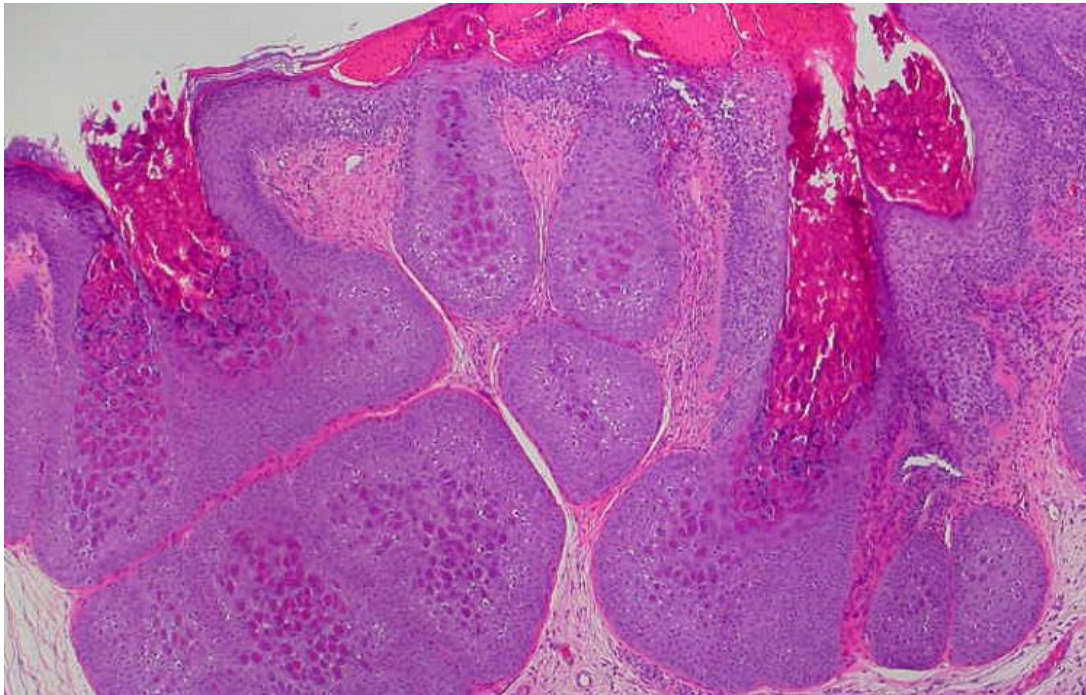


## Skin Infections: Erysipelas and Molluscum Contagiosum — Symptoms and Treatment

[See online here](#)

**Erysipelas and Molluscum Contagiosum are two different skin infections, the former caused by streptococci, the latter caused by one of the Molluscum Contagiosum viruses. While erysipelas is more common in diabetics and patients with preexisting medical conditions such as lymphedema, Molluscum Contagiosum infection can affect healthy children and adults. Erysipelas treatment includes antibiotics and symptomatic relief. Molluscum Contagiosum therapy consists of neglect, topical treatment, immune response modulators, or antiviral therapy.**



### Definition of Erysipelas and Molluscum Contagiosum

**Erysipelas** is a **superficial skin infection** that affects the dermis in addition to the superficial cutaneous lymphatics. The condition is caused by **bacterial agents**.

**Molluscum Contagiosum** is defined as a **viral skin infection**, resulting in a mild skin rash. The disease that only affects humans; it is generally mild and clears within 12 - 18 months without treatment. Molluscum Contagiosum causes multiple raised dome-shaped pink skin lesions that are umbilicated. The virus belongs to the **Poxviridae** family.

# Epidemiology of Erysipelas and Molluscum Contagiosum

**Erysipelas incidence** has **decreased** since the introduction of **antibiotics**. In the past, most cases of erysipelas occurred on the **face**. Today, 80% of cases occur in the **lower legs**.

Possible **risk factors** for erysipelas include **poor hygiene, poor sanitation,** and **history of lymphedema**. The peak incidence of erysipelas is in patients **older than 60 years**. History of recent **mastectomy, pelvic surgery, or bypass grafting** increases the risk of erysipelas, most likely because of the associated risk of lymphedema.



[Image](#): "Erysipelas of the left ear." by Evanherk - Own work. License: [CC BY-SA 3.0](#)

**Molluscum Contagiosum** is one of the most common skin infections in the United States. Its prevalence is **higher in patients with HIV**, especially if the CD4 count is lower than 100 cells/microliter. Approximately 30% of Molluscum Contagiosum skin infection cases occur in AIDS patients.

Molluscum Contagiosum infection rates are **higher among whites** than other races, and it is more prevalent in **males**. The highest incidence of Molluscum Contagiosum infection is in **children younger than 5 years** of age. It is very rare in children younger than 1 year; in such cases, it is most likely because of maternally transmitted antibodies against the virus.

## Etiology of Erysipelas and Molluscum Contagiosum

The most commonly implicated organism in erysipelas is **streptococci**. Group A streptococci are associated with most cases of facial erysipelas, while non-group A streptococci are associated with limb erysipelas. Newborns may also develop erysipelas due to group B streptococci.

**Risk factors for developing erysipelas :**

- People with lymphedema
- Nephrotic syndrome
- Arteriovenous insufficiency,
- Diabetes
- Compromised body immunity
- Paretic limbs

Molluscum Contagiosum skin infection is caused by **exposure to infected people**. The virus can be inoculated from other people or from the same patient, known as **auto-inoculation**. Most cases have a history of **recent skin trauma**, such as shaving, because the virus is more likely to invade damaged skin rather than intact skin. Molluscum Contagiosum can also be transmitted sexually; hence, it can be considered a **sexually transmitted disease** in adults.

Three different viruses are thought to be responsible for Molluscum Contagiosum disease: **Orthopoxvirus**, **Parapoxvirus**, and **unclassified Poxviridae viruses**.

## Pathophysiology of Erysipelas and Molluscum Contagiosum

Once streptococci enter damaged skin, the infection quickly invades the **lymphatic vessels** in the skin's superficial layers, especially if the patient has lymphedema. When the bacteria start spreading in the lymphatic vessels, the skin overlying the infected area develops streaking. Swelling due to **regional lymphadenopathy** may be visible.



[Image](#): "Molluscum contagiosum." by Evanherk from nl. License: [CC BY-SA 3.0](#)

Molluscum Contagiosum viruses enter the cytoplasm of the epithelial cells, where they replicate. The infected cells enlarge in size and develop **cytoplasmic inclusions**. The virus can only replicate in the epidermis and is thought to **affect humans exclusively**. While the virus initially resides in the basal cell layer, viral replication and DNA synthesis occur after the virus enters the spindle and granular layers of the epidermis (this process takes about 7 weeks).

Viral replication and infection of the epidermis cause epithelial cell proliferation and **lobulated epidermal growth**. Additionally, **fibrous septa** between the epidermal growths occur, which eventually leads to the characteristic skin lesions associated with the virus. The virus does not develop latency; it evades the immune system by tricking it with **viral-specific proteins**.

# Clinical Presentation of Erysipelas and Molluscum Contagiosum

Recent history of **minor skin trauma** can be noted in a few cases of erysipelas, but most cases happen with no preceding event. Here are some of the common **prodromal systemic symptoms** that patients often experience before the onset of skin infection:

- **Chills**
- **High fever**
- Area of the skin that is **tender to** palpation
- **Burning sensation**
- **Nausea**
- **Muscle pain** and headaches

Previous medical history of diabetes, hypertension, and lymphedema are usually present.

Patients infected with **Molluscum Contagiosum** are usually **asymptomatic**. If patients develop any symptoms, they usually complain of recent onset of **rounded dome-shaped skin lesions** that can be multiple or single. These lesions are **tender** and **painful**. Fever, nausea, and fatigue are unusual.

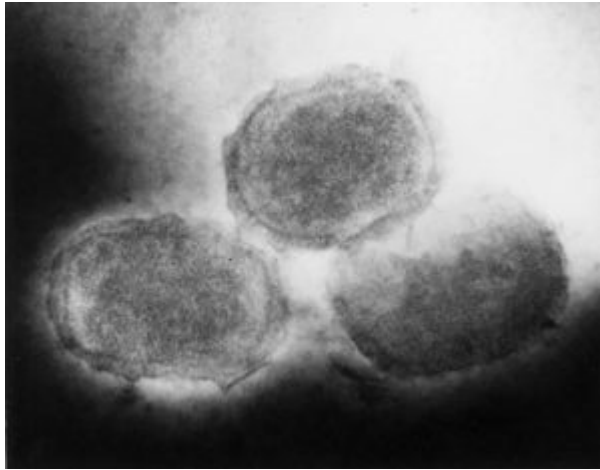
Patients with certain skin conditions, such as **eczema** or **psoriasis**, are more likely to experience a viral infection spread. Scratching the skin lesions triggers **auto-inoculation**, and new lesions can form in the scratched areas. Multiple lesions can last up to three years, while single lesions usually resolve within two months. Recent history of **contact with an infected individual** might be elicited in a number of cases.

People with a history of **HIV infection** are at an increased risk of severe widespread erysipelas and Molluscum Contagiosum infections.

## Diagnostic Workup for Erysipelas and Molluscum Contagiosum

Erysipelas is a clinical diagnosis and laboratory investigations are not needed. If **blood testing** is performed, patients can have **leukocytosis**, **elevated erythrocyte sedimentation rate**, and **increased C-reactive protein levels** in the blood.

Patients with **severe joint pain** might have **septic arthritis** or **osteomyelitis**. In these patients, **magnetic resonance imaging** and **bone scintigraphy** can be helpful. Blood and skin cultures can confirm the presence of bacterial infection but are usually negative; therefore, they are not recommended.



[Image:](http://phil.cdc.gov/PHIL/Images/08061998/00006/B81-166_lores.jpg) "Transmission electron micrograph of poxvirus of molluscum contagiosum." by Unknown - [http://phil.cdc.gov/PHIL/Images/08061998/00006/B81-166\\_lores.jpg](http://phil.cdc.gov/PHIL/Images/08061998/00006/B81-166_lores.jpg). License: Public Domain

Similarly, Molluscum Contagiosum is also a clinical diagnosis. The skin lesions of Molluscum Contagiosum are very characteristic and are usually enough for the diagnosis. If a **biopsy** is performed, **intracytoplasmic inclusion bodies** can be seen on histologic examination.

**Compression of the lesions** can reveal a **pasty core** which, if stained properly, is usually abundant with the virus particles. **Serum specific antibodies** against Molluscum Contagiosum viruses are not clinically indicated, but they are available for research indications.

**Polymerase chain reaction testing** is available for quick and accurate confirmation of the presence of the virus in the skin lesions. Viral cultures do not have a role in Molluscum Contagiosum because routine cultures are not known to grow the virus. Adults with Molluscum Contagiosum are at risk of other sexually transmitted diseases and should be examined and offered the appropriate diagnostic workup to rule them out.

## Differential Diagnosis of erysipelas

Erysipelas is a type of soft-tissue infection and should be differentiated from cellulitis, a similar dermatological condition.

Cellulitis	Erysipelas
Acute infection of the dermis & deep subcutaneous tissue	Acute superficial infection of the dermis & upper subcutaneous tissue.
<ul style="list-style-type: none"> <li>• Etiology:</li> <li>1. Staphylococcal aureus &amp;</li> <li>2. Group A beta-hemolytic Streptococci are the most common agents.</li> </ul>	<ul style="list-style-type: none"> <li>• Etiology:</li> <li>1. Group A beta-hemolytic Streptococci (GAS) (Organism enter the skin through abrasions)</li> </ul>

<ul style="list-style-type: none"> <li>• Clinical features:</li> <li>1. <b>Systemic signs:</b></li> <li>- High-grade fever with rigors &amp; malaise, fatigue, confusion</li> <li>2. <b>Local signs:</b></li> <li>- Generalized swelling which is erythematous, warm, tender, and less well-demarcated than erysipelas. <b>Lesions are primarily NOT raised, with ill-defined borders.</b></li> </ul> <p>Necrotic changes in deeper tissues are NOT seen.</p>	<ul style="list-style-type: none"> <li>• Clinical features:</li> <li>1. <b>Local signs:</b></li> <li>- Erythematous, warm, tender, edematous, indurated, <b>raised &amp; sharply-demarcated plaque</b></li> <li>- In severe cases, the overlying epidermis may show bullae, pustules, or necrosis that usually occurs over the cheek</li> <li>2. <b>Lymphatic involvement:</b></li> <li>- Overlying skin streaking &amp; regional lymphadenopathy indicate lymphatic involvement.</li> </ul>
---	--

## Treatment of Erysipelas and Molluscum Contagiosum

### Erysipelas

Erysipelas treatment consists of **two main components - prompt antibiotic administration and symptomatic treatment**. Symptomatic treatment for fever and headache, adequate hydration, cold compresses of the affected lower limb, and elevating the affected limb will prevent the spread of the infection.

**Penicillin administration, orally or intramuscularly**, is the antibiotic of choice for treating erysipelas. Patients with penicillin allergies can be prescribed a first-generation **cephalosporin**. **Clindamycin** is a second-line antibiotic because some group B streptococci might be resistant. **Roxithromycin** and **pristinamycin** are two recently approved drugs for treating erysipelas; they are superior to penicillin and have fewer side effects.

### Molluscum Contagiosum

Treatment options for Molluscum Contagiosum include **no action, direct lesion trauma, antiviral therapy, and immune response stimulation**. Children and healthy individuals should be assured that the lesions will eventually disappear and should be advised to ignore them.

Those who refuse this approach can benefit from **minor direct lesion trauma**. **Cryotherapy**, with liquid nitrogen, and **curettage** are the most commonly used forms of direct lesion trauma. They are effective but can be painful and uncomfortable for a child.

**Imiquimod** is a drug that activates the immune response against Molluscum Contagiosum. Despite its efficacy, it is too expensive to be considered for first-line therapy in healthy individuals.

**Immunocompromised patients** with Molluscum Contagiosum are at risk of severe and extensive infections; therefore, **ritonavir** and **cidofovir should be administered intravenously**. These antiviral drugs are proven effective in the treatment of extensive Molluscum Contagiosum disease in AIDS patients.

# References

[Molluscum Contagiosum](#) via medscape.com

[Erysipelas](#) via medscape.com

**Legal Note:** Unless otherwise stated, all rights reserved by Lecturio GmbH. For further legal regulations see our [legal information page](#).

Notes