**SCABIES**

Is an itchy, highly contagious parasitic skin condition caused by microscopic mite known as *Sarcoptes scabiei var hominis* which is an eight-legged mite that is less than 0.5 mm long.

**Pathophysiology**

The mite cannot live more than three days without a human host, but it can survive up to a month when living on a human. Mites are small eight-legged parasites (in contrast to insects, which have six legs). They are tiny, just 1/3 millimeter long, and burrow into the skin to produce intense itching which tends to be worse at night. The mite also lays eggs in human skin, which hatch and grow into adult mites. This means that symptoms of the condition can last for months or even years. The adult female itch mites burrow into superficial layer of the skin and remain there for the rest of her life with her jaws and the sharp edges of the joints of her forelegs, the mite then extends the burrow and lay 2 or 3 eggs daily for up to 2 months. The larvae hatch from the eggs in 3 to 4 days and progress through larval and nymphal state to form adult mites in about 10 days, where clinical symptoms are related to a sensitivity reaction as larvae emerge to the skin surface. The condition is recognised by an allergic reaction to the saliva & faecal material excreted by the mite. It is a worldwide disease, more common where overcrowded conditions prevail.

It is more common in people who do not have bathing facilitiess or access to clothes- washing facilities. Mites therefore, can live in clothing fibres and can be transmitted by contact of infected clothing or bed linen.

**Classification of Scabies**

There are two classes of scabies infection; both are caused by the same mite.

* Classical scabies

This type of scabies is found in people with normal immune systems and the number of mites here are few. Itch can start between 2 - 4 weeks following initial acquisition of the infection.

Sites of the rash may not correspond to sites of the mites.

* Hyperkeratotic Scabies

It is also known as crusted, Norwegian and atypical scabies, that is an unusual form of the infection that is highly contagious. It occurs in immunodeficient individuals such as the frail elderly. Infection here often appears as a generalized dermatitis more widely distributed than the

burrows and the usual severe itching may be reduced or absent. Persons with crusted scabies are highly contagious because of the large number of mites present in the skin scales. Skin becomes thickened, scaled, crusted and unsightly due to the numbers of mites present. Therefore, crusted scabies is hard to treat because it is contagious among people.

**Clinical Manifestations**

It takes approximately 4 weeks from the time of contact for the patient’s symptoms to appear. The patient complains:

* Severe itching caused by a delayed type of immunologic reaction to the mite or its fecal pellets that tend to increase at night, perhaps because the increased warmth of the skin has a stimulating effect on the parasite. Hypersensitivity to the organism and its products of excretion also may contribute to the itching. During examination, the patient is asked where the itch is most severe. A magnifying glass and a penlight are held at an oblique angle to the skin while a search is made for the small, raised burrows. The burrows may be multiple, straight or wavy, brown or black, threadlike lesions, most commonly observed between the fingers and on the wrists. Other sites are the extensor surfaces of the elbows, the knees, the edges of the feet, the points of the elbows, around the nipples, in the axillary folds, under pendulous breasts, and in or near the groin or gluteal fold, penis, or scrotum.
* Red, pruritic eruptions usually appear between adjacent skin areas. The burrow, however, is not always visible.
* Secondary lesions are quite common and include vesicles, papules, excoriations, and crusts which maybe accompanied by flesh-colored, raised burrows.
* Bacterial superinfection may result from constant excoriation of the burrows and papules.
* Possible secondary bacterial infection.
* In crusted (Norwegian) scabies, the body is covered with a thick, dry, and scaly rash. The rash of crusted scabies may or may not itch, but it contains thousands to millions of mites.

**Mode of Transmission**

Scabies is host specific i.e. *Sarcoptes scabiae* var.*hominis* that only lives on humans, therefore scabies cannot be caught from pets or other animals. Transmission is by:

* Direct personal contact that is by prolonged skin-to-skin contact of a sexual or social nature, and thus a quick handshake or hug will not spread the infection.
* Person-to-person in close communities, particularly within households. It is recognised that the spread is not limited to family members, but includes everyone who has intimate personal contact with infected individuals. Infection occurs following transference of mites, which burrow into the skin. People who have acquired the infection for the first time may not show any symptoms for 2 - 4 weeks, so this makes spread of the disease difficult to identify and contain in institutions such as care homes.
* Shaking hands, hanging your coat next to someone who has it, or even sharing bedclothes that had mites in them the night before can also transmit scabies.
* Sexual physical contact with the person who has scabies and it is most commonly among sexually active young people and therefore it has been considered to be sexually transmitted disease.

**Life Cycle of the Mite**

The newly mated female burrows through the skin, often at the finger webs, wrists and

elbows. The eggs are then laid in the burrows at a rate of 2 - 3 per day for up to 2 months. Eggs mature, and larvae emerge from the eggs 3-4 days after they have been laid. After emerging from the egg, the larva passes through two moults before becoming adult. The adult mites then mate. The entire life cycle is then completed in 10-14 days, and mites live for around 30 days.

**Sites of Infection**

The most common areas affected are between the fingers (finger webs), wrists, elbows, armpits, waist, thighs, genitalia, nipples, breasts and lower buttocks. In infants, young children, the elderly and those who are chronically ill, the mites can be found on the face, ears and scalp. It should be recognised that scabies causes an allergic reaction, and the itch and the rash may not always coincide with the actual site of the mite.

**Assessment and Diagnostic Findings**

The diagnosis is confirmed by recovering *S. scabiei* or the mites’ byproducts from the skin.

A sample of superficial epidermis is scraped off the top of the burrows or papules with a small scalpel blade. The scrapings are placed on a microscope slide and examined through a low-powered microscope to demonstrate the mite at any stage and pellets.

A felt-tip-marker test may be performed by drawing a washable felt-tip marker across the rash and then wiping it off with alcohol. This may help to identify a burrow because the ink penetrates deep into the skin.

**MANAGEMENT OF SCABIES**

**Assessment**

The patient will complain of itchness and therefore use inspection to assess the hair, nails and the skin of the client in order to identify any normal and abnormal changes on the skin.

**Nursing diagnosis**

* Deficient knowledge deficit related to the disease process of scabies
* Impaired skin integrity related to lesions and inflammatory response as manifested by increased excoriation from scratching.
* Disturbed body image related to skin lesions or response of significant others to appearance and self- perception of uncleanliness as evidenced by client feeling embarrassed.
* Risk of infection related to skin excoriation.

**Outcomes**

* The client will be able to acquire knowledge on scabies and how to manage it.
* The client will maintain skin that has no lession and reduced inflammation as evidenced by decreased redness, decreased excoriation from scratching.
* The client will also verbalize increased skin comfort.
* The client will exhibit a positive self- concept as evidenced by engaging in social activities, expressinf feelings of importance and self worth.
* The client will be free from infectious lesions.

**Medical management**

A prescription scabicide, such as lindane (Kwell), crotamiton (Eurax), or 5% permethrin (Elimite), is applied thinly to the entire skin from the neck down, sparing only the face and scalp (which are not affected in scabies). The medication is left on for 12 to 24 hours, after which the patient is instructed to wash thoroughly. One application may be curative, but it is advisable to repeat the treatment in 1 week.

Permethrin 5% cream (Elimite) is the treatment of choice for scabies. Permethrin 5% cream is applied from the head to the bottom of the feet, paying special attention to skin folds, the groin area, and the webs between fingers and toes. The cream should be applied to clean, dry skin. For best results, clip and clean all fingernails and toenails. Permethrin is usually left on the skin for 10-14 hours and then washed off in the shower. It is best to apply permethrin at bedtime and then wash it off in the morning.

[Lindane](http://www.emedicinehealth.com/script/main/art.asp?articlekey=22866) 1% cream or lotion is an older medication that is rarely used because it is not very safe in children and is potentially toxic to the nervous system. Since lindane can cause seizures when it is absorbed through the skin, it should not be used if skin is significantly irritated or wet, such as with extensive skin disease, [rash](http://www.medicinenet.com/script/main/art.asp?articlekey=1992), or after a bath.

As an additional precaution, lindane should not be used in pregnant or nursing women or children younger than 2 years old. Lindane is only recommended if patients cannot tolerate other therapies or if other therapies have not been effective.

Crotamiton lotion or cream is approved for use to adults with scabies.

For classical scabies, aqueous liquid or dermal cream should be applied by rubbing gently onto all parts of the body including the face, neck, behind the ears and the scalp. It should be left to dry properly before getting dressed.

Crusted scabies is hard to treat and may require several applications of lotions, use of ivermectin pills, and extensive skin care to treat the crusted skin.

Occasionally, the scratched skin may become infected, and sores may contain pus or become red and warm. This is a separate condition from scabies and is usually a bacterial infection. If this occurs, it is treated with an oral antibiotic or an antibiotic ointment applied to the area.

Oral antihistamines such as diphenhydramine (Benadryl) or hydroxyzine (Atarax) can help control the itching

**Nursing management**

Close family members and personal contacts must be treated as well, even if there are no apparent signs and symptoms.

The patient should wear clean clothing and sleep between freshly laundered bed linens. Teach patient to wash bedding and clothing in hot water and dried on the hot dryer cycle, because the mites can survive up to 36 hours in linens. If bed linens or clothing cannot be washed in hot water, dry-cleaning is advised.

After treatment is completed, the patient should be advised to apply an ointment, such as a topical corticosteroid, to skin lesions because the scabicide may irritate the skin.

The patient is instructed not to apply more scabicide because it will cause more irritation and increased itching and advised not to take frequent hot showers because they can dry the skin and produce itching..

Reinforce client’s sense of identity and personal competence whereby the nurse should encourage self management of scabies and the understanding that help controlling scratching hence reducing lesions hence promoting positive self- concept.

The nurse should explain to the client the signs of infection and be sure that the client understands that the presence of these signs indicates need for medical intervention since infections are serious complications of disorders of open skin.

Instruct the client to wash scaling debris or crust with warm water, soapy water and then dry the area thoroughly before applying medication in order to avoid further complications.

The client should cut his/her nails, and clean under them thoroughly to remove any mites or eggs that may be present.

Thoroughly vacuum your rugs, furniture, bedding, and car interior and throw the vacuum-cleaner bag away when finished.

Advise the client to avoid scratching and try keep any open sores clean in oredre to prevent infections.

**Starve the mites whereby the client should consider** placing items that can't be washed in a sealed plastic bag and leaving it in an out-of-the-way place, such as in garage, for a couple of weeks. Mites die if they don't eat for a week.

**REFERENCES**

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