

SUPATANE is teratogenic and should not be taken by pregnant women, women intending to become pregnant, or sexually active women in their fertile years, not using at least two methods of contraception, as severe malformations may occur during pregnancy.

SCHEDULING STATUS

55

1. NAME OF THE MEDICINE

SUPATANE 8 mg hard gelatin capsules
SUPATANE 16 mg hard gelatin capsules

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

SUPATANE 8 mg hard gelatin capsules
Each hard gelatin capsule contains 8 mg isotretinoin.

SUPATANE 16 mg hard gelatin capsule.
Each hard gelatin capsule contains 16 mg isotretinoin.

Sugar free

Excipients with known effect:
Contains soya-bean oil (refined).

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Hard gelatin capsules

SUPATANE 8 mg
Hard gelatin capsule, size 3 with white body and green cap containing an orange waxy paste.

SUPATANE 16 mg
Hard gelatin capsule, size 1 with white body and green cap containing an orange waxy paste.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

Severe recalcitrant nodular acne

SUPATANE is indicated for the treatment of severe recalcitrant nodular acne.

Nodules are inflamed lesions with a diameter of 5 mm or greater. The nodules may become suppurative or haemorrhagic, "Severe", by definition, means "many" as opposed to "few or several" nodules.

Because of significant adverse effects associated with its use, SUPATANE should be reserved for patients with severe nodular acne who are unresponsive to conventional therapy, including systemic antibiotics.

A single course of therapy has been shown to result in complete and prolonged remission of disease in many patients. If a second course of therapy is needed, it should not be initiated until at least 8 weeks after completion of the first course, because experience has shown that patients may continue to improve while off SUPATANE.

4.2 Posology and method of administration

The initial diagnosis and prescription of SUPATANE should be performed by a dermatologist with expertise in the use of systemic retinoids for the treatment of severe acne and a full understanding of the risks of isotretinoin therapy and monitoring requirements. The therapeutic response to SUPATANE and its adverse events are dose related and vary between patients. This necessitates individual dosage adjustment during therapy.

Posology

Standard dosage

Therapy should be started at a dose of 0.4 mg/kg daily. For most patients the dose ranges from 0.4 – 0.8 mg/kg per day. Patients with very severe disease, or with truncal acne may require higher daily doses up to 1.6 mg/kg.

The therapy duration in individual patients therefore varies as a function of the daily dose. Complete remission of the acne is often achieved by a therapy course of 16 - 24 weeks. In patients who show a severe intolerance to the recommended dose, treatment may be continued at a lower dose, with consequent increase in therapy duration.

In the majority of patients, complete clearing of the acne is obtained with a single treatment course. In the case of a definite relapse, a renewed course of SUPATANE therapy should be given with the same daily dose as previously. Since further improvement of the acne can be observed up to 8 weeks after discontinuation of treatment, re-treatment should be observed up to 8 weeks after discontinuation of treatment, re-treatment should not be initiated until after this period.

Concurrent topical therapy

Concurrent administration of other keratolytic or exfoliative anti-acne agents is not indicated. Nor is concurrent radiation therapy with ultraviolet light indicated. Patients should avoid exposure to the sun. Adjunctive therapy with mild topical medicines may be given, as required.

Special populations

Adults including adolescents and the elderly:

Isotretinoin therapy should be of the adverse effects are dose-related and vary between patients. This necessitates individual dosage adjustment during therapy. For most patients, the dose ranges from 0.4 – 0.8 mg/kg per day.

Long-term remission and relapse rates are more closely related to the total dose administered than to either duration of treatment or daily dose. The duration of treatment will depend on the individual daily dose. A treatment course of 16 - 24 weeks is normally sufficient to achieve remission.

In the majority of patients, complete clearing of the acne is obtained with a single treatment course. In the event of a definite relapse a further course of isotretinoin therapy may be considered using the same daily dose and cumulative treatment dose. As further improvement of the acne can be observed up to 8 weeks after discontinuation of treatment, a further course of treatment should not be considered until at least this period has elapsed.

Renal impairment

In patients with severe renal insufficiency treatment should be started at a lower dose (e.g. 8 mg/day). The dose should then be increased up to 0.8 mg/kg/day or until the patient is receiving the maximum tolerated dose (see section 4.4).

Patients with intolerance

In patients who show severe intolerance to the recommended dose, treatment may be continued at a lower dose with the consequences of a longer therapy duration and a higher risk of relapse. In order to achieve the maximum possible efficacy in these patients the dose should normally be continued at the highest tolerated dose.

Paediatric population

SUPATANE should not be used for the treatment of prepubertal acne and is not recommended in children less than 12 years of age due to a lack of data on efficacy and safety.

Method of administration

SUPATANE is for oral administration.

The capsule should be swallowed whole.

SUPATANE should be taken with food, once or twice daily.

4.3 Contraindications

Pregnancy and lactation

SUPATANE must not be given to breastfeeding mothers.

SUPATANE causes foetal malformations. These foetal malformations have been documented and include hydrocephalus, microcephalus, abnormalities of the external ear (microphonia, small or absent external auditory canals), microphthalmia, cardiovascular abnormalities, facial dysmorphism, thymus gland abnormalities, parathyroid gland abnormalities with parathyroid hormone deficiency and cerebellar malformations. There is also an increased risk of spontaneous abortion. It's use is therefore contraindicated, not only in women who are pregnant, or who may become pregnant while undergoing treatment, but also in all women of childbearing potential, unless an effective contraceptive is used, without any interruption, for one month prior to therapy, the duration of therapy and for at least one month after discontinuation of therapy.

Even female patients who normally do not employ contraception because of a history of infertility (except in the case of hysterectomy) or who claim absence of sexual activity, must be advised to use effective contraceptive measures while taking SUPATANE, following the guidelines. It is recommended that two reliable forms of contraception be used simultaneously.

SUPATANE is contraindicated in women of child-bearing potential unless the female patient meets all the following conditions:

- the patient must have severe nodular acne, resistant to standard therapies
- she must be reliable in understanding and carrying out instructions
- she must be informed by her doctor of the hazards of becoming pregnant during, and one month after, treatment with SUPATANE
- she must be warned of the possibility of contraception failure
- she must confirm that she has understood the precautions.
- she must be capable of complying with the mandatory effective contraceptive measures.
- she must use effective contraception, without any interruption, for 1 month before starting SUPATANE therapy, during therapy and for 1 month following discontinuation of therapy.

Careful consideration must be given in each individual case to the efficacy of the contraceptive methods chosen, particularly in the first cycle of hormonal contraception when additional methods are advised.

- She must have a negative result from a reliable pregnancy test within 11 days prior to the start of therapy. Monthly pregnancy testing during treatment is strongly recommended.
- She must start SUPATANE therapy only on the 2nd or 3rd day of the next normal menstrual period.
- In the event of relapse treatment, she must also use the same uninterrupted and effective contraceptive measures, 1 month prior to, during, and for 1 month after SUPATANE therapy, and the same reliable pregnancy evaluations should be followed.
- She must fully understand the precautions and confirm her understanding and her willingness to comply with reliable contraceptive measures as explained to her. Should pregnancy occur, in spite of these precautions, during treatment with SUPATANE, or during the first month after discontinuation, there is an extremely high risk of severe malformation of the foetus (involving in particular, the central nervous system, the heart and the large blood vessels), even after exposure for short periods only. Every possible precaution must be taken to ensure that the patient is not pregnant at the time of commencement of, during the course of, and for one month after discontinuation of therapy.

In order to assist prescribing physicians and patients in avoiding foetal exposure to isotretinoin, the manufacturer provides a Pregnancy Prevention Programme consisting of the following material to reinforce the warnings about the medicine's teratogenicity and emphasise the mandatory need for reliable contraception in female patients of childbearing potential:

- Patient Information Brochure
- Brochure on Birth Control
- Female Patient Information and Consent Form
- Physician's Guide to Prescription
- Physician's Checklist for Prescription to Females
- The pregnancy prevention information should be given to patients both orally and in writing.

The Patient Information Brochure must be provided to all patients. In addition, all female patients must receive the Brochure on Birth Control and the Female Patient Information and Consent Form.

SUPATANE is also contraindicated in:

- Hypersensitivity to isotretinoin or soya-bean oil to any of the excipients listed in section 6.1.
- SUPATANE contains soya-bean oil. If you are allergic to peanut or soya, do not use this medicine.
- Pre-existing hypervitaminosis A
- Hepatic insufficiency
- Patients with excessively elevated blood lipid values
- Patients with excessively elevated blood lipid values
- Supplementary treatment with tetracyclines is contraindicated (see section 4.5).

4.4 Special warnings and precautions for use

Teratogenic effects

SUPATANE is a powerful human teratogen inducing a high frequency of severe and life-threatening birth defects.

SUPATANE is strictly contraindicated in:

- Pregnant women (see section 4.3)
- Women of childbearing potential unless all of the conditions of the Pregnancy Prevention Programme are met (see section 4.3)

Patients should be reminded that SUPATANE is a scheduled medicine and not a cosmetic agent and that it is a criminal act to transfer it to, or share it with, any person not in possession of a valid prescription. SUPATANE should only be prescribed by medical practitioners who are experienced in the use of systemic retinoids and who understand the risk of teratogenicity associated with isotretinoin therapy.

Pregnancy Prevention Programme

SUPATANE is TERATOGENIC

Females of childbearing potential, as well as female patients who normally do not employ contraception because of a history of infertility, should be instructed that they must not be pregnant when SUPATANE therapy is initiated, and that they should use effective contraception while taking SUPATANE without any interruptions for 1 month prior to therapy, the duration of therapy and for 1 month after discontinuation of therapy. Two reliable forms of contraception should be used simultaneously. Micro-dosed progesterone preparations (minipills) may be an inadequate method of contraception during SUPATANE therapy. Although other hormonal contraceptives are effective, there have been reports of pregnancy from women who have used oral contraceptives, as well as injectable/implantable contraceptive medicines.

These reports are more frequent for women who use only a single method of contraception. It is not known if hormonal contraceptives differ in their effectiveness when used with SUPATANE. Therefore, it is important that women of childbearing potential use two effective forms of contraception simultaneously. They should also sign a Consent Form prior to beginning SUPATANE therapy (see boxed section 4.3).

Isotretinoin is contraindicated in women of childbearing potential unless all of the following conditions of the Pregnancy Prevention Programme are met:

- She has a negative result from a reliable pregnancy test within 11 days prior to the start of therapy. Monthly pregnancy testing during treatment is strongly recommended.
- She must start SUPATANE therapy only on the 2nd or 3rd day of the next normal menstrual period.
- In the event of relapse treatment, she must also use the same uninterrupted and effective contraceptive measures, 1 month prior to, during, and for 1 month after SUPATANE therapy, and the same reliable pregnancy evaluations should be followed.
- She must fully understand the precautions and confirm her understanding and her willingness to comply with reliable contraceptive measures as explained to her. Should pregnancy occur, in spite of these precautions, during treatment with SUPATANE, or during the first month after discontinuation, there is an extremely high risk of severe malformation of the foetus (involving in particular, the central nervous system, the heart and the large blood vessels), even after exposure for short periods only. Every possible precaution must be taken to ensure that the patient is not pregnant at the time of commencement of, during the course of, and for one month after discontinuation of therapy.

Contraception

Female patients must be provided with comprehensive information on pregnancy prevention and patients should be referred for contraceptive advice if they are not using effective contraception. If the prescribing physician is not in a position to provide such information the patient should be referred to the relevant healthcare professional.

As a minimum requirement, female patients of childbearing potential must use at least one highly effective method of contraception (i.e. a user-independent form), or two complementary user-dependent forms of contraception including a barrier method, for at least 1 month prior to starting treatment with SUPATANE, and for 1 month following discontinuation of SUPATANE therapy. These conditions also concern women who are not currently sexually active unless the prescriber considers that there are compelling reasons to indicate that there is no risk of pregnancy.

The prescriber must ensure that:

- The patient consents with the conditions for pregnancy prevention as listed above, including confirmation that she has an adequate level of understanding.
- The patient has acknowledged the aforementioned conditions.
- The patient understands that she must consistently and correctly use one highly effective method of contraception (i.e. a user-independent form) or two complementary user-dependent forms of contraception including a barrier method, for at least 1 month prior to starting treatment and is continuing to use effective contraception throughout the treatment period and for at least 1 month after cessation of treatment.
- Negative pregnancy test results have been obtained before, during and 1 month after the end of treatment. The dates and results of pregnancy tests should be documented.
- If pregnancy occurs in a woman treated with isotretinoin, treatment must be stopped and the patient should be referred to a physician specialised or experienced in teratology for evaluation and advice.
- If pregnancy occurs after stopping treatment there remains a risk of severe and serious malformation of the foetus. This risk persists until the product has been completely eliminated, which is within one month following the end of treatment.

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- The patient understands that she must consistently and correctly use one highly effective method of contraception (i.e. a user-independent form) or two complementary user-dependent forms of contraception including a barrier method, for at least 1 month prior to starting treatment and is continuing to use effective contraception throughout the treatment period and for at least 1 month after cessation of treatment.
- Negative pregnancy test results have been obtained before, during and 1 month after the end of treatment. The dates and results of pregnancy tests should be documented.
- If pregnancy occurs in a woman treated with isotretinoin, treatment must be stopped and the patient should be referred to a physician specialised or experienced in teratology for evaluation and advice.
- If pregnancy occurs after stopping treatment there remains a risk of severe and serious malformation of the foetus. This risk persists until the product has been completely eliminated, which is within one month following the end of treatment.

Educational material

In order to assist prescribers, pharmacists and patients in avoiding foetal exposure to isotretinoin the Marketing Authorisation Holder will provide educational material to reinforce the warnings about the teratogenicity of isotretinoin, to provide advice on contraception before therapy is started and to provide guidance on the need for pregnancy testing.

Full patient information about the teratogenic risk and the strict pregnancy prevention measures as specified in the Pregnancy Prevention Programme should be given by the physician to all patients, both male and female.

Psychiatric disorders

Depression, depression aggravated, anxiety, aggressive tendencies, mood alterations, psychotic symptoms, suicidal ideation, suicide attempts and suicide have been reported in patients treated with isotretinoin (see section 4.8). Particular care needs to be taken in patients with a history of depression and all patients should be monitored for signs of depression and referred for appropriate treatment if necessary. However, discontinuation of isotretinoin may be insufficient to alleviate symptoms and therefore further psychiatric or psychological evaluation may be necessary.

Awareness by family or friends may be useful to detect mental health deterioration.

Skin and subcutaneous tissues disorders

Acute exacerbation of acne is occasionally seen during the initial period but this subsides with continued treatment, usually within 7 - 10 days, and usually does not require dose adjustment.

Exposure to intense sunlight or to UV rays should be avoided. Where necessary a sun-protection product with a high protection factor of at least SPF 15 should be used.

Aggressive chemical dermabrasion and cutaneous laser treatment should be avoided in patients on isotretinoin for a period of 5 - 6 months after the end of the treatment because of the risk of hypertrophic scarring in atypical areas and post-inflammatory hyper or hypopigmentation in treated areas. Wax depilation should be avoided in patients on isotretinoin for at least a period of 6 months after treatment because of the risk of epidermal stripping.

Concurrent administration of isotretinoin with topical keratolytic or exfoliative anti-acne agents should be avoided as local irritation may increase (see section 4.5).

Patients should be advised to use a skin moisturising ointment or cream and a lip balm from the start of treatment as isotretinoin is likely to cause dryness of the skin and lips.

There have been post-marketing reports of severe skin reactions (e.g. erythema multiforme (EM), Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN)) associated with isotretinoin use. As these events may be difficult to distinguish from other skin reactions that may occur (see section 4.8), patients should be advised of the signs and symptoms and monitored closely for severe skin reactions. If a severe skin reaction is suspected, isotretinoin treatment should be discontinued.

Atypical reactions

Anaphylactic reactions have been reported, in some cases after previous topical exposure to retinoids. Allergic cutaneous reactions are reported infrequently. Serious cases of allergic vasculitis, often with purpura (bruises and red patches) of the extremities and extracutaneous involvement have been reported. Severe allergic reactions necessitate interruption of therapy and careful monitoring.

Eye disorders

Dry eyes, corneal opacities, decreased night vision and keratitis usually subsiding after discontinuation of therapy. Dry eyes can be helped by the application of a lubricating eye ointment or by the application of tear replacement therapy. Intolerance to contact lenses may occur which may necessitate the patient to wear glasses during treatment.

Decreased night vision has also been reported and the onset in some patients was sudden (see section 4.7). Patients experiencing visual difficulties should be referred for an expert ophthalmological opinion. Withdrawal of isotretinoin may be necessary.

Musculo-skeletal and connective tissue disorders

Myalgia, arthralgia and increase in serum creatine phosphokinase levels have been reported in patients receiving isotretinoin, particularly in those undertaking vigorous physical activity (see section 4.8). In some cases, this may progress to potentially life-threatening rhabdomyolysis.

Bone changes including premature epiphyseal closure, hyperostosis, and calcification of tendons and ligaments have been reported after several years of administration at very high doses for treating disorders of keratinisation. The dose levels, duration of treatment and

total cumulative dose in these patients generally far exceeded those recommended for the treatment of acne.

Benign intracranial hypertension

Cases of benign intracranial hypertension have been reported, some of which involved concomitant use of tetracyclines (see section 4.3 and section 4.5). Signs and symptoms of benign intracranial hypertension include headache, nausea and vomiting, visual disturbances and papilloedema. Patients who develop benign intracranial hypertension should discontinue isotretinoin immediately.

Hepatobiliary disorders

Liver enzymes should be checked before treatment, 1 month after the start of treatment, and subsequently at 3 monthly intervals unless more frequent monitoring is clinically indicated. Transient and reversible increases in liver transaminases have been reported. In many cases these changes have been within the normal range and values have returned to baseline levels during treatment. However, in the event of persistent clinically relevant elevation of transaminase levels, reduction of the dose or discontinuation of treatment should be considered.

Renal insufficiency

Renal insufficiency and renal failure do not affect the pharmacokinetics of isotretinoin. Therefore, isotretinoin can be given to patients with renal insufficiency. However, it is recommended that patients are started on a low dose and titrated up to the maximum tolerated dose (see section 4.2).

Lipid Metabolism

Serum lipids (fasting values) should be checked before treatment, 1 month after the start of treatment, and subsequently at 3 monthly intervals unless more frequent monitoring is clinically indicated. Elevated serum lipid values usually return to normal on reduction of the dose or discontinuation of treatment and may also respond to dietary measures.

Isotretinoin has been associated with an increase in plasma triglyceride levels. Isotretinoin should be discontinued if hypertriglyceridaemia cannot be controlled at an acceptable level or if symptoms of pancreatitis occur (see section 4.8). Levels in excess of 800 mg/dL or 9 mmol/L are sometimes associated with acute pancreatitis, which may be fatal.

Gastrointestinal disorders

Isotretinoin has been associated with inflammatory bowel disease (including regional ileitis) in patients without a prior history of intestinal disorders. Patients experiencing severe (haemorrhagic) diarrhoea should discontinue isotretinoin immediately.

High Risk Patients

In patients with diabetes, obesity, alcoholism or a lipid metabolism disorder undergoing treatment with isotretinoin, more frequent checks of serum values for lipids and/or blood glucose may be necessary. Elevated fasting blood sugars have been reported, and new cases of diabetes have been diagnosed during isotretinoin therapy.

Excipients: Soya-bean oil

SUPATANE contains soya-bean oil. If you are allergic to peanut or soya, do not use this medicine (see section 4.3).

4.5 Interaction with other medicines and other forms of interaction

Patients should not take vitamin A as concurrent medication due to the risk of developing hypervitaminosis A.

Cases of benign intracranial hypertension (pseudotumor cerebri) have been reported with concomitant use of isotretinoin and tetracyclines. Therefore, concomitant treatment with tetracyclines must be avoided (see section 4.3 and section 4.4).

Concurrent administration of isotretinoin with topical keratolytic or exfoliative anti-acne agents should be avoided as local irritation may increase (see section 4.4).

4.6 Fertility, pregnancy and lactation

Pregnancy

Pregnancy is an absolute contraindication to treatment with isotretinoin (see section 4.3). Women of childbearing potential have to use effective contraception during and up to one month after treatment. If pregnancy does occur in spite of these precautions during treatment with SUPATANE or in the month following, there is a great risk of very severe and serious malformation of the foetus (see section 4.3).

The foetal malformations associated with exposure to isotretinoin include central nervous system abnormalities (hydrocephalus, cerebellar malformation/abnormalities, microcephaly), facial dysmorphism, cleft palate, external ear abnormalities (absence of external ear, small or absent external auditory canals), eye abnormalities (microphthalmia), cardiovascular abnormalities (conotruncal malformations such as tetralogy of Fallot, transposition of great vessels, septal defects), thymus gland abnormality and parathyroid gland abnormalities. There is also an increased incidence of spontaneous abortion.

If pregnancy occurs in a woman treated with isotretinoin, treatment must be stopped and the patient should be referred to a physician specialised or experienced in teratology for evaluation and advice.

Breastfeeding

Isotretinoin is highly lipophilic, therefore the passage of isotretinoin into human milk is very likely. Due to the potential for adverse effects in the child exposed via mothers' milk, SUPATANE is contraindicated during breastfeeding (see section 4.3).

Fertility

Isotretinoin, in therapeutic dosages, does not affect the number, motility and morphology of sperm and does not jeopardise the formation and development of the embryo on the part of the men taking isotretinoin.

4.7 Effects on ability to drive and use machines

SUPATANE could potentially have an influence on the ability to drive and use machines.

Reported cases of decreased night vision have occurred during isotretinoin therapy and in some instances have persisted after therapy (see section 4.4 and section 4.8). Because the onset in some patients was sudden, patients should be advised of this potential problem and warned to be cautious when driving or operating machines.

Drowsiness, dizziness and visual disturbances have been reported. Patients should be warned that if they experience these effects they should not drive, operate machinery or take part in any other activities where the symptoms could put either themselves or others at risk.

4.8 Undesirable effects

Summary of safety profile

Some of the side effects associated with the use of isotretinoin are dose related. The side effects are generally reversible after altering the dose or discontinuation of treatment, however some may persist after treatment has stopped. The following symptoms are the most frequently reported undesirable effects with isotretinoin: dryness of the skin, dryness of the mucosae e.g. of the lips (cheilitis), the nasal mucosa (epistaxis) and the eyes (conjunctivitis).

Tabulated list of adverse reactions

The adverse reactions are listed below by MedDRA system organ class (SOC) and categories of frequency. Within each frequency grouping and SOC, adverse reactions are presented in order of decreasing seriousness.

Table 1 Tabulated list of adverse reactions in patients treated with isotretinoin

		suicide, suicide attempt, suicidal ideation, psychotic disorder, abnormal behaviour	
Nervous system disorders	Headache	Benign intracranial hypertension, convulsions, drowsiness, dizziness	
Eye disorders	Blepharitis, conjunctivitis, dry eye, eye irritation	Papilloedema (as sign of benign intracranial hypertension), cataract, colour blindness (colour vision deficiencies), contact lens intolerance, corneal opacity, decreased night vision, keratitis, photophobia, visual disturbances, blurred vision	
Ear and labyrinth disorders		Hearing impaired	
Vascular disorders		Vasculitis (for example Wegener's granulomatosis, allergic vasculitis)	
Respiratory, thoracic and mediastinal disorders	Nasopharyngitis, epistaxis, nasal dryness	Bronchospasm (particularly in patients with asthma), hoarseness	
Gastrointestinal disorders		Inflammatory bowel disease, colitis, ileitis, pancreatitis, gastrointestinal haemorrhage, haemorrhagic diarrhoea, nausea, dry throat (see section 4.4)	
Hepatobiliary disorders	Transaminase increased (see section 4.4)	Hepatitis	
Skin and subcutaneous tissue disorders	Pruritus, rash erythematous, dermatitis, cheilitis, dry skin, localised exfoliation, skin fragility (risk of frictional trauma)	Alopecia, acne fulminans, acne aggravated (acne flare), erythema (facial), exanthema, hair disorders, hirsutism, nail dystrophy, paronychia, photosensitivity reaction, pyogenic granuloma, skin hyperpigmentation, sweating increased	Erythema multiforme, Stevens-Johnson Syndrome, toxic epidermal necrolysis
Musculoskeletal and connective tissue disorders	Arthralgia, myalgia, back pain (particularly in children and adolescent patients)	Arthritis, calcinosis (calcification of ligaments and tendons), epiphyses premature fusion, exostosis, (hyperostosis), reduced bone density, tendonitis	Rhabdomyolysis
Renal and urinary disorders		Glomerulonephritis	
Reproductive system and breast disorders			Sexual dysfunction including erectile dysfunction and decreased libido, gynaecomastia, vulvovaginal dryness
General disorders and administration site conditions		Granulation tissue (increased formation of), malaise	
Investigations	Blood triglycerides increased, high density lipoprotein decreased	Blood cholesterol increased, blood glucose increased, haematuria, proteinuria	Blood creatine phosphokinase increased

* cannot be estimated from the available data

Reporting of suspected adverse reactions
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 to SAHPRA via the **"6.04 Adverse Drug Reaction Reporting Form"**, found online under SAHPRA's publications: <https://www.sahpra.org.za/Publications/Index>

4.9 Overdose
Isotretinoin is a derivative of vitamin A. Although the acute toxicity of isotretinoin is low, signs of hypervitaminosis A could appear in cases of accidental overdose. Manifestations of acute vitamin A toxicity include severe headache, nausea or vomiting, drowsiness, irritability and pruritus. Signs and symptoms of accidental or deliberate overdose with isotretinoin would probably be similar. These symptoms would be expected to be reversible. Further treatment is supportive and symptomatic.

5. PHARMACOLOGICAL PROPERTIES
5.1 Pharmacodynamic properties

