

Skin Health in Pigs: An Overview of Common Diseases and their Prevention

Jasleen Kaur^{*1} Harneet Kour², and Chetna Mahajan³

Department of Veterinary Medicine¹

Department of Veterinary Clinical Complex²

Department of Veterinary Biochemistry³

College of Veterinary Science, Rampura Phul

Guru Angad Dev Veterinary and Animal Sciences University, Punjab-141004, India

*Corresponding author email: sidhujasleen040@gmail.com

[DOI:10.5281/ScienceWorld.15776480](https://doi.org/10.5281/ScienceWorld.15776480)

Abstract

Skin diseases in pigs are common yet often overlooked problems that can impact animal health, growth, and farm profits. Conditions such as mange, greasy pig disease, and swine pox not only cause discomfort but also lead to reduced productivity. Many of these issues start from poor hygiene, overcrowding, parasites, or nutritional gaps. Early detection and proper management are the key factors to prevent outbreaks and ensure healthy herds. This article highlights the most frequent skin problems in pigs, how to recognize them, and practical steps to manage them. Maintaining good skin health in pigs is essential for animal welfare and overall farm success.

Keywords: Greasy pig disease, Pigs, Skin Diseases, Swine.

Pigs may not be known for their smooth skin, but what's on the surface says a lot about what's happening inside and around them. From itchy mange mites to greasy skin infections, a range of skin diseases can quietly creep in, reducing growth rates, affecting feed efficiency, and downgrading carcass quality (Bender et al., 2011). Most skin problems in pigs are preventable and manageable with the right care, attention, and the biosecurity.

The skin, recognized as the body's largest organ, serves as a vital barrier that protects pigs from external environmental threats. It acts not only as a physical shield but also plays a key physiological role such as regulating temperature, preventing fluid loss, and serving as an immune defense line. In its healthy state, the skin forms a complete and effective interface between the pig and its surroundings. However, the skin can be affected by a wide range of factors, both external and



internal. Environmental influences such as poor housing conditions, extreme weather, and inadequate sanitation can directly impact skin health. At the same time, the skin may also be compromised by pathogenic organisms including bacteria, viruses, parasites, and fungi (Torrison & Cameron, 2019). Some skin diseases are localized, or others may be part of a systemic illness. Skin disorders in pigs can be broadly classified based on their cause as congenital, infectious, nutritional deficiencies, environmental and housing-related factors and idiopathic conditions. Managing skin health in swine is not only crucial for animal welfare but also has significant economic implications.

In a well-managed herd, early detection, proper diagnosis, and timely intervention are essential for minimizing the impact of skin diseases (Pereira et al., 2020). Regular monitoring, good hygiene, optimal nutrition, and suitable housing can significantly reduce the risk and severity of dermatologic conditions in pigs. In this article, we will discuss the most common pig skin health disorders and what can be done to diagnose and manage the condition.

Bacterial Dermatoses in Pigs

Exudative Epidermitis (Greasy Pig Disease)

Cause:

- Caused by *Staphylococcus hyicus*

Occurrence:

- Most commonly affecting the piglets between 1 to 8 weeks of age

Lesions:

- Acute cases show widespread, moist, greasy, and foul-smelling exudate, particularly on the face, which often spreads over the body
- Chronic cases are marked by scabby patches, primarily over the head and shoulders

Diagnosis:

- Based on clinical presentation and age group affected
- Lesion appearance is often characteristic

Course:

- Severity can range from mild to fatal

Early treatment and improved hygiene are important for **control**

Porcine Cutaneous Spirochaetosis

Cause:

- Caused by the spirochete *Borrelia suis*

Occurrence:

- Seen in young pigs, especially shortly after weaning
- Often follows trauma (e.g., ear biting, fighting, or surgical procedures) and is associated with poor hygiene

Lesions:

- Presents as severe ulcerative dermatitis
- Commonly affects the base and margins of the ears
- May lead to necrosis, ulceration, and granulation tissue formation
- In sows, similar lesions may appear on the ventral abdomen



Diagnosis:

- Confirmed by identifying motile spirochetes using dark-field microscopy
- Silver staining can help detect the organism in tissue samples

Course:

- Localized lesions may heal with care, but more extensive cases require antibiotic treatment and environmental improvement

Porcine Necrotic Ear Syndrome

Cause:

- May follow cutaneous spirochaetosis, though spirochetes are typically not detected in lesions
- *Staphylococcus hyicus* and beta-hemolytic *streptococci* have been isolated but may represent secondary infections

Occurrence:

- Typically affects young pigs, especially in crowded or unhygienic environments

Lesions:

- Characterized by extensive tissue necrosis of the ear pinna
- May begin as mild trauma with progressive tissue damage

Diagnosis:

- Based on the appearance of necrotic lesions and clinical history
- Laboratory culture may assist but is not always conclusive

Course:

- Management includes addressing environmental factors, reducing trauma, and administering appropriate antimicrobials

1. Viral Dermatoses in Pigs

Vesicular Diseases

Cause:

Caused by viruses such as:

- Foot and Mouth Disease (FMD)
- Vesicular Stomatitis
- Vesicular Exanthema
- Swine Vesicular Disease

Vesicular stomatitis is not considered foreign, but clinically indistinguishable from exotic vesicular diseases

Occurrence:

- Acute onset
- Must be treated as potentially foreign or reportable disease
- Though rare, the economic risk is high

Lesions:

- **Vesicles** typically develop on the snout, oral mucosa, coronary bands, and interdigital spaces
- Vesicles rupture, leaving erosions and ulcers

Diagnosis:

- Laboratory testing is essential for confirmation



- All cases should be initially managed as suspected FMD until proven otherwise
- Requires state veterinary involvement

Course:

- Highly contagious, especially FMD
- Early recognition and strict biosecurity measures are crucial to contain spread

Parvovirus Dermatitis

Cause:

- Associated with Porcine Parvovirus
- May be complicated by co-infection, e.g., *Staphylococcus hyicus*

Occurrence:

- Seen in young pigs, typically 1–4 weeks old

Lesions:

- Begins as vesicles on snout, following on coronary band, interdigital skin and tongue. Vesicles quickly rupture, forming erosive lesions. May occur alongside diarrhoea, rhinitis, and conjunctivitis.

Diagnosis:

- Microscopy with fluorescent antibody or virus isolation to detect parvovirus
- Lesions are not diagnostic on their own

Course:

- Depends on severity and presence of secondary infections
- Often self-limiting with supportive care

Swine Pox

Cause:

- Caused by Swine Pox Virus
- Swine louse (*Haematopinus suis*) may act as a vector

Occurrence:

- Common in young pigs (<4 months)
- Associated with unsanitary environments
- Recovered animals become immune but may harbour the virus

Lesions:

- Appear mainly on non-haired areas of the skin
- Pox lesions evolve from papules to pustules and eventually scab
- Secondary bacterial infections can complicate the appearance

Diagnosis:

- Based on clinical signs and distribution of lesions
- Early examination helps avoid confusion with secondary conditions

Course:

- Self-limiting, typically resolves in 3–4 weeks
- Management includes improving sanitation and treating secondary infections

2. Mycotic Dermatoses (Ringworm) in Pigs

Cause:

-]Main fungi: *Microsporum nanum*, *Trichophyton verrucosum*
- Others: *M. canis*, *M. gypseum*, *T. mentagrophytes*



- All are zoonotic

Occurrence:

- Sporadic but can reach 100% in tightly confined groups (esp. sows)

Lesions:

- Start as small (1–2 cm) red-brown spots
- Expand concentrically up to 12 cm
- May have a thin, loose crust
- Often found behind the ears
- Minimal itching and hair loss

Diagnosis:

- Based on typical skin lesions
- Confirm with skin scrapings, histology, and culture for identification

3. Parasitic Dermatoses in Pigs

Sarcoptic Mange

- **Cause:** *Sarcoptes scabiei* var. *suis*
- **Significance:** Most economically important ectoparasite in pigs
- **Effects:** Reduces feed efficiency and weight gain
- **Signs:** Intense itching, red papules on back/abdomen, hair loss and skin abrasions
- **Common Sites:** Ears (auricular infections common)
- **Diagnosis:** Deep skin scrapings or ear canal exudate examination

Demodectic Mange

- **Cause:** *Demodex phylloides*
- **Location:** Hair follicles
- **Lesions:** Mild to moderate dermatitis on snout, thighs, flanks
- **Rare Cases:** Whole-body involvement occurs leading to trimming/condemnation at slaughter
- **Skin Nodules:** Contain mites and cheesy exudate and may mimic swinepox

Lice (Pediculosis)

- **Cause:** *Haematopinus suis*
- **Signs:** Intense pruritus, like mange
- **Diagnosis:** Visual exam for lice; common if not treated for mange
- **Often concurrent** with sarcoptic mange



Biting Flies

- **Examples:** Stable fly (*Stomoxys calcitrans*), Blackflies (*Simuliidae*)
- **Effects:** Painful bites, non-specific dermatitis
- **Diagnosis:** Based on clinical signs
- **Also Spread:** Eperythrozoonosis and swinepox virus

4. Miscellaneous Dermatoses (Pityriasis Rosea) in Pigs

Cause:

- Unknown etiology
- Suspected hereditary predisposition, especially in Landrace breed
- No infectious agent identified

Occurrence:

- Sporadic
- Typically affects young pigs
- Not considered contagious

Lesions:

- Begin as small, red (erythematous) papules
- Commonly appear on medial thighs and ventral abdomen
- Papules become scaly and spread outward in circular fashion
- Lesions may coalesce, forming mosaic-like patterns with central clearing
- Rarely observed on the dorsal surface

Diagnosis:

- Based on clinical signs and lesion appearance
- Recognized by characteristic distribution and pattern
- No specific diagnostic test; condition is self-limiting

Course:

- Usually resolves spontaneously within 4 weeks
- No treatment typically required unless secondary infection occurs

5. Physical and Chemical Dermatoses in Pigs

Cause:

- Environmental exposure to sun (sunburn), extreme cold (frostbite), or dermatotoxic chemicals
- Photosensitization due to ingestion of photodynamic substances:
 - Found in alfalfa, clover, oats, buckwheat, St. John's wort, lucerne
 - Induced by drugs like phenothiazine, tetracyclines, and sulfonamides

Occurrence:

- Occasionally encountered in swine practice
- Often linked to specific environmental or management factors

Lesions:

Vary depending on the cause:

- Sunburn/photosensitization: acute exudative dermatitis upon sunlight exposure



- Frostbite: localized tissue damage, often affecting ears, tails, and extremities
- Chemical exposure: variable lesions, often reddened, ulcerated, or necrotic areas

Diagnosis:

- Based on physical examination and thorough clinical history
- No laboratory testing usually required
- Direct correlation between lesion appearance and environmental factors

Course and Treatment:

- Recovery is usually uneventful once the causative agent is removed
- Implementing proper husbandry and environmental management is key

6. Nutritionally Induced Dermatoses in Pigs

Cause:

- Due to nutritional deficiencies, though rare in modern swine production
- Can result from:
 - Poor diet formulation
 - Ingredient quality issues
 - Improper milling procedures

Occurrence:

- Rare, due to modern feeding standards
- Usually temporary and minor in effect

Lesions:

- Variable and nonspecific
- May include poor skin and coat condition, delayed healing, or increased susceptibility to other skin conditions

Diagnosis:

- Based on evaluation of nutritional status and feeding practices
- Should be part of the routine investigation during skin disease outbreaks

Course and Treatment:

- Resolves with correction of diet
- Focus is on preventive nutrition management

Summary

Once a definitive diagnosis of skin disease is established, specific treatment or control measures can be implemented. While initial treatment is important, prevention is key. Avoid recurrence by applying thorough knowledge of swine health, nutrition, and management practices.

References

- Bender, J. S., Irwin, C. K., Shen, H. G., Schwartz, K. J., & Opriessnig, T. (2011). Erysipelothrix spp. genotypes, serotypes, and surface protective antigen types associated with abattoir condemnations. *Journal of Veterinary Diagnostic Investigation*, 23(1), 139-142.
- Cameron, R. (2012). Integumentary System: Skin, Hoof, and Claw. In: Zimmerman, J. J. (Ed.). Diseases of swine. John Wiley & Sons. Pp. 251-269.
- Doster, A. R. (1995). Skin diseases of swine. *Swine Health Prod*, 3(6), 256-261.
- Pereira, P. R., Bianchi, R. M., Hammerschmitt, M. E., Cruz, R. A., Hesse, K. L., Sonne, L., Pavarini S.P. & Driemeier, D. (2020). Primary skin diseases and cutaneous manifestations of systemic diseases in swine. *Pesquisa Veterinária Brasileira*, 40, 579-588.
- Torrison, J., & Cameron, R. (2019). Integumentary system: skin, hoof, and claw. *Diseases of swine*, 292-312.

