**Diseases of the epidermis and dermis**

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**Pityriasis**

**Primary pityriasis**, excessive bran-like scales on the skin, characterized by overproduction of keratinized epithelial cells, can be caused by:

* Hypovitaminosis A
* Nutritional deficiency of B vitamins, especially of riboflavin and nicotinic acid, in pigs, or linolenic acid, and probably other essential unsaturated fatty acids
* Poisoning by iodine
* Pityriasis rosea occurs in humans and pigs and the etiology is unknown. The literature for and against an infectious etiology has been reviewed.

**Secondary pityriasis**, characterized by excessive desquamation of epithelial cells is usually associated with:

* Scratching in flea, louse and mange infestations
* Keratolytic infection, e.g. with ringworm fungus.

Pityriasis scales are accumulations of keratinized epithelial cells, sometimes softened and made greasy by the exudation of serum or sebum. Overproduction, when it occurs, begins around the orifices of the hair follicles and spreads to the surrounding stratum corneum.

Primary pityriasis scales are superficial, accumulate where the coat is long, and are usually associated with a dry, lusterless coat. Itching or other skin lesions are not features. Secondary pityriasis is usually accompanied by the lesions of the primary disease. Pityriasis is identified by the absence of parasites and fungi from skin scrapings.' \

! **Differential diagnosis**

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* + Hyperkeratosis
  + Parakeratosis

**TREATMENT**

1-Primary treatment requires correction of the primary cause.

2-Supportive treatment commences with a thorough washing, followed by

alternating applications of a bland, emollient ointment and an alcoholic lotion. Salicylic acid is frequently incorporated into a lotion or ointment with a lanolin base.

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**HYPERKERATOSIS**

Epithelial cells accumulate on the skin as a result of excessive keratinization of epithelial cells and intercellular bridges, interference with normal cell division in the granular layer of the epidermis and hypertrophy of the stratum corneum.

Lesions may be:-

**local** at pressure points, e.g. elbows, when animals lie habitually on hard surfaces.

**Generalized** hyperkeratosis may be caused by:

* Poisoning with highly chlorinated naphthalene compounds
* Chronic arsenic poisoning
* Inherited congenital ichthyosis
* Inherited dyserythropoiesis- dyskeratosis.

The skin is dry, scaly, thicker than normal, usually corrugated, hairless and fissured in a grid like pattern. Secondary infection of deep fissures may occur if the area is continually wet. However, the lesion is usually dry and the hyperkeratotic material can be removed, leaving the underlying skin intact.

Confirmation of the diagnosis is by the demonstration of the characteristically thickened stratum corneum in a biopsy section, which also serves to differentiate the condition from parakeratosis and inherited ichthyosis.

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Primary treatment depends on correction of the cause. Supportive treatment is by the application of a keratolytic agent (e.g. salicylic acid ointment) .

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**Parakeratosis**

Parakeratosis, a skin condition characterized by incomplete keratinization of epithelial cells, can be: Caused by

* nonspecific chronic inflammation of cellular epidermis
* Associated with dietary deficiency of zinc
* Part of an inherited disease.

The initial lesion comprises edema of the . prickle cell layer, dilatation of the intercellular lymphatics, and leukocyte infiltration. Imperfect keratinization of epithelial cells at the granular layer of the epidermis follows, and the horn cells produced are sticky and soft, retain their nuclei and stick together to form large masses, which stay fixed to the underlying

tissues or are shed as thick scales.

The lesions may be extensive and diffuse but are often confined to the flexor aspects of joints (referred to historically in horses as mallenders and sallenders) . Initially the skin is reddened, followed by thickening and gray discoloration. Large, soft scales accumulate, are often held in place by hairs and usually crack and fissure, and their removal leaves a raw, red

surface. Hyperkeratosis scales are thin, dry and accompany an intact, normal skin.

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Confirmation of a diagnosis of parakeratosis is by the identification of imperfect keratinization in a histopathological examination of a biopsy or a skin section at necropsy.

**Differenial diagnosisIF**FERENTIAL DIAGNOSIS

• Hyperkeratosis

• Pachyderma

• Ringworm

• Inherited ichthyosis

• In herited Adema disease in cattle

• Inherited epidermal dysplasia

**TREATMENT**

**Primary treatment** requires correction of any nutritional deficiency.

Supportive treatment includes removal of the crusts by the use of keratolytic agent (e.g. salicylic acid ointment) or by vigorous scrubbing with soapy water, followed by application of an astringent (e.g. white lotion paste), which must be applied frequently and for some time after the lesions have disappeared.

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