

# NEW ZEALAND DATA SHEET

## 1. PRODUCT NAME

OVESTIN

## 2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Estriol 2 mg

For a full list of excipients, see section 6.1 List of excipients.

## 3. PHARMACEUTICAL FORM

Tablets 2 mg - white, round, flat scored tablets with bevelled edges, coded DG above and 8 below the score line on one side and containing 2 mg estriol.

Diameter 6 mm, weight approximately 100 mg. The score line is only to facilitate breaking for ease of swallowing and not to divide into equal doses.

## 4. CLINICAL PARTICULARS

### 4.1 Therapeutic indications

Atrophy of the lower urogenital tract related to estrogen deficiency, notably:

- for the treatment of vaginal complaints such as dyspareunia, dryness and itching.
- for the prevention of recurrent infections of the vagina and lower urinary tract.
- in the management of micturition complaints (such as frequency and dysuria) and mild urinary incontinence.

Pre- and post-operative therapy in postmenopausal women undergoing vaginal surgery. A diagnostic aid in case of a doubtful atrophic cervical smear.

Climacteric complaints such as hot flushes and night sweating.

A diagnostic aid in case of a doubtful atrophic cervical smear.

Infertility due to cervical hostility.

### 4.2 Dose and method of administration

#### Dosage

OVESTIN is an estrogen-only product that may be given to women with or without a uterus.

#### Atrophy of the lower urogenital tract

4-8 mg per day for the first weeks, followed by a gradual reduction, based on relief of symptoms, until a maintenance dosage (e.g. 1-2 mg per day) is reached.

#### Pre- and post-operative therapy in postmenopausal women undergoing vaginal surgery

4-8 mg per day in the 2 weeks before surgery; 1-2 mg per day in the 2 weeks after surgery.

#### Climacteric complaints such as hot flushes and night sweating

4-8 mg per day during the first weeks, followed by a gradual reduction. The lowest effective dosage should be used. In case of long-term treatment in women with an intact uterus, monitoring of the endometrium or, alternatively, concomitant use of a progestagen is recommended (see also section 4.4

Special warnings and precautions for use).

#### **A diagnostic aid in case of a doubtful atrophic cervical smear**

2-4 mg per day for 7 days before taking the next smear.

#### **Infertility due to cervical hostility**

In general 1-2 mg per day on days 6-15 of the menstrual cycle. However, for some patients dosages as low as 1 mg per day are sufficient, whereas others may need up to 8 mg per day. Therefore, the dosage should be increased each month until an optimal effect on the cervical mucus is obtained.

#### **Method of Administration**

A missed dose should be taken as soon as remembered, unless it is more than 12 hours overdue. In the latter case the missed dose should be skipped and the next dose should be taken at the normal time. The tablets should be swallowed with some water or other drink, preferably at the same time every day. It is important that the total daily dose is taken at one time.

For initiation and continuation of treatment of postmenopausal symptoms, the lowest effective dose for the shortest duration of time should be used (see also section 4.4 Special warnings and precautions for use).

In women not taking HRT or women who switch from a continuous combined HRT product, treatment with OVESTIN may be started on any day. Women who switch from cyclic HRT regimen should start OVESTIN treatment one week after completion of the cycle.

### **4.3 Contraindications**

- Pregnancy
- Known, past or suspected breast cancer
- Known or suspected estrogen-dependent malignant tumours (e.g. endometrial cancer)
- Undiagnosed genital bleeding
- Untreated endometrial hyperplasia
- Previous or current venous thromboembolism (deep venous thrombosis, pulmonary embolism)
- Known thrombophilic disorders (e.g. protein C, protein S, or antithrombin deficiency, see section 4.4 Special warnings and precautions for use)
- Active or recent arterial thromboembolic disease (e.g. angina, myocardial infarction)
- Acute liver disease, or a history of liver disease as long as liver function tests failed to return to normal
- Hypersensitivity to the active substances or to any of the excipients
- Porphyria
- Rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption (see section 6.1 List of excipients)

### **4.4 Special warnings and precautions for use**

For the treatment of postmenopausal symptoms, HRT should only be initiated for symptoms that adversely affect quality of life. In all cases, a careful appraisal of the risks and benefits should be undertaken at least annually and HRT should only be continued as long as the benefit outweighs

the risk. All current and prospective users of HRT should be advised of the risks and benefits of HRT therapy. If prescribing HRT, the potential for increased cardiovascular, thrombotic and neoplastic adverse events must be considered.

### **Medical Examination/Follow-Up**

Before initiation or reinstating HRT, a complete personal and family medical history should be taken. Physical (including pelvic and breast) examination should be guided by this and by the contraindications and warnings for use. During treatment, periodic check-ups are recommended of a frequency and nature adapted to the individual woman. Women should be advised what changes in their breast should be reported to their doctor or nurse (see **Breast Cancer** below). Investigations, including appropriate imaging tools e.g. mammography, should be carried out in accordance with currently accepted screening practices, modified to the clinical needs of the individual.

### **Conditions Which Need Supervision**

If any of the following conditions are present, have occurred previously, and/or have been aggravated during pregnancy or previous hormone treatment, the patient should be closely supervised. It should be taken into account that these conditions may recur or be aggravated during treatment with OVESTIN, in particular:

- Leiomyoma (uterine fibroids) or endometriosis
- A history of, or risk factors for, thromboembolic disorders (see below)
- Risk factors for estrogen dependent tumours, e.g. 1<sup>st</sup> degree heredity for breast cancer
- Hypertension
- Liver disorders (e.g. liver adenoma)
- Diabetes mellitus with or without vascular involvement
- Cholelithiasis
- Migraine or (severe) headache
- Systemic lupus erythematosus
- A history of endometrial hyperplasia (see below)
- Epilepsy
- Asthma
- Otosclerosis
- Decreased glucose tolerance
- Hypercalcaemia

### **Reasons for Immediate Withdrawal of Therapy**

Therapy should be discontinued in case a contraindication is discovered and in the following situations:

- Jaundice or deterioration in liver function
- Significant increase in blood pressure
- New onset of migraine-type headache
- Pregnancy

### **Endometrial Hyperplasia and Carcinoma**

Clinical studies showed that the use of divided daily doses and long-term use of high doses of estriol (more than 8 mg daily) may lead to endometrium stimulation. In addition, one epidemiological study has shown that long-term treatment with low doses of oral estriol may increase the risk for

endometrial cancer. The risk increased with the duration of treatment and disappeared within one year after the treatment was stopped. The increased risk mainly concerned less invasive and highly differentiated tumours. In women with an intact uterus, the following precautions should be taken:

- The total daily dose should be taken at one time.
- The patient should be informed to contact a doctor if vaginal bleeding occurs. Vaginal bleeding during medication should always be investigated.
- During long-term treatment, the endometrium should be monitored at least annually.

Alternatively, a progestagen should be added, for at least 12-14 days of each calendar month.

The increased breast cancer risk associated with combined estrogen-progestagen treatment should be considered, when making a decision to either monitor the endometrium or add a progestagen. There are no indications that treatment with oral estriol alone increases the risk for breast cancer. Estrogens increase the risk of endometrial cancer. Close clinical surveillance of all women taking estrogens is important. Adequate diagnostic measures, including endometrial sampling when indicated, should be undertaken to rule out malignancy in all cases of undiagnosed persistent or recurring abnormal vaginal bleeding. There is no evidence that the use of “natural” estrogens results in a different endometrial risk profile than synthetic estrogens of equivalent estrogen dose.

### **Breast Cancer**

- HRT may increase mammographic density. This may complicate the radiological detection of breast cancer. Clinical studies reported that the likelihood of developing increased mammographic density was lower in subjects treated with estriol than in subjects treated with other estrogens.
- A randomized placebo-controlled trial, the Women’s Health Initiative study (WHI), and a meta-analysis of prospective epidemiological studies are consistent in finding an increased risk of breast cancer in women taking estrogens, estrogen-progestogen combinations or tibolone for HRT for several years (see section 4.8 Undesirable effects). For all HRT, an excess risk becomes apparent within a few years of use and increases with duration of intake but returns to baseline-within a few (at most five) years after stopping treatment.
- In the MWS, the relative risk of breast cancer with conjugated equine estrogens (CEE) or estradiol (E2) was greater when a progestogen was added, either sequentially or continuously, and regardless of type of progestogen. There was no evidence of a difference in risk between the different routes of administration.
- In the WHI study, the continuous combined conjugated equine estrogen and medroxyprogesterone acetate (CEE+MPA) product used was associated with breast cancers that were slightly larger in size and more frequently had local lymph node metastases compared to placebo.
- It is unknown whether OVESTIN carries the same risk. In a population-based case-control study in 3,345 women with invasive breast cancer and 3,454 controls, estriol was found not to be associated with an increased risk of breast cancer, in contrast to other estrogens. However, the clinical implications of these findings are as yet unknown. Therefore, it is important that the risk of being diagnosed with breast cancer is discussed with the patient and weighed against the known benefits of HRT.

## **Venous Thromboembolism**

- HRT is associated with a higher relative risk of developing venous thromboembolism (VTE), i.e. deep vein thrombosis or pulmonary embolism. One randomized controlled trial and epidemiological studies found a 2-3 fold higher risk for users compared with non-users. For non-users it is estimated that the number of cases of VTE that will occur over a 5 year period is about 3 per 1,000 women aged 50-59 years and 8 per 1,000 women aged 60-69 years. It is estimated that in healthy women who use HRT for 5 years, the number of additional cases of VTE over a 5 year period will be between 2 and 6 (best estimate =4) per 1,000 women aged 50-59 years and between 5 and 15 (best estimate =9) per 1,000 women aged 60-69 years. The occurrence of such an event is more likely in the first year of HRT than later. These studies did not include OVESTIN and, in the absence of data, it is unknown whether OVESTIN carries the same risk.
- Patients with known thrombophilic states have an increased risk of VTE and HRT may add to this risk. HRT is therefore contraindicated in these patients (see section 4.3 Contraindications).
- Generally recognized risk factors for VTE include use of estrogens, older age, major surgery, prolonged immobilization, obesity (Body Mass Index > 30 kg/m<sup>2</sup>), pregnancy/postpartum period, systemic lupus erythematosus (SLE) and breast cancer. There is no consensus about the role of varicose veins in VTE.
- As in all postoperative patients, prophylactic measures need be considered to prevent VTE following surgery. If prolonged immobilization is to follow elective surgery temporarily stopping HRT 4 to 6 weeks earlier is recommended. Treatment should not be restarted until the woman is completely mobilised.
- In women with no personal history of VTE but with a first degree relative with a history of thrombosis at young age, screening may be offered after careful counseling regarding its limitations (only a proportion of thrombophilic defects are identified by screening). If a thrombophilic defect is identified which segregates with thrombosis in family members or if the defect is 'severe' (e.g. antithrombin, protein S, or protein C deficiencies or a combination of defects) HRT is contraindicated.
- Patients with a history of recurrent VTE or known thrombophilic states have an increased risk of VTE. HRT may add to this risk. Personal or strong family history of thromboembolism or recurrent spontaneous abortion should be investigated in order to exclude a thrombophilic predisposition. Until a thorough evaluation of thrombophilic factors has been made or anticoagulant treatment initiated, use of HRT in such patients should be viewed as contraindicated. Those women already on anticoagulant treatment require careful consideration of the benefit-risk of use of HRT.
- If OVESTIN is used for the indication 'pre-and post operative therapy....' consideration should be given to prophylactic treatment against thrombosis.
- If VTE develops after initiating OVESTIN therapy, the medicine should be discontinued. Patients should be told to contact their doctors immediately when they are aware of a potential thromboembolic symptom (e.g. painful swelling of a leg, sudden pain in the chest, dyspnoea).

## **Coronary Artery Disease (CAD)**

There is no evidence from randomized controlled trials of cardiovascular benefit with continuous combined conjugated estrogens and medroxyprogesterone acetate (MPA). Two large clinical trials (WHI and HERS i.e. Heart and Estrogen/progestin Replacement Study) showed a possible increased risk of cardiovascular morbidity in the first year of use and no overall benefit. For other HRT products there are only limited data from randomized controlled trials examining effects in

cardiovascular morbidity or mortality. Therefore, it is uncertain whether these findings also extend to other HRT products.

### **Ischaemic stroke**

One large randomized clinical trial (WHI-trial) found, as a secondary outcome, an increased risk of ischaemic stroke in healthy women during treatment with continuous combined conjugated estrogens and MPA. For women who do not use HRT, it is estimated that the number of cases of stroke that will occur over a 5 year period is about 3 per 1,000 women aged 50-59 years and 11 per 1,000 women aged 60-69 years. It is estimated that for women who use conjugated estrogens and MPA for 5 years, the number of additional cases will be between 0 and 3 (best estimate = 1) per 1,000 users aged 50-59 years and between 1 and 9 (best estimate = 4) per 1,000 users aged 60-69 years. It is unknown whether the increased risk also extends to other HRT products.

### **Ovarian Cancer**

Long-term (at least 5-10 years) use of estrogen-only HRT products in hysterectomized women has been associated with an increased risk of ovarian cancer in some epidemiological studies. It is uncertain whether long-term use of combined HRT or low potency estrogens (such as OVESTIN) confers a different risk than estrogen-only products.

An increased risk of ovarian cancer in menopausal women taking estrogen only replacement therapy was observed in a large US study enrolling over 40,000 women on HRT. These women were followed up for a mean duration of 13.4 years (range 1 month to 19.8 years). The increased risk of ovarian cancer in those taking estrogen replacement therapy was 80%, RR 1.8 (95% CI: 1.1-3.0) at 10 to 19 years. This risk increased with duration of use; RR for 20 years or more years of use was 3.2 (95% CI: 1.7-5.7). This equates to approximately 3 and 8 additional cases per 10,000 women-years at these time points; (the incidence of ovarian cancer in non-users was 4.4 per 10,000 women years). This observation was most obvious in those women on long-term estrogen replacement therapy who had a prior history of hysterectomy (defined as simple hysterectomy or hysterectomy with unilateral oophorectomy). In this subpopulation, the RR was 2.0 (95% CI: 0.96-4.3) for between 10 and 19 years of use and 3.4 (95% CI: 1.6-7.5) for 20 years or more. It is not known if the results of this study apply to OVESTIN tablets as the study did not include exposure to OVESTIN tablets.

### **Hereditary and Acquired Angioedema**

Exogenous estrogens may induce or exacerbate symptoms of hereditary and acquired angioedema. Consider whether the benefits of estrogen therapy, including Ovestin, outweigh the risks in such women.

### **Hepatitis C**

During clinical trials with the hepatitis C virus (HCV) combination regimen ombitasvir/paritaprevir/ritonavir with and without dasabuvir, ALT elevations greater than 5 times the upper limit of normal (ULN) were significantly more frequent in women using ethinylestradiol-containing medicinal products such as combined hormonal contraceptives (CHCs). Additionally, also in patients treated with glecaprevir/pibrentasvir, ALT elevations were observed in women using ethinylestradiol-containing medications such as CHCs. Women using medicinal products containing estrogens other than ethinylestradiol, such as estradiol, had a rate of ALT elevation similar to those not receiving any estrogens; however, due to the limited number of women taking these other estrogens, caution is warranted for co-administration with the combination drug regimen ombitasvir/paritaprevir/ritonavir with or without dasabuvir and also the regimen

glecaprevir/pibrentasvir. See section 4.5 Interaction with other medicines and other forms of interaction.

### **Other Conditions**

- Estrogens may cause fluid retention, and therefore patients with cardiac or renal dysfunction should be carefully observed. Patients with terminal renal insufficiency should be closely observed, since it is expected that the level of circulating active ingredients in OVESTIN is increased.

- Estrogen may increase plasma triglyceride levels, which is a risk factor for pancreatitis and other complications.

Caution should be exercised in patients with pre-existing hypertriglyceridaemia since rare cases of large increases of plasma triglycerides leading to pancreatitis have been reported with estrogen therapy in this population. Women with pre-existing hypertriglyceridaemia should be closely monitored during treatment.

- Estriol is a weak gonadotrophin inhibitor without other significant effects on the endocrine system.
- There is no conclusive evidence for improvement of cognitive function. There is some evidence from the WHI trial of increased risk of probable dementia in women who start using continuous combined CEE and MPA after the age of 65. It is unknown whether the findings apply to younger post-menopausal women or other HRT products.
- OVESTIN is not intended for contraceptive use.

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

No examples of interactions between OVESTIN and other medicines have been reported in clinical practice. Although data are limited, interactions between OVESTIN and other medicinal products may occur. The following interactions have been described with use of combined oral contraceptives which may also be relevant for OVESTIN.

The metabolism of estrogens may be increased by concomitant use of substances known to induce drug-metabolizing enzymes, specifically cytochrome P450 enzymes, such as anticonvulsants (e.g. hydantoins (phenytoin), barbiturates (phenobarbital), carbamazepine), anti-infectives (e.g. griseofulvin, rifamycins (rifampicin, rifabutin), and antiretroviral agents (nevirapine, efavirenz)).

Ritonavir and nelfinavir, although known as strong inhibitors, by contrast exhibit inducing properties when used concomitantly with steroid hormones.

Herbal preparations containing St John's wort (*Hypericum Perforatum*) may induce the metabolism of estrogens.

Clinically, an increased metabolism of estrogens may lead to decreased effect and changes in the uterine bleeding profile.

Estriol may possibly increase the pharmacological effects of corticosteroids, succinylcholine, theophyllines and troleandomycin.

#### Effect of HRT with oestrogens on other medicinal products

Hormone contraceptives containing oestrogens have been shown to significantly decrease plasma concentrations of lamotrigine when co-administered due to induction of lamotrigine glucuronidation. This may reduce seizure control and/or worsening symptoms of bipolar disorder.

Although the potential interaction between hormone replacement therapy and lamotrigine has not been studied, it is expected that a similar interaction exists, which may lead to a reduction in seizure control and/or worsening symptoms of bipolar disorder among women taking both medicinal products together.

**Other interactions**

During clinical trials with the HCV combination drug regimen ombitasvir/paritaprevir/ritonavir with and without dasabuvir, ALT elevations greater than 5 times the upper limit of normal (ULN) were significantly more frequent in women using ethinylestradiol-containing medicinal products such as CHCs. Women using medicinal products containing estrogens other than ethinylestradiol, such as estradiol, had a rate of ALT elevation similar to those not receiving any estrogens; however, due to the limited number of women taking these other estrogens, caution is warranted for co-administration with the combination drug regimen ombitasvir/paritaprevir/ritonavir with or without dasabuvir and also the regimen with glecaprevir/pibrentasvir (see section 4.4 Special warnings and precautions for use).

**4.6 Fertility, pregnancy and lactation**

**Fertility**

OVESTIN tablets can be used for the treatment of women with infertility due to cervical sterility. Estriol therapy is not expected to have post-natal consequences as administration ends before possible implantation occurs.

**Pregnancy**

This medicine is contraindicated during pregnancy.

If pregnancy occurs during medication with OVESTIN, treatment should be withdrawn immediately. The results of most epidemiological studies to date relevant to inadvertent foetal exposure to estrogens indicate no teratogenic or foetotoxic effects.

**Lactation**

OVESTIN is not indicated during lactation. Estriol is excreted in breast milk and may decrease milk production.

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

There is no information to suggest that OVESTIN affects a patient’s ability to drive or operate machinery.

**4.8 Undesirable effects**

From literature and safety surveillance monitoring, the following adverse reactions have been reported:

<b>System organ class</b>	<b>Adverse reactions*</b>
Metabolism and nutrition disorders	Fluid retention
Gastrointestinal disorders	Nausea
Reproductive system and breast disorders	Breast discomfort and pain Postmenopausal spotting Cervical discharge

General disorders and administration site conditions	Application site irritation and pruritus Flu-like symptoms
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\*MedDRA version 15.1

These adverse reactions are usually transient, but may also be indicative of too high a dosage. Other adverse reactions have been reported in association with estrogen-only and estrogen- progestogen combined treatment. In the absence of data, it is unknown whether OVESTIN is distinct in this regard.

- Estrogen-dependent neoplasms benign and malignant, e.g. endometrial cancer and breast cancer. For further information see section 4.3 Contraindications and section 4.4 Special warnings and precautions for use.
- Venous thromboembolism, i.e. deep leg or pelvic venous thrombosis and pulmonary embolism, is more frequent among HRT users than among non-users. In the absence of data, it is unknown whether OVESTIN is distinct in this regard. For further information see section 4.3 Contraindications and section 4.4 Special warnings and precautions for use.
- Myocardial infarction and stroke
- Gall bladder disease
- Skin and subcutaneous disorders: chloasma, erythema multiforme, erythema nodosum, vascular purpura
- Probable dementia over the age of 65 (see section 4.4 Special warnings and precautions for use)
- Angioedema.

#### **Breast cancer risk**

- The increased risk in users of estrogen-only therapy is substantially lower than that seen in users of estrogen-progestagen combinations.
- The level of risk is dependent on the duration of use (see section 4.4 Special warnings and precautions for use).

According to evidence from a large number of epidemiological studies and one randomised placebo- controlled trial, the Women's Health Initiative (WHI), the overall risk of breast cancer increases with increasing duration of HRT use in current or recent HRT users.

For estrogen-only HRT, estimates of relative risk (RR) from a reanalysis of original data from 51 epidemiological studies (in which >80% of HRT use was estrogen-only HRT) and from the epidemiological Million Women Study (MWS) are similar at 1.35 (95% CI: 1.21-1.49) and 1.30 (95% CI: 1.21-1.40), respectively.

For estrogen plus progestagen combined HRT, several epidemiological studies have reported an overall higher risk for breast cancer than with estrogens alone.

The MWS reported that, compared to never users, the use of various types of estrogen-progestagen combined HRT was associated with a higher risk of breast cancer (RR = 2.00, 95% CI: 1.88-2.12) than use of estrogens alone (RR = 1.30, 95% CI: 1.21-1.40) or use of tibolone (RR = 1.45, 95% CI: 1.25-1.68).]

The WHI trial reported a risk estimate of 1.24 (95% CI: 1.01-1.54) after 5.6 years of use of estrogen-progestagen combined HRT (CEE+MPA) in all users compared with placebo.

The absolute risks calculated from the MWS and the WHI trials are presented below:

The MWS has estimated, from the known average incidence of breast cancer in developed countries, that:

- For women not using HRT, about 32 in every 1,000 are expected to have breast cancer diagnosed between the ages of 50 and 64 years.
- For 1,000 current or recent users of HRT, the number of additional cases during the corresponding period will be
  - For users of estrogen-only replacement therapy
    - \* between 0 and 3 (best estimate = 1.5) for 5 years' use
    - \* between 3 and 7 (best estimate = 5) for 10 years' use
  - For users of estrogen plus progestagen combined HRT
    - \* between 5 and 7 (best estimate = 6) for 5 years' use
    - \* between 18 and 20 (best estimate = 19) for 10 years' use

The WHI trial estimated that after 5.6 years of follow-up of women between the ages of 50 and 79 years, an additional 8 cases of invasive breast cancer would be due to estrogen-progestagen combined HRT (CEE+MPA) per 10,000 women years.

According to calculations from the trial data, it is estimated that:

- For 1,000 women in the placebo group about 16 cases of invasive breast cancer would be diagnosed in 5 years
- For 1,000 women who used estrogen + progestagen combined HRT (CEE+MPA), the number of additional cases would be between 0 and 9 (best estimate = 4) for 5 years' use

The number of additional cases of breast cancer in women who use HRT is broadly similar for women who start HRT irrespective of age at start of use (between the ages of 45-65) (see section 4.4 Special warnings and precautions for use).

#### **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 <https://pophealth.my.site.com/carmreportnz/s/>

#### **4.9 Overdose**

The acute toxicity of estriol in animals is very low. Therefore, toxic symptoms are not expected to occur if several tablets are taken simultaneously. In cases of acute overdose, nausea, vomiting, and withdrawal bleeding in females may develop. No specific antidote is known. Symptomatic treatment can be given if necessary.

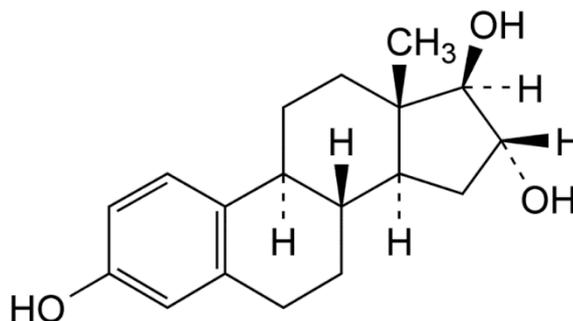
For advice on the management of overdose please contact the National Poisons Centre on 0800 POISON (0800 764766).

## 5. PHARMACOLOGICAL PROPERTIES

### 5.1 Pharmacodynamic properties

**Pharmacotherapeutic group:** natural and semisynthetic estrogens

**ATC code:** G03C A04



OVESTIN contains the natural female hormone estradiol. Unlike other estrogens, estradiol is short acting since it has only a short retention time in the nuclei of endometrial cells. It substitutes for the loss of estrogen production in menopausal women and alleviates menopausal symptoms. Estradiol is particularly effective in the treatment of urogenital symptoms. In case of atrophy of the lower urogenital tract estradiol induces the normalization of the urogenital epithelium and helps to restore the normal microflora and the physiological pH in the vagina. As a result, it increases the resistance of the urogenital epithelial cells to infection and inflammation reducing vaginal complaints such as dyspareunia, dryness, itching, vaginal and urinary infections, micturition complaints and mild urinary incontinence.

### 5.2 Pharmacokinetic properties

#### Absorption

After oral administration estradiol is rapidly and almost completely absorbed from the gastrointestinal tract.

#### Distribution

Peak plasma levels of unconjugated estradiol are reached within 1 hour of administration. After oral administration of 8 mg estradiol,  $C_{max}$  is approximately 200 ng/ml,  $C_{min}$  is approximately 20 ng/ml and  $C_{average}$  approximately 40 ng/ml.

#### Metabolism

Nearly all (90%) estradiol is bound to albumin in the plasma and in contrast with other estrogens, hardly any estradiol is bound to sex hormone-binding globulin. The metabolism of estradiol consists mainly of conjugation and deconjugation during enterohepatic circulation.

#### Elimination

Estradiol, being a metabolic end product, is mainly excreted via the urine in the conjugated form. Only a small part ( $\pm 2\%$ ) is excreted via the faeces, mainly as unconjugated estradiol.

### 5.3 Preclinical safety data

#### Clinical trial information

- Relief of menopausal symptoms was achieved during the first weeks of treatment.
- Vaginal bleeding after treatment with OVESTIN has only rarely been reported.

## 6. PHARMACEUTICAL PARTICULARS

### 6.1 List of excipients

Colloidal silicon dioxide, lactose monohydrate, magnesium stearate, potato starch, povidone.

### 6.2 Incompatibilities

No data available.

### 6.3 Shelf life

3 years from date of manufacture.

### 6.4 Special precautions for storage

Store tablets at 2 - 30°C. Store in original pack to protect from light and moisture.

### 6.5 Nature and contents of container

OVESTIN tablets are packed in push through strips of PVC film backed by aluminium foil provided with heat seal coating on the side in contact with the tablets. Each push through strip contains 30 tablets. The strips are packed in cardboard boxes.

### 6.6 Special precautions for disposal and other handling

No data available.

## 7. MEDICINE SCHEDULE

Prescription medicine

## 8. SPONSOR

Pharmacy Retailing (NZ) Ltd Trading as Healthcare Logistics  
Auckland, New Zealand

[www.aspenpharma.co.nz](http://www.aspenpharma.co.nz)

Ph: (09) 915 9500

Email: [aspen@aspenpharma.co.nz](mailto:aspen@aspenpharma.co.nz)

## 9. DATE OF FIRST APPROVAL

3 June 2016

## 10. DATE OF REVISION OF THE TEXT

26 February 2025

## SUMMARY TABLE OF CHANGES

Section changed	Summary of new information
4.4	Added pancreatitis information