Exposure Related to Skin Diseases

Prof. Dr. Swen Malte John, MD
Chair "EADV Taskforce on Occupational Skin Diseases"
and "EU COST Action StanDerm"
sjohn@uos.de

For improved prevention of occupational skin diseases in Europe
Because you can’t control what their hands will get into

Ballerina by trade, grease monkey at heart
Most Frequent Occupational Diseases: Skin

- Metallarbeiter, 25 Jahre
- Irritatives Kontaktekzem
Exposures and pitfalls to hazard reduction

• Documentation
Prosser White, Esq.

“Permanent committee for the study of occupational diseases…”
League of Nations, Geneva

Br Med J 1934;1:84
• Underreporting
• ICD 11
• WHO Work Plan
WHO ICD 11 Project
(available 2017)

ICD 11 Classification:
- Work Relatedness
- Body Locations
- Concise Definitions (100 words)
- Supplementary Classification of Contact Sensitizing Agents:
  - Low Mol. Weight Haptens
  - Photoallergens
  - Proteins
Total number of Occup Contact dermatitis in 2013 & 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Total number of recognized/notified OSD in 2013</th>
<th>Total number of recognized/notified OSD in 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>179</td>
<td>160</td>
</tr>
<tr>
<td>Romania</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Hungary</td>
<td>23</td>
<td>68</td>
</tr>
<tr>
<td>Slovenia</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Ukraine</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Montenegro</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Estonia</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Workers' number

<table>
<thead>
<tr>
<th>Country</th>
<th>Workers' number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey</td>
<td>21600000</td>
</tr>
<tr>
<td>Poland</td>
<td>18073300</td>
</tr>
<tr>
<td>Belarus</td>
<td>600000</td>
</tr>
<tr>
<td>Croatia</td>
<td>600000</td>
</tr>
<tr>
<td>Hungary</td>
<td>15000000</td>
</tr>
<tr>
<td>Hungary</td>
<td>5000000</td>
</tr>
<tr>
<td>Serbia</td>
<td>500000</td>
</tr>
<tr>
<td>Croatia</td>
<td>1094931</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>650000</td>
</tr>
<tr>
<td>Montenegro</td>
<td>171474</td>
</tr>
</tbody>
</table>
Socio-economic Burden

• “Skin diseases outnumber all other work-incurred illnesses in the US.” (National Institute for Occupational Safety and Health [NIOSH], Cincinnati, Ohio, USA; www.cdc.gov/niosh).

Annual loss of productivity by OSD:
- Netherlands: 99.1 million € (van Gils, Boot et al. 2011)
- Germany: > 1.5 billion € (Batzdorfer, Schwanitz 2005)
- Denmark: 800 million DKK (J. Duus-Johansen 2011)
- UK: > 200 million £ (English 2004)
- EU: >10 billion € (Wulfhorst et al. 2011)
- US: > 11 billion $ (Blanciforti 2010)

OSD:
- Point prevalence: > 20 % in risk professions, e.g. hairdressers, health care, metal etc.
- 15% of all occupational diseases in USA, up to 37 % in Europe, particularly in SME
- 30-72 % of OSD-sufferers loose job

Number of notified and recognized cases of occupational skin disease

Skin disease entails 37.6% of all recognized occupational diseases in Denmark

Danish physicians are legally obliged to notify cases of suspected occupational origin

Prof. Jeanne Duus-Johansen, Copenhagen
Expected Notifications 2015

- BK 5101 ECZEMA: 25,000 cases (33%)
- BK 5103 Skin Cancer: 7,000 cases (9%)
- Others: 21,000 cases (42%)

Total cases: 43,000
Exposures and pitfalls to hazard reduction

• Hairdressers
• Health Care Workers
Hairdressers

- Occupational eczema frequent
  - Induction period: 2 years
  - Median age: 19 years

- Often affects apprentices
  - Uter W et al. Contact dermatitis 1999;
  - Bregnhøj A et al. 2011

Diepgen TL, Coenraads. Int Arch Occup Environ Health 1999;
Hairdressers – register-based study (DK)

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.

Lysdal SH et al. Contact Dermatitis: 2011
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 a day.

# Exposures

## Table 4

Self-reported number of hair treatments per week and glove use during current employment

<table>
<thead>
<tr>
<th>Number of treatments/week</th>
<th>0–1</th>
<th>2–7</th>
<th>8–14</th>
<th>15+</th>
<th>Glove use</th>
<th>Never</th>
<th>Seldom</th>
<th>Often/always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hair treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alkaline permanent waving</td>
<td>22</td>
<td>64</td>
<td>13</td>
<td>2</td>
<td>72</td>
<td>15</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Acid permanent waving</td>
<td>65</td>
<td>33</td>
<td>2</td>
<td>1</td>
<td>69</td>
<td>18</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Colouring to make the hair appear lighter*</td>
<td>69</td>
<td>29</td>
<td>2</td>
<td>0.3</td>
<td>6</td>
<td>6</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>Oxidative hair colouring†</td>
<td>44</td>
<td>52</td>
<td>3</td>
<td>0.3</td>
<td>5</td>
<td>5</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Direct, reactive colouring (supertones)‡</td>
<td>38</td>
<td>55</td>
<td>7</td>
<td>0.6</td>
<td>7</td>
<td>7</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Direct, non-reactive colouring (mousse/tones)§</td>
<td>36</td>
<td>58</td>
<td>5</td>
<td>0.5</td>
<td>6</td>
<td>8</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Bleaching§</td>
<td>36</td>
<td>58</td>
<td>5</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hair treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of treatments/week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shampooing</td>
<td>43</td>
<td>39</td>
<td>14</td>
<td>5</td>
<td>89</td>
<td>6</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Spray</td>
<td>28</td>
<td>42</td>
<td>20</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Values are expressed in percentages.

*9–12% hydrogen peroxide.
†6–9% hydrogen peroxide.
‡Low percentage of hydrogen peroxide.
§50–2% hydrogen peroxide.
*Persulphates.
Skin health and safety at work in Croatian hairdressing apprentices

Tea Samardžić¹, Veda Marija Varna², Marija Bakotić², Željka Babić², Richard Brans³, Selma Cvijetić Avdagić², Darinka Štampar Šmaguć⁴, Iva Kovačević⁴ and Jelena Macan²
Intervention group: instructions on how to prevent hand eczema. 1½ years later follow-up

Instructions given to control group at end of study.

New study
6 years later
36.4% used gloves when shampooing.
No difference to control group.

Steengaard SS CD 2016:
# Usage of gloves for hair shampooing in German hairdressing salons

Madeleine Dulon, Björn Kähler, Sandra Kirvel, Günter Schlanstedt, and Albert Nienhaus

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

<table>
<thead>
<tr>
<th>Survey</th>
<th>Data collection</th>
<th>Observation of shampoos</th>
<th>Telephone interview of salon owners</th>
<th>Comparison of proportion for glove use for hair shampooing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>N %</td>
<td>N %</td>
<td>χ²</td>
</tr>
<tr>
<td>1</td>
<td>August 2009</td>
<td>172 N 18 10.5 %</td>
<td>218 N 99.1 %</td>
<td>207.564</td>
</tr>
<tr>
<td>2</td>
<td>August 2010</td>
<td>69 N 9 13.0 %</td>
<td>199 N 99.5 %</td>
<td>95.068</td>
</tr>
<tr>
<td>3</td>
<td>August 2011</td>
<td>75 N 12 16.0 %</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>August 2012</td>
<td>119 N 22 18.5 %</td>
<td>198 N 94.3 %</td>
<td>97.763</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>435 61 14.0 %</td>
<td>615 98.0 %</td>
<td>446.824</td>
</tr>
</tbody>
</table>

*Relative to number of salons (observed/interviewed)  
*Relative to number of salons using gloves generally
## Contact allergies in hairdressers

399 hairdressers and 1995 matched controls

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Hairdressers</th>
<th>Controls</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-Phenylenediamine</td>
<td>9.0%</td>
<td>1.2%</td>
<td>9.8</td>
<td>(5.6-17.2)</td>
</tr>
<tr>
<td>Thiuram mix</td>
<td>2.5%</td>
<td>1.2%</td>
<td>2.1</td>
<td>(1.0-4.4)</td>
</tr>
<tr>
<td>Ammonium persulphate</td>
<td>10.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toluene diamine</td>
<td>4.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerylmonothioglycolate</td>
<td>1.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Improper glove use

• Wrong use of gloves


• 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

Lysdal SH et al. Contact Dermatitis: 2011
Exposure of hairdressers to aromatic diamines: an interventional study confirming the protective effect of adequate glove use

Tom Geens,¹ Evelyne Aerts,¹ Marc Borguet,¹ Vincent Haufray,² Lode Godderis³

- 11 hairdressers observed for 2 weeks
- Week 1: normal use of gloves
- At the end of the first week instructions on correct glove use were provided.
- Urine samples pre- and postshift collected each day.
- Analysed for PPD and PTD

Results:
- PTD reduced from before to after intervention.
- PPD no change.
Are gloves sufficiently protective when hairdressers are exposed to permanent hair dyes? An *in vivo* study

Annarita Antelmi¹,², Ewa Young¹, Cecilia Svedman¹, Erik Zimerson¹, Malin Engfeldt¹, Caterina Foti² and Magnus Bruze¹

Recommendation: Accelerator free nitrile gloves
43 hairdressers and apprentices

Before    After             Before    After
Cm² contaminated skin

Katia W. Oreskov¹, Heidi Søsted² and Jeanne D. Johansen
Contact Dermatitis, 72, 362–366 2015
Exposures and pitfalls to hazard reduction

• Hairdressers
• Health Care Workers
Great Britain

- High prevalence of irritant hand dermatitis in healthcare workers
- 1-year prevalence 24% vs. <10%
- Nurses highest ‘at risk’ group
- Point prevalence 18-30%

Dr Ira Madan
Guy’s and St Thomas’ NHS Trust and King’s College
London, on behalf of the SCIN trial team
Great Britain

- High prevalence of irritant hand dermatitis in healthcare workers
- 1-year prevalence 24% vs. <10%
- Nurses highest ‘at risk’ group
- Point prevalence 18-30%
- SCIN-Study: RCT 3,000 nurses
- NHS: £1.4 million 4 years

Dr Ira Madan
Guy’s and St Thomas’ NHS Trust and King’s College
London, on behalf of the SCIN trial team
Denmark 2010

• OCD the most commonly recognized occupational disease (>35% of all OD)
• 1504 patients were recognized with OCD
• Healthcare workers (HCW) accounted for 26% (388 of 1504)
• Notification rate only 12%

Ibler KS, Agner T et al.
KRISTA:

Cross-Intervention Study in Geriatric Nurses

- Point-Prevalence Contact Dermatitis of Hands: 18% (n= 1375)
  - Korea: 23% (Smith 2006)
  - USA: 26% (Larson 1997)
  - NL: 32% (Smith 1993)
  - Italy: 39% (Stingeni 1995)

Skudlik C, Dulon M, Wendeler D, John SM, Nienhaus A. Hand eczema in geriatric nurses in Germany--prevalence and risk factors. Contact Dermatitis 2009;60:136-43
Best Practice of Disinfection

WHO “My 5 Moments” for Hand Hygiene

1. Before touching a patient
2. Before clean/aseptic procedure
3. After body fluid exposure risk
4. After touching a patient
5. After touching patient surroundings

Less skin irritation from alcohol-based disinfectant than from detergent used for hand disinfection

L.K. Pedersen, E. Held, J.D. Johansen and T. Agner*

National Allergy Research Centre for Consumer Products, Gentofte Hospital, University of Copenhagen, DK-Denmark
*Department of Dermatology, Gentofte Hospital, University of Copenhagen, Denmark

Disinfectants and detergents, L.K. Pedersen et al.

Fig 1. Comparison of evaporimetric responses between control site, disinfectant, detergent and alternate applications of disinfectant and detergent on days 1, 5 and 11 (median values and quartiles); *p < 0.05.
Fig. 3. Frequency of wet work (median and interquartile limits) reported by 383 apprentice nurses during 470 traineeships, stratified by healthcare sector. ‘n’ refers to the number of participants who worked in the healthcare sector concerned; the sum of n exceeds 383 because a number of apprentices participated in more than one traineeship.

(Visser et al, Contact Dermatitis 2013)
Progressing contact dermatitis, secondary sensitization

More handwashing

Initial irritant contact dermatitis

More handwashing

Exsiccation

Avoidance of disinfectants for stinging (sensory nerve endings)

Skin of hands

Frequent handwashing

Progressing contact dermatitis, secondary sensitization
• Stinging after disinfectant:
  • Early warning signal
  • for impaired skin barrier
  • => Use emollients!

Simple, Clear, Directive, Measurable, Universal

The Three Moments of Skin Care
A Recommended Holistic and Evidence-Based Best Practice for Use of Hand Creams to Prevent Occupational Skin Disease
Authors: Diepgen, English, Hines, John, Kezic, Kressken, Maibach, Rustemeyer, Wassilew, Wilkinson
Contact Dermatitis 2016
Best Practice for Skin Creams

The Three Moments of Skin Care

A Recommended Holistic and Evidence-Based Best Practice for Use of Hand Creams to Prevent Occupational Skin Disease

Authors: Diepgen, English, Hines, John, Kezic, Kressken, Maibach, Rustemeyer, Wassilew, Wilkinson

Contact Dermatitis 2016

Simple, Clear, Directive, Measurable, Universal
28 yrs, metal worker

Contact eczema?
- irritant?
- allergic?

Mycosis?

Patient management?
Will everybody be patch tested with a hand eczema, particularly if occupational?

1. No (UK, NHS)

2. Prophetic patch testing of every hairdresser’s apprentice (Macedonia. Occup. physicians)
H2020 COST Action TD 1206:

"Development and Implementation of European Standards on Prevention of Occupational Skin Diseases (OSD)"


140 experts from 31 Countries
2013-2017
Copenhagen, Gentofte
5.-6.10.2015

“Development and Implementation of European Standards on Prevention of Occupational Skin Diseases (OSD)”

Development of Minimum Standards on Prevention, Diagnosis and Treatment of Work-Related and Occupational Skin Diseases in Europe –COST action (TD1206) StanDerm–

Close international
Systematic approach to OSD prevention:

**Primary**
(prophylaxis)

**Secondary**
(initial/moderate cases)

**Tertiary**
(severe cases)

- **Dermatologist's procedure**
  (out-pt. treatment by local dermatologist for 6 months)
  + Health education / Skin protection seminars

EUROPEAN SOCIAL PARTNERS' FRAMEWORK AGREEMENT ON THE PROTECTION OF OCCUPATIONAL HEALTH AND SAFETY IN THE HAIRDRESSING SECTOR

Healthy skin @ work campaign
Greatest risk in riskprofessions: Lack of information
„Crime scene“: work place
Positive patch tests to GMTG ("acid" perm) among hairdressers with contact dermatitis

GMTG: Glycerlmonothioglycolate ("acid" perm)
Replacement: Ammoniumthioglycolate ("alkaline" perm)

Uter et al. 2006, Contact Dermatitis 55:54-6
Occupational Latex- contact urticaria

Trends in preservative contact allergy

Prevalence [% of tested individuals]

Tests done in 2015

MI

MCI

$n = 23,138$ eczema patients
Europrevention campaign: „Healthy skin@work“

OFFICIAL PARTNER
EU-OSHA
Apprentices in risk professions

OR for occupational irritant contact dermatitis

Visser M, et al., BJD 2013, Contact Dermatitis 2014
Systematic approach to OSD prevention:

- **Tertiary**
  - Prevention (TIP)
  - (6 weeks in-pt. Rx)
  - Dermatologist’s procedure
  - (out-pt. treatment by local dermatologist for 6 months)
  - Health education / Skin protection seminars

- **Secondary**
  - (initial/moderate cases)

- **Primary**
  - (prophylaxis)

**EUROPEAN SOCIAL PARTNERS’ FRAMEWORK AGREEMENT ON THE PROTECTION OF OCCUPATIONAL HEALTH AND SAFETY IN THE HAIRDRESSING SECTOR**

**Healthy skin @ work campaign**
Randomisation of affected nurses: 123 intervention 132 controls

<table>
<thead>
<tr>
<th>Outcome measures</th>
<th>Intervention group</th>
<th>Control group</th>
<th>Unadjusted parametric analysis</th>
<th>P for difference</th>
<th>Adjusted† parametric analysis</th>
<th>P for difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>HECSI score</td>
<td>4.97 (4.14 to 5.88)</td>
<td>8.53 (7.45 to 9.63)</td>
<td>-3.56 (-4.92 to -2.14)</td>
<td>&lt;0.001</td>
<td>-3.47 (-4.80 to -2.14)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>DLQI score</td>
<td>1.22 (0.88 to 1.61)</td>
<td>2.00 (1.58 to 2.48)</td>
<td>-0.78 (NA)</td>
<td>0.003‡</td>
<td>-0.92 (-1.48 to -0.37)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Score of knowledge of hand eczema and skin protection</td>
<td>10 (1)</td>
<td>10 (0)</td>
<td>—</td>
<td>0.42§</td>
<td>—</td>
<td>NA</td>
</tr>
</tbody>
</table>

HECSI = hand eczema severity index; DLQI = dermatology life quality index; NA = not applicable.

Non-parametric test (Mann Whitney) was used if assumptions of the general linear univariate model were not fulfilled.

*Values were square root transformed before calculations. Means (95% CI) were then squared.

†Adjusted by stratification variables and baseline values.

‡Standardised residuals were not normally distributed (Shapiro Wilk’s test P<0.001 and distribution significantly right skewed). Therefore the non-parametric Mann Whitney test was used and the P value of that test is shown. By contrast when the analysis was adjusted the fit of the general linear model was perfect.

§Non-parametric test used (Mann Whitney) at it was not possible to transform quantities for acceptable model fit.
Skin protection seminar: “workers’ education”

Educated education!

Single and Group Teaching
"The single biggest problem in communication is the illusion that it has taken place."

G.B. Shaw
Systematic approach to OSD prevention:

Tertiary Prevention (TIP) (6 weeks in-pt. Rx)

Dermatologist's procedure (out-pt. treatment by local dermatologist for 6 months) +

Health education / Skin protection seminars

EUROPEAN SOCIAL PARTNERS’ FRAMEWORK AGREEMENT ON THE PROTECTION OF OCCUPATIONAL HEALTH AND SAFETY IN THE HAIRDRESSING SECTOR & Declaration of Dresden

Health education

Healthy skin @ work campaign
Tertiary prevention - 3 phases

In-patient treatment

Post treatment at home (local dermatologist)

Return to work

Derm. follow-up

Followed-up by disability manager at work and at home

6 weeks for regeneration of skin barrier

Fully covered by Social Accident Insurance paid by employers
Follow-up over 3 yrs (T0 to T6)
(lost of follow-up 17%)

3 weeks in-pt. TIP
Pts. followed-up [GEP*]
1 yr follow-up
3 yrs follow-up

N = 1788
N = 1709
N = 1621
N = 1410
N=79**
N=88 (5%)
N=211 (12%)

** lost-to-follow up:
death, severe non-derm. illness, consent withdrawn

* GEP good epidemiological practice

‘Rehabilitation of Occupational Skin Diseases – Optimisation and Quality Assurance of
Inpatient Management (ROQ)’ – results from 12-months follow-up. Contact Derm 66:140-7
Patch testing during in-patient phase in pts. with severe occupational dermatitis

- Patch tests
  - n=1495 (83.6%)
- Own substances
  - n=797 (53.3%)

- New sensitizations (n=1984) in 718 patients
  - **Clinical relevance:**
    - yes: n=685 (35%) in n=306 (20.5%*) patients
    - unclear: n=150 (7%)
    - no: n=1149 (58%)
  - **Occup. relevance:**
    - yes: n=771 (39%) in n=324 (21.7%*) patients
    - unclear: n=449 (23%)
    - no: n=764 (38%)


* Related to tested subjects
Fig. 6. Aetiological classification of observed hand eczema.
MRSA Diagnostik

Methicillin resistenter Staphylococcus aureus

Oxacillin resistenter Staphylococcus aureus

MRSA = ORSA

1. Identifizierung

Staphylococcus aureus - charakteristisches Wachstum von S. aureus auf bluthaltigen Nährmedien:

- weiße / gelbe Koloniemorphologie,
- b-Hämolyse

- Grampräparat: Gram-positiv
- Nachweis der "Koagulase" (clumping factor)
- ggf. weitere biochem. Eigenschaften (DNAse, Katalase, Mannitspaltung …)

2. Nachweis der Resistenz gegen Methicillin / Oxacillin

- Spezialnährmedien zum Screening von MRSA → grüne Kolonien
- Resistenz gegen Methicillin / Oxacillin im Antibiogramm → Konsequenz: alle Penicilline, Cephalosporine und Carbapeneme sind klinisch nicht mehr wirksam!

Health and Safety issue

• for this patient
• for his patients

20,000 – 30,000 deaths in German hospitals p.a. by nosocomial infections, e.g. MRSA

43y male nurse, Irritant contact dermatitis & atopic dermatitis + MRSA
MRSA in HCW with severe OD

Methods:
Retrospective cohort study
Period: July 2009 and December 2014
319 HCW admitted to TIP screened for MRSA.

Results:
• Hand dermatitis: 90.3%
• 43 HCW (13.5%) MRSA colonized on admission.
• MRSA: Nose (n=35, 81.4%), hands (n=24, 55.8%).
• MRSA colonization rate in atotics (OR 2.01, 95% CI 1.03-3.92, \( p = 0.049 \)), if current atopic dermatitis (OR 4.33, 95% CI 2.23-8.43, \( p < 0.001 \)).
• Hand dermatitis in MRSA carriers >> severe (OR 1.23, 95% CI 1.10-1.37, \( p < 0.001 \)).
• Nurses with OSD: 2-3fold higher prevalence of MRSA

Sick leave days 1 year after admission in the cohort which remained in job (n=1414; 87.4%)

Days

53% Reduction

Sick leave 1 yr before

N=1414
Ø 29.6 (26.8-32.4 CI) days

1 day á 240€: 10,034,400 €

Sick leave 1 yr after

N=1412
Ø 14.0 (11.9-16.4 CI) days

1 day á 240€: 4,753,920 €

5,280,480 €
3 years after TIP
(tertiary individual prevention)

• Of 1,409 pts 1,166 working (82.7%)

• Of these 1,166:
  • 80% in same profession
  • 73% same job

• Sick-leave days:
  • 34.5 d yr before TIP
  • 26.5 d first yr after TIP
  • 9.1 d in 2nd and 3rd yr after TIP

Poor Prognosis ??

Contact dermatitis notifications

OD 5101 Skin: 33 % of all OD notifications 2014 (71.685)

Source: DGUV
# Development of benefits OD 5101: 2006 / 2011 / 2012 / 2014

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<td>Total</td>
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<td>Med. rehab</td>
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<td>17.213.949</td>
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- Expenses 2006 vs 2014 reduced by 6-10 mio € p. a.
  (without inflation adjustment)

Source: DGUV 2015
Rehabilitation and Compensation Payments for Skin Diseases – Hairdressers (BGW)

In millions of Euros

- Medical treatment: 3.55 in 1994, 2.37 in 2013
- Career aids: 2.40 in 1994, 3.23 in 2013
- Pensions: 1.95 in 2013

> 88% reduction of costs
Development of Premiums for BGW Hairdressers as of 1990 per 1,000 Euros Insurance Premium

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Type of Premium
- per capita premium
- percentage of remuneration
- High risk rate
EU Commissioner Mr. L. Andor & The Social Dialogue, WHO, ILO
Official Ceremony in Brussels 26 April 2012
“European framework agreement on the protection of occupational health and safety in the hairdressing sector”
• Modular **SafeHair Skin & Beauty Toolbox**
• Easy access multilingual web platform (English, German, French, Danish, Dutch, Slovenian, Maltese)
• Multiplier model (educational authorities, teachers, tutors, masters)
• Medical reference document
• Didactical information at all levels
• Educational games e.g. puzzle, quiz…
• Learning certificate

www.safehair.eu
Hair Hitlers
EU rules to ban hairdressers from wearing rings and heels

Hairdressers could be banned from wearing high heels, jewellery and even watches under barmy new Brussels rules.

They would have to don 'suitable clothes' and face a strict limit on the number of shoes they wear.

EXCLUSIVE by TOM NEWTON DUNN, Political Editor
“...we are waging war against the excessive health and safety culture that has become an albatros around the neck of British business. So this coalition has a clear New Years' resolution: to kill off the Health and Safety culture for good.“

UK Prime Minister Mr. David Cameron. Jan 5th, 2012
BETTER REGULATION

BETTER REGULATION AND TRANSPARENCY

WHY DO WE NEED BETTER REGULATION

44% of Europeans do not understand how the EU is functioning

71% think that the EU generates too much “red tape”

Source: Eurobarometer, July 2015

The EU must not be big on small things

#BetterRegulation
EU Commission mocks agreement to improve health & safety of hairdressers

The EU must not be big on small things

In a recent “explanatory” publication on better regulation, the Commission openly mocks the ongoing efforts of social partners to implement a European Framework Agreement on health and safety in the hairdressing sector.

In the publication, the Commission repeats its mantra of “The EU must not be big on small things” alongside with two images, one of them being a hairdresser cutting hair and a pair of high-heeled shoes – crossed out.

The social partners in the hairdressing sector, Coiffure EU and UNI Europa are surprised by this display of mockery of their ongoing efforts to improve the health and safety of European workers in the hairdressing sector. Needless to say, these images belittle the serious health and safety risks faced by the, workers in the sector, who are mostly female.

Irrespective of the fact that the graphic in the publication is incorrect (the agreement does not mention high-heeled shoes), it’s extremely worrying that the Commission puts into question its own ongoing legislative process.
European Framework Agreement on the protection of occupational health and safety in the hairdressing sector

Hairdressing social partners’ persistence pays off – Occupational Health and Safety Agreement finally signed!

Thursday 23 June 2016

It took many years of efforts and determination, but UNI Europa Hair & Beauty and Coiffure EU did not budge and were rewarded today. The Social Partners in the hairdressing sector signed the European framework agreement on the protection of occupational health and safety.

Oliver Roethig concludes: ‘The European labour movement stands united in their steadfast view that the legal implementation of the Hairdressing agreement is a test case for not only the Commission’s, but also the member states’ commitment to Social Dialogue and Social Europe.'
Brussels, 20 April 2016
Prevention

- Ethical
- Legal
- Logical
- **Economical**
- European Social Model
Prosser White, Esq.

“Occupational affections of the skin”
Prosser White 1915

Kanerva’s Occupational Dermatology
3rd edition 2016
Eds.: Duus Johansen, Rustemeyer, Elsner, Maibach, John

Br Med J 1934;1:84
Thank you!
Conclusions

- Notify
- Primary-/Secondary prevention: Workers‘ education
- Hand eczema in HCW: MRSA
- 3 x more frequent as in HCW without eczema
  - atopics / severity / smokers
- Disinfection culture (WHO 5 moments…..)
- Skin care culture (3 moments…)
  - burning: early warning