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Skin Infections



Objectives:

- ✓ Discuss the role of skin as an organ
- ✓ Review the common types of skin infections
- ✓ List the signs and symptoms of skin infections
- ✓ Identify individuals who have increased risk of infections
- ✓ Review the preventative measures that are advised to decrease the incidence of skin infections
- ✓ Discuss structured treatment plans for skin infections

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The Purpose of Skin:

Most people take their skin for granted. In fact, it's hardly noticed at all until a problem arises like a cut, burn or infection. The skin is the largest organ in the body and is also the heaviest, weighing in between 7 to 9 pounds, depending on the size of the individual. Although it seems that the primary job of the skin is to provide the internal body with protection from the external world around us, there are also other important functions that the skin provides. The following is an outline of some of the roles that the skin provides to the body as a whole:

➤ Protection-

The skin serves as the first defense that your body has to protect it from the outside elements. It provides a physical barrier against microorganisms and pathogen invasion. In addition to providing barrier protection from invasive germs, it also protects the underlying muscles and tissues from shock and mechanical injury.

➤ Temperature Regulation –

Also called thermoregulation, the skin is a major player when it comes to regulating the body's temperature by constricting and expanding the blood vessels found on the surface of the skin to control how much heat is lost from the body. When it's cold outside, the vessels narrow in an effort to maintain heat (*shivering*). Conversely, when it is hot outside, the blood vessels dilate to increase blood flow and allow heat and fluid to be removed through the skin (*sweating*).

➤ Sensory Perception –

In addition to blood vessels, the skin contains nerve endings, which allow a person to touch and feel pressure and experience both pain and pleasure. It further protects the internal body by acting as a warning mechanism when we encounter things that can be dangerous to the body such as a hot stove. *Touch is also a very important form of human expression.* Baboon studies have shown that of all the senses, touch is the one that causes the most emotional damage, if missing. This also appears to be true in humans as well because tactile experience for an infant is critical for healthy development. We could all agree on the power that touch has in a person's life; whether it's a hug, a kiss, a therapeutic healing massage or even a firm handshake. Sensory nerves are responsible for the transmission of tactile stimulus to the brain and they vary in sensitivity depending on their location on the body. For example, the skin on the fingertips is more sensitive than the skin that is found on the leg.

➤ Absorption and Excretion –

The skin has over 2 million pores that carry water and other products out of the skin and on to its surface. Approximately 500 ml of water is lost through the skin daily. This is important because it assists the body in maintaining temperature control and proper fluid and electrolyte balance. And while the skin can easily secrete excess fluid it also absorbs certain substances and deposits them in the bloodstream. This is why certain medications such as nitroglycerin and some pain medications work well when applied to the skin directly. The skin manages to allow substances to pass through it in both directions while screening them properly in response to the needs of the body.

➤ Vitamin D Synthesis –

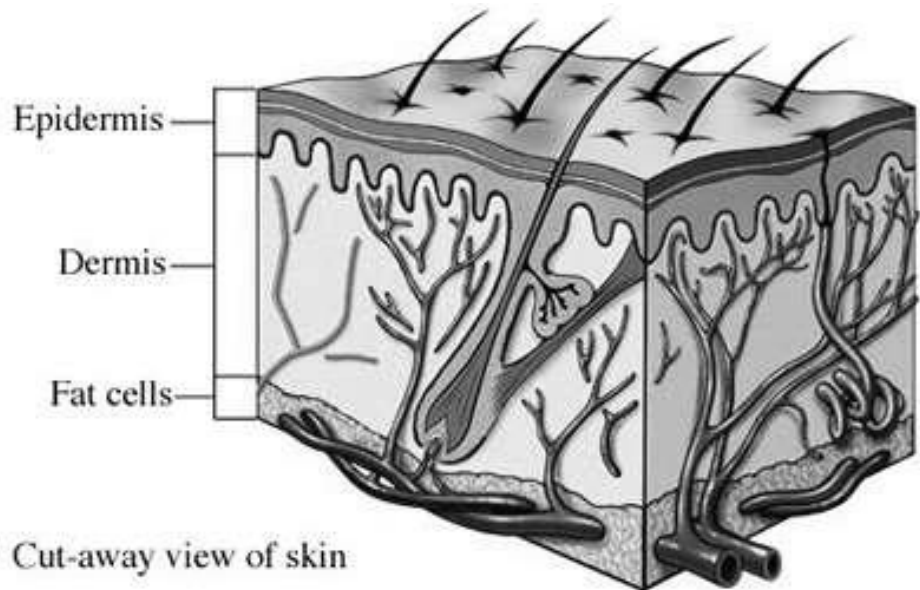
When exposed to sunlight, the skin produces vitamin D through a photochemical reaction. This is important because vitamin D is necessary to efficiently metabolize calcium and phosphate, which are two major components in healthy bones and teeth. And while it is important to have exposure to the sun for this synthesis to occur; too much sun exposure can cause other skin issues.

Skin is composed of three layers that work together to function together as a single unit. The layer on the outside is called the epidermis. New cells are formed at the bottom of the epidermis and take about 2 weeks to travel to the top of the epidermis layer to provide a layer of new cells at the surface. They replace the current layer of surface cells as each minute of the day we lose about 30,000 - 40,000 old dead skin cells. The skin that is visible to the human eyes is actually dead skin cells that are waiting to be replaced. About 95% of the cells in the epidermis are the ones responsible for making new cells. The other 5% are melanin cells, which give the skin its color. Darker skin colors contain more melanin than lighter skin tones. It is important to protect this layer from damage by wearing sunscreen and protective clothing when exposed to the sun.

The next layer down is called the dermis. The dermis contains nerve endings, blood vessels, oil and sweat glands. The nerve endings are responsible for sensation and work with the nervous system to transmit messages to your brain. This is the area that defines whether something is hot, cold, rough or smooth. Nerve transmission is a safety feature that protects us from injury when encountering dangerous stimuli. For example, if you touch a hot iron the nerve endings send a message to the brain, which immediately commands the muscles to pull your hand away quickly. The dermis is also loaded with tiny blood vessels that keep the skin healthy by bringing them oxygen and other nutrients while removing waste products. The dermis houses the oil glands, called sebaceous glands, which produces sebum. Sebum is the natural oil in skin and serves to lubricate and protect the skin. The dermis is mostly comprised of collagen and elastin fibers, which give the skin its strength and shape and allow it to be stretched and then return to its original position.

The third layer is called the subcutaneous layer. It is mostly comprised of fat and helps the body to stay warm and absorb shocks when you bang into something. This is the layer that actually attaches the skin structure to the tissues and muscles that lie underneath it. Hair follicles originate in this layer, form roots and then travel up through the dermis to the skin. It is the sebaceous gland that attaches to the hair follicle and provides the hair with shine and a slight waterproofing quality. Believe it or not – this fatty layer of skin comprises about 15-20% of a man's overall weight and 20-25% of a woman's weight.

The skin provides a very good barrier from infections. We encounter many types of bacteria each day and healthy skin prevents them from entering the body and establishing an infection. When an infection does occur, they can range from a small, easy to manage infection to an overwhelming life threatening infection. Some factors may predispose an individual to develop infections more easily than others. High risk factors include:



- Non intact skin – ANY break in the skin increases the risk
- Diabetics – poor blood flow and decreased white blood cells present to fight infection
- Immunosuppressed individuals
- HIV/AIDS
- Patients undergoing chemotherapy
- Inflamed or damaged skin – sunburn, dermatitis, scratching
- The elderly

It is important to note that we all have many types of bacteria that are not harmful and live on our skin without any evidence of damage. These are called resident flora. Transient bacteria are those that we pick up along the day by coming into contact with items or individuals that are carrying harmful bacteria. **The best way to protect yourself from harmful bacteria invasion is to wash your hands.** Hands should be washed frequently during the day and always before and after handling or preparing foods, playing with animals, after using the restroom and when returning home from being out in the community.

Handwashing is the number one way to prevent infections and if you are a healthcare worker, you are required to wash your hands before and after patient contact as well as after exposure to blood or other potentially infectious materials (OPIM). Handwashing must also occur after the removal of gloves and other personal protective equipment (PPE). In order for handwashing to be effective it needs to be done with soap, utilizing good friction for at least 15-20 seconds. Hands should be thoroughly rinsed under running water, with the fingertips pointed downward. Dry your hands with a paper towel and then use that towel to turn off the faucet. The Center for Disease Control (CDC) estimates that healthcare workers do not use good handwashing technique in over 60% of situations where it is required. This obviously raises great concern in regards to the ever-escalating infection rates in healthcare.

Hand sanitizing gels and foams may be used in place of handwashing as long as the hands are not visibly soiled with blood or other bodily fluids. Once again, the correct amount of product must be utilized to ensure that hands can be rubbed together with friction for a minimum of 15-20 seconds before the product dries.

Now that we have covered the basics of skin function and handwashing, it's time to review some common infections that can be found on the skin. They are classified according to the causative agent, such as:

- ✓ Bacterial
- ✓ Fungal
- ✓ Viral



Bacterial Infections:

- ✓ Methicillin Resistant Staphylococcus Aureus (MRSA)

This infection is a dangerous type of staph bacteria that is resistant to certain antibiotics. It has become especially troublesome in the past years, as outbreaks tend to occur in hospitals, nursing homes, prisons schools and other places where people are in close proximity to each other. It is more difficult to treat with standard antibiotics and therefore more dangerous.

MRSA often presents as a red, swollen painful skin bump. It may be warm to the touch or pus filled; a fever may also be present. MRSA infections tend to progress rapidly within 24-48 hours after the onset of symptoms. Without rapid treatment, these infected bumps may turn into deep, pus filled boils. It has been known to lead to widespread infection in vital organs that can cause sepsis.

Healthcare providers have been known to transfer this infection from patient to patient because of poor handwashing techniques. Hospital acquired MRSA is gaining national attention, as it will often increase the length of a hospital stay by three or more days. In the hospital setting it is often spread by contaminated hands, stethoscopes, blood pressure cuffs and other infected surfaces. If a patient has cultured positive for MRSA they should be placed in an isolation room with appropriate signage on the door that would indicate the need for personal protective equipment to be used when in these rooms. Every attempt should be made to utilize disposable equipment in isolation rooms. If disposable equipment is not available, then all items should be cleaned and disinfected upon exiting the room. All room surfaces should be sanitized daily. Visitors need to be advised to wash their hands upon entering and leaving isolation rooms and to wear gloves when in contact with the patient or other potentially infectious materials.

MRSA can be very difficult to treat and requires a strict adherence to the prescribed regimes. Medications that are used to treat a MRSA infection include Vancomycin, Linezolid, Cipro, Cleocin or a combination of these medications. The greatest chance for success includes obtaining a culture of the drainage to see which antibiotic it will respond the best to. Unfortunately, some newer strains of MRSA are also showing signs of resistance to Vancomycin and are now requiring an extended multi drug approach. If an abscess is present, it may require a procedure to open up the abscess and drain the pus out of the area. This is necessary because the infected fluid inside of boils does not respond well to antibiotics and treatment is more effective following the removal of the infected substance. People with infected boils should never attempt to open these lesions themselves as this action could make it worse and spread the infection easily to others from the drainage.

In the event that a person has been treated for MRSA in the outpatient setting and is recovering at home they should be advised to wash the area with soap and water and keep it covered with a dry dressing. Ointments or oral antibiotics may be indicated and will need to be taken or applied as prescribed with special attention to finishing all of the doses of antibiotics. Infected individuals should always wash their hands after handling dressings or the wound site, even if gloves are worn. They must AVOID hot tubs, swimming pools or even taking a bath until the lesions are healed. Showers are fine but the use of loofas, sponges or harsh soaps will need to be avoided. Paper towels should be used to dry the wound after cleaning because they are disposable and will limit the spread of infection through towel use. Personal items like razors, make up, towels and other items that may be harboring infectious material should never be shared. And the use of bar soap is discouraged over the use of liquid soap in a dispenser. Once again, the client must be advised to FINISH ALL DOSES of prescribed antibiotic therapy as the last few doses often work on killing the toughest germs.

✓ Impetigo-

Also a bacterial skin infection, it is most commonly seen in children. It may be caused by either streptococcus or staphylococcus bacteria. These bacteria can easily enter the skin through a cut, scratch, insect bite or other opening in the protective surface of the skin. It may also develop in healthy skin. Impetigo sores often begin as small red spots that change to blisters, which eventually break open to spread infectious fluid. Usually these sores are not painful but often they are itchy. The sores that have opened have a yellowish, crusty appearance and may increase in size and number if left untreated. In most cases, a doctor is able to readily identify impetigo just sight alone but may decide to culture the fluid if he or she is not completely sure the infection is indeed impetigo.

Treatment is based on antibiotic therapy, usually with an antibiotic ointment like bacitracin (Polysporin) or mupirocin (Bactroban). These creams need to be applied daily to affected areas for the duration of prescribed therapy. Prior to the application of medications the area will need to be washed gently with soap and water. A more serious case will require the addition of oral antibiotics as well. Once again it is important not to share towels, bedding, toys or clothing items during the active phase of infection and all items should be washed in hot soapy water before returning to use. It can be a challenge to keep a child from scratching these sores so their nails should be trimmed short and the sores may need to be kept covered with a dressing to discourage spreading the infection to other parts of the body.

✓ Cellulitis-

Cellulitis is a diffuse skin infection usually caused by streptococcus or staphylococcus bacteria. It causes a severe inflammation of both the dermis and the subcutaneous layers of the skin. It most often occurs in an area where the skin has been broken due to a scratch, cut, burn or blister, although it can also happen with intact skin. The lower legs are most often the site of cellulitis but it can occur anywhere on the body. This infection easily spreads to deeper tissues and the blood and can be deadly if not accurately treated with antibiotics.

Signs of cellulitis include a warm, swollen, reddened area of skin. This may be accompanied by fever, chills and swollen glands. Medical care should be sought immediately if the area suddenly gets larger, more painful or has red streaks extending from it. Prompt medical attention is necessary if the cellulitis is located on the face as it could spread to the brain and cause a deadly meningitis or sepsis.

Older folks, diabetics, obese people and individuals with a weakened immune system appear to be more prone to develop this infection. Unfortunately, cellulitis has a high recurrence rate in these high-risk populations.



- ✓ Cellulitis treatment requires antibiotics that may be taken by mouth at home. Rest and elevation of the affected area are helpful measures to speed recovery. It is important to notify the physician if significant improvement is not seen within three days of starting antibiotic therapy at home as hospitalization may be necessary to administer IV antibiotics. Oral antibiotics taken at home are prescribed for a prolonged course of 14 days to ensure eradication of the infection. This is a serious condition, which requires close monitoring to ensure rapid deterioration does not occur.

✓ Folliculitis –

Superficial infection that involves infected hair follicles that may be painful, swollen and pus filled. Areas commonly affected are the face, beard, neck, scalp and underarm. Staph aureus is the most common pathogen but BEWARE of public swimming pools and hot tubs, as they have also been known to harbor pseudomonas aeruginosa bacteria, which may also cause folliculitis.

This infection is usually self-limiting and clears up well with cleansing of the affected area with antibacterial soap and the application of topical antibiotic treatments applied 2-3 times a day. If the infection worsens it may lead to the development of carbuncles, which require drainage by incision. At that point, an oral antibiotic would be added to the treatment plan and compliance stressed for continuing to take the medication for the duration that it is prescribed.

✓ Necrotizing Fasciitis –

Necrotizing Fasciitis is a bacterial infection that spreads rapidly through the fascia planes of the connective tissue resulting in tissue necrosis. It is a rare infection, but very severe. It destroys the underlying muscle, skin and tissues that are affected by the bacteria. This infection develops when the causative bacteria enters into the body through a cut or scrape to the skin. The bacteria multiply and secrete toxins that begin to kill off the underlying tissues while entering the bloodstream and spreading rapidly through the body. **Death can occur quickly without proper treatment.**



The following are signs and symptoms of necrotizing fasciitis:

- ✓ Small, red painful bump on the skin
- ✓ May change rapidly to a very painful bruise appearing area
- ✓ Grows rapidly, over a matter of hours
- ✓ Fever, sweating, chills
- ✓ After 3 days, area is very painful, swollen and dark fluid filled blisters are present. Wound starts to look necrotic.

On day 4 shock symptoms appear; blood pressure drops and loss of consciousness may occur, as the body is now too weak to fight the massive infection. That is how fast this infection can spread and immediate treatment is needed to prevent death. Treatment will depend on the type of bacteria that has caused the infection. Powerful broad-spectrum antibiotics will need to be given through an IV. Surgery is also indicated to drain and irrigate the wound and remove dead tissue. Amputation of the affected limb or limbs may be required to save the life of the person with this infection. Hyperbaric oxygen therapy may be indicated and has been found to be a successful adjunct for treatment when combined with IV or oral antibiotics and surgical debridement. This infection commonly causes extensive scarring and disfigurement. Even with proper treatment, mortality rate is around 70%. This infection requires contact precautions and stringent handwashing practices before and after having contact with the patient.

Fungal Infections:

➤ Athlete's Foot- (Tinea Pedis)

This is a common fungal infection of the feet. There are different areas of the feet that can be affected by this fungus but the area in between the toes is the most common site. It is rapidly spread in warm, moist environments such as locker rooms, public shower floors, inside shoes and around swimming pools.

The symptoms can vary from individual to individual but they usually include peeling, cracking and redness of the skin on the feet. Intense itching and burning usually accompany these signs. Sometimes a physician will need to take a scraping of the skin to examine under a microscope to confirm the presence of the fungus.

Treatment consists of applying antifungal medication topically (directly to the skin) for 2-4 weeks. Some common antifungal medications are Lamisil and Lotrimin. These come in cream form and it is important to apply the cream consistently and for the indicated amount of time to completely clear this infection. Persistent infections may require oral antifungal medication.

➤ Jock Itch – (Tinea Cruris)

Similar to athlete's foot, this fungal infection also thrives in warm, moist environments. Areas commonly affected are the inner thighs, buttocks and genitals. Symptoms of jock itch include a red rash that is accompanied by burning and itching. Treatment includes keeping the area clean and dry and most cases it responds well to the over the counter antifungal ointments and sprays. A doctor may prescribe a prescription antifungal cream, if indicated.

➤ Ringworm – (Tinea Corporis)

Many people think that a worm causes ringworm, but this is not true. It is a fungal infection that presents as a red, scaly, circular area in which the inner section appears normal. It is possible to have more than one ringworm patch on the skin.



Ringworm is mildly contagious and can be spread by having contact with an infected person or from sharing of clothing and other personal items. Pets may also transmit the infection to humans. It is frequently found in warm areas like locker rooms and communal showers. It's a recurring theme- this is where fungus organisms thrive and survive.

Ringworm is treated with the application of topical antifungal medications such as Nizoral, Cruex and Lotrimin. It takes about 2-3 weeks to cure ringworm. Oral medications are prescribed for severe cases of ringworm.

➤ Yeast Infection – (Cutaneous Candidiasis)

Skin infections caused by yeast are common in the elderly, the immunocompromised, diabetics and individuals who are taking antibiotics. Yeast infections can be found on any skin surface including the nails and mucous membranes. Yeast prefers warm, moist creased areas of skin to thrive and grow in. Infants may have candida infections on their buttocks and groin; this is known as diaper rash. Candida infections found in the mouth are known as oral thrush. Yeast may also overpopulate the vagina and cause infection.

Yeast infections on the *skin* have a red scaly rash that may itch and burn. Pimple like bumps that ooze clear fluid is also indicative of fungal infections on the skin. Treatment consists of applying a topical cream to the area and is often very successful.

Yeast infections of the *nails* often cause yellowish discoloration along with thickening and pain in the nail bed, sometimes accompanied by purulent discharge. This one is harder to treat as it is embedded in the cells of the nails and requires diligent applications or soaks often for a few months to completely clear the infection. Stubborn cases may also require the addition of an oral anti-fungal medication. Close monitoring is indicated while on oral medications because the side effects can be very dangerous to certain individuals.

Yeast infections in the *mouth* (thrush) is often associated with antibiotic therapy or found in immunosuppressed individuals. Signs include mouth pain and white patches apparent on the tongue and the insides of the cheeks. The treatment consists of prescribed oral medicated lozenges or mouthwash suspensions.

Yeast infection on the *perineum* is an acute inflammation of the vulva-vaginal area that is characterized by intense itching, redness and burning. A thick white or yellow vaginal discharge may also be present. Vaginal suppositories and/or antifungal creams are indicated to cure this infection. Keeping the area clean and dry will speed the healing process.

Yeast infections found on the *penis* (balanitis), are characterized by shiny red plaque inflamed areas. The scrotum may also be affected. Antifungal ointments combined with "aeration" of the affected area are the common treatments for this infection. Uncircumcised men have the highest incidence, by far, of balanitis.

Viral Infections:

➤ Herpes Simplex-

Fever blisters and cold sores are examples of viral infections caused by herpes simplex virus (HSV). There are two types of the simplex strain:

HSV – type 1, is responsible for most of the oral or facial lesions.

HSV – type 2, is usually associated with genital infections.



HSV-1 exposure often occurs as a primary infection in children. The virus can be spread from an adult to a child by sharing eating or drinking utensils. A kiss can transmit the infection without sores even being evident. This is called asymptomatic viral shedding. It is estimated that approximately 85% of the population has been infected with HCV-1. Once infection has occurred, the virus travels to the dorsal ganglia where it can remain dormant for a while until something triggers the release of the virus back to the active state. Cold sore or fever blister outbreaks may range from mild to severe.

HSV-2 exposure is associated with symptoms apparent on the genitals. This area includes the vagina, penis, anus or buttocks. These areas may have one or more small, painful fluid filled blisters that appear between 2 and 20 days after having contact with an infected individual.

The sores, whether on the oral mucosa or the genital areas last anywhere from 5-10 days. Tingling or burning are considered prodromal symptoms and may occur even before the blisters are present. Initial exposure results in flu like aches accompanied by swollen lymph nodes in the affected region; resulting outbreaks are generally less severe than those found with initial infection. From start to finish, *herpetic outbreaks* tend to last 2-3 weeks for oral areas and; from 2-6 weeks for genital outbreaks. The six-week symptom stage is usually from the first, or initial, infection.

Treatment is aimed at reducing the severity and frequency of a herpetic outbreak. There is no cure at this time for viral herpes. Analgesics like acetaminophen and ibuprofen are helpful to reduce the pain and swelling that is often associated with outbreaks. The most common types of medications that are utilized are antiviral and have been proven helpful to diminish the severity and duration of lesions. Common antiviral medications include:

- Acyclovir
- Valacyclovir
- Famciclovir
- Penciclovir

These medications are available in oral, topical and intravenous forms.

Research studies have shown some evidence to support the use of certain dietary supplements and herbal remedies in the treatment of herpes although there is still more research needed before therapeutic doses can be established.

During an outbreak contact with the lesion must be avoided, as herpes is contagious via skin-to-skin contact. The virus may remain on the skin for up to 7 days after the sore has healed even after there is no evidence of an open lesion. The area should be kept clean and dry and a paper towel should be used to dry the lesions after showering to reduce the incidence of spread via shared towels.

Currently, studies are being conducted to produce a vaccine to prevent herpes transmission, but this vaccine is thought to be about 3-5 years away and will only prevent people from becoming infected, but will not cure those who already are.

➤ Herpes Zoster-

Also known as “shingles”, herpes zoster is a very painful outbreak of herpes blisters that follow a dermatomal pattern. A dermatome is an area of skin that is supplied by a single spinal nerve. The herpes zoster virus lies dormant in the ganglia of nerves. When activated, the virus causes inflammation, severe pain and blistering in a pattern that follows a nerve distribution area.



This virus is found in approximately 10-20% of adults in the United States. The virus lies dormant until it is activated and then presents initially with a burning, tingling and painful area on the skin. This area further develops in to a blister like pattern that follows along the nerve line (dermatome). Fever and generalized malaise are often common complaints upon onset. Treatment is directed at minimizing pain and the severity of the episode. It is the most effective when started as soon as possible after the onset of symptoms, usually within 24-48 hours after onset. In addition to antiviral medication; rest, pain medication and warm compresses to the affected area have been found to be helpful. Even after the affected area heals, some individuals continue to have severe pain after resolution due to a condition called postherpetic neuralgia. This is most often seen in elderly individuals and may cause ongoing discomfort for weeks to months. The only people who develop shingles are those who have previously had chickenpox (Varicella Zoster virus – VZV).

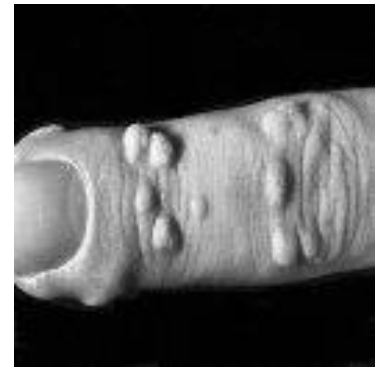
➤ Chickenpox- Varicella Zoster

Chickenpox is a contagious viral infection that is characterized by the presence of painful fluid filled blisters. The incubation period after a person has been exposed to the virus is approximately 14-16 days. Once infected, a person can become contagious 2-3 days before symptoms even occur. The first signs of illness often presents with fever, headache and sore throat. Usually within 72 hours, rash and painful blisters will become apparent. These blisters will continue to form, burst, dry and crust over for an additional 5-7 days. Chickenpox is highly contagious and can be spread by coming in contact with the fluid in the blisters or if an infected person coughs or sneezes on another individual. Most cases of chickenpox are found in children under 10 years old although it is becoming less common since the introduction of the chickenpox vaccine. The treatment of chickenpox consists mainly of symptom control with over the counter agents designed to assist with the burning and itching of the blisters. Oatmeal and cornstarch soaks helps with discomfort as well as topical hydrocortisone applications.

Children's nails should be kept short to avoid damaging the skin from scratching. Antiviral medications are usually reserved for serious cases in adults who are at risk for more serious symptoms. Aspirin and ibuprofen should NEVER be given to someone who has chickenpox. Acetaminophen (Tylenol) may be used for pain control. Children should not return to school or daycare until all the blisters have crusted over or dried up. Most people are expected to recover without complications.

➤ Warts-

Warts are common growths caused by the human papillomavirus (HPV). They affect approximately 10-15% of the population. Infection usually follows exposure after a break in the skin occurs. After exposure, the wart may appear within 2-9 months. The rough surface of a wart can actually cause warts to form in other areas near the original wart site. There are many types of treatment available to remove warts that will depend on the type and location of the wart.



➤ Molluscum Contagiosum-

This viral infection of the skin is caused by the poxvirus and is found in less than 5% of the general population. Transmission can occur via skin contact, mucous membrane contact or picked up from surfaces.

The papules are pink or flesh colored with dome shaped appearance. The papules are found mainly in the underarm and groin area as well as the area behind the knee. They usually go away without further treatment but may persist in immunocompromised patients.

Conclusion - As health care workers, it is important to be aware of skin infections and the proper precautions to be taken when encountering individuals who have them. Individuals who have skin infections should be reminded to follow all instructions that pertain to the care of an infection and to keep the area clean and dry to speed the healing process. Wounds that are draining or have pus present should be covered to prevent the spread of infection to others. If bandages are used, they can be properly disposed of in regular trash containers. When infections are present, towels, washcloths and other personal items such as razors should not be shared. All towels and washcloths should be washed in the hottest water available with detergent and bleach, if possible. They should be dried on the highest setting available until completely dry. Individuals who have skin infections should be counseled to avoid bathtubs, hot tubs and pools until the lesions are completely healed. All surfaces, which are commonly contacted by the infected individual, should be sanitized at least daily.

Healthy, intact skin provides one of the greatest barriers to acquiring many common skin infections. Hand hygiene also is a crucial step that helps to prevent the spread of most skin infections. Hands should be washed frequently throughout the day and always before preparing or eating food, after using the restroom and after touching any sore or contaminated dressing. The time spent on handwashing is also important, as it needs to be done for at least 20 seconds while utilizing good friction. Hands should then be rinsed under running water with the fingertips pointed downward. Always encourage individuals who have evidence of infection to follow orders closely that pertain to medications necessary to combat infections. All medications need to be taken as directed and not stopped until they are finished. Sometimes the wound seems to be cleared up and people stop taking the medications before they are finished. This should be strongly discouraged as it can promote a return of the infection as well as the proliferation of “super bugs”. Healthcare workers should always document the presence of a skin infection, compliance with treatment procedures, and should notify the physician of an infection that appears to be getting worse or not responding appropriately to treatment.

On a general note, it is important to promote healthy lifestyle choices that include adequate rest, proper nutrition and exercise to keep the immune system as healthy as possible as this has also been shown to help decrease the incidence of infections.