

# Nurses: Workers Particularly Concerned by Contact Dermatitis in Public Hospital

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## Abstract

**Background:** Contact dermatitis is common disease and represents a significant problem in healthcare sector, mainly among nurses. Many studies reported the prevalence of contact dermatitis from different parts of the world. Nevertheless, data about its frequency in Tunisia especially in public hospital seems to be insufficient. This study aims to assess the prevalence of contact dermatitis among nurses working in public hospital and identify risk factors. **Patient and Methods:** A cross sectional study was conducted among a representative sample of 1278 health professionals working in a public hospital matched by professional status and department. The survey was based on a questionnaire, a specialized examination and patch tests. **Results:** The prevalence of occupational contact dermatitis was 22% (17.5 - 27.2). The worker profile at risk of contact dermatitis was a female nurse aged 37 years working in a surgical department during  $12.7 \pm 9.36$  years. Hands were damaged in 92.4% of cases and rhythmicity with occupational exposure was reported by 86% of affected individuals. Patch tests using European Standard Battery were performed among 33 workers and revealed a sensitization to an allergen among 26 workers. Patch test using rubber battery (if suspicion of allergic contact dermatitis to gloves) was performed among 29 agents and positive among 12. The analytical study revealed that history of atopy, job tenure, the mean daily number of hand washing, the mean daily number of worn gloves and mean duration of glove wearing were significantly higher in the affected population. **Conclusion:** Contact dermatitis affects particularly nurses in public hospitals. Its prevention requires a diagnostic approach based on a detailed professional investigation and patch tests.

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## Keywords

Nurses, Contact Dermatitis, Public Hospital, Prevention

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### 1. Introduction

Occupational dermatitis occupies an important place in the occupational disease. It is a topic in constant evolution. Occupational dermatitis is any skin abnormality caused or aggravated by the workplace [1]. It represents 20% to 30% of occupational diseases and 10% of dermatitis [1] [2].

In hospital, contact dermatitis (CD) is frequent with a prevalence ranging from 20% to 40% [3] [4] [5] [6]. CD observed among medical and paramedical staff represents 20% to 40% of all CD and ranks the third after the construction sector and the cleaning and maintenance professions [7].

In the health care settings, CD is caused by various allergens: rubber gloves, nickel of some instruments, drugs, antiseptics and disinfectants... [8]. The distribution of these allergens has changed considerably in recent years. Indeed, new substances have appeared in the field of diagnosis and care (antibiotics, neuroleptics), the field of hygiene (soaps, antiseptics, gloves) and maintenance (aldehydes, quaternary ammoniums) [9].

Many epidemiological studies reported that nurses are particularly at risk of CD in the health care settings [10]-[20]. The incidence of CD in nurses is ranging from 7% to 46% in different studies [11] [15] [21] [22].

This study aims to assess the prevalence of contact dermatitis among nurses working in public hospital and identify risk factors.

### 2. Patients and Methods

The study population included all non-administrative staff practicing in a public hospital in the center of Tunisia during at least one year. We included all medical and paramedical staff assigned to care activities and/or cleaning activities. We excluded medical or paramedical staff not practicing care activities or manipulating skin irritants or allergens (staff in charge of Consultations, those working in the Department of Occupational Medicine, Community Medicine or Physical and rehabilitation Medicine) administrative staff, maintenance workshop agents and ambulance attendants. Then the general population counted 1278 hospital staff (537 Nurses (42%), 324 Doctors (25%), 228 Senior Technicians (18%) 127 Cleaning Workers (10%) and 62 Auxiliary (5%)). We performed a stratified random sampling matched by occupational grade and departments. This sample counted 300 hospital workers.

This is a cross-sectional study, performed in 2015, included:

- A questionnaire filled by the investigator, during a direct interview with workers. This interview was preceded by the explanation of the purpose of the study, anonymity procedure guarantee and the collection of the enligh-

tened consent. This study was approved by the institutional ethics committee. The questionnaire contained 27 items referring to social and professional characteristics, personal and family history, clinical characteristics of dermatitis, occupational and non-occupational risk factors and additional tests performed (**Annex 1**).

- A dermatological examination performed in all symptomatic patients by a dermatologist for a detailed description and diagnosis of lesions.
- Patch tests performed in patients with suspected allergic contact dermatitis (ACD) using the European baseline series (EBS, TROLAB Patch test allergens), the specific series (rubber, disinfectants, perfumes, TROLAB Patch test allergens) and handled products brought by patients. Reading patch tests was carried out in day 2 and day 3 according to European Society of Contact Dermatitis guideline for diagnostic patch testing and following the recommendations of the International Contact Dermatitis Research Group (ICDRG) [23] [24].

The data collection and analysis was performed using the SPSS 18.0 software. We used the Chi-square test for qualitative variables with a significance threshold of 5%. The comparison of the averages was made by the Student's T test with a significance level of 5%.

### 3. Results

#### 1) Prevalence of CD:

Sixty-six of the 300 participants in our study population had CD, accounting for a prevalence of 22% (17.53 - 27.20). Nurses were particularly affected and counted for 42%.

The Socio-professional characteristics and occupational risk factors are presented in **Table 1**.

Patch tests were performed using the European baseline series (EBS), specific series and products handled by patients. The EBS was performed on 33 workers in whom ACD was suspected. Positivity to at least one allergen of EBS was noted among 26 patients. Three predominant allergens were identified: Nickel (18 cases, 6% of the study population (3.31 - 8.69)), chromium (11 cases, 3.66% (1.54 to 5.78)) and cobalt (9 cases, 3% (1.07 to 4.93)). They were followed by 4 cases positive to Paraphenylene diamine (1.33% (0.003 - 2.63)), 3 cases to the thiuram mix (1%), 3 cases to benzocaine (1%), 3 cases to N-Isopropyl-N-phenyl-4-phenylenediamine (1%) and 3 cases to mercapto mix (1%).

Tests to the rubber series were performed on 29 hospital workers for suspicion of ACD to gloves. It was positive on 12/29 participants. The 1,3-diphenylguanidine (DPG) was the most frequently positive allergen with a prevalence of 2% (0.21 - 3.11) (6 cases/13) followed by the Tetramethyl thiuram monosulfide (1%) and the N Cyclohexyl benzothiazyl Sulphenamide (1%). Seven hospital workers had a positive patch test to rubber series despite a negative test to rubber allergens contained in the EBS.

**Table 1.** Socio-professional characteristics and occupational risk factors in the study population.

Characteristics	Mean	Minimal	Maximum
Age	38 years $\pm$ 8.9	21	59
Sex	Males = 130 (43.3%); Females = 170 (56.7%), sex ratio = 0.76		
Occupational category	127 nurses (42%), 75 Doctors (25%), 53 senior technician (18%), 30 blue-collar worker (10%), 15 medical auxiliary (5%)		
Speciality	170 Medical (56.7%), 130 surgical (43.3%)		
Job tenure.	12.5 years $\pm$ 9.3	1 year	37 years
Personal history of atopy	106 (35.33%): rhinitis (18.3%)		
Mean number of hand washing/day	7.3 times $\pm$ 5.02	1	40
Mean Number of borne gloves/day	3.2 pairs $\pm$ 3.85	0	24
Duration of Wearing gloves	0.6 h $\pm$ 0.8	0 h	4 h
Professional rhythmicity	Yes = 57 personnel /66 (86%), No = 9/66		

Patch tests to perfume series were performed in a nurse working in the bacteriology laboratory. The test to EBS was negative. Patch test to handled product; Alcolgel \* was positive (one cross). Patch tests to perfume series were positive to lemon grass oil.

Patch tests were performed using gloves on 23 hospital workers. A positive reaction was observed among 6 workers.

The Diagnosis of irritative contact dermatitis (ICD) was retained in 37 hospital workers (56% of the affected population). The diagnosis of ACD was retained in 26 hospital workers (39% of the affected population). Urticaria was diagnosed in 3 hospital workers (5% of the affected population) (**Table 2**).

In the affected population, 22 hospital workers reported work-related contact dermatitis:

- 21 participants with ACD/26: 13 cases of ACD to gloves, 5 cases of ACD to disinfectants and 3 cases of ACD to metal medical instruments (Nickel, Cobalt).
- A worker suffered from contact urticaria to latex

Concerning the professional future, ninety-nine percent of affected workers kept the same workstation with changing of handling products, and/or wearing protective means. Two workers were mutated. Three nurses, auxiliary nurses and a senior technician changed their workstations in the same department.

## 2) The risk factors of contact dermatitis:

We performed an analytical study of risk factors of CD comparing the affected population (n = 66) and the non-affected population (n = 234). The family history of atopy, personal history of atopy, job tenure, the daily average number of handwashing, the daily average number of pairs of worn gloves and the average duration of wear were significantly higher in the affected population (**Table 3**).

**Table 2.** Distribution of contact dermatitis in the study population according to the etiology.

Type	Handled product	Staff	%	
Urticaria	Latex gloves	1	0.33	
	Parfun of a disinfectant (Clin'up*): lemon oil	1	0.33	
	Disinfectant Phagosept* spray (Biguanides)	1	0.33	
	Total	3	1	
Eczema	Gloves	13	4.3	
	Disinfectant	5	1.05	
	-Formaldehyde (n = 2)			
	-Steranios, Cidex (Glutaraldehydes)+Clin'up*(n = 2)			
	-Disinfectant (Alcogel*) + parfum Lemoil (n = 1)			
	Metal medical devices (nickel, cobalt)	3	1	
	Atopic	2	0.66	
	Nickel (previous relevance) jewellery	1	0.33	
	Benzocaine	1	.033	
	Bleach(Chromium)	1	0.33	
	Total	26	8.6	
	Irritation	Gloves	23	7.6
		Disinfectant	6	2
		Cidex* (n = 3), Alcogel (n = 1), Clin'up (n = 2)		
Liquid soap		3	1	
Antiseptic solution		1	0.33	
Augmentin		1	0.33	
Detergeant		2	0.66	
Plastic		1	0.33	
Total		37	12.3	
Total		66	22	

**Table 3.** Analytical study of risk factors for contact dermatitis.

Characteristics	Affected population n = 66	Non-affected population n = 234	P
Age	37 ± 8.9 years	38.2 ± 8.8 years	-
Sex	Females 61%	Females 55.5%	-
Family history of atopy	54.5%	32.9%	<b>0.001</b>
Personal history of atopy	51.5%	30.7%	<b>0.002</b>
Job tenure	11.8 ± 9.7 years	12.6 ± 9.2 years	-
Surgical Speciality	61%	38.5%	<b>0.001</b>
Mean number of hand washing/day	8.5 ± 4.9/day	6.9 ± 4.9/day	<b>0.017</b>
Mean Number of borne gloves/day	4.08 ± 4.37 pairs/day	2.95 ± 3.6 pairs/day	<b>0.036</b>
Mean duration of glove Wearing/day	1 hours ± 1.3	0.5 hours ± 0.6	<b>0.003</b>

## 4. Discussion

This study aimed to assess the prevalence of contact dermatitis among nurses working in public hospital and identify risk factors. To meet this objectives, we conducted a cross sectional study among a representative sample of 1 278 health professionals working in a public hospital. This sampling was only matched by professional status and department (medical or surgical one). The survey was based on a questionnaire, a specialized examination and patch tests. Otherwise, this study has some limitations that should be mentioned. In fact, it did not give an idea about the incidence of contact dermatitis. Moreover, patch tests were only among patients in the sampling with clinic argument of suspected allergic contact dermatitis. Thus only 33 patients were patch tested. This choice was justified by potential complications of this test [25] [26] [27].

In our study, the prevalence of CD was 22% (17.53% - 27.20%). In Tunisia, the prevalence of occupational dermatitis among hospital workers is based on specific studies and ranges from 10% to 28.3% [28]. In Denmark, occupational dermatitis accounted for 16% of occupational diseases reported and ranked third [29]. Eczema and CD accounted for 94% - 98% of reported occupational dermatitis [29]. The incidence of occupational dermatitis among health care workers was estimated to be 7.3 cases/10,000 employees/year [29] [30]. Working in hospitals is classically described as a risk factor for hand dermatitis [31]. Indeed, the largest epidemiological study of hand dermatitis in general population, conducted in Sweden, reported an annual prevalence ranging from 9.7% to 11.8% [32]. This prevalence is higher among nursing staff (17% - 30%) [32]. Similarly, in this study, nurses were particularly affected by CD (42%). Besides, several studies have noted that the prevalence of CD in nurses is probably due to their constant contact with drugs, anesthetics, antiseptics and their frequent wearing of gloves [33] [34].

In our study, CD concerned 17.3% of males and 23.5% of females. This difference was not statistically significant ( $p = 0.46$ ). According to the literature, many authors estimated that CD is more common among women [35]. In fact, gender may be considered as a predisposing factor to ACD, not because of differences in skin characteristics but due to an early exposure to allergens such as nickel [36]. In our study, the mean age of the affected population was lower than the non-affected population with no statistically significant differences. Sasseville [37] proved that young workers are prone to develop more occupational dermatitis due to their lack of experience or their non-compliance with safety instructions. In dentistry, Lee and al. reported an increase in the prevalence of CD with age among dentists [38]. Irritative contact dermatitis (ICD) is considered as a risk factor for developing ACD. This is related to the destruction of the skin barrier promoting the penetration of allergens, which increases the risk of ACD [35]. Consequently, small irritative lesions (even tiny) are warning signs for prompt action before ACD setup [39]. In our study, the history of atopy was significantly more frequent in the affected population. Working in the health

care sector is a risk factor for the onset of dermatitis of the hands among atopic workers [40]. Some authors consider that the existence of a history of atopic dermatitis or a persistent atopic dermatitis is a risk factor to develop hand dermatitis. However, the absence of atopic manifestations (rhinitis, asthma) does not increase the risk of occupational dermatitis in hospitals [3]. Moreover, Atopic subjects also have a higher risk of developing contact urticaria (latex, amylase, food proteins) [41]. In our study, 72.7% of the affected population (48/66 cases) reported regular cleaning activities. This rate was about 47% (141/234 cases) in the non-affected population. The difference was not statistically significant ( $p = 0.064$ ). Cleaning activities expose to the irritative effect of water, detergents and disinfectants. Moreover, leisure activities expose to various allergens and irritants such as sports activities (gloves, sportswear...), gardening (plants, insecticides, pesticides) and handiwork (cement, paint, varnish...) [42]. Medical examination should specify the products to which the subject is exposed to while practicing extra-professional activities [42].

In our study, the difference between the average job tenure in the affected and non-affected population was not statistically significant ( $p = 0.54$ ). In nursing, the occurrence of hand lesions is higher during the first three months after recruitment [15] [25]. This can be explained by the phenomenon of “hardening”, that is the gradual tolerance of the tegument to irritative substances [43]. In our study, the prevalence of CD was significantly higher in surgical departments ( $p = 0.001$ ). Some authors found that the most affected are those working in Pediatrics and Obstetrics and Gynecology departments and attributed this to the frequent wearing of latex protective gloves and excessive hand washing [28]. Wet work can be defined as any activity which involves exposing the skin to aqueous substances for more than 2 hours per day or a wearing water proof gloves for over 2 hours per day or washing hand frequently (more than 20 times per day or even less if the procedure is more aggressive) [41]. In our study, the average daily number of hand washing was significantly higher in the affected population ( $8.5 \pm 4.9$  loads per day) than in the non-affected population ( $6.9 \pm 4.9$  daily washing) ( $p = 0.017$ ). Frequent hand washing is a risk factor of the onset of dermatitis of the hands especially because of repeated irritation and use of antiseptics and disinfectants [44]. Hand cleaning products mainly cause irritation but rarely allergic contact eczema secondary to surfactants, preservatives, disinfectants, fragrances and/or other additives (such as lanolin, colophony, metals...) [44]. Some studies have shown that skin exposure to soap and water causes more irritation than the use of antiseptic alcohol solutions among health workers [32]. Exposure to irritants is mainly related to frequent handwashing rather than wet work [45]. In our study, all the subjects in the affected population declared wearing gloves during work versus 91.4% in the non-affected population. The average number of pairs of gloves used per day was significantly higher in the affected population ( $4.08 \pm 4.37$  pairs) than in non-affected one ( $2.95 \pm 3.6$  pairs) ( $p = 0.036$ ). In the study of Lindberg [33], 85% of the dental staff regularly

wear gloves, and 14.8% of them use more than 60 pairs of gloves per week. The average duration of gloves worn per day was higher in affected individuals ( $1 \pm 1.3$  hours) compared with non-affected subjects ( $0.5 \pm 0.6$  hours). This difference was statistically significant ( $p = 0.003$ ). In a Swedish study of 3083 dentists, 73% reported wearing gloves for longer than two hours per day and 48% for more than 6 hours per day [46].

The prevalence of ACD to gloves in medical and paramedical staff in our study was equal to 4.3% (4.27 to 4.32). Patch tests to rubber series were positive in 6 agents/13 (46.1%). Moreover, tests to the EBS showed positivity to Thiuram mix (3 cases), to paraphenylene diamine (3 cases), to the mercapto mix (2 cases) and to mercapto benzothiazole (2 cases). Tests to the EBS did not show positivity to rubber allergens in 6 cases of eczema to gloves. In these cases, tests to rubber series were positive to the 1,3 Diphenyl guanidine. This could justify the proposal to add the 1,3 Diphenyl guanidine to allergens of the EBS. In fact, the 1,3-diphenyl guanidine allergen was the most provider of positive patch tests to rubber series with (6 cases) a prevalence of 2% in the study population. These findings are compatible with those of Piskin's study [47]. Whereas, some other studies reported that thiurams and carbamates were the most frequently incriminated as rubber allergens [48]. The 1,3-diphenyl guanidine is an allergen belonging to the guanidines family which was responsible for positive tests in 1.9% of patients tested in the study of IVDK [49]. According to Piskin [47], the 1,3-diphenyl guanidine is used in industrial products than in latex consumer products. He explained the increase in sensitivity to 1,3-diphenyl guanidine in his study by the preventive efforts that have reduced the use of latex gloves in his hospital, at the expense of synthetic rubber gloves that contain the 1,3-diphenylguanidine [47].

## 5. Conclusion

In conclusion, contact dermatitis is frequent among nurses working in public hospitals. This study emphasizes the necessity of a preventive approach of hand dermatitis since recruitment.

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This study was not funded.

### Conflict of Interest

All authors agree with the content of the manuscript. There are no conflicts of interests between or among authors.

### Ethical Approval

This article does not contain any studies with animals performed by any of the

authors. All participants gave informed consent for the research and their anonymity was preserved. This study was approved by the institutional ethics committee.

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## Annex 1: Survey Sheet in Dermatology Allergy

### I- Caractéristiques socioprofessionnelles:

Nom: .....Prénom:.....  
 Age:..... /\_/\_/  
 Sexe: 1-Masculin, 2-Féminin /\_/  
 Statu matrimonial: 0-célibataire, 1-marié, 2-divorcé, 3-veuf /\_/  
 Côté dominat: 1-droitier 2-gaucher 3-ambidextre /\_/  
 Service: (code)..... /\_/  
 Ancienneté professionnelle (années) /\_/\_/

### II-Antécédents:

1-Familiaux allergiques: /\_/\_/\_/\_/  
 1-Dermatite atopique 4-conjonctive  
 2-Urticaire 5-Asthme  
 3-Eczéma 6-Rhinite 7-Absence

2-personnels non allergiques /\_/\_/\_/\_/  
 a) Cutanés: 1-Psoriasis 4-Dermite irritative  
 2-Ulcère de jambe 5-Autres.....  
 3-Mycose 6-Absence

b) Non cutanées: 1-diabète 2-HTA /\_/  
 3-endométriose 3-cancer du sein  
 4-soins dentaires 4-Autres.....

3-Personnels allergiques: /\_/\_/\_/\_/  
 1-Dermatite atopique 4-Conjonctivite  
 2-Urticaire 5-Asthme  
 3-Eczéma 6-Rhinite 7-Absence

4-Habitudes:  
 Tabac: (PA) 1\_oui 2-non 3-NP /\_/  
 Alcool: 1-Oui 2-Non 3-NP /\_/  
 5-Activité extra professionnelle: /\_/\_/\_/\_/  
 1-Activité ménagère 4-Jardinage  
 2-Entretien de voiture 5-Autre.....  
 3-Entretien de maison 6-Absence

Si oui produits manipulés: /\_/\_/\_/\_/  
 1-Détergents 4-Pesticides-insecticides  
 2-Peinture 5-Autres.....  
 3-Ciment 6-Absence

### III-Clinique:

1-Poids: ..... 2-Taille:..... 3-BMI:.....  
 2-Signe Fonctionnel /\_/\_/\_/\_/  
 1-Prurit 2-Brûlures 3-Douleur 4-Absence

3-Lésions cutanées				/_/_
	1-Oui	2-Non		
Si non:				
Début après embauche:				/_/_
	1-<6mois	3-1à3ans		
	2-6à12ans	4->3ans		
Type:				/_/_/_/_/_
	1-Erythème	4-Suintement		
	2-Papule	5-Hyper kératose et/ou fissures		
	3-Vésicule	6-Urticaire	7-Squames	
Topographie:				/_/_
	1-Localisée	2-Diffuse		
Si localisée:				/_/_
	1-Zone de contact	2-Zone découverte	3-Autre:.....	
Localisation:				
a) Tête:	1-Oui	2-Non		/_/_
Si oui:	1-Cuir chevelu	2-Front	3-Lèvres	/_/_/_/_/_/_
	4-Paupières	5-Oreilles	6-Nez	
b) Cou:	1-Oui	2-Non		/_/_
c) Tronc:	1-Oui	2-Non		/_/_
d) Mains:	1-Oui	2-Non		/_/_
Si oui:	1-Dominante	2-Non dominante	3-Les deux	/_/_
Siège:	1-Doigts	3-Dos des mains		/_/_/_/_/_/_
	2-Ongles	4-Paume		
e) Poignet:	1-Oui	2-Non		/_/_
Si oui:	1-Face antérieure	2-Face postérieure	3-Les deux	/_/_
f) Bras et avant bras:	1-Oui	2-Non		/_/_
g) Cuisses et jambes:	1-Oui	2-Non		/_/_
h) Pieds:	1-Oui	2-Non		/_/_
Si oui:	1-Dos du pied	2-Plante du pied	3-Les deux	/_/_

**IV-Facteurs professionnels:**

1-Rythme professionnel:	1-Oui	2-Non		/_/_
2-Collègues de travail atteints:	1-Oui	2-Non	3_NP	/_/_
3-Lavage des mains au travail (nb/j):				/_/_/_
4-Produit de lavage des mains:	1-Savon	2-Savon liquide		/_/_
	3-Désinfectant	4-Autres:.....		
5-Port de gants:	1-Oui	2-Non		/_/_
Si oui: type:	1-Latex	3-Cuir		/_/_/_
	2-Caoutchouc	4-Vinyle	5-Autre: préciser.....	
Si latex: nombre de paires/j				/_/_/_
Durée moyenne du port de gants (h)/j				/_/_
6-Produits Manipulés suspecté:				

1-Antiseptiques:	1-Oui	2-Non	/_/_
Si oui préciser:.....			
2-Désinfectants:	1-Oui	2-Non	/_/_
Si oui préciser:.....			
3-Métaux:	1-Oui	2-Non	/_/_
Si oui préciser:.....			
4-Médicaments:	1-Oui	2-Non	/_/_
Si oui préciser:.....			
5-Colorants textiles:	1-Oui	2-Non	/_/_
Si oui préciser:.....			
6-Ciment:	1-Oui	2-Non	/_/_
Si oui préciser:.....			
7-Autres:	1-Oui	2-Non	/_/_
Si oui préciser:.....			/_/_

**V- Facteurs extra professionnels et vestimentaires suspectés:**

/\_/\_/\_/\_/\_/\_/\_/\_

1-Tissu	6-Bijoux de fantaisie
2-Caoutchouc	7-Parfum
3-Cuir	8-Maquillage
4-Plastique	9-Autres.....
5-Métaux	10-Absence

**VI- Patch tests:**

1-Batterie standard:	1-Oui	2-Non	/_/_
Si oui	1- Réaction positive		/_/_
	2- Réaction négative		
	3- Réaction douteuse		
Si positive, préciser .....	(n° du produit)		/_/_/_/_/_/_/_/_
2-Autres Batteries:	1-Oui	2-Non	/_/_
Si oui, préciser la batterie spécifique.....			
Si oui	1- Réaction positive		/_/_
	2- Réaction négative		
	3- Réaction douteuse		
Si positive, préciser .....	(n° du produit)		/_/_/_/_/_/_/_/_

<b>VII-Diagnostic:</b>	1-Irritation	2-Eczéma	3-Urticaire	/_/_
	a-manu porté	b-aéroporté	c-photo sensible	/_/_

<b>VIII-Etiologies:</b>	1- Professionnelle	2- Non professionnelle	3-Mixte	/_/_
Type:	1-Médicamenteuse	4-Vestimentaire		/_/_
	2-Alimentaire	5-Cosmétique		
	3-Produits ménagers	6-Autre:.....		

**IX-Conduite:**

1-Déclaration (MP)	1-Oui	2-Non	/_/_
	Si oui, n° tableau.....agent.....		/_/_/_
2-Devenir professionnel:			/_/_
	1-Changement de poste (même service)		
	2-Mutation de service		
	3-Même poste		
3-Mesure préventive:			/_/_
	1-Changement de produit incriminé		
	2-Port de moyen de protection		
	3-Pas de mesures préventives		