



# Guidelines for the Prevention, Detection, and Management of Skin Conditions in Wrestlers

## United World Wrestling

### Medical, Prevention and Anti-Doping Commission

Dr. B.J. Anderson, Dr. Babak Shadgan

The UWW Medical Commission has developed a comprehensive program to address skin conditions in wrestling. Skin infections account for more lost training and competition time than any other medical problem in the sport. Effective management, therefore, serves two purposes: it treats the affected wrestler and reduces the risk of transmission to teammates and opponents.

There is no definitive data that precisely defines when every type of lesion has stopped shedding infectious organisms. However, a consensus on safe participation has been reached through consultation with dermatology, infectious disease, public health, and primary care experts, combined with an extensive review of the literature on the communicability of specific skin conditions at different stages of disease. On this basis, practical prevention, treatment, and return-to-play regimens have been established.

### Goals of Controlling Skin Conditions

- 1. Protect wrestlers from communicable skin disorders.**  
Most of the conditions described have limited long-term consequences and are rarely life-threatening, but some are associated with significant morbidity. All athletes should be protected from acquiring skin infections from other wrestlers or from contaminated equipment such as mats and protective gear.
- 2. Promote early recognition and rapid intervention.**  
Encourage athletes, coaches, and medical personnel to identify suspicious lesions early and initiate timely evaluation and treatment, thereby reducing outbreaks and minimizing time lost from training and competition.
- 3. Reduce the overall burden of skin outbreaks at events and training centers.**  
Implement standard prevention practices that decrease the frequency, severity, and impact of infectious skin conditions across clubs, national teams, and international competitions.
- 4. Enable safe and timely participation.**  
Wrestlers should be allowed to return to training and competition as soon as it is safe for them, their opponents, and teammates sharing the same mat.
- 5. Standardize clinical decision-making.**  
Provide clear guidelines to minimize variation in management among health-care professionals completing the Medical Release for Participation with Skin Lesions form. Consistent application of these guidelines should reduce the risk of disease transmission and prevent inequities in decisions about who may or may not compete.



## 6. Support professional autonomy under competitive pressure.

Offer an evidence-informed framework to assist health-care professionals who may face considerable pressure to clear athletes for competition as quickly as possible, whether the athlete is a novice or a world champion.

### Key Components of an Effective Program

1. Optimal personal hygiene
2. Athlete and coach education
3. Routine skin checks
4. Appropriate mat disinfection
5. Routine cleaning of equipment beyond the mats
6. Personal equipment and clothing management
7. Access to a health-care provider familiar with wrestling medicine
8. Use of a standardized Medical Release Form for participation with skin lesions

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## 1. Hygiene

Proper hygiene is the most effective and practical strategy for preventing the development and spread of skin infections in wrestlers. Because wrestling involves intense skin-to-skin contact and frequent use of shared training surfaces, meticulous hygiene significantly reduces the risk of bacterial, fungal, and viral transmission.

### 1.1 Major Infectious Agents in Wrestling

#### Bacterial

- *Staphylococcus aureus* and *Streptococcus* species (particularly Group A  $\beta$ -hemolytic streptococci) are the most common bacterial causes of skin infections.
- Methicillin-resistant *Staphylococcus aureus* (MRSA), a staph variant resistant to methicillin, is increasingly prevalent in contact sports and requires heightened vigilance.

#### Fungal

- Dermatophyte infections (tinea), most often caused by *Trichophyton tonsurans*, can rapidly invade the skin if not removed soon after exposure.

#### Viral

- **Herpes simplex virus (HSV-1 and HSV-2):** Approximately 93–97% of herpes gladiatorum cases in wrestlers are caused by HSV-1.
- **Molluscum contagiosum:** Caused by a poxvirus and spread by direct contact.
- **Verrucous warts:** Caused by human papillomavirus (HPV) and commonly spread through repeated skin contact or contaminated surfaces.

More detailed information is provided in Appendix 1.



## 1.2 Essential Hygiene Practices

- **Immediate post-training cleansing** is the single most important preventive measure. Research shows that fungal spores can invade the skin **within 2–4 hours** if not washed off, highlighting the importance of prompt showering.
- **Shower as soon as possible** after each practice or competition using antibacterial soap. Ensure that all areas commonly exposed during wrestling, face, neck, arms, torso, and legs, are thoroughly washed.
- If shower facilities are unavailable: Use **soap-and-water body wipes** to clean the entire body immediately after the session.
- Shower at the earliest opportunity when facilities become accessible.
- **Use individual towels and personal toiletries**; these should never be shared among athletes.
- **Keep skin clean, dry, and moisturized** to reduce microabrasions that facilitate pathogen entry.
- **Launder practice clothing, towels, and gear after every use**, as microorganisms can persist on fabrics.

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## 2. Athlete and coach education

Education is fundamental to preventing the spread of skin infections in wrestling. Athletes and coaches must understand the common types of skin conditions, their early signs, routes of transmission, and the importance of prompt reporting and treatment. Regular instruction, delivered through team meetings, training sessions, or digital resources, helps reinforce best practices in hygiene, equipment care, and self-monitoring.

Emphasizing early recognition and immediate disclosure of suspicious lesions reduces delays in diagnosis and minimizes the risk of outbreaks within teams or at competitions. Creating a culture where athletes feel comfortable reporting skin concerns without stigma or fear of lost training time is essential for maintaining a safe wrestling environment.

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## 3. Routine Skin Checks

Routine skin checks are a critical component of preventing the spread of infectious skin conditions in wrestling. These examinations should be performed before every practice session and prior to all competitive events. Their purpose is to identify any potentially infectious lesion early, remove the athlete from participation, and ensure timely medical evaluation and treatment.

### 3.1 Personnel and Competency

Skin checks may be performed by trained coaches, certified athletic trainers (ATCs), physiotherapists, physician assistants, or physicians. Individuals who routinely conduct these examinations quickly become adept at recognizing suspicious lesions and determining when referral to a medical professional is necessary.

Health-care providers performing evaluations, whether primary-care physicians, sports medicine clinicians, or dermatologists, should be familiar with wrestling-specific skin conditions and apply management strategies that both expedite treatment and reduce the risk of transmission.

Non-infectious conditions such as eczema, dermatitis, or superficial abrasions may be covered to allow participation. Any infectious lesion, however, requires the athlete to refrain from training or competition until the lesion has been appropriately treated and the athlete has been cleared or meets the criteria on the *Medical Release Form for Wrestlers to Participate with Skin Lesions*.



### 3.2 Responsibilities of Coaches, Referees, and Medical Personnel

Coaches, referees, ATCs, and medical staff must feel confident and prepared to perform rapid skin checks. Athletes should be encouraged to self-monitor and promptly report any new or changing skin lesions. Because skin infections are primarily spread through direct skin-to-skin contact, particular attention should be paid to training partners and teammates who have close contact with the affected athlete, as they may already have been exposed.

### 3.3 Procedure and Required Equipment

A properly performed skin check requires only 15–20 seconds and should always include:

1. Proper lighting
2. Gloves
3. Intense flashlight
4. Magnifying glass
5. Removal of all bandages, pads, braces, and kinesiology tape



### 3.4 Areas of Emphasis

While a full-body inspection is essential, the head, face, and neck require special attention, as more than 70% of herpes gladiatorum lesions occur in these regions.

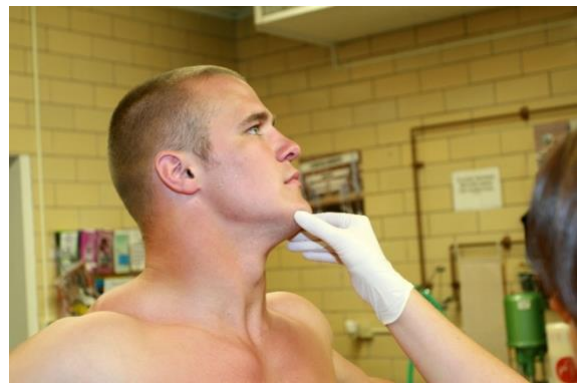
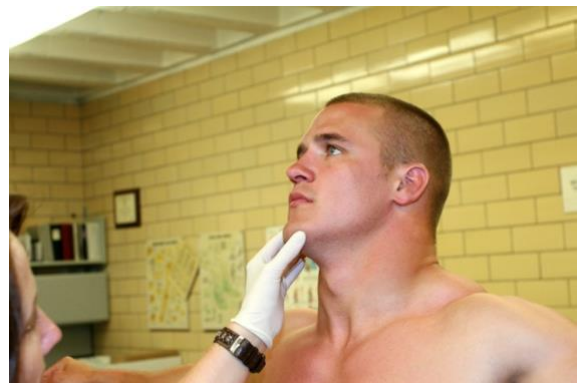


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Key examination regions include:

- Forehead and hairline: inspect for vesicles, crusting, or red patches.
- Naso-labial folds and peri-oral area: common sites for herpes labialis (“cold sores”).
- Upper extremities and axillae: sweaty, occluded areas where infections may be missed.
- Lower extremities: look for tinea lesions, folliculitis, or abrasions that could become infected.
- Back, posterior neck, and scalp: lift long hair and inspect carefully around the ears and along the hairline.





### 3.5 Event Medical Oversight

At major tournaments, UWW recommends that a physician trained in dermatologic evaluation of wrestlers be available on-site. Those clinicians should be able to perform simple diagnostic procedures when needed, for example, KOH preparation for suspected tinea or a Tzanck smear for suspected herpetic lesions.



### 3.6 Final Clearance Decisions

Because skin lesions may change rapidly, final clearance for participation must be determined at the event itself. Physician notes written days earlier may not accurately reflect the lesion's current appearance or infectious potential. Event-level evaluation ensures consistency, fairness, and athlete safety.

## 4. Mat Disinfection and Environmental Cleaning

Although direct skin-to-skin contact is the primary route of transmission for most wrestling-related skin infections, contaminated mats and training surfaces remain significant secondary vectors. Historical data show that up to 20% of wrestling-related medical issues are associated with skin infections, highlighting the essential role of rigorous environmental hygiene in reducing pathogen transmission.

Effective mat disinfection is a **two-step process**:

1. **Removal of surface debris**, sweat, and organic material to ensure proper contact between disinfectant and the mat surface.
2. **Application of an appropriate disinfectant** to reduce bacterial, viral, and fungal load.

### 4.1 Evidence-Based Best Practices

#### 1. Use disinfectants with high residual antimicrobial activity.

Studies show that residual disinfectants reduce bacterial loads on wrestling mats by **approximately 76%** compared with non-residual agents.

- **High-residual disinfectants:**
  - Quaternary ammonium compounds
  - Thyme-based (botanical) disinfectants
- **Low-residual disinfectants:**
  - 10% bleach solution

#### 2. Apply the backward-mopping technique.

Dragging the mop behind the cleaner prevents stepping on freshly disinfected areas and reduces re-contamination. Limiting street-shoe traffic on mats further decreases pathogen transfer.

#### 3. Clean mats frequently during tournaments.

Because of repeated, high-volume usage, all competition and warm-up mats should be disinfected every 4–6 hours during tournaments or multi-session events.

### 4.2 Proper Timing for Mat Cleaning

#### 1. Regular Training Sessions

- Mats should be cleaned after every training session.

This is the minimum standard, because athletes may train multiple times per day, and the risk of pathogen accumulation increases with sweat, skin contact, and repeated use.



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- In high-volume training environments (national teams, clubs with back-to-back sessions), mats should also be cleaned between sessions if different groups use the space consecutively.

## 2. Competitions

- Mats must be cleaned between each bout and at regular intervals throughout the event.
- The standard recommended for tournaments is:
  - Quick disinfectant wipe-down after each bout, and
  - Full cleaning and disinfection every 4–6 hours, depending on the intensity and schedule.

## 3. Warm-up Mats

- Often overlooked, but they must be cleaned with the same frequency as competition mats:
  - Between sessions during training
  - Every 4–6 hours during competitions

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## 5. Routine Cleaning of Equipment Beyond Mats

While wrestling mats are the primary surfaces requiring disinfection, many other pieces of equipment can serve as fomites and contribute to the spread of infectious skin conditions if not properly maintained. Any item that comes into repeated contact with the skin, whether during training, warm-up, or conditioning, can harbour bacterial, fungal, or viral pathogens. Routine cleaning should therefore extend to headgear, rash guards, gloves, protective pads, resistance bands, and strength-training equipment, including benches, bars, and grips.

All shared equipment should be disinfected after each training session and more frequently during periods of intense use, such as team camps or tournaments. Personal gear should be washed or wiped down daily and allowed to dry completely, as moisture promotes microbial growth. Athletes should avoid sharing personal items such as towels, water bottles, or training garments. Consistent cleaning practices across both wrestling-specific and general fitness equipment significantly reduce the risk of transmission and contribute to a safer training environment.

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## 6. Personal Equipment and Clothing Management

Proper management of personal equipment and clothing is essential for minimizing the transmission of infectious skin conditions in wrestling. Athletes should use individual, non-shared gear, including headgear, knee pads, rash guards, and training garments. Sharing personal items, even briefly, can facilitate the transfer of bacteria, fungi, or viruses from one athlete to another.

All training clothing, towels, and personal gear should be washed after every use with hot water and detergent, then thoroughly dried, as moisture promotes microbial growth. Gear that cannot be machine-washed, such as certain pads or protective items, should be disinfected daily using an appropriate antimicrobial product. Athletes should store their equipment in clean, dry bags and avoid leaving damp clothing or gear inside closed containers, lockers, or gym bags where pathogens can proliferate.

Footwear should also be managed carefully: wrestling shoes must be worn only on the mat, never outdoors, to prevent environmental contamination. Clean socks should be worn during all training sessions, and shoes should be allowed to air-dry between uses. By maintaining consistent, responsible



care of personal equipment, athletes significantly reduce their risk of developing or spreading skin infections in the wrestling environment.

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## 7. Access to a Health-Care Provider Familiar with Wrestling Medicine

Timely access to a qualified health-care provider who is experienced in wrestling medicine is essential for accurate diagnosis, effective treatment, and appropriate return-to-play decision-making. Wrestling involves unique skin-to-skin contact patterns, high-friction exposures, and sport-specific lesion distributions that differ from those in other athletic environments. Clinicians who understand these patterns are better equipped to distinguish infectious lesions from benign conditions, initiate appropriate therapeutic interventions, and make informed decisions about athlete participation.

Health-care providers involved in the evaluation of wrestlers, whether primary-care physicians, sports medicine specialists, dermatologists, physician assistants, or certified athletic trainers, should receive education in common wrestling-related skin infections and UWW participation criteria. Their role includes not only diagnosing and treating lesions but also advising on prevention strategies, monitoring treatment response, and ensuring that clearance decisions prioritize athlete safety and infection control.

At major competitions or training camps, event organizers should ensure the presence of a medical professional trained in dermatologic assessment of wrestlers. Ideally, this clinician should be able to perform rapid diagnostic tests when needed, such as KOH preparations for suspected fungal infections or Tzanck smears for herpetic lesions. Competent medical oversight supports fairness, protects athlete health, and reduces the risk of outbreaks within teams and events.

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## 8. Pre-Event Skin Medical Inspection Program and Medical Release Form

A formal Pre-Event Skin Medical Inspection Program is a mandatory component of UWW-sanctioned competitions. It serves as the frontline defense against the introduction and spread of infectious skin conditions. All wrestlers must undergo a standardized skin examination before the official weigh-in, in accordance with UWW Medical Regulations and under the supervision of the UWW Medical Officer. This ensures that every athlete begins competition in a safe, controlled, and infection-free environment.

### 8.1 Organization and Oversight

The inspection program is coordinated by the UWW Medical Officer in collaboration with the event's medical director and designated examiners. Prior to the examination, the UWW doctor:

- Confirms the qualification and readiness of the medical examination team.
- Ensures the availability of a private, properly equipped medical examination space.
- Verifies the presence of female examiners when needed.
- Reviews the medical procedures with the examiners and guides common wrestling-related skin conditions.
- Prepares all required documentation, including the official wrestler list and relevant UWW medical forms.

### 8.2 Examination Procedure

During the examination:



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- Athletes must present with short, trimmed nails and all taping, braces, bandages, and headgear removed to permit a complete evaluation.
- Examiners conduct a systematic inspection of high-risk areas, including the head, face, neck, upper torso, and extremities.
- Any suspicious lesion is immediately referred to the UWW Medical Officer for definitive evaluation. They will review any Skin Condition Reports the athlete may have.
- After review and approval, the final results are submitted to the weigh-in supervisor in accordance with UWW procedures.

### 8.3 Skin Condition Report Form for Participation

The UWW Skin Condition Report Form for wrestlers who are allowed to participate with skin lesions is an integral component of the inspection process. This standardized form verifies that a licensed health-care provider has:

- Evaluated the wrestler's skin lesion(s),
- Made an appropriate diagnosis,
- Confirmed that the lesion meets UWW criteria for non-contagiousness or being coverable.
- Cleared the athlete for safe participation.

Athletes with skin conditions must bring their completed form to every practice and every competition that they are cleared for. Coaches, referees, and medical staff must review the form during pre-event checks to verify eligibility before allowing participation.

A copy of the UWW Skin Condition Report Form is included in Appendix 2.

### 8.4 Final Clearance Authority

Although the Medical Release Form provides essential clinical documentation, final clearance for participation rests with the on-site UWW Medical Officer or event medical team. Skin lesions may evolve rapidly, and a wrestler who was cleared days earlier may no longer meet safety criteria at the time of competition. Event medical staff, therefore, have the authority to overturn prior clearances if the lesion appears suspicious or potentially contagious.

### 8.5 Purpose and Importance

The combined system of pre-event medical inspection and standardized medical documentation:

- Ensures uniform application of medical standards across all athletes
- Minimizes the risk of infection outbreaks during tournaments
- Protects athlete health, safety, and competitive fairness
- Reduces ambiguity and pressure on team staff regarding return-to-play decisions
- Strengthens the overall integrity of UWW-sanctioned competitions



## Appendix 1 – Common Skin Infections in Wrestling

Skin infections in wrestling are primarily **bacterial, fungal, or viral** in origin. Because wrestling involves close physical contact, particularly around the **head, face, neck, and upper torso**, these regions are the most frequent sites of infection. Early recognition and appropriate management are essential to prevent transmission and ensure athlete safety.

### 1. BACTERIAL INFECTIONS

#### 1.1 *Staphylococcus aureus*

*Staphylococcus aureus* commonly infects hair follicles, leading to **folliculitis**, which appears as small pustules at the base of the hair shaft.

**Folliculitis**



Deeper involvement may result in:

- **Furuncle (boil):** a localized abscess
- **Carbuncle:** multiple adjacent abscesses forming a larger inflammatory mass



**Abscess (Furuncle)**





### 1.2 Methicillin-Resistant Staphylococcus aureus (MRSA)

MRSA is a resistant strain of *S. aureus* known for causing rapidly progressive abscesses and painful, swollen lesions.

Diagnosis cannot be made by appearance alone; **culture is required** to differentiate MRSA from non-resistant staph infections.



**MRSA**

### 1.3 Streptococcus Species (Group A $\beta$ -Hemolytic Streptococcus)

Group A streptococcal infection typically presents as **cellulitis**, characterized by:

- Diffuse redness
- Warmth
- Firmness
- Tenderness
- Absence of a discrete abscess



**Cellulitis**



### 1.4 Impetigo

Impetigo is a highly contagious bacterial infection caused by *Staphylococcus* or *Streptococcus* species. It presents in one of two forms:

- **Non-bullous impetigo:** honey-colored crusts over small erosions

**Impetigo (non-bullous)**



- **Bullous impetigo:** larger blisters filled with serous or purulent fluid



**Impetigo (Bullous)**





## 2. FUNGAL INFECTIONS

### 2.1 *Trichophyton tonsurans* (Tinea / Ringworm)

Tinea infections occur when dermatophyte fungi penetrate the skin—often within **2–4 hours** after exposure. Common features include:

- Circular, red, expanding lesions with central clearing
- Scaling at the edges
- Predilection for **scalp, face, and trunk**
- No systemic symptoms

Scalp involvement may lead to **hair breakage** as the fungus invades the hair shaft.



**Tinea (Ringworm)**

### 2.2 Kerion

Kerion is a severe inflammatory reaction to a scalp tinea infection. It appears as a **boggy, swollen mass** with pus and crusting.

Scarring and **permanent hair loss** may occur if left untreated.



**Kerion**



## 3. VIRAL INFECTIONS

### 3.1 Herpes Gladiatorum (HSV-1)

Herpes gladiatorum is caused primarily by **Herpes Simplex Virus Type 1 (HSV-1)** and spreads through direct skin-to-skin contact. More than **70% of lesions** occur on the **face, neck, and upper torso**.

#### *Primary Outbreak*

- Typically develops **3–8 days after exposure**
- Fever, sore throat, and lymphadenopathy may precede skin involvement
- Clusters of 2–3 mm vesicles on an erythematous base
- It may take **10–14 days** to resolve without treatment

**Primary Herpes  
Gladiatorum**



#### *Recurrent Outbreaks*

- Smaller, localized lesions
- Usually unilateral due to reactivation from a single nerve ganglion
- Triggered by stress, trauma, or UV exposure
- Prodrome of tingling or “pins and needles.”
- Resolves in **7–10 days** without therapy



**Recurrent Herpes Gladiatorum**



### 3.2 Molluscum Contagiosum

Caused by a poxvirus, molluscum contagiosum presents as:

- Small (2–3 mm) dome-shaped papules
- Central umbilication (“dimple”)
- Minimal redness
- No systemic symptoms

Spread occurs when lesions rupture and release their central, waxy material.



**Molluscum Contagiosum**

### 3.3 Verrucous Warts (Human Papillomavirus – HPV)

Warts may be:

- Flat or raised
- Firm, ranging from 3–4 mm to over 1 cm
- Located on extremities, especially hands and finger joints

These areas frequently crack or bleed during training or gripping, increasing the risk of transmission.



**Verrucous Warts**



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## Participation Status

All active viral infections disqualify wrestlers from participation until fully resolved.

Under certain conditions, with the approval and supervision of official doctors, and when the lesion is small enough to be fully covered and protected during the competition, the wrestler may be granted permission.

## Appendix 2 – Skin Condition Report Form

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### Skin Condition Report

Date of examination: \_\_\_\_\_

First name - Family name:	
Accreditation #	
Nationality:	
Style / Weight category:	
Skin Condition:	
Location:	
Treatment:	
Date treatment started:	
Date athlete can compete:	

Front
Back

Due to continual changes in these skin conditions, the UWW MC tournament physician at the event has the final decision regarding wrestlers' ability to participate.

**Minimum treatment guidelines required before returning to wrestling:**

**Bacterial infections:** To be considered "non-contagious," all lesions must be scabbed over and not be moist, exudative, or draining, and no new lesions must have appeared within the preceding 48 hours. Treatment with oral antibiotics for a minimum of 3 days (72 hours), unless MRSA is the cause, in which case 5 days (120 hours) of antibiotics are required.

**Herpetic lesions (Simplex, Fever blisters/cold sores, Zoster, Gladiatorum):** To be considered "non-contagious," lesions must be dry and covered by a firm, adherent crust and no new lesions occurring in the preceding 72 hours. For Primary outbreaks, wrestlers should be treated with oral antiviral medication and not allowed to compete for at least 10 days. If systemic symptoms such as fever and swollen lymph nodes are present, consider extending the duration to 14 days. Recurrent outbreaks require a minimum of 120 hours of oral antiviral treatment, and lesions must be dry and covered with a firm, adherent crust and no new lesions occurring in the preceding 72 hours.

**Tinea Lesions (ringworm, capitis, corporis):** To be considered "non-contagious," it must be treated with oral or topical treatment for two days (48 hours) except Tinea capitis, which requires 2 weeks of oral antifungal medication.

**Molluscum contagiosum:** May compete if treated and covered.

Physicians' Name / Signature: \_\_\_\_\_
Stamp: \_\_\_\_\_