

ENTITLEMENT ELIGIBILITY GUIDELINES

CONTACT DERMATITIS

MPC 01215
ICD-9 692 (see also 373.3, 380.2, 691.8, 693, 695.3)

DEFINITION

Contact Dermatitis is an acute or chronic skin inflammation, usually eczematous, caused by exposure to a chemical, physical, or biologic agent. The term "Contact Dermatitis" includes **irritant dermatitis** and **allergic eczematous contact dermatitis** (AECD). In irritant Contact Dermatitis, the causative agent acts as an irritant. An irritant can be defined as a chemical that in most persons is capable of producing cell damage if applied for a sufficient time, and in sufficient concentration. In allergic eczematous contact dermatitis, the causative agent acts as a specific allergic sensitizer. The agent can act both as an irritant and a sensitizer, producing both disease forms. Most irritants are not contact allergens, but many allergens can also be irritants.

Contact Dermatitis excludes conditions such as, but not limited to, the following :

- atopic dermatitis
- atopic eczema
- urticaria
- seborrheic dermatitis
- simple intertrigo
- lichen simplex chronicus
- nummular eczema
- stasis dermatitis
- dyshidrosis (pompholyx)
- asteatotic (xerotic) eczema
- pityriasis alba

Applications for pension entitlement may be submitted for "Contact Dermatitis" without qualifying the label as to site.

Please note: Entitlement should be granted for a chronic condition only. For VAC purposes, "chronic" means that the condition has existed for at least 6 months. Signs and symptoms are generally expected to persist despite medical attention, although they may wax and wane over the 6 month period and thereafter.

DIAGNOSTIC STANDARD

Diagnosis by a qualified medical practitioner is required. Diagnosis is based on history, on appearance, periodicity and localization of the eruption, and on the clinical course. Patch tests may help determine the cause of AECD; however, results should be correlated with clinical data to be of significance. The allergen can be extremely difficult or impossible to identify despite appropriate patch testing and careful evaluation of the eruption.

Evidence of duration of a disability for at least 6 months should be provided.

ANATOMY AND PHYSIOLOGY

Irritant dermatitis can occur after one or more exposures to an irritant. Almost any compound can be an irritant, depending on the conditions of exposure. The nature of the irritant, its concentration, duration of contact, and nature of the vehicle affect disease severity. Certain factors predispose to irritant dermatitis, including skin dryness, and sweating, and environmental factors including high temperature, low humidity, and pressure or friction.

AECD is a delayed hypersensitivity reaction in the skin, affecting only certain sensitized individuals. It occurs after exposure to an antigenic agent. Once the allergic state has been established and the dermatitis has resolved, there is often an increased susceptibility to re-sensitization, or a rapid rise in the level of sensitivity after re-exposure to the primary allergen. AECD is a uniquely cutaneous manifestation of an immunologic response.

The sensitization phase usually takes five to twenty-one days. During this phase an individual acquires a specific hypersensitivity to a particular contact allergen. Sensitization can evoke a delayed hypersensitivity response or an immediate hypersensitivity response. Re-exposure may produce a reaction. The literature indicates that this can take place in the range of eight to one hundred and twenty hours. A spontaneous flare may occur within ten to twenty-one days without re-exposure. Cross-sensitization may also occur, where sensitivity to one particular allergen may be stimulated by contact with secondary allergens.

CLINICAL FEATURES

Contact Dermatitis has been classified into three stages: acute, subacute, and chronic.

Characteristic of the acute stage are papules, oozing vesicles, and crusting lesions surrounded by inflammation. Characteristic of the chronic stage are thickening associated with lichenification, scaling and fissuring.

Primary lesions include papules, vesicles, and occasionally bullae. Any or all of these can form erythematous edematous patches. Also present may be secondary lichenification, oozing, crusting, scaling, fissuring, post-inflammatory hyperpigmentation or hypopigmentation.

All forms of Contact Dermatitis frequently cause pruritus.

The normal cutaneous variations between male and female, such as hair distribution and gland function, can also contribute to sex-related susceptibility differences.

Contact Dermatitis can appear anywhere on the body. It is initially localized to certain body sites, but may become widespread and evolve into generalized exfoliative dermatitis, known as “autoeczematization” or “conditioned hyperirritability”.

PENSION CONSIDERATIONS

A. CAUSES AND/OR AGGRAVATION

THE TIMELINES CITED BELOW ARE NOT BINDING. EACH CASE SHOULD BE ADJUDICATED ON THE EVIDENCE PROVIDED AND ITS OWN MERITS.

Relationship to occupation and/or environment may be difficult to establish. The following questions may be useful:

- 1) Are there workplace exposures to potential cutaneous irritants or allergens?
- 2) Is the anatomical distribution of the condition consistent with cutaneous exposure in relation to the job task?
- 3) Is the temporal relationship between exposure and onset/aggravation consistent with the Contact Dermatitis?
- 4) Are there non-occupational and/or non service-related causes or sources of aggravation?
- 5) Does the condition improve away from the exposure to the suspected irritant or allergen?
- 6) Do patch tests or other tests identify a probable cause or aggravation factor?

1. Predisposing factors for Allergic Contact Dermatitis (AECD) include:

- Heredity
Most individuals with a normal functioning immune system can be sensitized to strong allergens, although there is great variability among individual tendencies to react to weaker allergens.
- Immunologic status
This is a significant influence on susceptibility to AECD and is in turn influenced by genetics, age and presence of systemic disease. Drugs may affect the immune system and influence susceptibility to AECD.
- Other cutaneous disorders
Skin that is infected, inflamed, burned or eczematous (as in stasis dermatitis) predisposes to AECD.
- Environment
Age, sex, occupation and nationality may determine the environment and, thus, the chemicals to which one is exposed. Certain plants cause dermatitis only during certain seasons, e.g., poison ivy causes seasonal Contact Dermatitis.
- Emotional Stress: aggravation only
It is considered that emotional stress may, in some cases, aggravate, i.e. permanently worsen, Contact Dermatitis.

For emotional stress to aggravate Contact Dermatitis, the following should be evident:

Signs/symptoms of stress have been ongoing or recurrent for at least 1 month; *and*

Medical intervention has been sought for the signs/symptoms of stress; *and*

Signs/symptoms of stress are resistant to cure; *and*

Increased signs/symptoms of Contact Dermatitis have occurred during the period of emotional stress, or within approximately 30 days thereafter; *and*

Increased signs/symptoms of Contact Dermatitis have been ongoing or recurrent for at least 6 months.

- Inappropriate clinical management

2. Specific etiological forms of Contact Dermatitis include:

A. OCCUPATIONAL CONTACT DERMATITIS

One of the most common types of occupational skin disease is Contact Dermatitis of the hands. Irritants are the most important factors in the initiation and chronicity of hand dermatitis. These include:

- oils
- paints
- solvents
- surfactants (soaps, synthetic detergents)

Some of the most frequently affected occupations include mechanics and repairers of vehicles, engines, heavy equipment and machinery, machine operators, metal workers, cooks, and health professionals.

Common causes of allergic Contact Dermatitis in industrial workers include:

- epoxy resins
- acrylate resins and rosin
- various metals
- rubber accelerators
- antioxidants

Exposure to strong skin irritants and contact allergens is found in workers in the electronics and semiconductor industries, e.g. in production of capacitors, switches, relays, transistors, television picture tubes, amplifiers. The assembly of semiconductor chips may produce dermatitis because of low relative humidity and relatively high ambient temperature in the working environment. Causes of **irritant** dermatitis in the semiconductor industry include:

- exposure to hydrofluoric acid
- contact with gold, nickel, or chromium used for electroplating
- exposure to cyanoacrylate glue

Other common causes of Contact Dermatitis include:

- jewellery, clasps and other articles containing nickel
- acrylic nails

B. DERMATITIS MEDICAMENTOSA

- allergic reactions to topical corticosteroids
- allergy to preservatives in creams or ointments, e.g., propylene glycol, lanolin, parabens, benzyl alcohol, sodium metabisulfite
- exposure to latex-containing (natural rubber) medical devices - medical sources of exposure include catheters, intubation tubes,

anesthesia masks, dental dams, surgical and examination gloves.

C. DERMATITIS DUE TO TRANSDERMAL DRUG DELIVERY

A contact allergic reaction may be caused by the drug itself, but more commonly by the adhesive in the device. Irritant dermatitis may occur if the transdermal system is repeatedly applied to the same skin site.

D. PHOTOCONTACT DERMATITIS

The agent responsible for the reaction may be either photoallergenic or phototoxic. A phototoxic reaction is analogous to an irritant response, and it can occur after one exposure. A photoallergic reaction causes a delayed eruption in areas of the body exposed to the sun, such as the face and dorsal surfaces of the hands. In the 1960s and early 1970s certain deodorant soaps caused many cases of photoallergic Contact Dermatitis. Currently, synthetic fragrances are common photoallergic agents. There are both topical and systemic photosensitizers.

Common sources or forms of topical photosensitizers are as follows:

- washing and bleaching powders
- soaps and detergents
- cosmetics
- sunscreens
- tranquilizers
- medications, e.g. photosensitizing and antibacterial medications
- cosmetic and food fragrances
- industrial products

Common sources or forms of systemic photosensitizers are as follows:

- diuretics
- antibiotics
- artificial sweeteners
- antifungal medications
- photosensitizing medications
- antibacterial medications
- antidiabetic medications

E. SUNSCREEN - RELATED DERMATITIS

F. PLANT DERMATITIS

G. GYPSY MOTH CATERPILLAR DERMATITIS

The insect was first introduced into the United States in 1869 and has spread since then. Dermatitis can occur from contact with the insect or

with its airborne hollow appendages. Eruption typically appears within eight to twelve hours after outdoor activity or handling of the caterpillar.

Associated symptoms in gypsy moth caterpillar dermatitis include rhinitis, eye irritation, and dyspnea with wheezing.

B. MEDICAL CONDITIONS WHICH ARE TO BE INCLUDED IN ENTITLEMENT/ASSESSMENT

- Contact Dermatitis can occur on various body sites, including the ear canal and rectal regions. The sites on which Contact Dermatitis occurs would be included in the assessment.
- Secondary skin infections

C. COMMON MEDICAL CONDITIONS WHICH MAY RESULT IN WHOLE OR IN PART FROM CONTACT DERMATITIS AND/OR ITS TREATMENT

REFERENCES FOR CONTACT DERMATITIS

1. Australia. Department of Veterans Affairs: medical research in relation to the Statement of Principles concerning Contact Dermatitis, which cites the following as references:
 - 1) Rook/Wilkinson/Ebling (1992) (5th ed.) *Textbook of Dermatology*, Blackwell Scientific Publications Oxford.
2. Abel, Elizabeth A. 1995. Contact Dermatitis: Dermatology. *Sci. Amer. Med.* 1:1 -15.
3. Lushniak, B.D. Dec 1, 2000. *Primary Care: Clinics In Office Practice* . 24(4): 895-916.
4. Tierney, Jr. Lawrence M, et al, eds. *Current Medical Diagnosis & Treatment*. 35th ed. USA: Appleton & Lange, 1996.
5. Weatherall, D.J., J.G.G. Ledingham and D.A. Warrell, eds. *Diseases of the Skin, Oxford Textbook of Medicine*. 3rd ed. Toronto: Oxford University Press, 1996, vol 3, pp. 3734 - 3742.