

# The Prevention of Occupational Dermatitis



## Marine Safety Forum 26 May 2011



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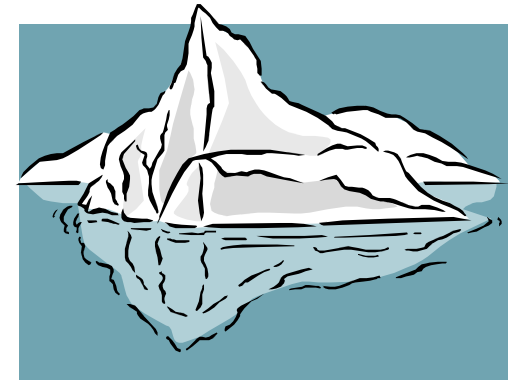
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# The Size Of The Problem



- More than half of working time lost through industrial diseases is due to dermatitis
- 2<sup>nd</sup> most common type of occupational illness reported in the UK
- 4000 new cases are diagnosed each year - 80% contact dermatitis
- 4 million working days lost every year
- £59 million sickness, absence, re-training costs
- £1/4 million compensation claims
- Tip of iceberg



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# Occupational Dermatitis



As percent of reported work related problems

<b>Musculoskeletal</b>	<b>45.3%</b>
<b>Dermatological</b>	<b>23.4%</b>
<b>Respiratory</b>	<b>9.2%</b>
<b>Hearing loss</b>	<b>8.7%</b>
<b>Other</b>	<b>13.4%</b>

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# Nature of The Problem

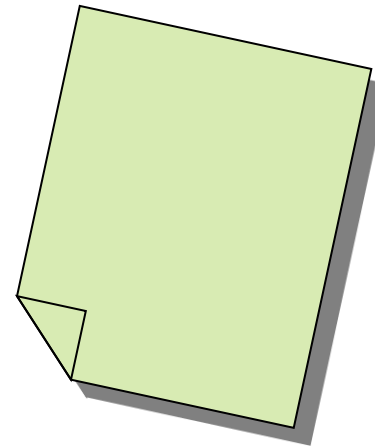


**“We are all only 2 microns from death!”**

- Prof. Bo Forslind

**Piece of writing paper = 0.1mm**

**Barrier layer of skin = 0.002mm**



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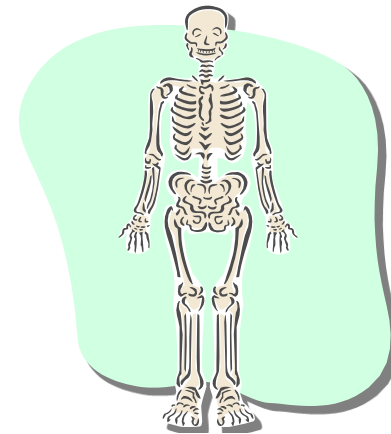
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# The Skin



- Body's largest single organ
- 21 square feet of skin on average
- 300 million skin cells
- 10% of body weight
- Regulates temperature
- Wards off infections
- Senses heat, cold and vibrations
- Forms an excellent barrier



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# Occupational Dermatitis



## Highest risk occupations

<b>Chemical</b>	<b>20.7</b>
<b>Hairdresser</b>	<b>10.9</b>
<b>Biological Scientist</b>	<b>6.9</b>
<b>Machine Tool Operator</b>	<b>6.8</b>
<b>Electroplater</b>	<b>6.2</b>
<b>Foundry Worker</b>	<b>6.2</b>
<b>Beautician</b>	<b>5.1</b>
<b>Vehicle Assembler</b>	<b>4.5</b>

*Note: reported incidents per 10,000 per year*

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# Oil and Gas Industry



## Dermatitis is widely under-reported in UK

- 5 years between Apr '96 – Mar '01 = 19 reports of occupational dermatitis (source; UK Offshore RIDDOR)
- Part of the job
- Fear of being permanently beached

Norwegian Petroleum Directorate Annual Report gives an indication of the real picture:

Year	1998	1999	2000	2001	2002	2003	Total
Cases	150	90	110	90	83	80	603

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# Offshore Research

## HSE – Offshore Technology Report (OTO 97 026)

- “Collection and Analysis of Consultation Records Kept By Offshore Medics”
- Pilot study
- Medics see between 50-400 new consultations and return visits per month
- Dry skin conditions commonly diagnosed
- Typically E45 style creams prescribed
- Dehydration noted as an issue, heightening problems such as chapped lips

**HSE’s National Inspection Project on dermatitis in the offshore industry (1996-1997) – over 50% of offshore installations inspected had recorded cases of dermatitis**

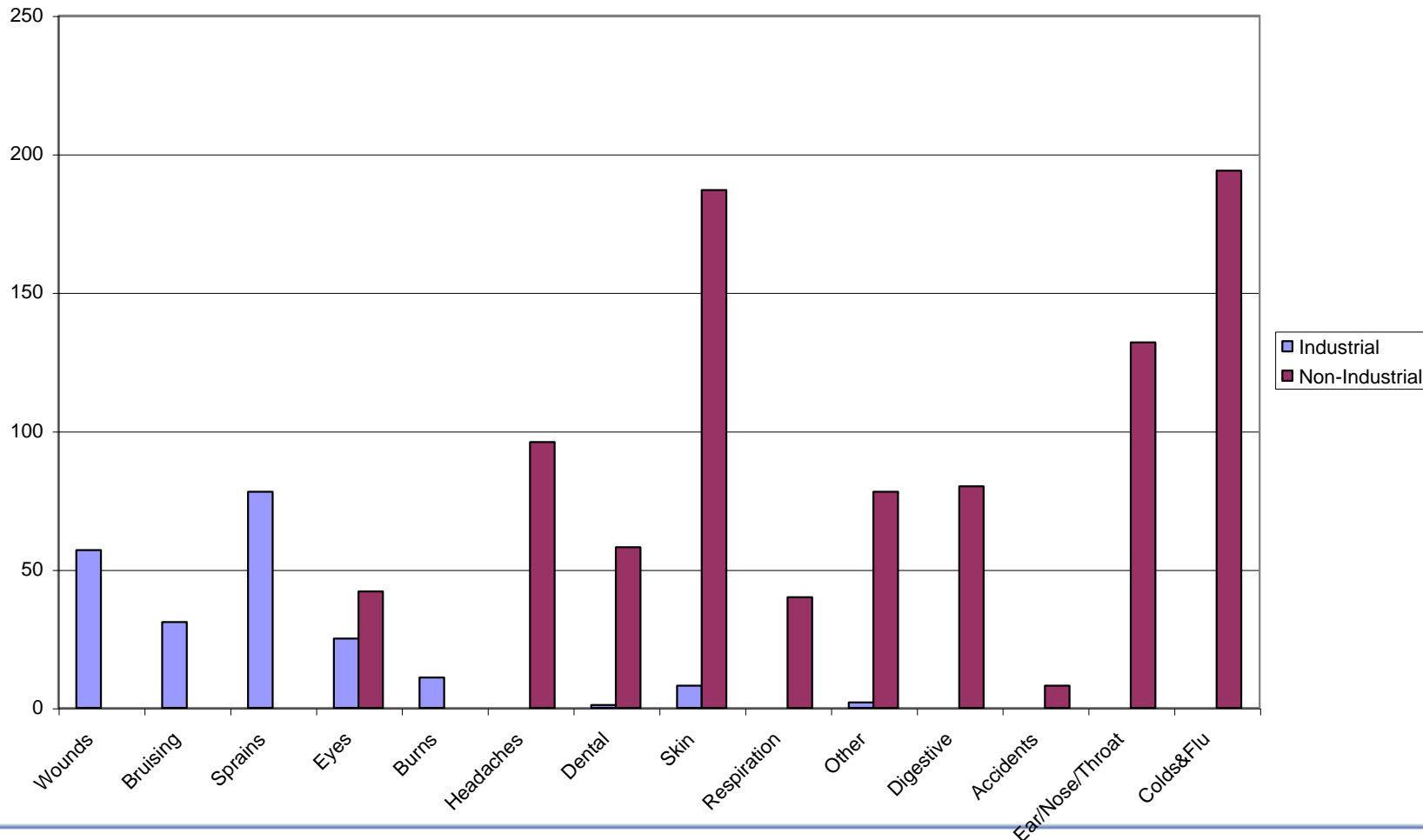


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# Company A; Reason For Medic Consultation For 12 Month Period, May '93 – April '94



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# Occupational Dermatitis



## What is Dermatitis?

- Skin disease
- Sometimes called Eczema
- Occupational dermatitis is the name given to work related skin disease
- 2 main types:
  - Irritant dermatitis
  - Allergic dermatitis



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# Occupational Dermatitis

## Irritant dermatitis

- Caused by contact with irritants e.g. solvents, acids, detergents
- Often resembles a burn
- Accounts for 80% of all dermatitis

## 2 sub-categories

- Acute – one contact/strong irritant/quick reaction
- Chronic – repeated exposure/low levels/ years to develop

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# Occupational Dermatitis



## Chemical

- Mineral oils
- Hydrocarbons
- Cleaning fluids
- Solvents & Adhesives
- Diesel oils
- Lubricating oils
- Oil based drilling mud



*Over 50% of dermatitis cases reported in the Norwegian Petroleum Directorate Annual Report are attributable to oil based mud causing dermatitis on the hands*

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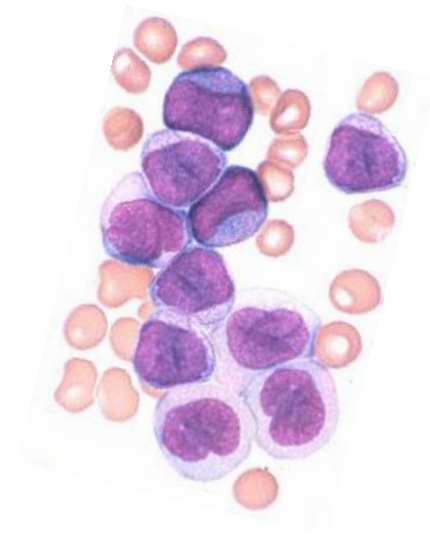
# Occupational Dermatitis

## Allergic dermatitis

- Reaction caused by interaction of allergens and antibodies

## 2 phases

- Sensitisation – penetrates skin – rejected by white blood cells – sensitisation
- Elicitation – allergen penetrates skin again – body produces chemical to eradicate it – causes rash within 48 hours



# Allergic Dermatitis

- Can commonly be caused by cement containing:

## HEXAVALENT CHROMIUM

- Water soluble – easily penetrates the skin
- 10-15% of workers who come into contact will suffer allergic dermatitis
- Use is now regulated



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# Occupational Dermatitis

## What Are The Symptoms of Dermatitis?

**Dryness**

**Itching**

**Redness**

**Swelling**

**Cracked skin**

**Pain**

**Bleeding**

**Blisters**

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# Offshore Workers

## Cold conditions

- Sore and chapped skin
- More vulnerable from irritants and sensitisers

## Hot conditions - sun's rays

- UV-A – causes aging
- UV-B – causes burning



**UV radiation should be considered an occupational hazard  
for people who work outdoors\***

# Offshore Workers

## What are the risks?

**Skin cancer is the most common form of cancer in the UK**

**70,000 new cases diagnosed each year**

**Long-term exposure causes skin damage**

**You are at risk if:**

- You are exposed to long periods of sunlight
- You have fair or freckled skin
- You have red hair, light coloured hair or light coloured eyes



# Workplace Legislation



## Numerous regulations stemming from the Health & Safety at Work Act, 1974

- Workplace (Health, Safety & Welfare Regulations, 1992)
- COSHH Regulations 2002
- RIDDOR Regulations 1995

## HSE's "Directors Responsibility for Health & Safety"

- Legally obliged to provide safe working environment and conduct regular assessments

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# It's In Your Hands Campaign



Joint initiative between HSE and BSIF

Objective to reduce dermatitis:

- 10% in 2008
- 20% in 2010

Proactive approach against dermatitis

- Safe working distance
- 3 step approach to skin care

Seminars throughout UK

Managed by Dr Bob Rajan, HSE

Prevent work-related dermatitis



**Bsif** Certified Participant

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# Preventing Dermatitis



## 5 steps to implementing a Skin Care Management System

1. Conduct an assessment of current work practices and the work practices and the working environment to identify risks and decide whether they can be avoided or minimised
2. Introduce new processes, working practices or PPE as required
3. INTRODUCE A 3-STEP SKIN CARE PROGRAMME
4. Staff training & communication to increase awareness and encourage compliance
5. Ongoing monitoring and review (Skin surveillance)

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# 1. Risk Assessment

- Identify & assess hazards for potential risk to employees
- Consider individuals – some more susceptible than others
- Everyday substances can be a risk





## 2. Procedures & Practices

- Can job be done in safer way?
- Can potential for skin contact be 'engineered out'?
- Consider introducing...
  - Safer alternatives
  - Automation e.g. manual handling devices
  - Dust or fume extraction for airborne substances
  - PPE e.g. gloves, clothing, footwear, eye & head protection
- Put in place processes to minimise identified risks

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# 3. The 3-step Skin Care Programme



Colour-coded to ensure correct product usage

The 3-Step approach

- **Step 1: Protect (Orange)**
- **Step 2: Cleanse (Blue)**
- **Step 3: Restore (Green)**



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# Step 1: Protect

- Apply a pre-work cream before each work period, or after washing hands
- Not a replacement for gloves
- Specialist under-glove creams
- Help protect the skin against irritants
- Make skin easier to clean



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# Step 1: Protect

## UV Exposure – 6 Point Code

- Cover up – protect all exposed areas
- Apply factor 30 sunscreen to all risk areas – face, neck and arms
- Apply to clean, dry skin
- Apply liberally every 2-3 hours
- Drink plenty of water to avoid dehydration
- Check skin regularly for unusual moles/spots



## Step 2: Cleanse

- Apply a hand cleaner at least after each work period, or after visiting the washroom
- Use even after wearing gloves
- Do not use harsh cleansers or substitutes
- Use appropriate cleanser – most workers only need light or medium cleansers
- Dry thoroughly using clean, dry towels



# Step 3: Restore



- Apply an after-work cream at least after the morning & afternoon working periods
- Helps replenish skin's natural oils & prevent dryness
- Use 'Super-Hydrating' creams for hard working or dry skin

*“The regular use of an after-work emollient is probably the best way of reducing the chance of dermatitis occurring if contact with irritants cannot be avoided”*

*(John SC English, ‘A Handbook of Occupational Dermatology’)*

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# 4. Training, Education & Support

- Developing *Skin Care Management System* so much more than right products, right place
- Need staff compliance
- Staff training
  - Educate on dangers
  - Educate on avoidance
- Clearly visible & simple education materials
- Back-up services



# 4. Training, Education & Support

- Skin care video / DVD / CD-Rom
- Information posters
- Do's & Don'ts cards
- Skin Care at Work booklet
- Dispenser 'log-book'
- Skin hydration testing
- Technical Service support



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# 5. Monitor & Review



- Regular reviews
  - One-to-one
  - Recorded
  - Take into account changes in work practices
- Regular audit of facilities
- Demonstrates ongoing 'due diligence' and 'duty of care'



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