

Prevention of occupational contact dermatitis in hairdressers

*Jeanne Duus Johansen
National Allergy Research Centre
Department of Dermatology and Allergy
Copenhagen University Hospital Gentofte
Denmark*

Hairdressers

Register of occupational skin disease

Occupational eczema frequent

- Induction period: 2 years

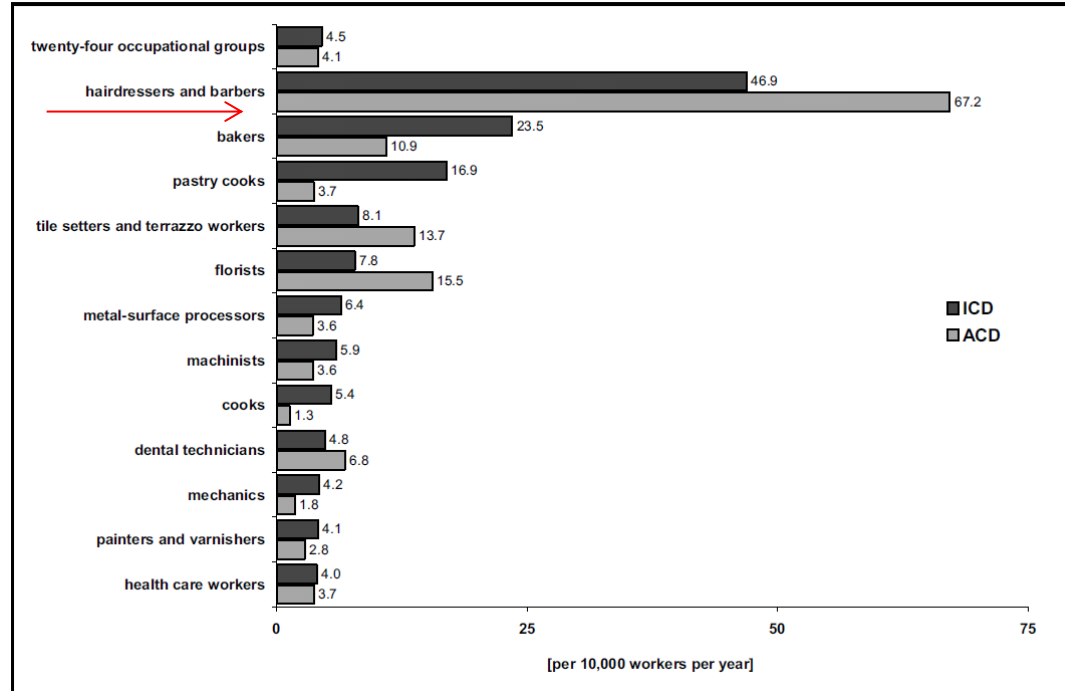
- Median age: 19 years

- Often affects apprentices

Uter W et al. Contact dermatitis 1999;

Schwanitz et al. Br J Dermatol 1999

Bregnhøj A et al. 2011



Diepgen TL, Kanerva L. *Eur J Dermatol.* 2006 May-Jun;16(3):324-30.

Diepgen TL, Coenraads. *Int Arch Occup Environ Health* 1999;

Hairdressers – register-based study

N=7840 Danish graduates from vocational schools 1985 -2007

Hand eczema:

One-year prevalence of hand eczema: 50.4%

Point prevalence: 17.1%

The onset-age for hand eczema:

15 and 24 years for 75% of all respondents with hand eczema.

ORIGINAL ARTICLE

Wolfgang Uter · Annette Pfahler · Olaf Gefeller
Hans Joachim Schwanitz

**Prevalence and incidence of hand dermatitis in hairdressing apprentices:
results of the POSH study**

Cohort: 2352 apprentices
Followed for 3 years
by 3 examinations

Prevalence of
Skin changes on hands

<u>1.</u>	<u>2.</u>	<u>3.</u>
35.4%	47.5%	55.1%

Hand eczema

<u>1.</u>	<u>2.</u>	<u>3.</u>
12.9%	23.5%	23.9%

Wet work: risk factor for hand eczema

Unprotected wet work for more than 2 h per day a major risk factor for hand eczema.

67.9 % of hairdressing apprentices have more than 2 h wet work á day.

*Uter W, Pfahlberg A, Gefeller O, Schwanitz HJ.
Contact Dermatitis. 1999 Nov;41(5):280-6.*

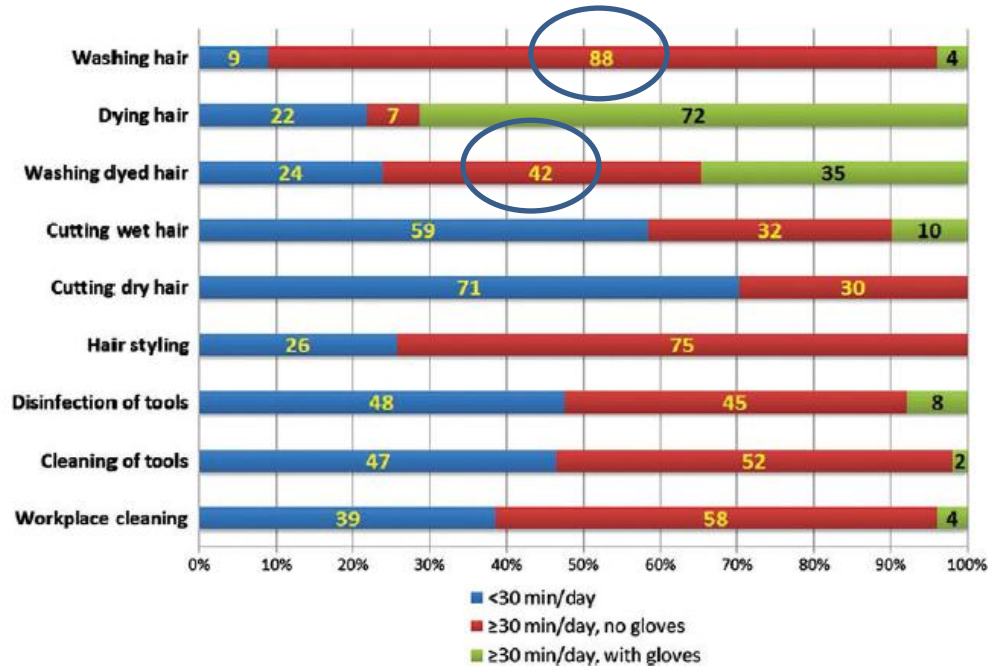
ORIGINAL ARTICLE

Prevention of hand eczema among Danish hairdressing apprentices: an intervention study

Anne Bregnhøj,¹ Torkil Menné,² Jeanne Duus Johansen,³ Heidi Sosted¹

Skin health and safety at work in Croatian hairdressing apprentices

Tea Samardžić¹, Veda Marija Varnai², Marija Bakotić², Željka Babić², Richard Brans³, Selma Cvijetić Avdagić², Darinka Štampar Šmaguc⁴, Iva Kovačević⁴ and Jelena Macan²





Usage of gloves for hair shampooing in German hairdressing salons

Madeleine Dulon^{1*}, Björn Kähler¹, Sandra Kivel², Günter Schlanstedt² and Albert Nienhaus³

Table 1 Proportions of glove use for hair shampooing in hairdressing salons; separated by methods of assessment

Survey	Data collection	Observation of shampoos			Telephone interview of salon owners				Comparison of proportion for glove use for hair shampooing	
		Number of salons	Glove Usage		Glove Usage		Generally		χ ²	P
		N	N	% ^a	N	% ^a	N	% ^b		
1	August 2009	172	18	10.5	218	99.1	184	84.4	207.564	<.001
2	August 2010	69	9	13.0	199	99.5	159	79.9	95.068	<.001
3	August 2011	75	12	16.0	-	-	-	-	-	-
4	August 2012	119	22	18.5	198	94.3	151	76.2	97.763	<.001
Total		435	61	14.0	615	98.0	494	80.3	446.824	<.001

^aRelative to number of salons (observed/interviewed)

^bRelative to number of salons using gloves generally

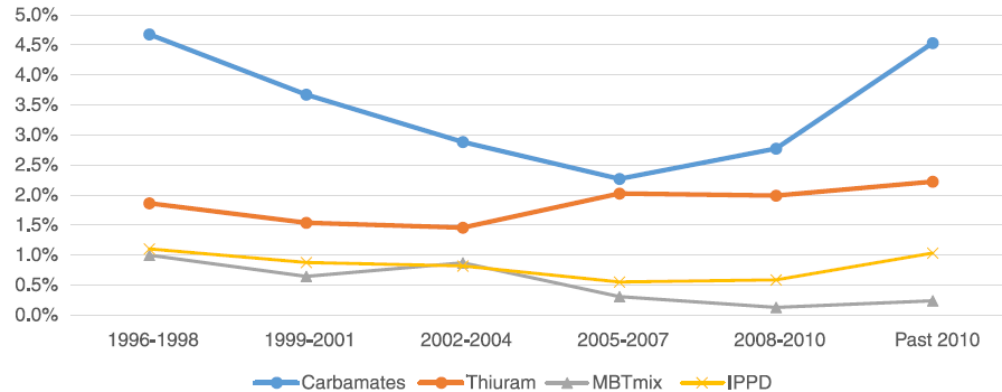
Contact allergies in hairdressers

399 hairdressers and 1995 matched controls

	Hairdressers	Controls	OR	95% CI
p-Phenylenediamine	9.0%	1.2%	9.8	(5.6-17.2)
Thiuram mix	2.5%	1.2%	2.1	(1.0-4.4)
Ammonium persulphate	10.8%			
Toluene diamine	4.5%			
Glycerylmonothioglycolate	1.0%			

Sensitization to Rubber Accelerators in Northeastern Italy: The Triveneto Patch Test Database

Silvia Buttazzo, MD,* Andrea Prodi, MD,* Anna Belloni Fortina, MD,† Maria Teresa Corradin, MD,‡ and Francesca Larese Filon, MD*



Thiurams:
hairdressers (OR, 3.6; 95% CI, 1.8–7.1),

Recommendation: Accelerator free nitrile gloves

Improper glove use

- Wrong use of gloves

Lind ML et al Ann Occup Hyg. 2005 Aug;49(6):473-80

- Danish cohort of hairdressers
 - 20.2 % re-used gloves
 - 67.2 % only took a new pair, when old were torn
 - 41.1% turned their gloves inside out and reused them

Leaving the trade

Register-based study on all graduates from hairdressing vocational schools 1985 – 2007 (n=7 840)

Questionnaire (answers obtained from 5 239)

- 44.3% had stopped in profession
 - because of musculo-skeletal pain (41.9%)
 - because of hand eczema (23.1%)
 - related to chronicity and severity

Preventive strategies in apprentices

Box 1 Special skin protection program for hairdressers

- Use gloves when you wash, dye, bleach, and perm^{10 24} ★
- Cut before you dye the hair^{25 26}
- Mix in a separate, ventilated cabinet²⁷
- Disposable gloves must be clean, new, and dry²⁸
- Never reuse disposable gloves²⁸
- Use cotton gloves underneath protective gloves²⁹
- Use gloves for as long as necessary, but as shortly as possible^{29 30}
- Use an unscented, lipid rich moisturizer^{31–33}
- Do not wear rings when you work³⁴
- Use gloves when doing wet work in your spare time³⁵
- Use warm gloves outside when it's cold³⁶

Significant reduction of risk of hand eczema in hairdresser apprentices in the intervention group the first 1½ years compared to controls.

	Hand eczema	
	Intervention	Control
T0	8%	8%
T1½	19%	28%
Glove use		
Shampooing	70.7%	46.3%

Occup Environ Med 2012;**69**:310–316.

★ Recommend: nitrile gloves, accelerator free

Antelmi A et al

How to remove gloves

43 hairdressers and apprentices



First round: all (100%) had
contamination of skin

Range between 0.02 and 101.37 cm²

10 mins demonstration in glove removal

Second round: 55.8% had
contamination of skin

Range between 0.00 and 3.08 cm²

Sustainability of an interdisciplinary secondary prevention program for hairdressers

B. Wulfhorst · M. Bock · G. Gediga · C. Skudlik ·
H. Allmers · S. M. John

Mild to moderate
hand eczema

2 day seminar with:

- dermatological examination
- skin protection education

Evaluation of structured patient education in occupational skin diseases: a systematic assessment of the disease-specific knowledge

Annika Wilke · Kathrin Gediga · Swen Malte John ·
Britta Wulfhorst

Result:

Major reduction in:

- Premium for employer
- Expenses for rehabilitation and compensation

Multicentre cohort study 'Rehabilitation of Occupational Skin Diseases – Optimization and Quality Assurance of Inpatient Management (ROQ)': results from a 3-year follow-up

Richard Brans^{1,2}, Christoph Skudlik^{1,2}, Elke Weisshaar³, Reginald Scheidt³, Robert Ofenloch³, Peter Elsner^{4,5}, Britta Wulfhorst^{1,2}, Michael Schönfeld⁶, Swen M. John^{1,2,†} and Thomas L. Diepgen^{3,†} for the ROQ Study Group[‡]

moderate to severe hand eczema

Reduced severity of Hand eczema

Mod/severe: T0: 78.4% T3y: 23.1%

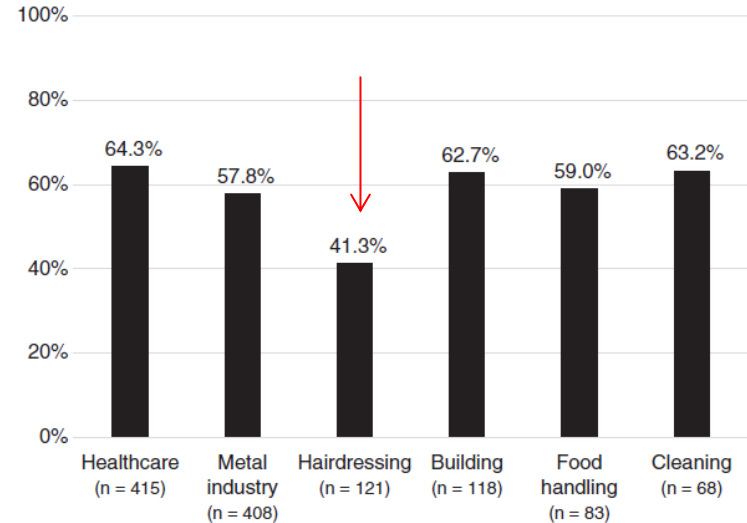
Quality of Life improved

DLQI T0: 10 T3y: 5

Absence from work reduced

Sick days T0: 23.2 T3y: 7.4

Remaining in original profession



Allergen substitution

Is contact allergy to glyceryl monothioglycolate still a problem in Germany?

Contact Dermatitis 2006; 55: 54–56

Wolfgang Uter¹, Johannes Geier², Holger Lessmann² and Axel Schnuch²

Acid permanent waving

Solutions:

Technical rule 540

set in force 1997

Glyceryl monothioglycolate (GMTG)

Replaced by ammonium thioglycolate

Trends in patch test reactions to GMTG

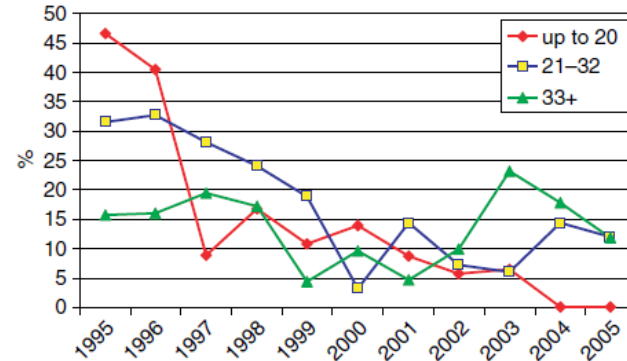


Fig. 1. Time course of the prevalence of sensitization to glyceryl monothioglycolate among hairdressers with occupational contact dermatitis, subdivided into three age strata.

Uter W 2014

GMTG: 4.7% positive

The re-emergence of GMTG as an occupational allergen should be considered as a warning signal ('sentinel event')

Conclusions

- High incidence and prevalence of hand eczema
- Starts in the majority of cases as apprentices
- Causative factors: allergens and wet work
- Causes hairdressers to leave the profession
- Preventive strategies work
 - Broader implementation in Europe
 - Include employers
 - Regulations should be improved concerning ingredients

European framework agreement on the protection of occupational health and safety in the hairdressing sector



Agreement finally signed! Thursday 23 June 2016