

## **BETNOVATE™ SCALP APPLICATION**

### **PRESENTATION**

*BETNOVATE* Scalp Application is a transparent, slightly gelled solution containing 0.1% w/w betamethasone as valerate. The vehicle contains 50% of isopropyl alcohol, which has antibacterial activity. This preparation complies with the specifications for Betamethasone Valerate Scalp Application BP.

### **CLINICAL INFORMATION**

#### **Indications**

Steroid responsive dermatoses of the scalp such as psoriasis, seborrhoea capitis, inflammation associated with severe dandruff.

#### **Dosage and Administration**

A small quantity of *BETNOVATE* Scalp Application should be applied to the scalp night and morning until improvement is noticeable. It may then be possible to sustain improvement by applying once a day, or less frequently.

Due to the flammable nature of betamethasone valerate scalp application, patients should avoid smoking, heat including the use of hair dryer or being near an open flame during application and immediately after use.

#### **Children**

Betamethasone valerate is contraindicated in children under one year of age.

Children are more likely to develop local and systemic side effects of topical corticosteroids and, in general, require shorter courses and less potent agents than adults.

Care should be taken when using betamethasone valerate to ensure the amount applied is the minimum that provides therapeutic benefit.

#### **Elderly**

The greater frequency of decreased hepatic or renal function in the elderly may delay elimination if systemic absorption occurs. Therefore the minimum quantity should be used for the shortest duration to achieve the desired clinical benefit.

#### **Renal / Hepatic Impairment**

In case of systemic absorption (when application is over a large surface area for a prolonged period) metabolism and elimination may be delayed therefore increasing the risk of systemic toxicity. Therefore the minimum quantity should be used for the shortest duration to achieve the desired clinical benefit.

### **Contraindications**

- Infections of the scalp.
- Hypersensitivity to any ingredient of the preparation.

Betamethasone valerate is contraindicated in dermatoses in infants under one year of age, including dermatitis.

### **Warnings and Precautions**

Local hypersensitivity reactions (*see Adverse Reactions*) may resemble symptoms of the condition under treatment.

Manifestations of hypercortisolism (Cushing's syndrome) and reversible hypothalamic-pituitary-adrenal (HPA) axis suppression, leading to glucocorticosteroid insufficiency, can occur in some individuals as a result of increased systemic absorption of topical steroids. If either of the above are observed, withdraw the drug gradually by reducing the frequency of application, or by substituting a less potent corticosteroid. Abrupt withdrawal of treatment may result in glucocorticosteroid insufficiency (*see Adverse Reactions*).

Risk factors for increased systemic effects are:

- Potency and formulation of topical steroid
- Duration of exposure
- Application to a large surface area
- Use on occluded areas of skin e.g. on intertriginous areas or under occlusive dressings (in infants the nappy may act as an occlusive dressing)
- Increasing hydration of the stratum corneum
- Use on thin skin areas such as the face
- Use on broken skin or other conditions where the skin barrier may be impaired
- In comparison with adults, children may absorb proportionally larger amounts of topical corticosteroids and thus be more susceptible to systemic adverse effects. This is because children have an immature skin barrier and a greater surface area to body weight ratio compared with adults.

Appropriate antimicrobial therapy should be used whenever treating inflammatory lesions which have become infected. Any spread of infection requires withdrawal of topical corticosteroid therapy and systemic administration of antimicrobial agents.

### **Children**

Long-term continuous topical therapy should be avoided where possible, particularly in infants and children, as adrenal suppression can occur even without occlusion.

### **Infection Risk with Occlusion**

Bacterial infection is encouraged by the warm, moist conditions within skin folds or caused by occlusive dressings. When using occlusive dressings, the skin should be cleansed before a fresh dressing is applied.

### **Use in Psoriasis**

Topical corticosteroids should be used with caution in psoriasis as rebound relapses, development of tolerances, risk of generalised pustular psoriasis and development of local or systemic toxicity due to impaired barrier function of the skin have been reported in some cases. If used in psoriasis, careful patient supervision is important.

### **Interactions**

Co-administered drugs that can inhibit CYP3A4 (e.g. ritonavir, itraconazole) have been shown to inhibit the metabolism of corticosteroids leading to increased systemic exposure. The extent to which this interaction is clinically relevant depends on the dose and route of administration of the corticosteroids and the potency of the CYP3A4 inhibitor.

### **Pregnancy and Lactation**

#### **Fertility**

There are no data in humans to evaluate the effect of topical corticosteroids on fertility.

#### **Pregnancy**

There are limited data from the use of betamethasone valerate in pregnant women.

Topical administration of corticosteroids to pregnant animals can cause abnormalities of foetal development. (*see Non-clinical Information*).

The relevance of this finding to humans has not been established; however, administration of betamethasone valerate during pregnancy should only be considered if the expected benefit to the mother outweighs the risk to the foetus. The minimum quantity should be used for the minimum duration.

#### **Lactation**

The safe use of topical corticosteroids during lactation has not been established. It is not known whether topical administration of corticosteroids could result in sufficient systemic absorption to produce detectable amounts in breast milk. Administration of betamethasone valerate during lactation should only be considered if the expected benefit to the mother outweighs the risk to the infant.

If used during lactation betamethasone valerate should not be applied to the breasts to avoid accidental ingestion by the infant.

### **Ability to Perform Tasks that Require Judgement, Motor or Cognitive Skills**

There have been no studies to investigate the effect of betamethasone valerate on driving performance or the ability to operate machinery. A detrimental effect on such activities would not be anticipated from the adverse reaction profile of topical betamethasone valerate.

### **Adverse Reactions**

Adverse drug reactions (ADRs) are listed below by MedDRA system organ class and by frequency. Frequencies are defined as: very common ( $\geq 1/10$ ), common ( $\geq 1/100$  and  $< 1/10$ ), uncommon ( $\geq 1/1,000$  and  $< 1/100$ ), rare ( $\geq 1/10,000$  and  $< 1/1,000$ ) and very rare ( $< 1/10,000$ ), including isolated reports.

### **Post-marketing data**

#### **Infections and Infestations**

Very rare      Opportunistic infection

#### **Immune System Disorders**

Very rare      Local hypersensitivity

Local hypersensitivity reactions may resemble symptoms of the condition under treatment. If signs of hypersensitivity appear, the drug should be stopped immediately.

#### **Endocrine Disorders**

Very rare      Hypothalamic-pituitary adrenal (HPA) axis suppression Cushingoid features (e.g. moon face, central obesity), delayed weight gain/growth retardation in children, osteoporosis, glaucoma, hyperglycaemia/glucosuria, cataract, hypertension, increased weight/obesity, decreased endogenous cortisol levels, alopecia, trichorrhexis

#### **Skin and Subcutaneous Tissue Disorders**

Common      Pruritus, local skin burning/skin pain  
Very rare      Allergic contact dermatitis/dermatitis, erythema, rash, urticaria, pustular psoriasis, skin thinning\*/skin atrophy\*, skin wrinkling\*, skin dryness\*, striae\*, telangiectasias\*, pigmentation changes\*, hypertrichosis, exacerbation of underlying symptoms

#### **General Disorders and Administration Site Conditions**

Very rare      Application site irritation/pain

\*Skin features secondary to local and/or systemic effects of hypothalamic-pituitary adrenal (HPA) axis suppression.

## **Overdosage**

### **Symptoms and signs**

Topically applied betamethasone valerate may be absorbed in sufficient amounts to produce systemic effects. Acute overdosage is very unlikely to occur, however, in the case of chronic overdosage or misuse the features of hypercortisolism may occur (*see Adverse Reactions*).

### **Treatment**

In the event of overdose, betamethasone valerate should be withdrawn gradually by reducing the frequency of application, or by substituting a less potent corticosteroid because of the risk of glucocorticosteroid insufficiency.

Further management should be as clinically indicated or as recommended by the national poisons centre, where available.

## **Clinical Pharmacology**

### **Pharmacodynamics**

#### **ATC code**

D07AC01 Corticosteroids, potent (group III)

#### **Mechanism of action**

Topical corticosteroids act as anti-inflammatory agents via multiple mechanisms to inhibit late phase allergic reactions including decreasing the density of mast cells, decreasing chemotaxis and activation of eosinophils, decreasing cytokine production by lymphocytes, monocytes, mast cells and eosinophils, and inhibiting the metabolism of arachidonic acid.

#### **Pharmacodynamic effects**

Topical corticosteroids have anti-inflammatory, antipruritic, and vasoconstrictive properties.

### **Pharmacokinetics**

#### **Absorption**

Topical corticosteroids can be systemically absorbed from intact healthy skin. The extent of percutaneous absorption of topical corticosteroids is determined by many factors, including the vehicle and the integrity of the epidermal barrier. Occlusion, inflammation and/or other disease processes in the skin may also increase percutaneous absorption.

### **Distribution**

The use of pharmacodynamic endpoints for assessing the systemic exposure of topical corticosteroids is necessary because circulating levels are well below the level of detection.

### **Metabolism**

Once absorbed through the skin, topical corticosteroids are handled through pharmacokinetic pathways similar to systemically administered corticosteroids. They are metabolised, primarily in the liver.

### **Elimination**

Topical corticosteroids are excreted by the kidneys. In addition, some corticosteroids and their metabolites are also excreted in the bile.

## **NON-CLINICAL INFORMATION**

### **Carcinogenesis / Mutagenesis**

#### **Carcinogenesis**

Long-term animal studies have not been performed to evaluate the carcinogenic potential of betamethasone valerate.

#### **Genotoxicity**

No specific studies have been conducted to investigate the genotoxic potential of betamethasone valerate.

#### **Fertility**

The effect on fertility of betamethasone valerate has not been evaluated in animals.

#### **Pregnancy**

Subcutaneous administration of betamethasone valerate to mice or rats at doses  $\geq 0.1$  mg/kg/day or rabbits at doses  $\geq 12$  micrograms/kg/day during pregnancy produced foetal abnormalities including cleft palate.

## **INSTRUCTIONS FOR USE/HANDLING**

Keep away from eyes.

Flammable. Do not use or dry the hair near a fire or naked flame.

Keep all medicines out of the reach of children.

## DIRECTIONS FOR USE

This preparation has been specially produced for application directly on to the scalp from the squeeze bottle.

Remove the cap, then introduce the nozzle through the hair and on to the affected area of scalp.

Squeeze the bottle gently allowing the liquid to spread until the affected area is completely covered. You will experience a cooling sensation as the liquid evaporates leaving the active medicament on the scalp. Your hair will be unaffected. If necessary, *BETNOVATE* Scalp Application may be massaged into the scalp using the tips of the fingers.

Apply twice daily to the affected area of scalp or as directed by your doctor.

When washing or shampooing the hair, apply *BETNOVATE* Scalp Application **after** this procedure has been carried out. Application to parts of the body other than the scalp should be made only on the advice of your doctor.



## PHARMACEUTICAL PARTICULARS

### List of Excipients

Carbomer  
Isopropyl alcohol  
Sodium hydroxide  
Purified water

### Shelf-Life

The expiry date is indicated on the packaging.

**Special Precautions for Storage**

Do not store above 25°C. Keep container tightly closed when not in use. Contents are flammable. Keep away from fire, flame or heat. Do not leave betamethasone valerate scalp application in direct sunlight.

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