

## Working group 2: Development of common European standards

Current scientific challenges of occupational skin diseases (OSD) in Europe

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# Disclosure

**In relation to this presentation, I declare the following, real or perceived conflicts of interest**

- ▶ Medical Advisor for Uriach Pharma, Genentech, Novartis
- ▶ Research Grants supported by Uriach Pharma, Novartis
- ▶ Educational activities sponsored by Uriach Pharma, Novartis, Genentech, Menarini, GSK

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## Occupational airborne contact dermatitis from sporadic exposure to tetrazepam during machine maintenance

(Contact Dermatitis 2005; 52: 173-174)



CASOS	CLÍNICA	EPICUTÁNEA MYOLASTAN (+)	EPICUTÁNEA TETRAZEPAM (+)	PROVOCACIÓN ORAL (+)	VÍA DE CONTACTO	REFERENCIA
<b>Caso 1.</b>	Toxicodermia		1% aq		Per os.	Camarasa JG y Serra-Baldrich E
<b>Caso 2.</b>	Toxicodermia		1% aq		Per os.	Camarasa JG y Serra-Baldrich E
<b>Caso 3.</b>	Vasculitis	1% en vas.	1% en vas.		Per os.	Collet E et al
<b>Caso 4.</b>	Eczema Contacto	1% aq	1% aq		Tópico	García-Bravo B et al
<b>Caso 5.</b>	Eritema Multiforme	Tal cual	1% en vas. 5% en vas.	Positivo	Per os.	Ortiz-Frutos FJ et al
<b>Caso 6.</b>	Toxicodermia			Positiva	Per os.	Ortiz-Frutos FJ et al
<b>Caso 7.</b>	Eritema Multiforme	Tal cual	1% en vas. 5% en vas.		Per os.	Ortiz-Frutos FJ et al
<b>Caso 8.</b>	Eczema Contacto	Tal cual	1% en vas. 5% en vas.		<b>Tópico Profesional</b>	Ortiz-Frutos FJ et al
<b>Caso 9.</b>	Toxicodermia		1% en vas		Per os.	Manrique P et al
<b>Caso 10.</b>	Eritema Multiforme		1% en vas.		Per os.	Manrique P et al
<b>Caso 11.</b>	Toxicodermia	1% aq.	1% aq.	Positiva	Per os.	Manrique P et al
<b>Caso 12.</b>	Fotosensibilidad		10% en vas.		Per os	Quiñones D et al
<b>Caso 13.</b>	Eczema Contacto Edema palpebral	Tal cual 10% en vas			<b>Tópico Profesional</b>	Choquet-Kastylevsky G at al
<b>Caso 14.</b>	Eczema Contacto	Tal cual 10% en vas.			<b>Tópico Profesional</b>	Choquet-Kastylevsky G at al
<b>Caso 15.</b>	Eritema Multiforme		10%,1% en vas.	Positiva	Per os.	Pirker C et al
<b>Caso 16.</b>	Toxicodermia	.	10%,1% en vas		Per os.	Pirker C et al
<b>Caso 17.</b>	Urticaria		10% en vas.	Positiva	Per os.	Pirker C et al
<b>Caso 18.</b>	Toxicodermia		10% en vas.	Positiva	Per os.	Pirker C et al
<b>Caso 19.</b>	Eritema periorbitario y facial		Positiva		<b>Tópico Aerotransportado Profesional</b>	Lepp U et al
<b>Caso 20.</b>	Sd Stevens-Johnson	Positiva			Per os.	Sanchez I et al

# What's a “standard” ?

Written definition, limit, or rule,  
approved and monitored for compliance  
by an authoritative agency or  
professional or recognized body as a  
minimum acceptable benchmark

# **“Standard” may be classified as**

- (1) Government or statutory agency standards and specifications enforced by law
- (2) Proprietary standards developed by a firm or organization and placed in public domain to encourage their widespread use
- (3) Voluntary standards established by consultation and consensus and available for use by any person, organization, or industry.



# Define Occupational Disease

## Define Occupational Dermatosis

- ▶ “An occupational dermatosis is a pathological condition of the skin for which occupational exposure can be shown to be a major or contributory factor”

*Committee on Industrial Dermatoses of the American Medical Association , 1939*

- ▶ “Toda afectación de la piel o mucosas o anejos, directa o indirectamente causada, condicionada, mantenida o agravada por todo aquello que sea utilizado en la actividad profesional o exista en el ambiente de trabajo”

X Congreso Ibero-Latino Americano de 1983



# Define Occupational Disease Define Occupational Dermatosis

Scientist or Medical



Law and Regulatory



# Classification of Occupational Dermatoses - How important is it?

## “Finnish Register of Occupational Diseases” 1990-1994

- ▶ 70.5% (1.944 cases) Contact Allergic Dermatitis
- ▶ 29.5% (815 cases) Contact Urticaria
- ▶ Contact urticaria women (70%) / men (30%)
  
- ▶ **Common causes Contact Urticaria**
  - ▶ Cow dander 44.4%
  - ▶ Natural rubber latex 23.7 %
  - ▶ Flour, grains and feed 11.3%
  - ▶ Handling of foodstuffs 3.1%
  - ▶ Industrial enzymes 1.7%
  - ▶ Decorative plants 1.6%

# Classification of Occupational Dermatoses International Code Diseases (ICD) - 11

## 1. Contact dermatitis and allergy      Occupational Skin disease

The following worksheets deal with dermatitis, eczema and occupational dermatoses. The top levels of the hierarchy are shown at the foot of this sheet.

An attempt has been made to accommodate the wishes expressed at the WHO Occupational Skin Diseases Meeting at WHO Geneva on the 23rd and 24th February 2011.

Please use the macros (do not work on Macs) to

1. Filter by hierarchical level
2. Expand rows to read definitions and comments and to collapse rows to be able to see the hierarchy more clearly.

Because the occupational dermatoses need to be seen in the context of other related concepts I have inserted some extra worksheets for this purpose.

The underlying philosophy behind the classification is that the terms should be useful to practitioners. The sheets contain the full "dermatology specialist subset" which is more detailed than would appear in the printed versions of the morbidity classification. Precisely how much will be allowed in that it is difficult to state.

My own view, however, is that by the time ICD-11 is released it will be far cheaper in nearly all parts of the world to access the classification electronically (in which case the full granularity (detail) should be available) rather than in book form.

I have had to make judgements on a number of matters and I need to have assurance that there are no errors of understanding. There have inevitably been choices to make on what to include and at what level of detail. My main sources have been the draft discussed in Geneva, the British Association of Dermatologists' Diagnostic Index and Dr A Gimenez Arnau's helpful schema.

Please let Dr Ivanov and me have your comments and suggestions at the earliest opportunity.

- ▶ Draft discussed WHO Geneva 23 and 24 February 2011
- ▶ British Association of Dermatologist Diagnostic Index
- ▶ Me

# Classification of Occupational dermatosis

## International Code Diseases (ICD) - 11

### Dermatoses arising through work or occupation

- Occupational contact dermatitis, contact urticaria and allergy
- Skin injury due to occupational exposure to corrosive substances
- Occupational photo-allergy and phototoxicity
- Occupational acne and related disorders
- Work-related disorders of skin pigmentation
- Work-related cutaneous vascular disorders
- Work-related dermatoses due to exposure to cold or heat
- Work-related skin infections and infestations
- Skin manifestations of work-related poisoning
- Occupational skin cancer
- Occupational skin disorder...

Definition	Attributes	Comments	Scroll left -1	-4	Scroll right +1	+4	Hide/Show comment in next column
Aggregate: Concept title (preferred term) arranged hierarchically						Contextual help	Limited to 100 words
Concept title (Entity title)						Hide/show fully specified name	Hide/show word count in next column
						Concise definition	Hide/show detailed definition
		Allergic contact dermatitis of perianal skin				Allergic contact dermatitis affecting the perianal skin.	
		Occupational allergic contact dermatitis				Allergic contact dermatitis attributable to allergen exposure at work.	
		Allergic contact dermatitis due substantially to occupational exposure to				Allergic contact dermatitis caused mainly or exclusively by allergen exposure at work.	
		Allergic contact dermatitis due in part to occupational exposure to allerg				Allergic contact dermatitis caused only in part to allergen exposure at work. Other non work-related allergens are contributory.	
		Allergic contact dermatitis...				Allergic contact dermatitis not further specified.	
		Occupational allergic contact urticaria				Allergic contact urticaria attributable to work. The allergens implicated include latex (especially from gloves), food proteins and a variety of other specific low molecular weight compounds.	
		Allergic contact urticaria...				Allergic contact urticaria no further specified.	
		Protein contact dermatitis				Immediate contact dermatitis due to exposure to proteins from plants, animal tissue and other organic matter.	Yes
		Protein contact dermatitis due to plant protein				Immediate contact dermatitis due to contact with proteins from plants and other vegetable matter. Rubber latex is an important cause.	Yes
		Protein contact dermatitis due to animal protein				Immediate contact dermatitis due to exposure to animal material such as dander, feathers or body fluids; or to animal-derived products including milk, eggs, seafood, fish and meat.	
		Occupational protein contact dermatitis				Protein contact dermatitis caused by exposure to proteins at work.	

## **WG 2: Development of common European standards**

### ***Brainstorming***

- ▶ **Collect information about the actually used procedures in the countries involved in this COST action**
  - ▶ Diagnostic procedures as patch testing
  - ▶ When the disease is defined as occupational based in medical and legal argues
  - ▶ Risk assessment and safety at work
  - ▶ Medical and legal management of occupational skin disease
  - ▶ Legal definition of occupational dermatosis and official registers and classification
- ▶ **Define the medical and administrative objective when an occupational dermatosis is diagnosed**
  - ▶ The patient will change the activity or the work conditions should be improved ?
- ▶ **Create standards**
  - ▶ Diagnostic algorithms
  - ▶ Risk assessment
  - ▶ Management
- ▶ **Discuss the implementation of diagnostic , management and preventive procedures between countries**
  - ▶ To recommend different levels of recommendations according with the availabilities in the countries
- ▶ **Develop educational tools**
  - ▶ Physicians
  - ▶ Technicians
  - ▶ Patients
- ▶ **Be aware the BOHRF document, Sept 2009**
  - ▶ Develop evidence based European standards
  - ▶ Create guidance

# Diagnostic criteria for occupational contact dermatitis

- ▶ Onset of the eruption after the patient began work
- ▶ Precise cause identified
- ▶ Patient primarily exposed to the etiologic agent at work
- ▶ Site of onset exposed to the causative agent at work
- ▶ Appropriate time between exposure to the causative agent and the development of lesions
- ▶ Biological plausibility
- ▶ Non-occupational dermatitis excluded
- ▶ Severity of dermatitis varies with exposure
- ▶ Other workers similarly affected
- ▶ Process change before the onset of the dermatitis
- ▶ True positive patch-test reaction(s) in cases of allergic contact dermatitis



## Parameters of exposure

- ▶ Hazardous potential of the substance/product
- ▶ Other intrinsic (physicochemical) properties of the substance
- ▶ Concentration of the substance
- ▶ Duration of exposure
- ▶ Frequency (periodicity) of exposure
- ▶ Route of exposure
- ▶ Skin site and total area of exposure
- ▶ Specific exposure mechanism
- ▶ Simultaneous exposure factors (occlusion, temperature, humidity, mechanical trauma, etc)

## Visit to the Workplace

## Guidelines for assessment relevance

- ▶ Re-interrogate the patient in light of the results
- ▶ Look for all probable source of allergen exposure (including indirect, infrequent and concealed)
- ▶ Seek cross-reacting substances
- ▶ Obtain information from “lists” of allergen and databases, product’s manufacturers, etc
- ▶ Perform chemical analysis of products
- ▶ Perform workplace visit
- ▶ Perform additional testing procedures with the suspected allergen(s), products brought by the patient presumably containing the suspected allergen and products extracts
- ▶ Perform patch test with serial dilutions perform provocative use test
- ▶ Perform repeat open-application test

# Few available tools to seek occupational dermatosis

## Occupational risk factors for hand dermatitis among professional cleaners in Spain

Contact Dermatitis 2012; 66 (4): 188-196

Maria C. Mirabelli<sup>1</sup>, David Vizcaya<sup>2,3,4</sup>, Anna Martí Margarit<sup>5,6,7</sup>, Josep Maria Antó<sup>2,3,4,7</sup>,  
Lourdes Arjona<sup>2,3,4</sup>, Esther Barreiro<sup>7,8,9</sup>, Ramon Orriols<sup>9,10</sup>, Ana Gimenez-Arnau<sup>5,6</sup>  
and Jan-Paul Zock<sup>2,3,4</sup>

**Table 2.** Skin symptoms in the last 12 months, as reported by current cleaning workers and members of the comparison population, and criteria used to define hand dermatitis

	Total population (n = 818)	Comparison population (n = 125)	Current cleaning workers (n = 693)
	No. (%)	No. (%)	No. (%)
<b>Symptoms</b>			
Red hands or fingers and fissures	146 (18)	10 (8)	136 (20)
Scaling of hands or fingers, with fissures	136 (17)	11 (9)	125 (18)
Red, swollen hands or fingers	124 (15)	10 (8)	114 (16)
Itching hands or fingers, with fissures	102 (12)	8 (6)	94 (14)
Vesicles on hands or between fingers	43 (5)	5 (4)	38 (5)
<b>Criteria</b>			
≥1 symptom	275 (34)	27 (22)	248 (36)
≥1 symptom that lasted >3 weeks or occurred more than once*	213 (26)	22 (18)	191 (28)
≥2 symptoms that lasted >3 weeks or occurred more than once	95 (12)	6 (5)	89 (13)

\*Definition of hand dermatitis used in this analysis.

# Few available tools to seek occupational dermatosis

National Research Centre  
for the Working Environment

## Hand and wrist eczema Urticaria

Home / Questionnaires / NOSQ-2002

### Strategic research areas

- Work accidents
- Sickness absence
- Ergonomics
- New technologies
- Organization and management
- Psychological working environment
- Noise

### Overview

### Surveillance

- Surveillance
- National Data
- Research abstracts

### Services

- News
- Publications
- Questionnaires
  - Undersøgelse af virksomhedens sikkerhedskultur

### NOSQ-2002

Questionnaires for surveying work-related skin diseases and exposures have been designed in the Nordic Occupational Skin Questionnaire (NOSQ) project.

The short questionnaire (NOSQ-2002/SHORT) is a short, ready-to-use questionnaire for screening and monitoring occupational skin diseases on hands and forearms. The longer questionnaire (NOSQ-2002/LONG) is intended for more in-depth for surveying hand dermatitis and risk factors in workplaces or in a population.

The Nordic Council of Ministers has the copyright to the NOSQ-2002 questionnaires. Use of the questionnaires is free of charge and the questionnaires can be downloaded in the following languages (click on the language of your choice):

[Danish](#)

[English](#)

[Finnish](#)

[Icelandic](#)

[Swedish](#)

[Further translations](#)

The NOSQ-2002 report includes a review of pertinent methods for skin disease studies and the NOSQ-2002 questionnaire including instructions and recommended guidelines for modification. NOSQ-2002/SHORT and questionnaires are included in the report in English, Danish, Icelandic.

The report (TemaNord 2002:518) can be obtained from **Ministers**. Publication department, Store Strandstræde

Search the website for:

### National Research Centre for the Working Environment

Lersø Parkallé 105  
2100 København Ø  
Denmark  
Phone: 39 16 52 00  
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Mail to NRCWE

HOW TO FIND US

Contact Dermatitis 2009: 61: 109–116  
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CONTACT DERMATITIS

## Principles and methodology for translation and cross-cultural adaptation of the Nordic Occupational Skin Questionnaire (NOSQ-2002) to Spanish and Catalan

NOHEMI SALA-SASTRE<sup>1,2</sup>, MIKE HERDMAN<sup>3,4</sup>, LIDIA NAVARRO<sup>5</sup>, MIRIAM DELA PRADA<sup>6</sup>, RAMÓN M. PUIG<sup>1</sup>, CONSOL SERRA<sup>2</sup>, JORDI ALONSO<sup>3,4</sup>, MARI-ANN FLYVHOLM<sup>7</sup> AND ANA M. GIMÉNEZ-ARNAU<sup>1</sup>

<sup>1</sup>Department of Dermatology, Hospital del Mar, IMAS, Universitat Autònoma, <sup>2</sup>Mateu Orfila de Salut Laboral, Universitat Pompeu Fabra, <sup>3</sup>Ciber en Epidemiología y Salud Pública (CIBERESP), <sup>4</sup>Unidad de Recerca en Salut Pública, IMIM-Hospital del Mar, <sup>5</sup>Salut Laboral, Hospital de Sant Pau, <sup>6</sup>Salut Laboral, Hospital Clínic, Barcelona, Spain, and <sup>7</sup>National Research Centre for the Working Environment, Copenhagen, Denmark

# Few available tools to define accountability occupational dermatosis

## The Mathias Criteria

- ▶ Is the clinical appearance consistent with contact dermatitis?
- ▶ Are the workplace exposures to potential cutaneous irritants or allergens?
- ▶ Is the anatomic distribution of dermatitis consistent with cutaneous exposure in relation to the job task?
- ▶ Is the temporal relationship between exposure and onset consistent with contact dermatitis?
- ▶ Are no occupational exposures excluded as probable causes?
- ▶ Does dermatitis improve away from work exposure to the suspected irritant or allergen ?
- ▶ Do patch or prick tests implicate a specific workplace exposure?

Four of the 7 criteria must be met to establish a probable causal link

# Few available tools to define accountability occupational dermatosis

Ingber A, Merims S.

The validity of the Mathias criteria for 353 establishing occupational causation and aggravation of contact 354 dermatitis

Contact Dermatitis. 2004;51:9-12

Gómez de Carvallo M, Calvo B, Benach J, Pujol R, Giménez-Arnau A

Assessment of Mathias criteria for establishing Occupational causation of Contact Dermatitis  
Actas Dermosifiliogr 2012; 103:411-21

**Table 6** Validity of Mathias Criteria for Establishing Occupational Causation and Aggravation.

Occupational Causation According to Clinical History			
According to Mathias Criteria	Occupational	Nonoccupational	Total
Occupational	12	1	13
Nonoccupational	0	90	90
Total	12	91	103
	Value	95% CI	
Sensitivity, %	100,00	95.83-100.00	
Specificity, %	98,90	96.21-100.00	
Validity, %	99,03	96.65-100.00	
Positive predictive value, %	92,31	73.98-100.00	
Negative predictive value, %	100,00	99.44-100.00	
Prevalence of contact dermatitis, %	11,65	4.97-18.33	

## Tasks to be done ...

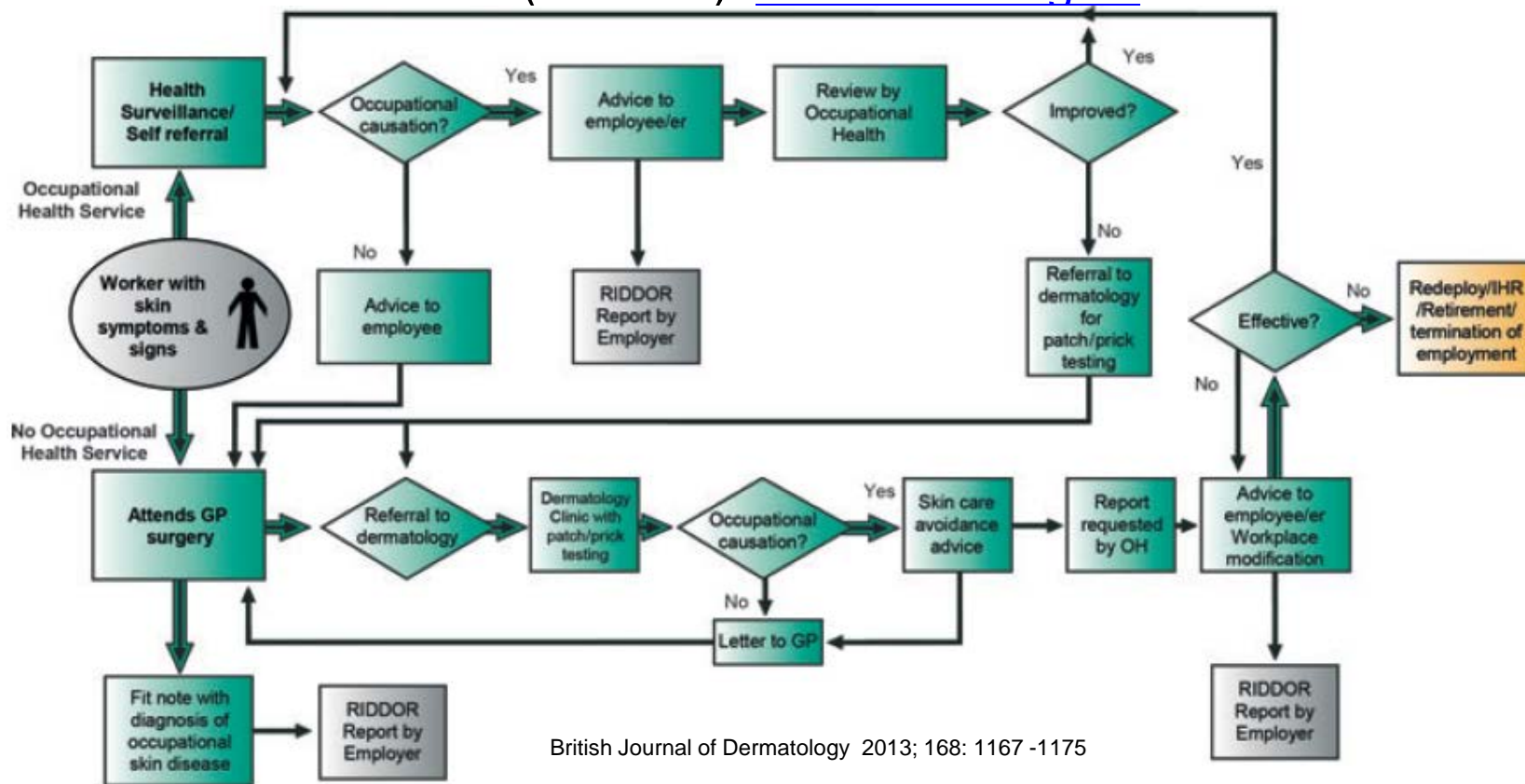
- ▶ Guidelines of occupational dermatosis diagnosis
- ▶ Criteria to define occupational accountability
- ▶ Guidelines of occupational dermatosis management
- ▶ Guidelines of specific occupational diseases
- ▶ Medical and administrative liaison and relationships, the ideal report
- ▶ Risk assessment
- ▶ Preventive measures development
- ▶ Educational program
- ▶ Define other unmet needs?



## U.K. standards of care for occupational contact dermatitis and occupational contact urticaria

A. Adisesh,<sup>1</sup> E. Robinson,<sup>1</sup> P.J. Nicholson,<sup>2</sup> D. Sen,<sup>3</sup> and M. Wilkinson,<sup>4</sup> on behalf of the Standards of Care Working Group

Specifically it aims to summarize the 2010 British Occupational Health Research Foundation (BOHRF) [www.bohrf.org.uk](http://www.bohrf.org.uk)



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### Standards of care: employer

- 1 There should be no use of prework creams labelled or promoted as 'barrier creams'
- 2 Skin-conditioning creams should be available at hand-washing areas and in other appropriate places. Training and guidance in the application of skin-conditioning creams should be provided
- 3 Arrangements for access to a physician who has expertise in occupational skin disease should be in place for initial diagnosis and recommendations regarding appropriate workplace adjustments, together with subsequent investigation by patch or prick testing if appropriate
- 4 Employers have legal duties to assess the health risks from skin exposure to hazardous substances at work. They should prevent or, where this is not reasonably practicable, adequately control exposure to the hazards by using and maintaining suitable controls
- 5 Where adequate control of exposure cannot be achieved by other means, suitable personal protective equipment should be provided in combination with other measures. The use of gloves must take into account appropriate selection and training on glove usage, including the provision of cotton liners
- 6 Information and training aimed at improving and maintaining skin health should be provided to employees at risk of developing OCD or OCU at the time of employment and regularly thereafter

### Standards of care: health professional

- 7 Whenever someone of working age presents with a skin rash the clinical records should contain a full clinical and occupational history asking about their job, the materials with which they work, the location of the rash and any temporal relationship with work
- 8 The diagnosis of suspected occupational skin disease (OCD or OCU) should include objective patch or prick testing where (i) the condition has not improved 3 months after initial advice, and (ii) a contact allergy is suspected or there are implications for fitness to work, such as altered employment, loss of job or complete change of employment
- 9 Where a worker has been offered a job that will expose them to causes of OCD, the clinical records should indicate if they have a personal history of dermatitis, particularly in adulthood, and record advice given to them of their increased risk, and how to care for and protect their skin
- 10 Where a worker has been offered a job that will expose them to causes of OCU, the clinical records should indicate if they have a personal history of atopy, and record advice given to them of their increased risk, and how to care for and protect their skin

## **WG 2: Development of common European standards**

### ***Brainstorming***

- ▶ Collect information about the actually used procedures in the countries involved in this COST action
- ▶ Define the medical and administrative objective when an occupational dermatosis is diagnosed
- ▶ Define diagnostic, management and preventive standards
- ▶ Discuss the implementation of diagnostic, management and preventive procedures between countries
- ▶ Develop educational tools





# **Current scientific challenges of occupational skin diseases (OSD) in Europe**

**Thank you...**