have occurred in patients concurrently administered MAOIs and pethidine. Oxycodone should not be given to patients taking non-selective MAOIs or within 14 days of stopping such treatment. As it is unknown whether there is an interaction between selective MAOIs (e.g. selegiline) and oxycodone, caution is advised with this medicine combination.

### ***Neuromuscular blocking agents***

Oxycodone may enhance the effects of neuromuscular blocking agents resulting in increased respiratory depression.

### ***Opioid agonist analgesics (including morphine, pethidine)***

Additive CNS depressant, respiratory depressant and hypotensive effects may occur if two or more opioid agonist analgesics are used concurrently.

### ***Opioid agonist-antagonist analgesics (including pentazocine, butorphanol, buprenorphine)***

Mixed agonist/antagonist analgesics may reduce the analgesic effect of oxycodone and/or may precipitate withdrawal symptoms.

## **4.6 Fertility, pregnancy and lactation**

### ***Pregnancy***

Australian Pregnancy Category C: Drugs which, owing to their pharmacological effects, have caused or may be suspected of causing, harmful effects on the human fetus or neonate without causing malformations. These effects may be reversible.



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Oxycodone used during pregnancy or labour, may cause withdrawal symptoms and/or respiratory depression in the newborn infant. Oral administration of oxycodone during the period of organogenesis did not elicit teratogenicity or embryofoetal toxicity in rats or rabbits at doses up to 8 mg/kg/day in rats (equivalent to 17 mg/day in women, based on estimated plasma AUC values) or 125 mg/kg/day in rabbits.

Oral administration of oxycodone to rats from early gestation to weaning did not affect post-natal development parameters at doses up to 6 mg/kg/day (equivalent to 9 mg/day in women, based on estimated AUC values). In a study designed specifically to investigate the effect of pre-natal oxycodone on the hypothalamic-pituitary-adrenal axis in adolescent rats, intravenous administration of oxycodone 0.8 mg/kg/day (equivalent to 11 mg/day in pregnant women, based on estimated AUC values) had no effect on the corticosterone response, but delayed and enhanced the peak ACTH response to corticotrophin releasing hormone in males, but not females. The clinical significance of this observation is unknown.

There are no adequate and well controlled studies with oxycodone in pregnant women. Because animal reproduction studies are not always predictive of human responses, oxycodone should not be used during pregnancy unless clearly needed. Prolonged use of oxycodone during pregnancy can result in neonatal opioid withdrawal syndrome. Oxycodone is not recommended for use in women during or immediately prior to labour. Infants born to mothers who have received opioids during pregnancy should be monitored for respiratory depression.

The drug penetrates the placenta. Therefore, the use of this medicinal product should be avoided to the extent possible in patients who are pregnant.

### ***Breastfeeding***

Use of this medicinal product should be avoided to the extent possible in patients who are lactating. Oxycodone accumulates in human milk, with a median maternal milk: plasma ratio of 3:1 recorded in one study. Oxycodone (7.5 ng/mL) was detected in the plasma of one of forty-one infants 72 hours after Caesarean section. Opioids may cause respiratory depression in the newborn and withdrawal symptoms can occur in breastfeeding infants when maternal administration of an opioid analgesic is stopped. OXYNORM capsules or liquid should not be used in breastfeeding mothers unless the benefits outweigh the risks. Breastfed infants should be monitored for respiratory depression, sedation, poor attachment and gastrointestinal signs.

### ***Fertility***

No human data on the effect of oxycodone on fertility are available. In rats, there was no effect on mating or fertility with oxycodone treatment (see section 5.3).

Despite these fertility studies in animals, prolonged use of opioids may result in impairment of reproductive function, including fertility and sexual dysfunction in both sexes, and irregular menses in women.

### **4.7 Effects on ability to drive and use machines**

Oxycodone may modify patients' reactions to a varying extent depending on the dosage and individual susceptibility. If affected, patients should not drive or operate machinery.

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## 4.8 Undesirable effects

Immediate release formulations such as OXYNORM capsules or liquid may have a higher incidence of some adverse reactions than controlled-release formulations such as OXYCONTIN tablets. Adverse drug reactions are typical of full opioid agonists, and tend to reduce with time, with the exception of constipation. Anticipation of adverse drug reactions and appropriate patient management can improve acceptability.

### Tabulated summary of adverse reactions

	Very Common (≥1/10)	Common (1/100 to <1/10)	Uncommon (1/1,000 to <1/100)	Rare (≥ 1/10,000 to < 1/1,000)/	Not known (cannot be estimated from the available data)
<b>Immune system disorders</b>			Hypersensitivity		Anaphylactic reaction, Anaphylactoid reaction
<b>Metabolic and nutritional disorders</b>		Decreased appetite	Dehydration		
<b>Psychiatric disorders</b>		Anxiety, Confusional state, Insomnia, Nervousness, Thinking abnormal, Depression	Affect lability, Agitation, Drug dependence, Dysphoria, Euphoric mood, Hallucination, Libido decreased		Aggression
<b>Nervous system disorders</b>	Dizziness, Headache, Somnolence	Tremor, Lethargy	Amnesia, Convulsion, Hypertonia, Hypoaesthesia, Muscle contractions involuntary, Paraesthesia, Speech disorder, Syncope, Dysgeusia (taste perversion),		Hyperalgesia, Sleep apnoea syndrome
<b>Eye disorders</b>			Miosis, Visual impairment		
<b>Ear and labyrinth disorders</b>			Vertigo		
<b>Cardiac disorders</b>			Palpitations (as part of withdrawal syndrome)		
<b>Vascular disorders</b>			Vasodilation	Hypotension, Orthostatic hypotension	
<b>Respiratory, thoracic and mediastinal disorders</b>		Dyspnoea	Respiratory depression		
<b>Gastrointestinal disorders</b>	Constipation Nausea, Vomiting,	Abdominal pain, Diarrhoea, Dry mouth, Dyspepsia	Dysphagia, Eructation, Flatulence, Ileus		Dental caries
<b>Hepatobiliary disorders</b>			Hepatic enzymes increased		Cholestasis
<b>Skin and</b>	Pruritis	Hyperhidrosis,	Dry skin	Urticaria	

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	Very Common (≥1/10)	Common (1/100 to <1/10)	Uncommon (1/1,000 to <1/100)	Rare (≥ 1/10,000 to < 1/1,000)/	Not known (cannot be estimated from the available data)
subcutaneous tissue disorders		Rash			
Renal and urinary disorders			Urinary retention		
Reproductive system and breast disorders			Erectile dysfunction, Hypogonadism		Amenorrhoea
General disorders and administration site conditions		Asthenia, Fatigue	Chills, Drug withdrawal syndrome, , Oedema, Peripheral oedema, Malaise, Thirst, Drug tolerance		Drug withdrawal syndrome neonatal

If nausea and vomiting are troublesome oxycodone may be combined with an antiemetic. Constipation must be treated with appropriate laxatives. Overdose may produce respiratory depression. Compared with other opioids oxycodone is associated with low histamine release although urticaria and pruritus may occur.

Reporting suspected adverse reactions after authorisation of the medicine is important. It allows continued monitoring of the benefit/risk balance of the medicine. Healthcare professionals are asked to report any suspected adverse reactions <https://nzphvc.otago.ac.nz/reporting/>

### 4.9 Overdose

Acute overdosage with oxycodone can be manifested by respiratory depression (reduced respiratory rate and/or tidal volume, Cheyne-Stokes respiration, cyanosis), extreme somnolence progressing to stupor or coma, hypotonia, skeletal muscle flaccidity, cold and/or clammy skin, miosis (dilated if hypoxia is severe), and sometimes bradycardia, hypotension, and death. Severe overdose may result in apnoea, pulmonary oedema, circulatory collapse and death.

Primary attention should be given to immediate supportive therapy with the establishment of adequate respiratory exchange through the provision of a patent airway and institution of assisted or controlled ventilation. Adequate body temperature and fluid balance should be maintained. Oxygen, intravenous fluids, vasopressors and other supportive measures should be used as indicated to manage the circulatory shock accompanying an overdose. The opioid antagonist naloxone hydrochloride is a specific antidote for respiratory depression due to overdosage or as a result of unusual sensitivity.

For advice on the management of overdose please contact the National Poisons Centre on 0800 POISON (0800 764766).

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## 5 PHARMACOLOGICAL PROPERTIES

### 5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Natural opium alkaloids

ATC code: N02A A05

Non-proprietary name: Oxycodone hydrochloride

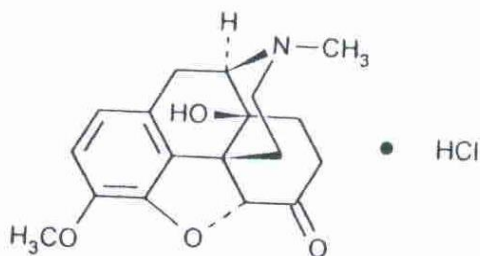
Chemical name: 4,5 $\alpha$ -epoxy-14-hydroxy-3-methoxy-17-methylmorphinan-6-one hydrochloride

CAS No.: 124-90-3

Molecular formula: C<sub>18</sub>H<sub>21</sub>NO<sub>4</sub>

Molecular weight: 351.83

The structural formula for oxycodone hydrochloride is:



Oxycodone hydrochloride is a white, crystalline, odourless powder readily soluble in water, sparingly soluble in ethanol and nearly insoluble in ether.

### ***Mechanism of Action***

Oxycodone is a full opioid agonist with no antagonist properties whose principal therapeutic action is analgesia. It has affinity for kappa, mu and delta opiate receptors in the brain and spinal cord. Oxycodone is similar to morphine in its action.

### ***Pharmacodynamic effects***

Other pharmacological actions of oxycodone are in the central nervous system (CNS: respiratory depression, antitussive, anxiolytic, sedative and miosis), smooth muscle (constipation, reduction in gastric, biliary and pancreatic secretions, spasm of sphincter of Oddi and transient elevations in serum amylase) and cardiovascular system (release of histamine and/or peripheral vasodilatation, possibly causing pruritus, flushing, red eyes, sweating and/or orthostatic hypotension). Endocrine System – See section 4.4.

In vitro and animal studies indicate various effects of natural opioids, such as morphine, on components of the immune system; the clinical significance of these findings is unknown. Whether oxycodone, a semisynthetic opioid, has immunological effects similar to morphine is unknown.

### 5.2 Pharmacokinetic properties

#### ***Absorption***

Compared with morphine, which has an absolute bioavailability of approximately 30%, oxycodone undergoes relatively low “first-pass” metabolism and has a high absolute bioavailability of up to 87%

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following oral administration. Peak plasma concentrations of oxycodone are reached approximately one hour after administration of OXYNORM capsules, and less than one hour (approximately 45 minutes) after administration of OXYNORM liquid.

No data are available on the effect of food on the absorption of OXYNORM capsules. Limited data indicate that the absorption of oxycodone from an oral solution may be significantly affected by food. An increase in mean AUC of approximately 20%, and decrease of  $C_{max}$  of approximately 20% has been reported.

### ***Distribution***

Following absorption, oxycodone is distributed throughout the entire body. Approximately 45% is bound to plasma protein.

### ***Biotransformation and Elimination***

The plasma elimination half-life is approximately 4.5 hours. The active drug and its metabolites are excreted in both urine and faeces and is metabolised in the liver to form noroxycodone, oxymorphone, noroxymorphone, 6 $\alpha$  and  $\beta$  oxycodol and conjugated glucuronides. CYP3A4 and CYP2D6 are involved in the formation of noroxycodone and oxymorphone, respectively (see Interactions with other medicines). The contribution of these metabolites to the analgesic effect is insignificant.

## **5.3 Preclinical safety data**

### ***Reproductive and Developmental Toxicology***

Oxycodone had no effect on fertility or early embryonic development in male and female rats at doses as high as 8 mg/kg/day. Also, oxycodone did not induce any malformations in rats at doses as high as 8 mg/kg/day or in rabbits at doses as high as 125 mg/kg/day. Dose-related increases in developmental variations (increased incidences of extra (27) presacral vertebrae and extra pairs of ribs) were observed in rabbits when the data for individual fetuses were analyzed. However, when the same data were analyzed using litters as opposed to individual fetuses, there was no dose-related increase in developmental variations although the incidence of extra presacral vertebrae remained significantly higher in the 125 mg/kg/day group compared to the control group. Since this dose level was associated with severe pharmacotoxic effects in the pregnant animals, the fetal findings may have been a secondary consequence of severe maternal toxicity.

In a prenatal and postnatal development study in rats, maternal body weight and food intake parameters were reduced for doses  $\geq 2$  mg/kg/day compared to the control group. Body weights were lower in the F1 generation from maternal rats in the 6 mg/kg/day dosing group. There were no effects on physical, reflexological, or sensory developmental parameters or on behavioral and reproductive indices in the F1 pups (the NOEL for F1 pups was 2 mg/kg/day based on body weight effects seen at 6 mg/kg/day). There were no effects on the F2 generation at any dose in the study.

### ***Carcinogenicity***

Carcinogenicity was evaluated in a 2-year oral gavage study conducted in Sprague-Dawley rats. Oxycodone did not increase the incidence of tumors in male and female rats at doses up to 6 mg/kg/day. The doses were limited by opioid-related pharmacological effects of oxycodone

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## **Genotoxicity**

The results of *in vitro* and *in vivo* studies indicate that the genotoxic risk of oxycodone to humans is minimal or absent at the systemic oxycodone concentrations that are achieved therapeutically. Oxycodone was not genotoxic in a bacterial mutagenicity assay or in an *in vivo* micronucleus assay in the mouse. Oxycodone produced a positive response in the *in vitro* mouse lymphoma assay in the presence of rat liver S9 metabolic activation at dose levels greater than 25 µg/mL. Two *in vitro* chromosomal aberrations assays with human lymphocytes were conducted. In the first assay, oxycodone was negative without metabolic activation but was positive with S9 metabolic activation at the 24 hour time point but not at 48 hours after exposure. In the second assay, oxycodone did not show any clastogenicity either with or without metabolic activation at any concentration or time point.

## **6 PHARMACEUTICAL PARTICULARS**

### **6.1 List of excipients**

#### ***OXYNORM liquid:***

saccharin sodium  
sodium benzoate  
citric acid monohydrate  
sodium citrate  
hypromellose 15 mPa.s (1 mg/ml only)  
Hydrochloric acid, dilute  
Sodium hydroxide  
Water, purified

#### ***OXYNORM capsules:***

microcrystalline cellulose  
magnesium stearate  
Sodium laurylsulphate  
Shellac  
Propylene glycol

The capsule shells and printing ink contain the following materials:

<b>Material</b>	<b>5 mg capsule</b>	<b>10 mg capsule</b>	<b>20 mg capsule</b>
Indigo carmine CI 73015 (E132)	•	•	•
Iron oxide red CI 77491 (E172)	•	•	•
Iron oxide yellow CI 77492 (E172)	•	•	•
Sunset yellow FCF CI 15985 (E110)	•		
Titanium dioxide (E171)	•	•	•
Empty Hard Gelatin Capsules 4722-1	•		
Empty Hard Gelatin Capsules 4723-1		•	
Empty Hard Gelatin Capsules 4724-1			•
OPACODE monogramming ink	•	•	•

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Material	5 mg capsule	10 mg capsule	20 mg capsule
S-1-277002 BLACK			

## 6.2 Incompatibilities

Not applicable

## 6.3 Shelf life

*OXYNORM capsules and oral solution: 4 years*

## 6.4 Special precautions for storage

Store below 30°C

## 6.5 Nature and contents of container

OXYNORM capsules in PVdC coated PVC blister strips with aluminium backing foil packs of 20 capsules

- 5 mg (orange/beige)
- 10mg (white/beige)
- 20 mg (pink/beige)

OXYNORM liquid 5 mg/5 mL is a clear, colourless to straw-coloured solution in amber glass bottles of 250 mL with HDPE/PP cap.

The bottles are packed into cardboard cartons.

## 6.6 Special precautions for disposal

Any unused medicine or waste material should be disposed of in accordance with local requirements.

## 7 MEDICINE SCHEDULE

Controlled Drug B3

## 8 SPONSOR

Distributed on behalf of Mundipharma New Zealand Limited by:

Pharmaco (N.Z.) Ltd

4 Fisher Crescent

Mt Wellington

Auckland 1060

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## 9 DATE OF FIRST APPROVAL

OxyNorm Capsules 5mg, 10mg & 20mg

8 Feb 2001

OxyNorm Oral Solution 5mg/5mL

23 March 2006

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## 10 DATE OF REVISION OF THE TEXT

27 May 2020

® OXYNORM is a registered trademark of MUNDIPHARMA

(CCDS v16, 08 April 2020.) Orbis NZR-0068-003

## SUMMARY TABLE OF CHANGES

Section changed	Summary of new information
4.4, 4.5, 4.6 and 4.8	Updates in sections 4.4,4.5, 4.6, and 4.8 to align with wording in CCDS
Section 4.4	Additional warning of sleep apnoea and worsening of pre-existing sleep apnoea Added warning of constipation
Section 4.6	Added information on fertility in line with section 5.3
Section 4.8	Sleep apnoea syndrome (not known) added to undesirable effects.