IRISH MEDICINES BOARD ACT 1995, as amended

Medicinal Products (Control of Placing on the Market) Regulations, 2007, as amended

PA0964/008/001
Case No: 2082307

The Irish Medicines Board in exercise of the powers conferred on it by the above mentioned Regulations hereby grants to

Transferred from PA0261/003/003.

NV Organon

Kloosterstraat 6, **5349 AB Oss**, **Netherlands**

an authorisation, subject to the provisions of the said Regulations, in respect of the product

Deca Durabolin 25 mg/ml Solution for Injection (syringe)

the particulars of which are set out in the attached Schedule. The authorisation is also subject to the general conditions as may be specified in the said Regulations as listed on the reverse of this document.

This authorisation, unless previously revoked, shall continue in force from **02/07/2010**.

Signed on behalf of the Irish Medicines Board this

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A person authorised in that behalf by the said Board.

Part II

Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Deca Durabolin 25 mg / ml Solution for Injection (syringe)

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml contains nandrolone decanoate 25 mg.

Excipients: Also contains 0.1ml of Benzyl alcohol and up to 1ml of arachis oil.

For a full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Solution for Injection
A clear pale yellow to yellow oily sterile solution for injection.

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

In the management of conditions associated with catabolism and negative nitrogen balance such as debility, burns, osteoporosis, refractory anaemia and renal failure.
As an adjunct in the management of disseminated mammary carcinoma in the female.

4.2 Posology and method of administration

Dosage
Adults:
The usual initial dose is 25 to 50 mg once ever 3 weeks. Doses of 50 mg once every 3 weeks may be used in acute renal failure, osteoporosis, or mammary carcinoma.

Children:
Dosage may be varied depending on the state of the child, but should not exceed 0.5 mg/kg body weight once every 3 weeks.

Administration
Deep intramuscular injection.

4.3 Contraindications

Use in patients with carcinoma of prostate or testes, or breast carcinoma in the male.
Use during pregnancy.
Use in patients allergic to peanuts or soya.
Known hypersensitivity to the active substance or to any of the above excipients.

4.4 Special warnings and precautions for use

If signs of virilisation develop, discontinuation of the treatment should be considered, preferably in consultation with the patient.
This product should only be used with great caution in patients with renal failure, cardiac or liver dysfunction, or in those with a history of coronary artery disease, epilepsy, hypertension or migraine. Alterations in glucose tolerance may occur, requiring surveillance for latent diabetes, and possible changes in control for diabetic patients.

Patients with skeletal metastases of breast carcinoma should be monitored. In these patients hypercalcaemia may develop both spontaneously and as a result of anabolic steroid therapy. The latter can be indicative of a positive tumor response to the hormonal treatment. Nevertheless, the hypercalcaemia should first be treated appropriately and after restoration of normal calcium levels hormone therapy can be resumed.

Fluid retention may occur.

When used in children, acceleration of bone maturation occurs with premature epiphyseal closure.

The use of anabolic steroids to enhance athletic ability may carry severe risks to the user’s health and should be discouraged.

Since Deca Durabolin contains benzyl alcohol as an excipient, it should not be used in children younger than 3 years.

4.5 Interaction with other medicinal products and other forms of interaction

Concurrent administration with rifampicin, barbiturates, phenytoin, dichloralphenazone, phenylbutazone, carbamazepine may decrease its effect. Use with an anticoagulant may alter the effect of the latter.
Anabolic steroids may improve glucose tolerance and decrease the need for insulin or other antidiabetic medicines in diabetics.

4.6 Pregnancy and lactation

The drug may produce virilisation of offspring of women receiving the drug during pregnancy. Use is therefore contraindicated, effects of use during breast feeding are uncertain and use should be avoided.

4.7 Effects on ability to drive and use machines

None known.

4.8 Undesirable effects

Dependent on the dose, frequency and total period of administration of Deca-Durabolin the following undesirable effects may occur (see also Section 4.4):

System Organ Class	MedDRA term*
Endocrine disorders	Virilism Hirsutism
Metabolism and nutrition disorders	Hyperlipidaemia
Psychiatric disorders	Libido increased
Vascular disorders	Hypertension
Respiratory, thoracic and mediastinal disorders	Hoarseness Dysphonia
Gastrointestinal disorders	Nausea
Hepato-biliary disorders	Hepatic function abnormal Peliosis hepatis

Skin and subcutaneous tissue disorders	Acne Rash Pruritus
Musculoskeletal, connective tissue and bone disorders	Epiphyses premature fusion
Renal and urinary disorders	Urine flow decreased
Reproductive system and breast disorders	Benign prostatic hyperpasia Priapism Penis enlarged Enlarged clitoris Oligomenorrhoea
General disorders and administration site conditions	Oedema Injection site reaction
Investigations	High density lipoprotein decreased Sperm count decreased Haemoglobin increased
Injury, poisoning and procedural complications	Intentional misuse

*MedDRA version 7.1.

The terms used to describe the undesirable effects are also meant to include synonyms and related terms.

Liver tumors have been reported occasionally on prolonged treatment with orally active C17-alpha-alkylated anabolic steroids. A relationship between liver tumors and non C17-alpha-alkylated anabolic steroids such as Nandrolone esters appears to be highly unlikely but cannot be absolutely excluded.

4.9 Overdose

The acute toxicity of nandrolone decanoate in animals is very low. There are no reports of acute overdosage with Deca-Durabolin in the human.

5 PHARMACOLOGICAL PROPERTIES

Nandrolone decanoate has the ATC code: A14A B01.

5.1 Pharmacodynamic properties

Deca-Durabolin is an injectable anabolic preparation. The pharmacologically active substance is Nandrolone. The decanoate ester gives the preparation duration of action of about three weeks after injection.
Nandrolone is chemically related to the male hormone. Compared to testosterone, it has an enhanced anabolic and reduced androgenic activity. This has been demonstrated in animal bioassays and explained by receptor binding studies. The low androgenicity of Nandrolone is confirmed in clinical use.

In the human, Deca-Durabolin has been shown to positively influence calcium metabolism and to increase bone mass in osteoporosis. Furthermore, Deca-Durabolin has a nitrogen-saving action.
This effect on protein metabolism has been established by metabolic studies and is utilised therapeutically in conditions where a protein deficiency exists such as during chronic debilitating diseases and after major surgery and severe trauma. In these conditions, Deca-Durabolin serves as a supportive adjunct to specific therapies and dietary measures as well as parenteral nutrition.

Androgenic effects (e.g. virilisation) are relatively uncommon at the recommended dosages. Nandrolone lacks the C17-alpha-alkyl group that is associated with the occurrence of liver dysfunction and cholestasis.

5.2 Pharmacokinetic properties

Nandrolone decanoate is slowly released from the injection site into the blood with a half-life of 6 days. In the blood, the ester is rapidly hydrolysed to Nandrolone with a half-life of one hour or less. The half-life for the combined process of hydrolysis of Nandrolone decanoate and of distribution and elimination of Nandrolone is 4.3 hours. Nandrolone is metabolised by the liver. The main excretion products in the urine are 19-Norandrosterone and 19-noretiocholoanolone. It is not known whether these metabolites display a pharmacological action.

5.3 Preclinical safety data

Pharmacological studies in animals on the toxicity after repeated dosing, genotoxicity and carcinogenicity did not indicate a safety risk for humans. No animal data on reproduction are available. The use of androgens in different species has demonstrated to result in masculinisation of the external genitals of female fetuses.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Benzyl alcohol
Arachis oil

6.2 Incompatibilities

In the absence of compatibility studies this medicinal product must not be mixed with other medicinal products.

6.3 Shelf Life

As packaged for sale: 3 years
This product must be used immediately after opening.

6.4 Special precautions for storage

Store below 25°C. Do not refrigerate.
Keep the syringe in the outer carton to protect from light.

6.5 Nature and contents of container

1 ml disposable clear Type I glass syringe with affixed needle, the whole blister is packed in an outer cardboard carton.

6.6 Special precautions for disposal and other handling

For single use only. Discard any remaining solution after use.

7 MARKETING AUTHORISATION HOLDER

NV Organon
Kloosterstraat 6
5349 AB Oss
The Netherlands

8 MARKETING AUTHORISATION NUMBER

PA 0964/008/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 01 April 1979

Date of last renewal: 01 April 2009

10 DATE OF REVISION OF THE TEXT

July 2010