


Version: 1		
Harmony AMS		
Artwork Information Panel		
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Total Colours & Varnishes: 1		
	BLACK	
Total Special Finishes: 0		
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Smallest Text Size: 7.0pt		
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IMPORTANT

GSK LOC is responsible to approve the change documentation, artwork brief and final artwork, ensuring that it is accurate, consistent and complete.

GSK SDC is responsible for site technical requirements and pre-press suitability.

GSK Market is responsible to advise SDC when changes required impact the following:

Formulation
Tablet embossing
Storage conditions
Shelf Life

NOTE TO MARKET

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200 mm Measuring Bar
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REQUIP



Ropinirole immediate release tablets
Parkinson's Disease

QUALITATIVE AND QUANTITATIVE COMPOSITION
Each immediate release tablet contains ropinirole hydrochloride equivalent to 0.25 mg, 0.5 mg, 1.0 mg, 2.0 mg or 5.0 mg ropinirole free base.

CLINICAL INFORMATION

Indications
REQUIP is indicated for the treatment of idiopathic Parkinson's disease:
• *REQUIP* may be used alone (without levodopa [L-Dopa]) in the treatment of idiopathic Parkinson's disease.
• Addition of *REQUIP* to levodopa may be used to control "on-off" fluctuations and permit a reduction in the total daily dose of L-Dopa.

Dosage and Administration

Pharmaceutical Form:
Film-coated, pentagonal-shaped tablets for oral administration. The tablet strengths are distinguished by colour and debossing:
0.25 mg: white, pentagonal-shaped, film-coated tablets marked "SB" on one side and "4890" on the other.
0.5 mg: yellow, pentagonal-shaped, film-coated tablets marked "SB" on one side and "4891" on the other.
1.0 mg: green, pentagonal-shaped, film-coated tablets marked "SB" on one side and "4892" on the other.
2.0 mg: pink, pentagonal-shaped, film-coated tablets marked "SB" on one side and "4893" on the other.
5.0 mg: blue, pentagonal-shaped, film-coated tablets marked "SB" on one side and "4894" on the other.

When switching treatment from another dopamine agonist to *REQUIP*, the manufacturer's guidance on discontinuation should be followed before initiating *REQUIP*. Individual dose titration against efficacy and tolerability is recommended. Patients should be down-titrated if they experience disabling somnolence at any dose level. For other adverse events, down-titration followed by more gradual up-titration has been shown to be beneficial.

Adults
REQUIP should be taken three times a day and may be taken with or without food (see *Pharmacokinetics*).
Treatment initiation: The initial dose should be 0.25 mg t.i.d (three times a day). A guide for the titration regimen for the first four weeks of treatment is given in the table below:

	Week			
	1	2	3	4
Unit dose (mg)	0.25	0.5	0.75	1.0
Total daily dose (mg)	0.75	1.5	2.25	3.0

Therapeutic regimen: After the initial titration, weekly increments of up to 3 mg/day may be given. *REQUIP* is usually given in divided doses three times per day. A therapeutic response may be seen between 3 mg and 9 mg/day, although adjunct therapy patients may require higher doses. If sufficient symptomatic control is not achieved or maintained after the initial titration period, as described above, the dose of *REQUIP* may be increased until an acceptable therapeutic response is established. The safety and efficacy of doses above 24 mg/day have not been established and this dose should not be exceeded. When *REQUIP* is given as adjunct therapy to L-dopa, it may be possible to reduce gradually the L-dopa dose, depending on the clinical response. In clinical trials, the L-dopa dose was reduced gradually by approximately 20% in patients receiving ropinirole concurrently. In patients with advanced Parkinson's disease receiving *REQUIP* in combination with L-dopa, dyskinesias can occur during the initial titration of *REQUIP*. In clinical trials it was shown that a reduction of the L-dopa dose may ameliorate dyskinesia (see *Adverse Reactions*). As with other dopamine agonists, *REQUIP* should be discontinued gradually by reducing the number of daily doses over the period of one week (see *Warnings and Precautions*). If treatment is interrupted for one day or more, re-initiation by dose titration should be considered (see above).

Elderly
The clearance of ropinirole is decreased in patients aged 65 years or above, but the dose of *REQUIP* for elderly patients can be titrated in the normal manner.

Children and Adolescents
The safety and efficacy of ropinirole have not been established in patients under 18 years of age; therefore, *REQUIP* is not recommended for use in patients within this age group.

Renal impairment
In patients with mild to moderate renal impairment (creatinine clearance 30 – 50 mL/min) no change in the clearance of ropinirole was observed, indicating that no dosage adjustment is necessary in this population. A study into the use of ropinirole in patients with end stage renal disease (patients on haemodialysis) has shown that a dose adjustment in these patients is required as follows: The initial dose of *REQUIP* should be 0.25 mg three times a day. Further dose escalations should be based on tolerability and efficacy. The recommended maximum dose is 18 mg/day in patients receiving regular dialysis. Supplemental doses after dialysis are not required. The use of ropinirole in patients with severe renal impairment (creatinine clearance less than 30 mL/min) without regular dialysis has not been studied.

Hepatic impairment
The use of ropinirole in patients with hepatic impairment has not been studied. Administration of *REQUIP* to such patients is not recommended.

Contraindications
Hypersensitivity to ropinirole or to any of the excipients.

Warnings and Precautions
Due to the pharmacological action of ropinirole, patients with severe cardiovascular disease should be treated with caution. Co-administration of ropinirole with anti-hypertensive and anti-arrhythmic agents has not been studied. As with other dopaminergic drugs, caution should be exercised when these compounds are given concomitantly with *REQUIP* because of the unknown potential for the occurrence of hypotension, bradycardia or other arrhythmias. Patients with a history or presence of, major psychotic disorders should only be treated with dopamine agonists if the potential benefits outweigh the risks. Impulse control symptoms including compulsive behaviours (including pathological gambling, hypersexuality, compulsive shopping and binge eating) and mania have been reported in patients treated with dopaminergic agents, including ropinirole (see *Adverse Reactions – Post Marketing Data*). These were generally reversible upon dose reduction or treatment discontinuation.

In some ropinirole cases, other factors were present such as a history of compulsive behaviours or concurrent dopaminergic treatment. The dose of ropinirole should be reduced gradually when discontinuing treatment (see *Dosage and Administration*). Non-motor adverse effects may occur when tapering or discontinuing dopamine agonists, including ropinirole. Symptoms include insomnia, apathy, anxiety, depression, fatigue, sweating and pain which may be severe. Patients should be informed about this before dose reduction and monitored regularly thereafter. In case of persistent symptoms, it may be necessary to increase the ropinirole dose temporarily (see *Adverse Reactions*).

Interactions
Neuroleptics and other centrally active dopamine antagonists, such as sulpiride or metoclopramide, may diminish the effectiveness of ropinirole and, therefore, concomitant use of these drugs with *REQUIP* should be avoided. There is no pharmacokinetic interaction between ropinirole and L-dopa or domperidone which would necessitate dosage adjustment of these drugs. No interaction has been seen between ropinirole and other drugs commonly used to treat Parkinson's disease. In a study in parkinsonian patients receiving concurrent digoxin, no interaction was seen which would require dosage adjustment. Ropinirole is principally metabolised by the cytochrome P450 enzyme CYP1A2. A pharmacokinetic study in Parkinson's patients revealed that ciprofloxacin increased the C_{max} and AUC of ropinirole by approximately 60% and 84% respectively. Hence, in patients already receiving *REQUIP*, the dose of *REQUIP* may need to be adjusted when drugs known to inhibit CYP1A2, e.g. ciprofloxacin, enoxacin or fluvoxamine, are introduced or withdrawn. A pharmacokinetic interaction study in Parkinson's patients between ropinirole and theophylline, as representative of substrates of CYP1A2, revealed no change in the pharmacokinetics of either ropinirole or theophylline. Hence, changes in ropinirole pharmacokinetics following co-administration with other substrates of CYP1A2 are not expected. Increased plasma concentrations of ropinirole have been observed in patients treated with high doses of oestrogens. In patients already receiving hormone replacement therapy (HRT), *REQUIP* treatment may be initiated in the normal manner. However, if HRT is stopped or introduced during treatment with *REQUIP*, dosage adjustment may be required. No information is available on the potential for interaction between ropinirole and alcohol. As with other centrally active medications, patients should be cautioned against taking *REQUIP* with alcohol. Smoking is known to induce CYP1A2 metabolism, therefore if patients stop or start smoking during treatment with *REQUIP*, adjustment of dose may be required.

Pregnancy and Lactation
Fertility
There are no data on the effects of ropinirole on human fertility. In female fertility studies in rats, effects were seen on implantation (see *Non-Clinical Information*). No effects were seen on male fertility in rats.

Pregnancy
There are no adequate and well-controlled studies of ropinirole in pregnant women. Ropinirole concentrations may gradually increase during pregnancy (see *Pharmacokinetics*). Studies in animals have shown embryo-foetal toxicity (see *Non-Clinical Information*). It is recommended that *REQUIP* is not used during pregnancy unless the potential benefit to the patient outweighs the potential risk to the foetus.

Lactation
There are no data regarding the excretion of ropinirole in human milk. Ropinirole has been detected in rat milk (see *Non-Clinical Information*). *REQUIP* should not be used in nursing mothers as it may inhibit lactation.

Effects on Ability to Drive and Use Machines
No data are available on the effect of ropinirole on the ability to drive or use machinery. Patients should be cautioned about their ability to drive or operate machinery whilst taking *REQUIP* because of the possibility of somnolence and of dizziness (including vertigo). Patients should be informed about the possibility of sudden onset of sleep without any prior warning or apparent daytime somnolence (see *Adverse Reactions*), which has primarily been observed in patients with Parkinson's disease, and should be cautioned that their safety and that of others is at risk should this happen when driving or operating machinery. If patients develop significant daytime sleepiness or episodes of falling asleep during activities that require active participation, patients should be told not to drive and to avoid other potentially dangerous activities.

Adverse Reactions
Adverse reactions are tabulated below according to the indication. The overall safety profile of ropinirole comprises adverse reactions from all indications from clinical trial data and from post-marketing experience. Adverse events are listed below by system organ class and frequency. Frequencies are defined as: very common ($\geq 1/10$), common ($\geq 1/100$, $< 1/10$), uncommon ($\geq 1/1,000$, $< 1/100$), rare ($\geq 1/10,000$, $< 1/1,000$), very rare ($< 1/10,000$), including isolated reports.

Clinical Trial Data
The tables below list the adverse drug reactions reported at a higher rate with ropinirole than placebo or a higher or comparable rate to comparator in clinical trials.

Adverse Drug Reactions Reported from Patients with Parkinson's Disease
Unless otherwise indicated, the data in the following table was observed with both immediate release and prolonged release formulations.

	Use in monotherapy studies	Use in adjunct therapy studies:
Psychiatric disorders		
Common	Hallucinations	Hallucinations, confusion ¹
Nervous system disorders		
Very common	Somnolence, syncope ¹	Dyskinesia ³
Common	Dizziness (including vertigo), sudden onset of sleep ²	Somnolence ² , dizziness (including vertigo), sudden onset of sleep ²
Vascular disorders		
Common		Postural hypotension ² , hypotension ²
Uncommon	Postural hypotension ² , hypotension ²	
Gastrointestinal disorders		
Very common	Nausea	
Common	Abdominal pain ¹ , vomiting ¹ , dyspepsia ¹ , constipation ²	Nausea, constipation ²
General disorders and administrative site conditions		
Common	Oedema peripheral (including leg oedema)	Oedema periphera ²

¹Immediate release clinical trials data
²Prolonged release clinical trials data
³In patients with advanced Parkinson's disease, dyskinesias can occur during the initial titration of *REQUIP*. In clinical trials it was shown that a reduction of the L-dopa dose may ameliorate dyskinesia (see *Dosage and Administration*).

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PHARMA CODE N° 7633

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Print Process: N/A	
Colour Standard Reference: N/A	
Technical Drawing (Do NOT include version number): 02-01-XX-273-02	
Material Spec. (Do NOT include version number): N/A	
Material Type: N/A	N/A
Total Colours & Varnishes: 1	
	BLACK
Total Special Finishes: 0	
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Smallest Text Size: 7.0pt	
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Adverse Drug Reactions Reported During Clinical Trials in Patients with Restless Legs Syndrome	
Psychiatric disorders	
Common	Nervousness
Nervous system disorders	
Common	Dizziness (including vertigo), somnolence, syncope
Gastrointestinal disorders	
Very common	Nausea, vomiting
Common	Abdominal pain
General disorders and administrative site conditions	
Common	Fatigue
Post Marketing Data	
Immune system disorders	
Very rare	Hypersensitivity reactions (including urticaria, angioedema, rash, pruritus).
Psychiatric disorders	
Uncommon	Psychotic reactions (other than hallucinations) including delusion, paranoia, delirium. Impulse control symptoms, increased libido including hypersexuality, pathological gambling, compulsive shopping, binge eating (see <i>Warnings and Precautions</i>), Aggression*
Very rare	Mania
*Aggression has been associated with psychotic reactions as well as compulsive symptoms.	
Nervous system disorders	
Very rare	Extreme somnolence, sudden onset of sleep†
†As with other dopaminergic therapies, extreme somnolence and sudden onset of sleep have been reported primarily in Parkinson's disease. Patients experiencing sudden onset of sleep cannot resist the urge to sleep, and on waking may be unaware of any tiredness prior to the sleep. Where data from post-marketing reports were available, patients had recovered after down titration or on withdrawal of the drug. In most cases the patients received concomitant medication with potential sedating properties.	
Vascular disorders	
Common	Hypotension, postural hypotension**
**As with other dopamine agonists, hypotension including postural hypotension has been observed with ropinirole treatment.	
General disorders and administrative site conditions	
Very rare	Drug withdrawal syndrome††
††Dopamine agonist withdrawal syndrome (including insomnia, apathy, anxiety, depression, fatigue, sweating and pain).	
Overdose	
Symptoms and Signs	
The symptoms of ropinirole overdose are generally related to its dopaminergic activity.	
Treatment	
These symptoms may be alleviated by appropriate treatment with dopamine antagonists such as neuroleptics or metoclopramide.	
PHARMACOLOGICAL PROPERTIES	
Pharmacodynamics	
ATC Code	
N04BC04	
Mechanism of Action	
Ropinirole is a potent, non-ergoline D2/D3 dopamine agonist. Parkinson's disease is characterised by a marked dopamine deficiency in the nigral striatal system. Ropinirole alleviates this deficiency by stimulating striatal dopamine receptors.	
Pharmacodynamic Effects	
Ropinirole acts in the hypothalamus and pituitary to inhibit the secretion of prolactin.	
Pharmacokinetics	
The pharmacokinetics of ropinirole are consistent between healthy volunteers, Parkinson's disease patients and patients with Restless Legs Syndrome.	
Wide inter-individual variability in the pharmacokinetic parameters has been seen. Bioavailability of ropinirole is approximately 50% (36 to 57%).	
Absorption	
Oral absorption of ropinirole is rapid with peak concentrations of the drug achieved at a median time of 1.5 hours post dose.	
The bioavailability of ropinirole was similar in both the fed and fasted state. However, a high fat meal decreases the rate of absorption of ropinirole, as shown by a delay in median T_{max} by 2.6 hours and an average 25% decrease in C_{max} .	
As expected for a drug being administered approximately every half life, there is, on average, two-fold higher steady-state plasma concentrations of ropinirole following the recommended i.i.d. regimen compared to those observed following a single oral dose.	
Distribution	
Plasma protein binding of the drug is low (10 to 40%). Consistent with its high lipophilicity, ropinirole exhibits a large volume of distribution (approx. 7 L/kg).	
Metabolism	
Ropinirole is primarily cleared by CYP1A2 metabolism and its metabolites are mainly excreted in the urine. The major metabolite is at least 100 times less potent than ropinirole in animal models of dopaminergic function.	
Elimination	
Ropinirole is cleared from the systemic circulation with an average elimination half-life of about 6 hours. The increase in systemic exposure (C_{max} and AUC) to ropinirole is approximately proportional over the therapeutic dose range.	
No change in the oral clearance of ropinirole is observed following single and repeated oral administration.	
Pharmacokinetic/Pharmacodynamic relationships:	
In Parkinson's disease patients treated with ropinirole there was a trend for slightly higher average plasma concentrations of ropinirole in responders compared to non-responders.	
Special Patient Populations	
Elderly:	
Oral clearance of ropinirole is reduced by approximately 15% in elderly patients (65 years or above) compared to younger patients. Dosing adjustment is not necessary in the elderly.	
Renal Impairment:	
There was no change observed in the pharmacokinetics of ropinirole in Parkinson's disease patients with mild to moderate renal impairment.	
In patients with end stage renal disease receiving regular dialysis, oral clearance of ropinirole is reduced by approximately 30%. The recommended maximum dose of <i>REQUIP</i> is limited to 18 mg/day in patients with Parkinson's disease (see <i>Dosage and Administration, Renal impairment</i>).	
Pregnancy:	
Physiological changes in pregnancy (including decreased CYP1A2 activity) are predicted to gradually lead to an increased maternal systemic exposure of ropinirole (reaching an approximate 2-fold increase by the third trimester based on physiologically based pharmacokinetic modelling).	
Clinical Studies	
A double-blind 5-year study in 268 patients compared ropinirole and L-dopa in the treatment of early Parkinson's disease. The incidence of dyskinesias in patients receiving ropinirole (either alone or following subsequent L-dopa supplementation) was markedly lower than for patients receiving L-dopa (with or without additional L-dopa supplementation). Patients randomised to ropinirole were 4 times less likely to develop dyskinesias than those on L-dopa (odds ratio 3.8: 95% CI [2.1, 6.9]; $p < 0.0001$); the incidence of dyskinesia was 20% and 46% for ropinirole and L-dopa patients, respectively. In those patients who completed the study without the need for supplemental L-dopa, ropinirole patients were 15-times less likely to develop dyskinesia than L-dopa patients (odds ratio 15.2: 95%CI [6.2, 36.9]; $p < 0.0001$); the incidence of dyskinesia was 5% and 36% for ropinirole and L-dopa patients, respectively.	
In the patients who completed the 5-year study, there was no significant difference in efficacy between those who received either ropinirole or L-dopa. A difference of 1.5 (95% CI [-0.1, 3.2] from baseline to completion in the Activities of Daily Living (ADL) score on the Unified Parkinson's Disease Rating Scale (UPDRS), was observed. Thirty-four percent (34%) of ropinirole patients who completed the 5-year study remained on monotherapy at study endpoint.	
The mean dose of ropinirole at study endpoint was 16.5 mg for all patients and 15.0 mg for those on monotherapy.	
Non-Clinical Information	
Carcinogenesis, mutagenesis	
Two-year studies have been conducted in the mouse and rat at dosages up to 50 mg/kg. The mouse study did not reveal any carcinogenic effect. In the rat, the only drug-related lesions were Leydig cell hyperplasia/adenoma in the testis resulting from the hyperprolactinaemic effect of ropinirole. These lesions are considered to be a species-specific phenomenon and do not constitute a hazard with regard to the clinical use of ropinirole.	
Genotoxicity was not observed in a battery of <i>in vitro</i> and <i>in vivo</i> tests.	
Reproductive toxicology	
In fertility studies in rats, effects were seen on implantation due to the prolactin-lowering effect of ropinirole. In humans, chorionic gonadotropin, not prolactin, is essential for implantation in females. No effects were seen on male fertility.	
Administration of ropinirole to pregnant rats at maternally toxic doses resulted in decreased foetal body weight at 60 mg/kg, increased foetal death at 90 mg/kg and digit malformations at 150 mg/kg (3.4, 5.1 and 8.5 times the mean human AUC at the Maximum Recommended Human Dose (MRHD)). There was no teratogenic effect in the rat at 120 mg/kg (6.8 times the mean human AUC at the MRHD) and no indication of an effect during organogenesis in the rabbit when given alone at 20 mg/kg (9.5 times the mean human C_{max} at the MRHD). However, ropinirole at 10 mg/kg (4.8 times the mean human C_{max} at the MRHD) administered to rabbits in combination with oral L-dopa produced a higher incidence and severity of digit malformations than L-dopa alone.	
Ropinirole-related material was shown to transfer into the milk of lactating rats in small amounts (approximately 0.01% of the dose per pup).	
Animal toxicology and/or pharmacology	
Ropinirole caused no serious or irreversible toxicity in laboratory animals at 15 mg/kg (monkey), 20 mg/kg (mouse) or 50 mg/kg (rat); 0.9, 0.4 and 2.8 times the mean human AUC at the MRHD. The toxicology profile is principally determined by the pharmacological activity of the drug (behavioural changes, hypoprolactinaemia, decrease in blood pressure and heart rate, ptosis and salivation).	
PHARMACEUTICAL INFORMATION	
List of Excipients	
Tablet cores: lactose monohydrate, microcrystalline cellulose, croscarmellose sodium, magnesium stearate.	
Film coats:	
Tablet Colour	Tablet strength (mg) and colour
	0.25 White 0.5 Yellow 1.0 Green 2.0 Pink 5.0 Blue
Hypromellose	✓
Polyethylene glycol/Macrogol	✓
Titanium Dioxide	✓
Iron Oxide Yellow	✓
Iron Oxide Red	✓
Indigo Carmine Aluminium Lake E132 (FD&C Blue No. 2)	✓
Polysorbate 80	✓
Shelf Life	
The expiry date is indicated on the packaging.	
Storage	
The storage conditions are detailed on the packaging.	
Nature and Contents of Container	
Opaque, PVC/PCTFE/Aluminium blister	
Cold form blister (Al/Al)	
Cold form child-resistant blister (Al-Al/paper)	
PVC/PCTFE/PVC/Aluminium blister	
PVC/PCTFE/PCV-Aluminium/paper child-resistant blister	
PVC/PE/PVdC-Aluminium/paper child-resistant blister	
HDPE bottle.	
Incompatibilities	
None known.	
Use and Handling	
No special instructions.	
Further information is available on request.	
Not all presentations are available in every country.	
Manufactured by:	
Glaxo Wellcome, S.A., Avenida de Extremadura 3, 09400 Aranda De Duero, Burgos, Spain	
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