

ONDANSETRON - SAFE PRESCRIBING - RELIEVE THE HEAVE

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- ▶ QT INTERVAL PROLONGATION HAS BEEN REPORTED
- ▶ FOR NAUSEA AND VOMITING DUE TO CYTOTOXIC CHEMOTHERAPY OR RADIOTHERAPY, AND SURGERY
- ▶ MAY BE USED IN CHILDREN AND ADOLESCENTS
- ▶ SAFETY IN PREGNANCY AND BREASTFEEDING HAS NOT BEEN ESTABLISHED
- ▶ HEADACHE, CONSTIPATION AND DIZZINESS ARE COMMON

QT INTERVAL PROLONGATION HAS BEEN REPORTED

Ondansetron may increase the risk of developing prolongation of the QT interval, which can lead to abnormal and potentially fatal heart rhythms, including Torsade de Pointes.¹

Patients at particular risk for developing Torsade de Pointes include those with underlying heart conditions, such as congenital long QT syndrome, those who are predisposed to hypokalaemia or hypomagnesia, and those taking other medications that lead to QT prolongation.^{1,2}

The FDA has recommended electrocardiogram monitoring for patients prescribed ondansetron who have hypokalaemia, hypomagnesia, congestive heart failure or bradyarrhythmias, and when taking other medications that also trigger QT prolongation. See Table 1 for examples of these medicines.

NOTE: Advise patients to immediately report irregular heartbeat, shortness of breath, dizziness, or fainting while taking ondansetron.

FOR NAUSEA AND VOMITING DUE TO CYTOTOXIC CHEMOTHERAPY OR RADIOTHERAPY, AND SURGERY

Although the datasheets from New Zealand,^{2,3} the United Kingdom and the United States only list the indications above, there is some evidence to support use for other conditions associated with nausea and vomiting e.g. acute gastroenteritis.⁴

Ondansetron is also being investigated for smoking cessation⁵ and has shown some benefit in selected patients with alcoholism.⁶

NOTE: The oral dissolving tablet formulation is very helpful in patients who are having difficulty swallowing.

MAY BE USED IN CHILDREN AND ADOLESCENTS

The use of oral ondansetron is supported in children and adolescents due to extensive evidence from its use in oncology. Ondansetron is safer than other antiemetics in children and adolescents, where the risk of dystonic reaction is higher.

Ondansetron is useful for conditions such as cyclical vomiting and has demonstrated benefit in reducing the number of episodes of gastroenteritis-associated vomiting in children and adolescents.^{4,7,8} The underlying cause of vomiting should always be investigated. A single dose of ondansetron given to children with mild to moderate dehydration can control vomiting and is often sufficient to allow oral rehydration therapy.^{4,7,9} Prescribing additional doses is not recommended.

Although acute gastroenteritis is usually self-limiting, if children are dehydrated, ondansetron can decrease the necessity of intravenous fluid therapy and potential hospitalisation^{4,7,9} with fewer adverse effects than the older generation of antiemetics.⁸

Table 2: Recommended ondansetron doses in children

Weight	Ondansetron oral Dose ¹⁰
8 - 15kg	2mg
15 - 30kg	4mg
> 30kg	8mg

The Royal Children's Hospital Melbourne; Clinical Practice Guidelines

Note: Ondansetron is not recommended for gastroenteritis in children less than 12 months of age.

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SAFETY IN PREGNANCY AND BREASTFEEDING HAS NOT BEEN ESTABLISHED

Ondansetron is used for hyperemesis gravidium due to its efficacy¹¹, however, safety in pregnancy has not been fully established.^{2,3}

Ondansetron is currently classified pregnancy category B1*; it is essential that the patient is fully aware there is lack of robust safety data before prescribing. Any antiemetic should be used at the lowest effective dose for the shortest possible time during pregnancy.¹²

*Category B1¹³

Drugs which have been taken by a limited number of pregnant women without an increase in the frequency of malformation or other direct or indirect harmful effects on the human foetus having been observed. Studies in animals show no evidence of an increased occurrence of foetal damage.

NOTE: Animal studies are not always predictive of human response.

HEADACHE, CONSTIPATION AND DIZZINESS ARE COMMON

The most frequent adverse effects associated with ondansetron are headaches and flushing or a sensation of warmth.^{2,3} Constipation is commonly reported and can exacerbate symptoms of bloating and abdominal discomfort.¹⁴

Take special care in patients with symptomatic hypotension or if they are predisposed to constipation (e.g. from opiate use). Advise patients to seek medical attention urgently if they experience an irregular heartbeat, shortness of breath, dizziness or fainting.

The effect of ondansetron may be reduced in those also taking phenytoin, carbamazepine and rifampicin. In addition to this, ondansetron may reduce the analgesic effects of tramadol.^{2,3}

The dose of ondansetron does not need to be adjusted in renal impairment. In patients with moderate to severe hepatic impairment, the clearance of ondansetron is significantly reduced; in these patients the total daily dose should not exceed 8mg.^{2,3}

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Table 1 - Medicines with risk of Torsades du point*

Medicine	Action	Comments
Amiodarone	Anti-arrhythmic / abnormal heart rhythm	Females > Males, TdP risk regarded as low
Astemizole	Antihistamine / Allergic rhinitis	
Chloroquine	Anti-malarial / malaria infection	
Chlorpromazine	Anti-psychotic/ Anti-emetic / schizophrenia/ nausea	
Cisapride	GI stimulant / heartburn	
Citalopram	Anti-depressant / depression	
Clarithromycin	Antibiotic / bacterial infection	
Disopyramide	Anti-arrhythmic / abnormal heart rhythm	Females > Males
Domperidone	Anti-nausea / nausea	
Droperidol	Sedative; Anti-nausea / anesthesia adjunct, nausea	
Erythromycin	Antibiotic; GI stimulant / bacterial infection; increase GI motility	Females > Males
Flecainide	Anti-arrhythmic / abnormal heart rhythm	
Haloperidol	Anti-psychotic / schizophrenia, agitation	When given intravenously or at higher-than- recommended doses, risk of sudden death, QT prolongation and torsades increases.
Methadone	Opiate agonist / pain control, narcotic dependence	Females > Males
Moxifloxacin	Antibiotic / bacterial infection	
Pentamidine	Anti-infective / pneumocystis pneumonia	Females > Males
Pimozide	Anti-psychotic / Tourette's tics	Females > Males
Procainamide	Anti-arrhythmic / abnormal heart rhythm	
Quinidine	Anti-arrhythmic / abnormal heart rhythm	Females > Males
Sotalol	Anti-arrhythmic / abnormal heart rhythm	Females > Males
Terfenadine	Antihistamine / Allergic rhinitis	
Thioridazine	Anti-psychotic / schizophrenia	

* Note: This is not a complete list

Adapted from www.qtdrugs.org¹⁵

For further information on other high-risk medicines visit our website at: www.saferx.co.nz

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DISCLAIMER: This information is provided to assist primary care health professionals with the use of prescribed medicines. Users of this information must always consider current best practice and use their clinical judgement with each patient. This information is not a substitute for individual clinical decision making. Issued by the Quality Use of Medicines Team at Waitemata District Health Board, email: feedback@saferx.co.nz