***Skin infections***

1. What is skin infection?

A skin infection is an infection of the skin. Infection of the skin is distinguished from dermatitis, which is inflammation of the skin, but a skin infection can result in skin inflammation. Skin inflammation due to skin infection is called infective dermatitis.

1. Common skin infections:

### *Bacterial infections (vi khuẩn)*

#### Impetigo

##### *Definition and Etiology*

Impetigo is a superficial skin infection usually caused by *S. aureus* and occasionally by *S. pyogenes*.

##### *Prevalence and Risk Factors*

Impetigo affects approximately 1% of children.

##### *Signs and Symptoms*

[](http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/dermatology/common-skin-infections/images/common-skin-fig1_large.jpg)

Figure 1

Two clinical types of impetigo exist: nonbullous and bullous.

The nonbullous type is more common and typically occurs on the face and extremities, initially with vesicles or pustules on reddened skin. The vesicles or pustules eventually rupture to leave the characteristic honey-colored (yellow-brown) crust (Fig. 1).

Bullous impetigo, almost exclusively caused by *S. aureus*, exhibits flaccid bullae with clear yellow fluid that rupture and leave a golden-yellow crust.

#### Folliculitis, Furunculosis, and Carbunculosis (viêm nang lông, nhọt)

##### *Definition and Etiology*

[](http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/dermatology/common-skin-infections/images/common-skin-fig2_large.jpg)

Figure 2

[](http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/dermatology/common-skin-infections/images/common-skin-fig3_large.jpg)

Figure 3

[](http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/dermatology/common-skin-infections/images/common-skin-fig4_large.jpg)

Figure 4

Folliculitis is a superficial infection of the hair follicles characterized by erythematous, follicular-based papules and pustules. Furuncles are deeper infections of the hair follicle characterized by inflammatory nodules with pustular drainage, which can coalesce to form larger draining nodules (carbuncles).

##### *Signs and Symptoms*

Folliculitis is generally asymptomatic, but it may be pruritic or even painful. Commonly affected areas are the beard, posterior neck, occipital scalp, and axillae (Fig. 2).

Often a continuum of folliculitis, furunculosis (furuncles), arises in hair-bearing areas as tender, erythematous, fluctuant nodules that rupture with purulent discharge (Fig. 3).

Carbuncles are larger and deeper inflammatory nodules, often with purulent drainage (Fig. 4), and commonly occur on the nape of the neck, back, or thighs. Carbuncles are often tender and painful and occasionally accompanied by fever and malaise.

#### Ecthyma

##### *Definition and Etiology*

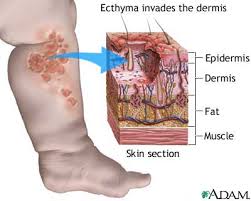
Ecthyma is a cutaneous infection characterized by thickly crusted erosions or ulcerations. Ecthyma is usually a consequence of neglected impetigo and often follows impetigo occluded by footwear or clothing.

##### *Prevalence and Risk Factors*

Ecthyma typically occurs in homeless persons and soldiers based in hot and humid climates.

##### *Signs and Symptoms*

Infection begins with vesicles and bullae that progress to punched-out ulcerations with an adherent crust, which heals with scarring. The most common site of infection is the legs.



#### Erysipelas and Cellulitis (viêm quầng và viêm mô tế bào)

##### *Definition and Etiology*

Erysipelas is a superficial cutaneous infection of the skin involving dermal lymphatic vessels. Cellulitis is a deeper process that extends to the subcutis.

[](http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/dermatology/common-skin-infections/images/common-skin-fig5_large.jpg)

Figure 5

[](http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/dermatology/common-skin-infections/images/common-skin-fig6_large.jpg)

Figure 6

##### *Prevalence and Risk Factors*

Erysipelas has a predilection for young children and the elderly. Lymphedema, venous stasis, web intertrigo, diabetes mellitus, trauma, alcoholism, and obesity are risk factors in the adult patient.

##### *Signs and Symptoms*

Classically, erysipelas is a tender, well-defined, erythematous, indurated plaque on the face or legs (Fig. 5).

Cellulitis is a warm, tender, erythematous, and edematous plaque with ill-defined borders that expands rapidly. Cellulitis is often accompanied by constitutional symptoms, regional lymphadenopathy, and occasionally bacteremia (Fig. 6).

### *Fungal and yeast infections (nhiễm nấm và nấm men)*

#### Tinea (Pityriasis) Versicolor (nấm da, lang ben)

##### *Definition and Etiology*

Tinea versicolor is a common opportunistic superficial infection of the skin caused by the ubiquitous yeast*Malassezia furfur*.

##### *Prevalence and Risk Factors*

Prevalence is high in hot, humid climates. Purported risk factors include oral contraceptive use, heredity, systemic corticosteroid use, Cushing's disease, immunosuppression, hyperhidrosis, and malnutrition.

##### *Signs and Symptoms*

[](http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/dermatology/common-skin-infections/images/common-skin-fig14_large.jpg)

Figure 7

Infection produces discrete and confluent, fine scaly, well-demarcated, hypopigmented or hyperpigmented plaques on the chest, back, arms, and neck (Fig. 7). Pruritus is mild or absent.

### *Viral infections (virus)*

#### Herpes Zoster

##### *Definition and Etiology*

Herpes zoster (shingles) is an acute, painful dermatomal dermatitis that affects approximately 10% to 20% of adults, often in the presence of immunosuppression.

[](http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/dermatology/common-skin-infections/images/common-skin-fig16_large.jpg)

Figure 8

##### *Signs and Symptoms*

Herpes zoster is primarily a disease of adults and typically begins with pain and paresthesia in a dermatomal or bandlike pattern followed by grouped vesicles within the dermatome several days later (Fig. 8). Occasionally, fever and malaise occur. The thoracic area accounts for more than half of all reported cases. When zoster involves the tip and side of the nose (cranial nerve V) nasociliary nerve involvement can occur (30%-40%). Most patients with zoster do well with only symptomatic treatment, but postherpetic neuralgia (continued dysthesias and pain after resolution of skin disease) is common in the elderly. Disseminated zoster is uncommon and occurs primarily in immunocompromised patients.

#### Warts (mụn cóc)

##### *Definition and Etiology*

Warts are common and benign epithelial growths caused by human papillomavirus (HPV).

[](http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/dermatology/common-skin-infections/images/common-skin-fig17_large.jpg)

Figure 9

##### *Prevalence and Risk Factors*

Warts affect approximately 10% of the population. Anogenital warts are a sexually transmitted infection, and partners can transfer the virus with high efficiency. Immunosuppressed patients are at increased risk for developing persistent HPV infection.

##### *Signs and Symptoms*

The common wart is the most common type: It is a hyperkeratotic, flesh-colored papule or plaque studded with small black dots (thrombosed capillaries) (Fig. 9). Other types of warts include flat warts (verruca plana), plantar warts, and condyloma acuminatum (venereal warts).

#### Molluscum Contagiosum (u mềm lây)

##### *Definition and Etiology*

Molluscum contagiosum is an infectious viral disease of the skin caused by the poxvirus.

[](http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/dermatology/common-skin-infections/images/common-skin-fig18_large.jpg)

Figure 10

##### *Prevalence and Risk Factors*

The prevalence is less than 5% in the United States. Infection is common in children, especially those with atopic dermatitis, sexually active adults, and patients with human immunodeficiency virus (HIV) infection. Transmission can occur via direct skin or mucous membrane contact, or via fomites.

##### *Signs and Symptoms*

Molluscum are smooth pink, or flesh-colored, dome-shaped, umbilicated papules with a central keratotic plug (Fig. 10). Most patients have many papules, often in intertriginous sites, such as the axillae, popliteal fossae, and groin. They usually resolve spontaneously, but they often persist in immunocompromised patients.

***Rashes diseases***

## What is a rash?

A rash is an inflammatory reaction of the skin. Rashes can be caused by a wide variety of mild to serious diseases, disorders and conditions. Rashes can affect a small area of the skin or the full body and occur in all age groups and populations.

Signs and Symptoms

A rash may be accompanied by other symptoms, depending on the underlying disease, disorder or condition. Other symptoms may affect the digestive tract, respiratory system, nervous system, reproductive system, cardiovascular system, immune system, or integumentary system (skin and associated tissues).

### Skin symptoms that may occur along with a rash

A rash may occur with other symptoms affecting the skin including:

* Blistering
* Burning
* Inflammation
* Irritation
* Itching
* Redness
* Scaling
* Swelling

### Other symptoms that may occur along with a rash

A rash may occur with other symptoms related to other body systems including:

* Flu-like symptoms (fatigue, fever, sore throat, headache, cough, aches and pains)
* Joint pain
* Nerve pain
* Numbness or burning in the lower legs and feet
* Red eyes
* Sneezing and runny nose
* Vomiting

### Serious symptoms that might indicate a life-threatening condition

In some cases, a rash may occur with other symptoms that might indicate a serious or life-threatening condition, such as anaphylaxis, that should be immediately evaluated in an emergency setting.  Symptoms that may indicate a serious or life-threatening condition include:

* Chest pain or chest tightness
* Fainting or change in level of consciousness
* High fever (higher than 101 degrees Fahrenheit)
* Rapid pulse
* Severe headache
* Stiff neck
* Swelling of the mouth, lips or throat
* Wheezing or shortness of breath

Causes:

Rashes can be caused by a wide variety of diseases and conditions, such as infection, inflammation, allergic reaction, parasite and insect bites, and autoimmune processes.

### Infectious causes of rashes

A rash may be caused by an infection including:

* Bacterial infection
* Chickenpox
* Fungal infection
* Herpes
* Impetigo
* Measles
* Meningitis
* Ringworm
* Shingles
* Staph infection
* Strep infection
* Viral infection

### Allergic causes of rashes

A rash may be caused by an allergic reaction including:

* Allergens, such as animal dander
* Contact dermatitis
* Drug reaction
* Dust or mold allergy
* Eczema
* Food allergies
* Hives
* Poison ivy, poison oak, or poison sumac
* Skin allergies

### Autoimmune causes of rashes

A rash may be caused by an autoimmune response including:

* Psoriasis
* Systemic lupus erythematosus
* Vasculitis

### Parasites, insects and arachnids that cause rashes

A rash may be caused by parasites, insects or arachnids including:

* Bedbugs
* Fleas
* Head lice or pubic lice
* Mosquitoes
* Scabies
* Ticks

### Other causes of rashes

A rash may also be caused by problems in body systems other than the skin including:

* Acne
* Anxiety
* Erythema multiforme
* Erythema nodosum
* Heat rash
* Methamphetamine abuse
* Stress
* Toxic epidermal necrolysis

### Life-threatening causes of rashes

In some cases, a rash may accompany a serious or life-threatening condition that should be immediately evaluated in an emergency setting. These include:

* Allergic purpura
* Anaphylaxis
* Meningitis
* Severe allergic reaction