# Occupational dermatitis: what's new?


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**Skin & Cancer Foundation Inc, Carlton, Vic**


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# Occupational Dermatology Clinic

- Started 1993 at Monash Medical Centre, 4000 pts
- Transferred to Skin and Cancer Foundation (SCF) in 2001 which is a tertiary referral dermatology outpatient centre
- SCF started 1987 by most of the dermatologists in Melbourne who donated $1000 each
- SCF is a private facility: patients are billed, doctors initially donated their time
- Approx 30 sub-specialty clinics- skin cancer , Moh's surgery, transplant dermatology, nails, hair, psoriasis, contact/occupational dermatitis

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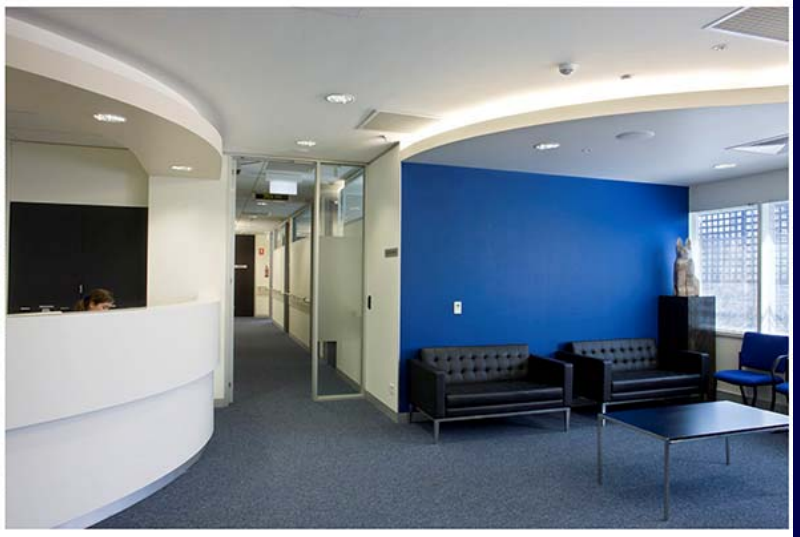
# Skin & Cancer Foundation

## 80 Drummond St, corner Queensberry St, Carlton



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# Outline

- Assessment of occupational dermatitis
- Patch testing
- Making a diagnosis
- Australian Baseline Series
- Latex allergy in 2018
- An important allergen- methylisothiazolinone
- Addressing occupational dermatitis in healthcare workers- alcohol-based hand rubs are good!

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# Making a diagnosis of contact dermatitis

- History-condition, occupation, hobbies, home
- **Exposure assessment**
- **Clinical examination**
- Patch testing
- Blood tests: RASTs especially for latex; total IgE as an indicator of atopy
- Prick testing, especially for foods contacted by chefs
- Other-skin biopsy, fungal scrapings etc

# Why assess exposure?

- To decide which allergens might have caused the dermatitis and what to patch test with
- To decide how to dilute substances from work or home for patch testing
- To decide if patch test reactions are relevant

# We diagnose allergic contact dermatitis on the basis of:

1. Clinical history and rash compatible with allergic contact dermatitis
2. Positive patch test
3. History of allergen exposure

# How to assess exposure? There are a number of ways

- History given by patient, doctor or workplace
- Information regarding substances contacting the skin eg product labels
- Material safety data sheets (SDS)
- Information from websites
- Chemical analyses- Malmo
- Occupational hygienist-Toronto
- Workplace visits
- Photos of workplace-now taken with patient's phone!

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# Exposure assessment: Safety data sheets


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YEP
HARM
IVE GOT DA RASH

# Skin examination: Need to make a skin diagnosis!

## There are many causes of rashes on hands besides contact dermatitis

- Tinea or fungal infection
- Secondary bacterial infection
- Endogenous hand eczema (pompholyx), atopic eczema, hyperkeratotic hand eczema, discoid eczema
- Psoriasis
- Id or autoeczematisation reaction
- Porphyria cutanea tarda

# Porphyria cutanea tarda

# Irritant contact dermatitis (ICD)

## Skin barrier damage resulting from

- Water and wet work
- Soaps and detergents
- Heat and sweating
- Dusts and fibres
- Solvents and thinners
- Oils
- Friction

➢Different occupational groups will have different exposures to irritants, specific to their job or work processes.

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# Allergic contact dermatitis (ACD)

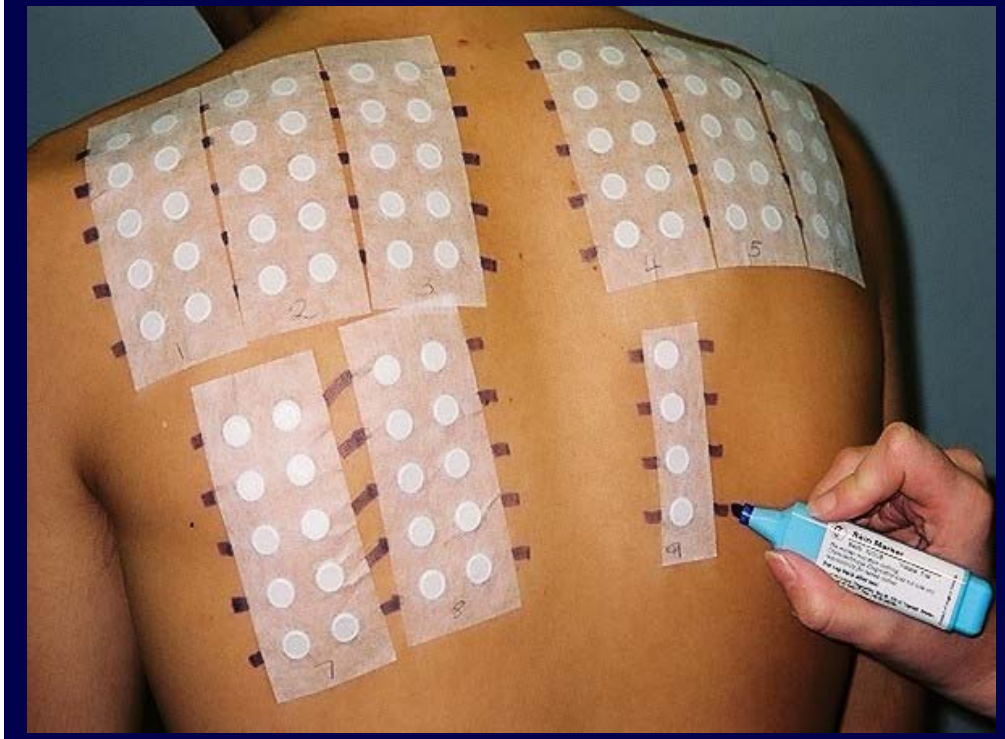
- Allergic contact dermatitis is caused by a delayed hypersensitivity reaction to a sensitising substance touching the skin
- Occurs after exposure to the allergen/chemical, with the initial sensitization process taking 10 days to 3 weeks

- The rash appears 6 to 24 hours after contact and lasts for several days
- It may be difficult to determine the cause or to identify the offending substance or chemical from the history
- People may become sensitized years after the first exposure

# Patch testing for delayed hypersensitivity

## Tests are applied for 48 hours and then removed

## Read reactions according to international guidelines

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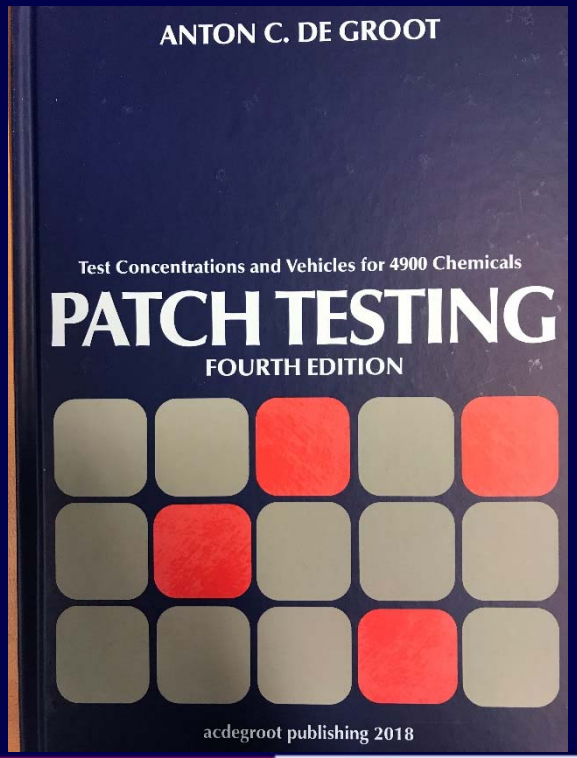
**There have been reports of allergic contact dermatitis to 4900 chemicals from a total of approx. 100,000 chemicals**

**We have around 400 chemicals for testing**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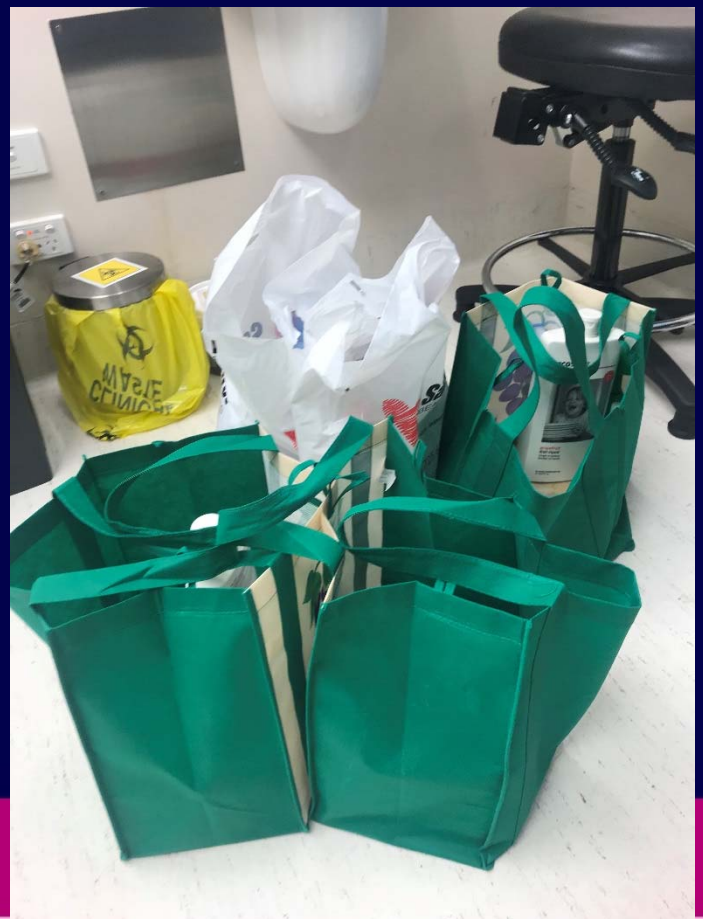
# Patch test clinic-
# Test our allergens and own substances from work and home, often need dilution
# Do not test with known irritants



# Patch testing

1. Australian Baseline Series: our group has reported 60 most frequent and important allergens in Australian population
2. Additional series based on exposures eg hairdressing, cosmetics, nurses, rubber chemicals, epoxy resins, acrylates etc


- Toholka R, Wang Y-S, Palmer A, Nixon R. The first Australian Baseline Series: Recommendations for patch testing in suspected contact dermatitis. *Australas J Dermatol* 2015; 56: 107-15

# Make an accurate diagnosis!

- In order to help our patients as much as possible, we need to make an accurate diagnosis of all the factors contributing to our patients' skin conditions
- There may be multiple factors
- Combination of subjective and objective assessment

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# Understanding your skin condition

**Is it related to your work?**
- ☐ **Significantly work-related**
- ☐ **Partially work-related**
- ☐ **Not work-related**

**Rash**

**From inside your body**

**From contact with agents on the outside of the skin**

**Eczema**

**Psoriasis**

**Contact dermatitis**

**Irritant contact dermatitis**

***Allergic contact dermatitis* (delayed)**
Diagnosed by patch testing

***Contact urticaria (immediate)***
Diagnosed by blood test &/or prick tests

**Aggravating factors in skin conditions**

**Water** **Soap** **Heat** **Sweating** **Friction** **Other:**

_____
_____
_____

**Reacted to and now need to avoid:**

_____
_____
_____

**Diagnosis (in order of importance to your condition):**

1. _____
2. _____
3. _____
4. _____

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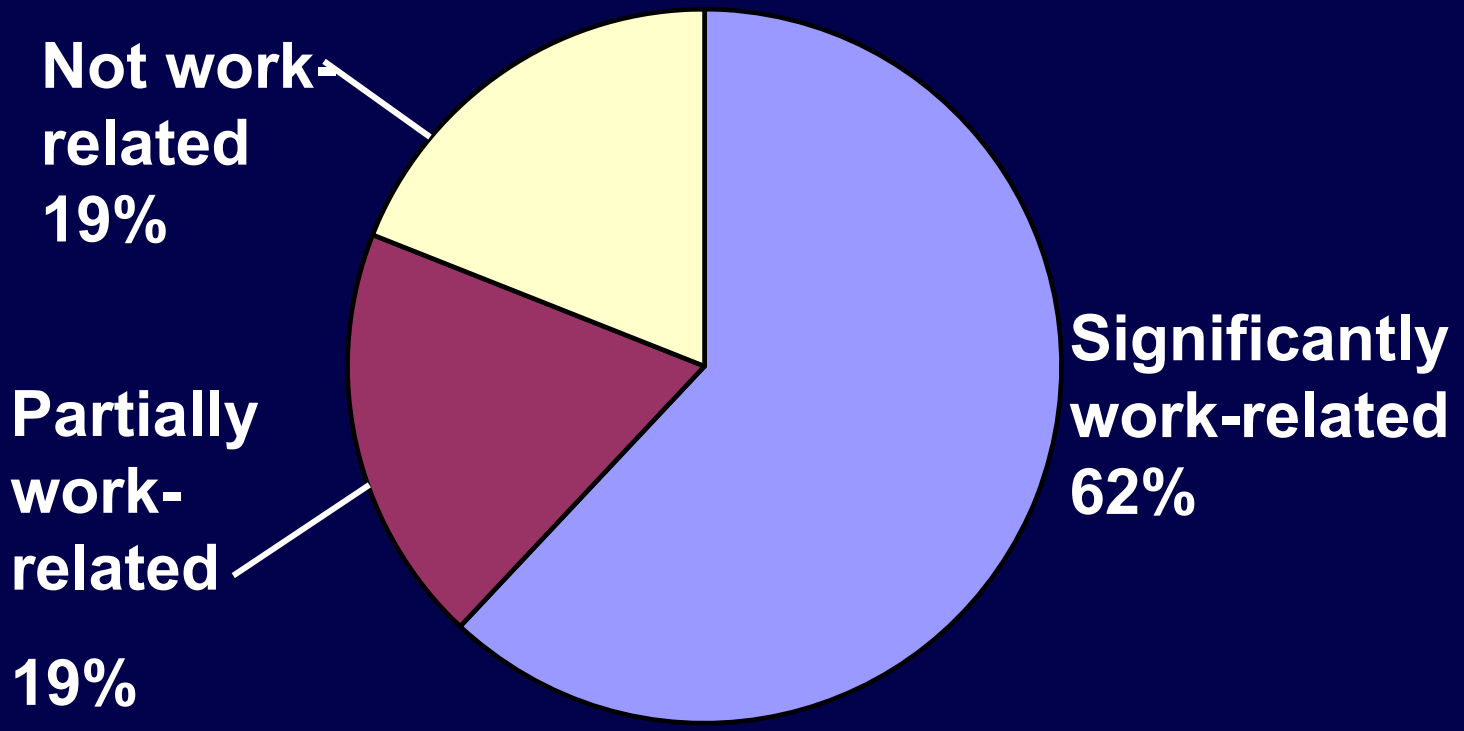
# Attempt to list all diagnoses contributing to occupational dermatitis (n= 1590)

- Patients with 1 diagnosis 820 (51.5%)
- Patients with 2 diagnoses 560 (35.2%)
- Patients with 3 diagnoses 181 (11.4%)
- Patients with 4 diagnoses 29 (1.9%)

# Work relationship

## Occupational dermatology clinic



# Immediate hypersensitivity reactions

- Cause asthma, hay fever, food allergies and contact urticaria
- Usually investigated in Australia by allergists with prick testing
- Whereas people with skin rashes (eczema, contact dermatitis, psoriasis) are appropriately referred to dermatologists
- Contact urticaria presents with immediate burning, redness which usually resolves quickly

# Immediate hypersensitivity reactions

- Contact urticaria commonly caused by natural rubber latex, foods, ammonium persulphate (hairdressing bleach)
- Less commonly, inhalant allergens- house dust mite, animals, malassezia furfur, chlorhexidine
- Repeated episodes may cause protein contact dermatitis
- Tested for specific IgE (RAST) or prick testing, NOT tested by patch testing

# Risk factors for latex allergy

- Exposure – lower levels of latex protein these days
- Atopy - a personal or family history of asthma, eczema or hay fever (even eczema occurring as a baby with no skin problems since)
- Damaged skin barrier, such as with contact dermatitis, has been shown to facilitate sensitisation to latex
- Glove powder, which aerosolizes latex protein

# Latex allergy forgotten but not completely gone

- Peak was in 2001- 19 cases;  2017- 4 cases
- Most recent cases of latex allergy involved workers wearing powdered disposable latex gloves inappropriately
- Occupations involved were hairdresser, bicycle mechanic, concreter, laboratory worker
- Highest rates of latex protein in products like balloons, causing problems in shopping centres
- In our clinic, 27% of people with latex allergy presented with a facial rash, 4.3% generalized rash
- Bhahba F, Palmer A, Nixon R. Are reusable rubber gloves associated with latex allergy? *Contact Dermatitis* 2012; 67: 381-2

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# Healthcare workers –should use nitrile gloves (synthetic rubber) if latex allergy or first responders

# Cases from the clinic coalface

Our cases represent

- Failure of workplace education: exposure to known allergens which should be preventable (awareness, engineering controls, personal protective equipment)
- Inappropriate exposures from inadequate personal protective equipment
- Exposure to hard-to-avoid allergens, especially in gloves and skincare products
- Where the problem is

**"to determine the aetiology of the occupational skin disease and to make recommendations for its prevention"**

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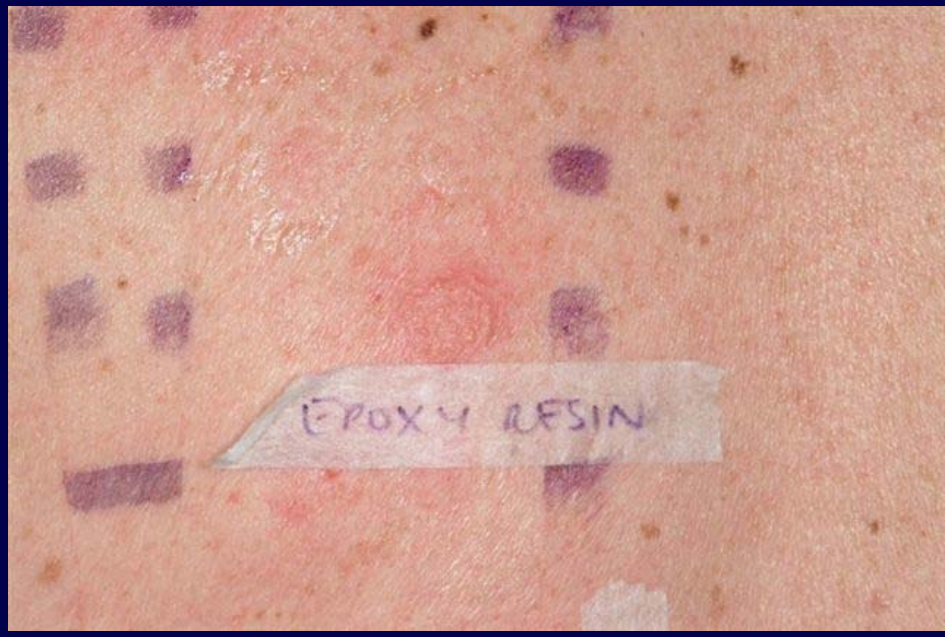
# 42 year old male floor coating applicator

- Rash on hands for 6 months
- Work duties-mixed epoxy resin and hardeners in bucket
- Stirred with drill
- Trowelled onto surfaces, smoothed with rake
- Wore rubber gloves ‘sometimes’

# Diagnosis: allergic contact dermatitis to epoxy resin

- Positive patch test to epoxy resin and diluted sample of own resin

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# Allergic contact dermatitis to epoxy resin

- Rubber gloves do not provide appropriate skin protection from epoxies
- Reusable thick nitrile gloves or multi-laminated barrier gloves have been found to be suitable
- Concurrent solvent use can affect glove function
- It is often falsely assumed that all gloves protect from all chemicals

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# Gloves need to be adequate for the job!

- Charts indicating glove permeation data for specific chemicals
- www.bestglove.com
- www.ansellchemsafe.com
- Appropriate length- wrists protected
- Appropriate material

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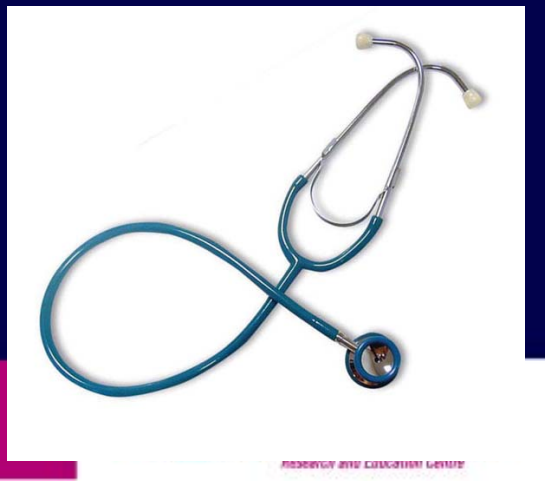
# 54-year-old male paediatric nurse

- Two-year history pruritic dermatitis: dorsal hands, neck, eyelids
- Skin improved when away from work
- Previous treatment: oral and topical steroids



# Exposures

## Workplace

- Emergency Department 12 years
- Microshield handwash, had previously used Microshield 4 (contained chlorhexidine)
- Skinman (waterless hand cleaner), previously Debug
- Latex and nitrile gloves

## Home

- QV wash (soap substitute)
- Home handyman
- Motorbike

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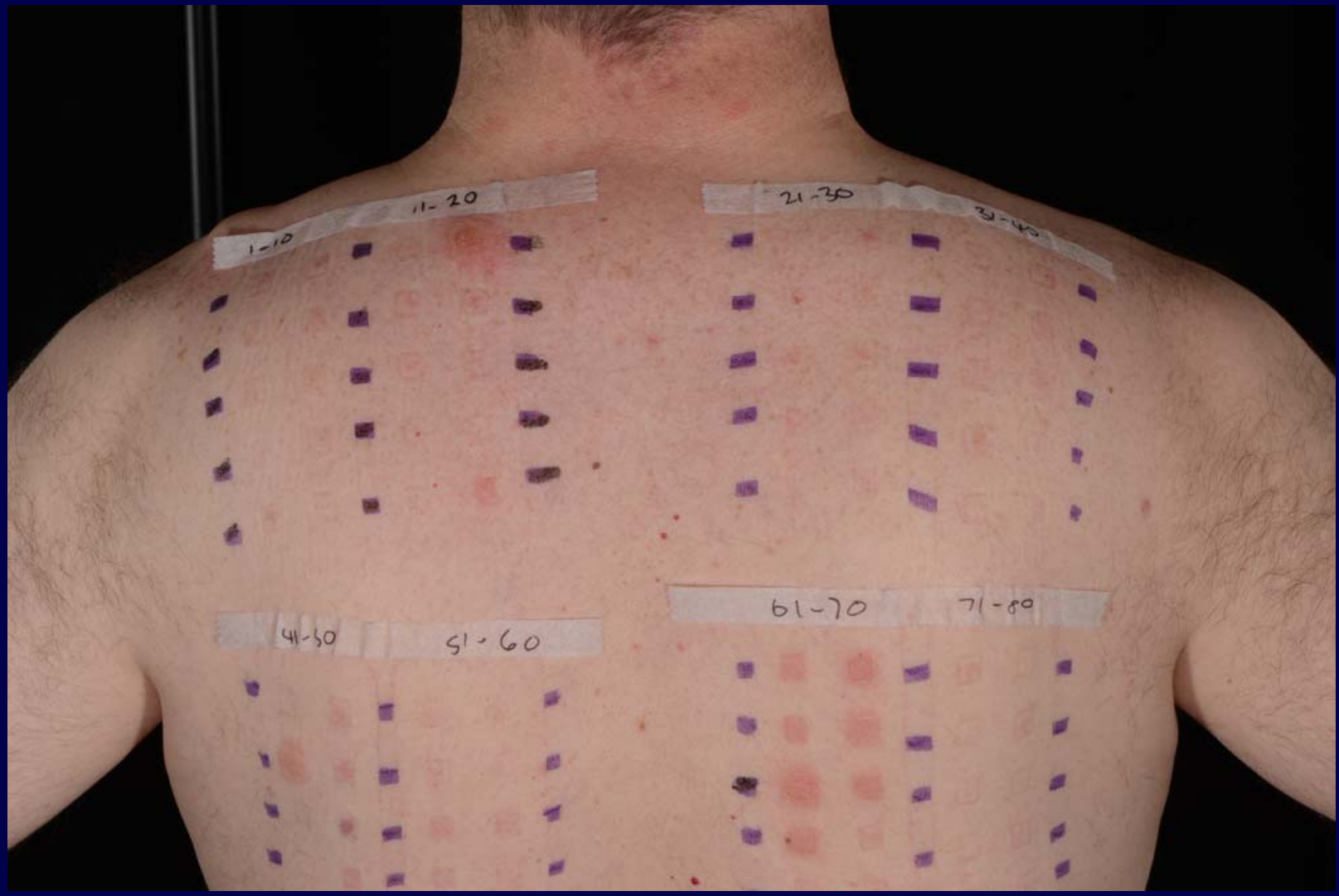
# Investigations

- Patch testing: Australian Baseline Series, rubber series, nurses' series, Microshield product series, own contactants
- Specific IgE blood test (RAST) for latex – negative

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# Patch test reactions

- +++ thiuram mix, plus reactions to several other thiurams (rubber accelerators)
- ++ carba mix, plus reactions to several other carbamates (rubber accelerators)
- + methylisothiazolinone (MI), 1+ methylchloroisothiazolinone (MCI)/MI
- + own face cream (contained MI)
- + own nitrile glove (known to contain carbamates)

# Diagnoses

1. Allergic contact dermatitis (ACD) to rubber accelerators relevant to use of gloves at work
2. ACD to MI and MCI contained in his face cream, shampoo and also liquid hand wash used at home
3. Irritant contact dermatitis – wet work

Higgins C and Nixon R Facial contact dermatitis without hand involvement caused by disposable latex gloves Contact Dermatitis 2016; 74: 251-3

# Management

- Accelerator-free gloves: Ansell Microtouch Nitrafree (disposable), Ansell Gammex Dermaprene or Sensoprene (sterile)
- Products free of MI and MCI (home use)
- Soap free wash, moisturising cream, topical corticosteroid ointment
- Minimise irritant exposure
- Workers' compensation claim: time off work for skin to heal

# Comment

- ACD to hard-to-avoid allergen (rubber accelerators)
- Long history of wet work causing skin barrier damage may have facilitated sensitisation
- This case also exemplifies that sometimes contact dermatitis is caused by a combination of work and non-work factors (face cream, shampoo and liquid soap)
- Kohli and Nedorost Inflamed skin predisposes to sensitisation to less potent allergens J Am Acad Dermatol 2016; 75: 312-7.

# 49 year old concrete worker allergic to chromate, allergen in cement

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# Chromate

- Exposure in wet cement
- Also used to tan leather
- In Europe, ferrous sulphate is routinely added to cement to reduce oxidation state rendering it non-allergenic
- No such legislation in Australia, USA
- 25 + cases per year in Australia?
- May be associated with persistent post-occupational dermatitis

# 44 yr old carpenter with fingertip dermatitis on non-dominant hand who thought he was allergic to his nails

- Patch testing revealed diallyl disulphide ++ (allergen in garlic)
- He cut up garlic every night when cooking for his family

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# Most important allergens in occupational allergic dermatitis affecting the hands (2800 cases 1993-2010)

- P-phenylenediamine (hair dye)
- Ammonium persulphate (hairdressing bleach)
- Thiurams (rubber accelerators)
- Chromate (cement, leather)
- Epoxy resin

Cahill, JL, Williams JD, Matheson MC, Palmer AM, Burgess JA, Dharmage SC, Nixon RL. Occupational skin disease in Victoria, Australia. *Australas J Dermatol* 2016; 57: 108-114.

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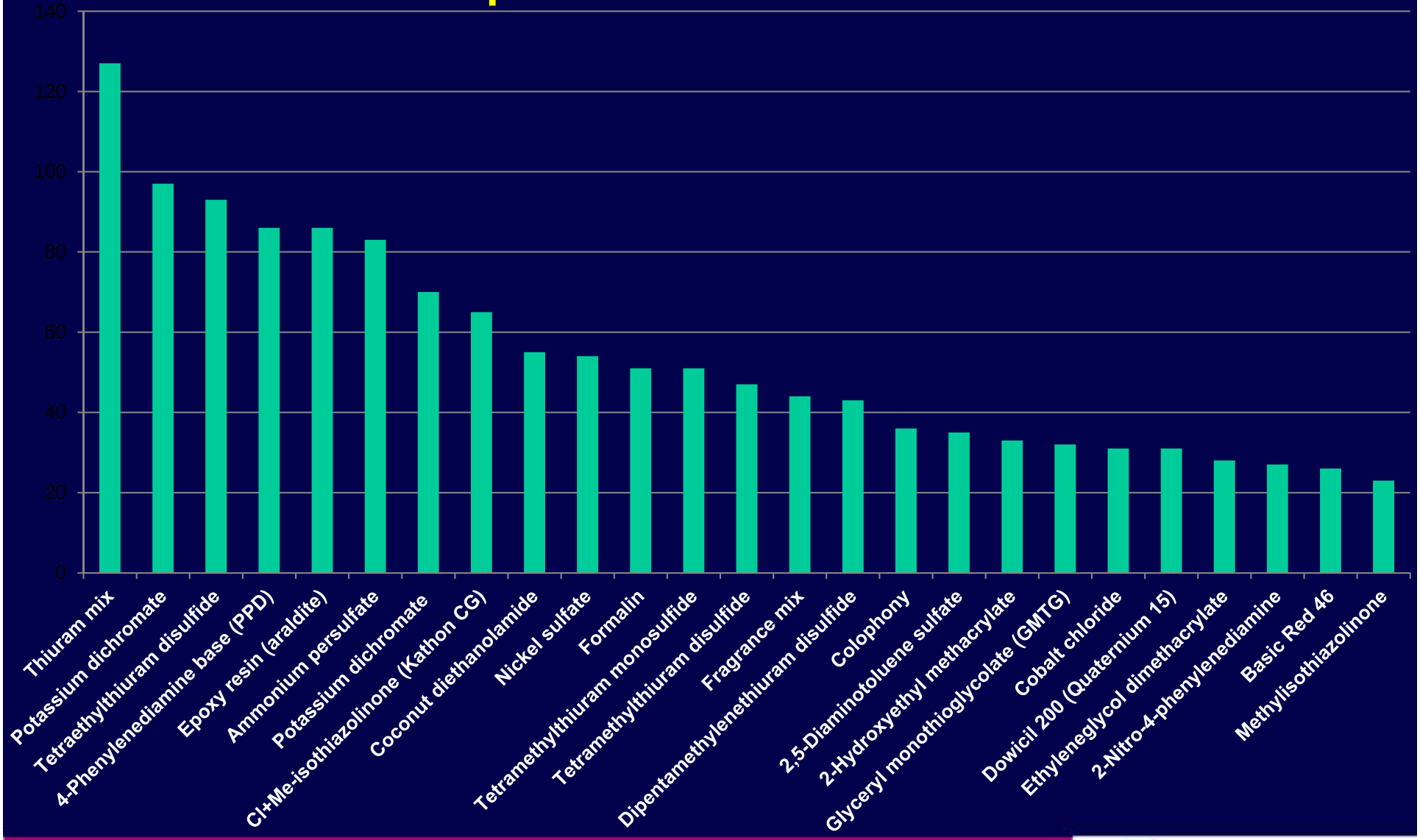
# Relevant allergens in occupational hand dermatitis-Occupational Derm Clinic 1993-2013

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# Incidence rates of occupational skin disease per 100,000 person years

- Hair and beauty 70
- Machine and plant operators 38
- Healthcare workers 21
- Automotive workers 18
- Science workers 18


- Cahill, JL, Williams JD, Matheson MC, Palmer AM, Burgess JA, Dharmage SC, Nixon RL. Occupational skin disease in Victoria, Australia. *Australas J Dermatol* 2016; 57: 108-114.


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# New epidemic of contact allergy!

- Worldwide epidemic  of allergy of the preservative methylisothiazolinone (MI) in baby wipes, skin cleansers, sorbolene lotions, shampoos, deoderants, facial wipes, paints
- Inappropriately high concentration of MI having been allowed from 2005 to 2017
- Mainly non-occupational especially carers of babies, but also in some hand cleaners, paints


- Boyapati A, Tate B, Tam M, Nixon R. Allergic contact dermatitis from
- methylisothiazolinone: exposure from baby wipes causing hand dermatitis in carers *Australas J Dermatol* 54:264-7.


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# How did the epidemic of MI sensitisation occur?

According to Dr Ian White, UK, ESCD 2014:

- Failure of industry of submit ALL information regarding sensitization at the time of evaluation
- Systematic error found in local lymph node assay data
- There is NO safe limit in leave-on cosmetics
- It should be restricted to 15ppm in rinse-off products
- "That men do not learn the lessons of history is the most important lesson of history" Aldous Huxley

# Process worker allergic to methylisothiazolinone in in a hand cleaner

# Allergic contact dermatitis to MI in a facial wipe


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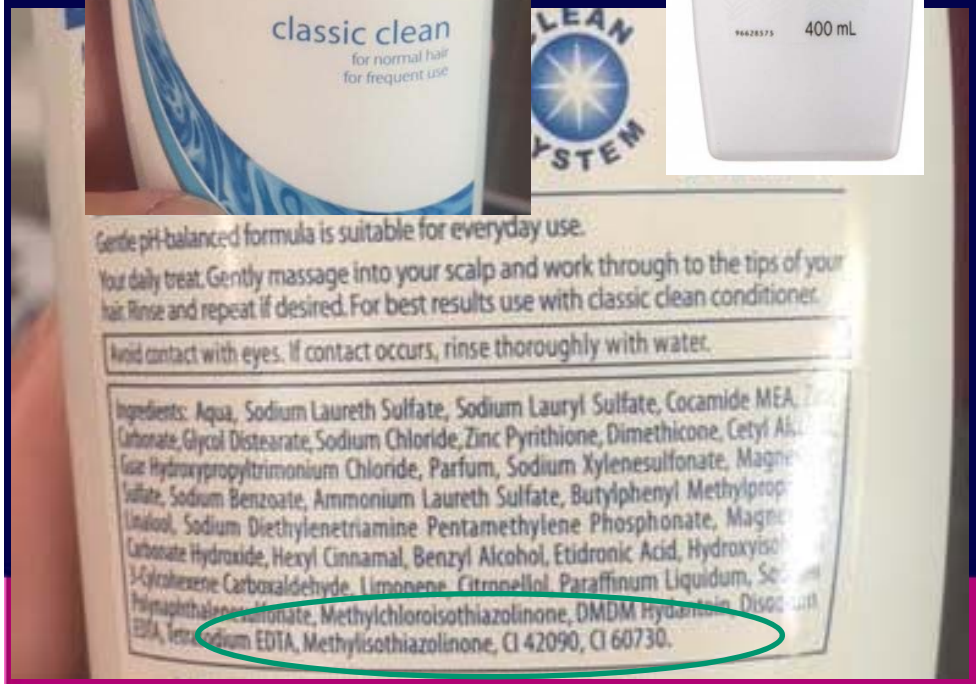
# MI containing products, especially shampoos










# MI containing products

## Parsley Seed Anti-Oxidant Facial Toner

**An anti-oxidant rich toner for all skin types, including dry and sensitive.**

**How to Use**

**Ingredients**

Aloe Barbadensis Leaf Juice, Water (Aqua), Polysor
Sodium Lactate, Hamamelis Virginiana (Witch Haze
Phenoxyethanol, Lavandula Angustifolia (Lavender)
Sorbitol, Panthenol, Disodium EDTA, Ethylhexylglyc
Ormenis Multicaulis Oil, Camellia Sinensis Leaf Extr
Benzalkonium Chloride, Chamomilla Recutita (Matri
Flower Oil, Methylisothiazolinone, Carum Petroselin
(Parsley) Seed Oil, Linalool, d-Limonene

This ingredient list is subject to change, customers

Parsley Seed Anti-Oxidant Facial Toner


Macadamia Ternifolia Seed Oil
Triticum Vulgare Germ Oil
Hydrolyzed Wheat Gluten
Olea Europaea (Olive) Fruit Extrac
Citrus Aurantium Amara (Bitter Or
Methylisothiazolinone
Panax Ginseng Extract
Avena Sativa (Oat) Peptide
Methylchloroisothiazolinone, mixtu


**Ingredients**

Water (Aqua), Sodium Laureth Sulfate, Cocamidopropyl Betaine, Sea Salt (Maris sal), Glycerin, Polysorbate 20, Citrus Nobilis (Mandarin Orange) Peel Oil, Lavandula Angustifolia (Lavender) Oil, Phenoxyethanol, Cananga Odorata Flower Oil, Magnesium Nitrate, Methylchloroisothiazolinone, Magnesium Chloride, Methylisothiazolinone, Citric Acid, Limonene, Linalool, Benzyl Benzoate.

This ingredient list is subject to change,customers should refer to the product packaging for the most up-to-date ingredient list.

## Amazing Face Cleanser

A non-drying daily cleanser enhanced with purifyin
Mandarin Rind to effectively cleanse the skin witho
disturbing its natural balance.

**Suited to**

Oily, combination and open-pored skin, for those in
and humid climates

**Skin feel**

Refreshed, balanced and scrupulously clean

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# SCF Patch test clinic data

| Year | No patch tested | Positive reactions | Percentage of those tested % |
|---|---|---|---|
| 2011 | 419 | 17 | 4.1 |
| 2012 | 452 | 56 | 12.4 |
| 2013 | 372 | 58 | 15.6 |
| 2014 | 428 | 84 | 19.6 |
| 2015 | 389 | 79 | 20.3 |
| 2016 | 361 | 68 | 18.8 |
| 2017 | 366 | 42 | 11.4 |

Boyapati A, Tate B, Tam M, Nixon R. Allergic contact dermatitis from methylisothiazolinone: exposure from baby wipes causing hand dermatitis in carers. Australas J Dermatol 2013

Cahill J, Toholka R, Palmer A, Nixon R Med J Aust 2014

Flury U, Palmer A, Nixon R The methylisothiazolinone allergy in Australia Contact Dermatitis 2018

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# Understanding your skin condition

**Is it related to your work?**
- ☐ **Significantly work-related**
- ☐ **Partially work-related**
- ☐ **Not work-related**

**Rash**

**From inside your body**

**From contact with agents on the outside of the skin**

**Eczema**

**Psoriasis**

**Contact dermatitis**

**Irritant contact dermatitis**

***Allergic contact dermatitis* (delayed)**
Diagnosed by patch testing

***Contact urticaria (immediate)***
Diagnosed by blood test &/or prick tests

**Aggravating factors in skin conditions**

**Water** **Soap** **Heat** **Sweating** **Friction** **Other:**

_____
_____
_____

**Reacted to and now need to avoid:**

_____
_____
_____

**Diagnosis (in order of importance to your condition):**

1. _____
2. _____
3. _____
4. _____

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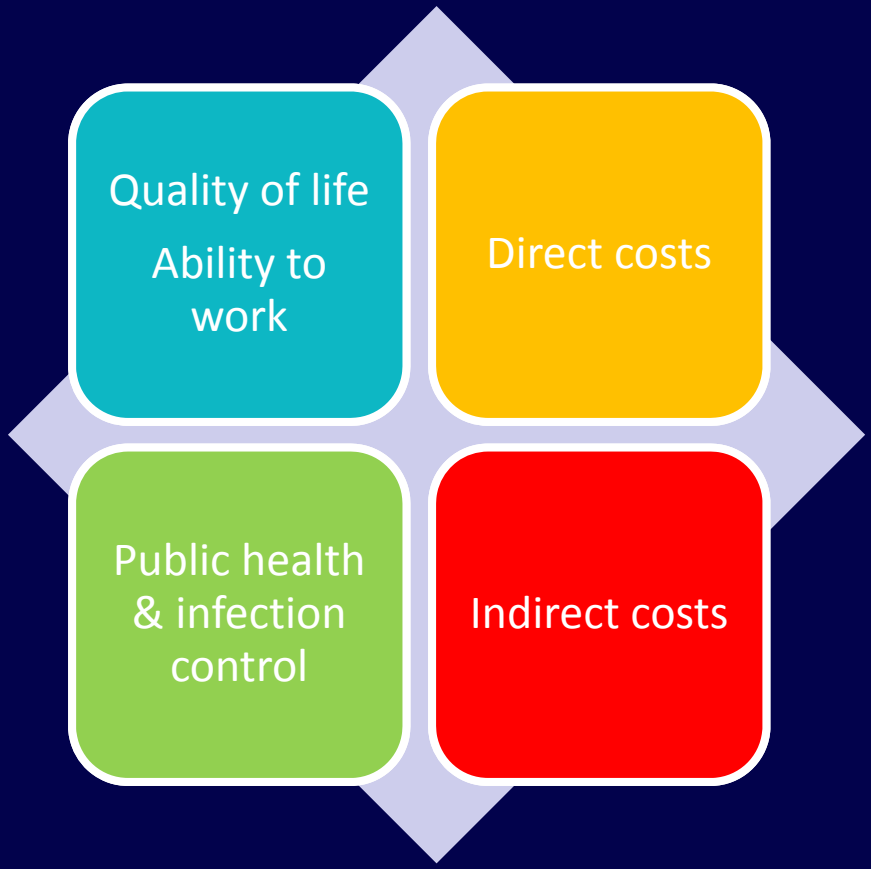
# Management of occupational dermatitis

- MAKE A DIAGNOSIS: avoidance of allergens and irritants
- Appropriate gloves for each activity; cotton gloves for housework
- SKIN CARE:
- (i) Soap substitutes (pH balanced), avoid bar soaps which are alkaline
- (ii) Moisturising lotions, creams and ointments
- (iii) Topical steroid ointments to areas of dermatitis
- Physical therapies- Grenz ray, UV to hands
- Systemic therapies-oral corticosteroids and steroid-sparing agents

# Impact of occupational skin disease (OSD)

**LARGEST INDUSTRY GROUP**
**Healthcare and social assistance**

PREVENTION IS A PRIORITY

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# Healthcare workers (HCWs) – a high risk group for occupational skin disease

Lots of exposure to irritants and allergens

- Hand hygiene requirements
- PPE – gloves, sweating
- Cleaning/disinfectants, washing
- Tools of the trade (eg acrylates – dentists)

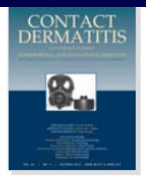
Prevalence 17-50% worldwide, with rates of up to 65% in ICU/NICU


Hand eczema: prevalence and risk factors of hand eczema in a population of 2274 healthcare workers

Kristina S. Ibler ✉, Gregor B. E. Jemec, Mari-Ann Flyvholm, Thomas L. Diepgen, Askel Jensen, Tove Agner

First published: 24 May 2012 Full publication history

DOI: 10.1111/j.1600-0536.2012.02105.x View/save citation

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Volume 67, Issue 4
October 2012
Pages 200–207

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ENVIRONMENTAL AND OCCUPATIONAL DERMATITIS

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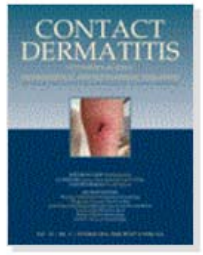
Original Article

# Occupational skin disease among Australian healthcare workers: a retrospective analysis from an occupational dermatology clinic, 1993–2014

Claire L. Higgins ✉, Amanda M. Palmer, Jennifer L. Cahill, Rosemary L. Nixon

**First published:** 20 July 2016 Full publication history

**DOI:** 10.1111/cod.12616 View/save citation

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Volume 75, Issue 4
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Pages 213–222

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# Major occupational allergens (237 ACD)

**25 most frequent occupational allergens in HCWs with occupational ACD**

| ALLERGEN | Relevant reactions *n* | Total tested *n* | Proportion of total tested % |
|---|---|---|---|
| Thiuram mix | 49 | 537 | 9.1 |
| Tetraethylthiuram disulfide | 42 | 502 | 8.4 |
| Formaldehyde | 28 | 534 | 5.2 |
| Coconut diethanolamide | 26 | 492 | 5.3 |
| Dipentamethylenethiuram disulfide | 23 | 502 | 4.6 |
| Dowicil™ 200 (quaternium 15) | 18 | 534 | 3.4 |
| Tetramethylthiuram monosulfide | 16 | 502 | 3.2 |
| Tetramethylthiuram disulfide | 13 | 502 | 2.6 |
| Methylchloroisothiazolinone | 13 | 536 | 2.4 |
| Fragrance mix | 12 | 534 | 2.2 |
| Chlorhexidine diacetate | 11 | 496 | 2.2 |
| Chlorhexidine digluconate | 11 | 497 | 2.2 |
| Methylisothiazolinone | 10 | 101 | 9.9 |
| Amerchol® L-101 | 10 | 513 | 1.9 |
| Lanolin alcohol | 9 | 538 | 1.7 |
| Germall 115 (imidazolidinylurea) | 8 | 535 | 1.5 |
| Germall II (diazolidinylurea) | 7 | 514 | 1.4 |
| 2-Hydroxyethyl methacrylate | 6 | 100 | 6 |
| Glutaraldehyde | 6 | 52 | 11.5 |
| Zinc diethyldithiocarbamate | 6 | 491 | 1.2 |
| DMDM Hydantoin | 5 | 442 | 1.1 |
| Methyl methacrylate | 5 | 35 | 14.3 |
| Nickel sulfate | 5 | 534 | 0.9 |
| Myroxolon pereriae | 4 | 534 | 0.7 |
| Carba mix | 7 | 159 | 4.4 |

# 5 hand cleansers among the top 30 causes of ACD

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| | RELEVANT REACTIONS n | TOTAL TESTED n | PROPORTION OF TOTAL TESTED % |
|---|---|---|---|
| Microshield® Handwash Mild Neutral Formula pH7 | 22 | 191 | 11.5 |
| **Microshield® 4 Chlorhexidine Skin Cleanser** | **11** | **173** | **6.4** |
| Microshield® 2 Chlorhexidine Skin Cleanser | 11 | 182 | 6.0 |
| Ecolab® Glad Hands Concentrated Lotion Skin Cleanser | 8 | 107 | 7.5 |
| Microshield® Skincare Cleanser pH5.5 | 6 | 76 | 7.9 |

NB Microshield most common brand of cleanser used in Australian hospitals

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# Hand cleansers vs alcohol-based hand rubs (ABHRs)

- ACD caused by hand cleansers 8 x rate from ABHRs (12.4 % vs 1.6 %)
- Hand cleansers major cause of ICD
- Hand cleansers often being used when ABHRs indicated
- ABHRs sting on broken skin – often misinterpreted as “allergy”


- Graham M, Nixon R, Burrell L J, Bolger C, Johnson P D R, Grayson M L. Low rates of cutaneous adverse reactions to alcohol-based hand hygiene solution during prolonged use in a large teaching hospital. *Antimicrobial Agents and Chemotherapy 2005; 49:4404-4405.*


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# Conclusions

- ABHRs caused substantially less ACD and less ICD than commercial hand cleansers
- Stinging ≠ allergy!
- Appreciable number of reactions to so called ‘’hard-to-avoid” weak allergens present in commercial hand cleaners
- Rubber glove chemicals still an issue
- Latex allergy trending down
- High rates of occupational ACD to MI

OSD presents a significant burden of disease in Australian HCWs

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# SO WHAT CAN WE DO ??

## Individual level

Primary prevention - EDUCATION

- Early management of symptoms

Secondary prevention

- Allergen avoidance and substition
- Accelerator-free gloves

## Manufacturer level

- Mandatory labelling
- Allergen substitution – responding to the evidence
- Accurate MSDS

## Management level and beyond

- Promoting ABHRs instead of hand cleansers where indicated
- Integrating skin care education with hand hygiene training
- Overarching national guidelines
- National OSD

**Skin care education and individual counselling versus treatment as usual in healthcare workers with hand eczema: randomised clinical trial.**

Ibler KS[1], Jemec GB, Diepgen TL, Gluud C, Lindschou Hansen J, Winkel P, Thomsen SF, Agner T.

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# Safework Australia supported the development of skin care within the hand hygiene module



Integrating skin care education with hand hygiene training….

## Skin Care

**This section of the module has been created by The Occupational Dermatology Research & Education Centre, Skin & Cancer Foundation Inc. Funded by Safe Work Australia.**

Occupational contact dermatitis is an inflammatory skin condition which occurs when workplace substances damage the skin. Usually the hands of healthcare workers are affected, although other exposed skin may be involved, such as the arms, face and neck.

There are 3 main types of contact dermatitis: irritant contact dermatitis (ICD), allergic contact dermatitis (ACD) and contact urticaria.

**Signs and symptoms of contact dermatitis include:**

- Dryness (involvement of the web spaces between the fingers is often the first sign)
- Redness
- Itchiness
- Soreness
- Scaling and flaking
- Splitting and cracking
- Blistering

# Outline

- Assessment of occupational dermatitis
- Patch testing
- Making a diagnosis
- Australian Baseline Series for patch testing
- Latex allergy in 2018
- An important allergen- methylisothiazolinone
- Addressing occupational dermatitis in healthcare workers- alcohol-based hand rubs are good!

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# Thanks for listening!

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