

# Hand Eczema Trial (HET)

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## **Secondary prevention of hand eczema in healthcare workers: Results of a randomised trial**

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# Background

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## Denmark, 2010:

- 1504 patients were recognized with OCD
- Healthcare workers (HCW) accounted for 26%
- Notification rate only 12%



# Cross sectional study on 3181 HCW in three Danish hospitals

*Ibler K S et al, Contact Dermatitis 2012; 66: 247–253*

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## ■ Aims:

Prevalence of HE  
Exposures associated with HE  
Knowledge of HE



## Prevalence of HE in HCW : (Among 2210 respondents)

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- *Lifetime prevalence of HE*                      35%
- *One year prevalence of HE*                      21%
- *Point prevalence of HE*                              12%



## Factors associated with HE

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□	<b>Male sex</b>	(vs females)	<i>OR 1.8</i>	<i>p&lt;0.01</i>
□	<b>Younger age</b>	(30-39 vs. 60-69 years)	<i>OR 2.4</i>	<i>p&lt;0.01</i>
□	<b>Atopic eczema</b>	(vs non-atopics)	<i>OR 2.6</i>	<i>p&lt;0.01</i>
□	<b>Working hours</b>	(30-39 vs 40-60 hrs per week)	<i>OR 0.5</i>	<i>p=0.02</i>
□	<b>Fair skin type (1+2)</b>	(vs skin type 5+6)	<i>OR 2.2</i>	<i>p=0.06</i>

*HE not associated with profession, specialty or shifts*



## Exposures associated with HE:

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**Hand washings at work**

**Hand washings at home**



- *No association to disinfectants*



# Hand Eczema Trial (HET):

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*To evaluate the effect of a simple secondary preventive programme including:*

**Patch and prick test**

**Individual counselling**

**Skin care program**

*in HCW with self-reported HE in the past year (N=253)*



## Design of the trial (HET):

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- Randomised, observer blinded, parallel intervention study
- Stratification factors:
  - Clinical scoring of HE
  - Hospital/working place
  - Profession
- Follow-up time 5 months

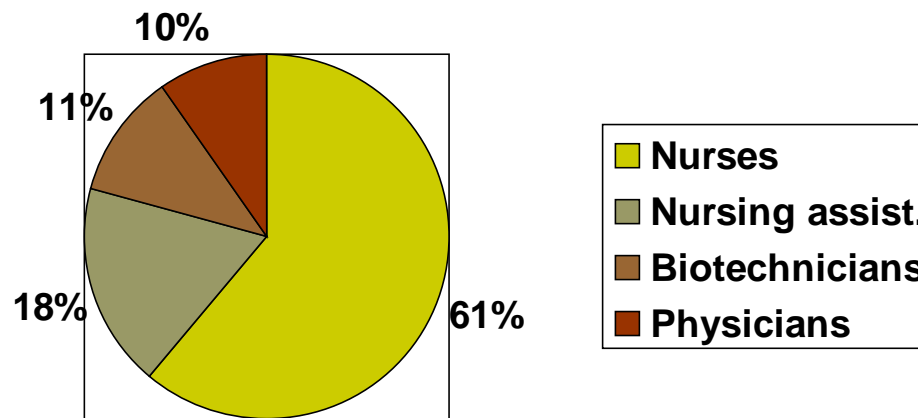




# Trial population

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- 255 (of 397 invited) HCW with **self-reported HE in the past year** recruited from the survey
- The participants: ♀ 236 ♂ 19





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- **Inclusion:**

Selfreported HE in the past year  
Informed written consent

- **Exclusion:**

Pregnancy  
Immunosuppressive drugs  
Oral retinoids  
Psoriatic lesions on the hands  
Lack of consent



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- **Randomisation:** Intervention group (IG): 123  
Control group (CG): 132
  
  - **Discontinuation:**

Follow up data available in **97%** of both groups

*Remarkably high completion rate!*



## Intervention:

- ❑ **Patch test** (T.R.U.E. TEST® St.series 1+2 and 9 extra allergens)
- ❑ **Skin prick test** (st. series, latex, chlorhexidine)
- ❑ **Blood test** (Spec. IgE: chlorhexidine, ethyleneoxide, latex)
- ❑ **Individual counselling** (allergies, exposures, skinprotection; protective gloves, moisturisers, disinfectants)
- ❑ **Demonstration of appliance of emmolient (flourescent) and hand washing**



*Duration: 20-30 minutes*



# Controls

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- Measurement of outcome variables at entry and at FU (5 months)
- No other actions

*For all participants (intervention and controls):*

If HE was severe, they were advised to consult their GP for  
*"treatment as usual"*



## Effect parametres:

At entry and at follow-up

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- ***HECSI score*** (*hand eczema severity index*)
- *Quality of life* (*Dermatology Life Quality Index ~ DLQI*)
- *Self-evaluated disease severity* (*photographic guide*)
- *Skin protective behaviour* (*hand washing, disinfectants, moisturisers, glove use*)



(No difference between intervention and control groups at t=0)

<b>Intervention group</b> <b>Control group</b>	<b>Mean scores at follow-up</b> <b>(t = 5 months)</b>	<b>p-value</b>
<b>HECSI score</b>	<b>6.10</b> <b>9.69</b>	<b>&lt;0.01</b>
<b>DLQI score</b>	<b>2.03</b> <b>2.86</b>	<b>&lt;0.01</b>
<b>Self -evaluated disease severity</b>	<b>1.42</b> <b>1.69</b>	<b>&lt;0.01</b>
<b>Hand disinfections</b> <b>at work</b>	<b>5.22</b> <b>4.90</b>	<b>0.19</b>
<b>Hand washings</b> <b>at work</b>	<b>3.34</b> <b>3.83</b>	<b>&lt;0.01</b>
<b>Moisturisers at work</b>	<b>3.19</b> <b>3.00</b>	<b>0.02</b>



## Results

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- **HECSI score: 33% improv.** **p<0.01**
- **Quality of life (DLQI): 30% improv.** **p=0.01**
- **Selfevaluated disease severity: 17% improv.** **p<0.01**
- **Skinprotective behaviour (hand washing, disinfectants, protective gloves, moisturisers): Most improved**





## Conclusion:

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### HET:

**The first randomised trial providing high level evidence that secondary prevention is effective in HCW with mild to moderate HE**

Future efforts: Implementation  
Evaluation of long term effects  
Cost benefit analyses

*Ibler KS et al. BMJ Dec. 2012*



**Contact allergy:** 63 of 116 (54%) had a positive patch test

(4 removed the tests and 2 did not want the test)

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1. **Nickel (N=26)**
  2. **Thiomersal (N=15)**
  3. **Fragrance mix (N=9)**
  4. Thiuram mix (N=6)
  5. Kolofonium (N=5)
  6. Epoxyresin (N=5)
  7. Kobolt (N=5)
  8. Lyril (N=4)
  9. Fragrance mix 2 (N=4)
  10. Karba mix (N=4)
  11. Methyldibromoglutaronitril (N=3)
  12. Kaliumdikromat (N=2)
  13. Lanolin (N=2)
  14. Ethylendiaminodihydroklorid (N=2)
  15. 13p-tertbut.fen.formald.resin (N=2)
  16. Kathon (N=2)
  17. PPD (N=2)
  18. Formaldehyde (N=2)
  19. Primin (N=2)
  20. Cain mix (N=1)
  21. Kinolin mix (N=1)
  22. Black rubber mix (N=1)
  23. Mercaptobenzodiazole (N=1)
  24. Sesquiterpenelaktone mix (N=1)
  25. Budesonid (N=1)
  26. Tixicortolpivalate (N=1)
  27. Klorhexidinediglukonate (N=1)
  28. Hydroxycortison17butyrate (N=1)





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*THANK YOU FOR ATTENTION*

