

*Essentials of  
Industrial Dermatology*

EDITED BY  
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AND  
D. S. WILKINSON

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## *Preface*

Industrial dermatology as a subject is less than a century old. The Industrial Revolution reached its zenith half a century earlier, and the need for knowledge and expertise in the field of dermatology related to industry became ever more keenly felt in our industrial areas, until the challenge was taken up by a general practitioner in Wigan who had a few dermatological sessions. Dr R. Prosser White published in 1915 the first monograph on the subject. Unfortunately, even today most doctors who have the responsibility of dealing with industrial dermatology problems, both factory medical officers and dermatologists, receive little or no formal training in the subject. This book is primarily intended to meet the needs of the factory medical officer with no specialized knowledge of dermatology. We hope that this volume will also provide those in formal dermatological training with a useful introduction to the subject.

All our contributors have been selected for their experience of working in industrial areas, and throughout we have encouraged a direct practical approach of setting some of the problems of industrial dermatology in the wider context of dermatology in a population of working age. We have deliberately not attempted to cover all aspects of this very specialized subject.

We wish to express our grateful thanks to our many colleagues who have generously given us time and advice in all stages of the preparation of this work.

Keypoints appear at the end of chapters, in italic type.

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# **Chapter 1**

## ***Industrial Dermatitis — a National Problem***

W. A. D. GRIFFITHS

Great Britain is one of the leading industrial nations. It is therefore surprising that of 240 British dermatologists only a small handful have taken a special interest in industrial dermatology. In 1915, Dr R. Prosser White, a general practitioner in Wigan, published a major treatise on the subject, *The Dermatergoses or Occupational Affections of the Skin*. His lead was followed by a few enthusiasts who took the first steps in establishing an industrial dermatology service in this country (Wilkinson 1980). In fact, Scandinavian dermatologists showed an even earlier interest in the subject than British ones. Recognition of the need for a greater intensity of effort in industrial dermatology is beginning to be accepted, partly from a greater awareness of the size of the problem and partly due to the economic implications resulting from sickness in industry. Governmental legislation and pressure from the trade union movement have also provided some impetus to the study of the skin in an industrial context. In a recent survey among dermatologists in training, many of them expressed the need for more instruction in industrial dermatology.

Dermatological disease occupies a very special place among those conditions responsible for time lost from employment. In many instances the problem is preventable, and in the remainder there is a better than average chance of improving the patient sufficiently to allow his quick return to work. The challenge of industrial dermatology can be appreciated by examining the size of the problem from figures which are available to us in the annual statistical returns of the Department of Health and Social Security (DHSS 1981). Whilst one has to accept that caution is required in interpreting the data, they do provide us with information which shows the overall patterns of disease and often reveals some surprises.



Table 1.1 gives an estimate for 1978 for the numbers at risk from industrial disease.

**Table 1.1.** Group estimates for the numbers at risk from industrial disease (1978)

Total work force	25 million
Pensioners	8.6 million
Non-working women and children	16.4 million

### Prevalence of sickness

Spot checks of returned sickness certificates show that on any one day there are about *one million* people off sick. This figure refers only to certified sickness. Since in Britain the first 3 days of any spell of sickness are counted as waiting days and are not certifiable, the actual number of people off sick at any one time can be considered to be in excess of two million.

About 25% of the population at risk (i.e. the working population) make a sickness claim per year, two-thirds of them being for one period of sickness, but a fifth claiming two spells per year. In 1978 this amounted to 220 million working days lost to industry. This enormous figure acquires even greater significance when the economic implications are considered. There is the cost to industry of the loss in productive capacity, there is the cost to the taxpayer of very large sums in sickness benefit. Sickness benefit alone accounted for nearly £100 million in 1978. Unemployment and industrial disputes add an additional and increasing economic burden.

As many doctors are unaware of the categories of sick persons and the types of benefit which are currently payable, some notes on these topics are given.

The first three 'waiting days' are not certifiable and do not count for benefit. The following groups are excluded:

- (a) the elderly;
- (b) members of the Armed Forces;
- (c) mariners while at sea;
- (d) most non-industrial civil servants and Post Office employees

(who do not normally claim sickness benefit until an illness has lasted 6 months);

- (e) married women and certain widows who have chosen not to be insured for sickness/invalidity benefit.

Groups (b), (c) and (d) are not entitled to injury benefit. The *self-employed* make up another important excluded group as they are not insured for industrial injury.

### ***Statutory Sick Pay***

From 6 April 1983, most people who work for an employer and pay Class I National Insurance contributions will not get State Sickness Benefit for the early weeks of sickness. Instead they get 'Statutory Sick Pay' (SSP) from their employers. The first 3 days of an illness are counted as waiting days for which no benefit is payable. The upper rate payable in 1984 was £40.25 per week. After 8 weeks the payment normally stops and the sick person may be entitled to transfer to Sickness Benefit.

### ***State Sickness Benefit***

The current rate of State Sickness Benefit is £25.95 for a man under 60. This amount may be increased by £43.50 for a husband and wife, and other increases are available. By contrast, the unemployment benefit basic rate is £27.05.

### ***Invalidity Benefit***

This is made up of an invalidity pension of £32.60 plus a small supplementary invalidity allowance. It is paid in place of sickness benefit if the person continues to be incapable of work after 28 weeks, and continues up to the age of 65 for men or 60 for women.

### ***Industrial Injury Benefit***

This was abolished in April 1983 and was replaced by Statutory Sick Pay for the first 15 weeks. For certain prescribed industrial diseases, currently numbering 49, an industrial disablement benefit

(see below) may be payable. That relating to dermatology is Prescribed Disease D5 (formerly PD 42), defined as 'non-infective dermatitis of external origin (including chronic ulceration of the skin but excluding dermatitis due to ionising particles or electromagnetic radiations other than radiant heat)'.

### ***Industrial Disablement Benefit***

From 15 weeks after contracting an industrial prescribed disease, Industrial Disablement Benefit may be paid. The degree of impairment is normally assessed by a doctor experienced in industrial problems and is expressed as a percentage disablement. The rates payable range from £55.60 for 100% to £27.80 for 50% and £5.56 per week for 10% or less. If the disablement is 20% or less the benefit is generally paid as a lump sum.

Since this industrial disablement benefit is payable in addition to the ordinary invalidity benefit, the worker will be better off if his dermatosis is judged to be industrial. The doctor's certification of Prescribed Disease D5 should only be made after careful consideration.

### ***Constant Attendance Allowance***

This is an allowance for people who are so seriously handicapped that they need constant care and attention as a result of the effects of an industrial accident or disease.

### ***Exceptionally Severe Disablement Allowance***

This refers to an increase where the constant care and attention is liable to be permanent.

### ***Unemployability Supplement***

If, because of the results of an industrial accident or disease, a patient is likely to be permanently unable to work, he may be entitled to an increase in his Industrial Disablement Pension. It is currently £32.60 per week.

### ***Special Hardship Allowance***

The disablement benefit may be increased to £55.60 per week if the patient is unable to return to his regular occupation or to do work of an equivalent standard. This may apply to many dermatological patients who have been found to be sensitized to something they are working with.

The rates are given only as a guide and will obviously be adjusted from time to time. The point to be emphasized here, however, is that a skilled workman may have to live on much less than he is accustomed to if he is debarred from pursuing his normal work. This makes it imperative for the medical advisors involved to be meticulous in their history-taking, examination and final diagnosis. It is a disservice to the patient to diagnose industrial disease on flimsy evidence. Similarly, it may be appreciated that pressure from the employee's trade union to make a claim may not carry the expected advantages to the individual.

### ***Sickness certification***

A patient with industrial dermatitis (D5) will normally pass through the following stages. His GP will initially provide a 'sick-note'. If a claim is made through the Social Security Office that the dermatitis is due to industrial causes, he will be examined and certified by the examining medical officer, often a GP with experience in industrial problems. After an interval, a local dermatologist may be asked to examine the patient and report whether or not he considers the disease to fall into the category of D5 and whether it is a fresh attack or a recrudescence of a previous attack. The dermatologist is asked to determine whether, as a result of the attack, the patient's skin will remain weakened and, if so, for how long. These questions cause the greatest difficulty in that few studies are available which provide accurate data on which to base a decision. The questions become a matter of opinion, albeit with important consequences for the employee. A rule of thumb often used by dermatologists is that a primary irritant dermatitis may be expected to weaken the patient's skin for 6 months, whilst allergic contact dermatitis will weaken it indefinitely to the particular allergen or chemically related ones. Following the dermatologist's

report an assessment will be made by a local tribunal. A medical appeal tribunal, comprising a lawyer and two doctors, is available to a patient who is not satisfied with this assessment, and this will normally have a senior dermatologist to advise it. Where there is a measure of doubt relating to claims for D5, the decision is often given in favour of the claimant. This reasonable exercise of discretion by the dermatologist may have one negative aspect which must always be considered. Having successfully claimed industrial sickness benefit, the claimant may well be tempted to think that there is no element of doubt in the decision (a conclusion often encouraged by third parties). He may therefore confuse the issue of diagnosis with the potentially more important one of how and why the disease arose. If he believes that the employer was responsible either because his conditions at work were unduly hazardous, or because safety and cleaning facilities were inadequate, he may institute a civil case at law for damages (see Chapter 12). Since the issues arising in a civil claim are likely to be very demanding of the dermatologist, these two aspects of diagnosis and possible compensation should be constantly in mind but clearly separate. In neither case is there room for hurried consultation, skimped history-taking or guesswork.

### ***Type of occupation***

Some occupations are potentially more hazardous than others in terms of the risk of contracting industrial dermatitis. The figures for the number of spells off work due to Prescribed Disease D5 for the period 1979/80 show that in males there were 3890 spells. The industries most at risk were, in order of frequency, mining and quarrying, mechanical engineering, construction, and vehicle manufacture. In the same period for females, there were 1769 spells off work. Due to the different type of work undertaken by females, the industries most at risk differed from the male pattern and were led by professional and scientific services, followed by food, drink and tobacco industries, electrical engineering, and hotels, public houses, snack bars, etc. The problem of the small factory has been well described by Wilkinson (1980):

'Other employees may become restive and a panic situation may seriously disrupt the working capacity of the factory. Small factories without their own medical officers cause problems not easily identified since the individual workers report to different general practitioners who are usually not aware that other workers are similarly affected.'

### *Effect of age*

Unlike most other specialities, the maximum impact of skin disease is on the younger age-group. This can be seen clearly in Fig. 1 which indicates that the maximum number of certified spells off

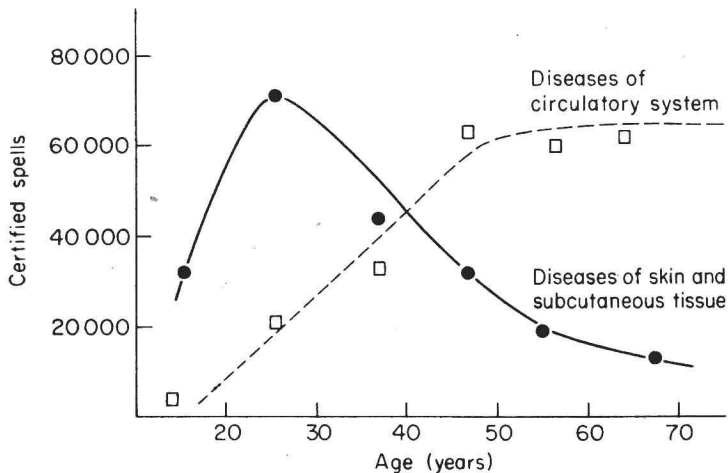
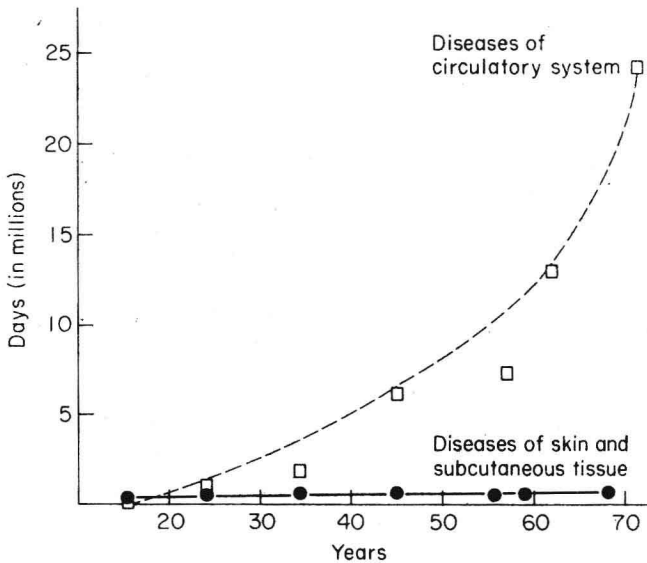


Fig. 1. Spells of certified sickness against age, 1977/8.

work for skin diseases occurs amongst 20- and 30-year-olds. For comparison, circulatory diseases are also shown to have a steadily increasing incidence with age. A most important factor emerges when the number of days actually lost is examined as opposed to the number of spells off work. For dermatological diseases the number of days lost is low and remains so with increasing age. By contrast, diseases of most other systems cause a considerable and



**Fig. 2.** Days of certified sickness against age, 1977/8.

steadily increasing loss of working days with increasing age (Fig. 2). It is clear from these two figures that it is possible by early diagnosis and treatment to improve the condition of patients with skin disease and return them back to work, in contrast to the degenerative disorders.

### ***Regional variation***

Industrialization varies in different parts of Britain but areas with economic and social problems tend to show a higher degree of morbidity not wholly accounted for by the level of industrialization and population densities. Two health service regions shared the position for the highest number of certifications for industrial dermatitis with almost double the national average. These were the North West and Yorkshire & Humberside regions.

### ***Trends***

Newhouse (1972) pointed out that the number of days lost from industrial dermatitis had fallen between 1953 and 1969 by 40% but

**Table 1.2.** Days of work lost from industrial dermatitis (ID5), males only

1953/4	780,000
1971/2	400,000
1977/8	200,000

still exceeded the number due to all other prescribed diseases by the ratio of nearly 3:1. This trend has been continued but has levelled off at 25% of the 1953 level (Table 1.2). It is not clear whether the fall is due to more discerning diagnosis of industrial dermatitis or whether it is a genuine fall due to greater awareness of industrial hazards to the skin.

The present position is far from satisfactory, however, as industrial dermatitis in 1977/8 accounted for 75% of days lost for all prescribed diseases.

### ***How may things be improved further?***

The establishment of the International Contact Dermatitis Research Group (ICDRG) has helped to pinpoint new dermatological hazards in industry at an early stage before the problem has become widespread and has sometimes enabled a small change in technology to avoid the hazard completely. It has also focused attention on the industrial aspects of dermatological practice. Malten *et al.* (1971) reported on 4000 patients with eczema from five European centres participating in the ICDRG and found that industrial dermatitis accounted for 19.1% of all cases seen, excluding housewives' dermatitis. They emphasized that the figures were likely to underestimate the risk to certain groups such as the self-employed who tend to tolerate their dermatological problem until they are forced to stop work.

Several centres in Great Britain have established specific industrial dermatitis clinics. Wilkinson, Budden & Hambly (1980) have collected figures from their own experience over 10 years, and found that of the patients referred to them with possible industrial dermatitis the diagnosis was probably correct in 70%. The proportion of irritant to allergic contact dermatitis varied widely according to the industry. In engineering they found 60 irritant dermatitis



cases to 21 allergic, and in hairdressing 12 irritant to five allergic. The proportion was reversed in other industries such as furniture manufacture with 36 irritants to 75 allergic, and in the rubber and plastics industry with nine irritants to 25 allergic. Fifty per cent of their patients gave one or more positive reactions when tested to the ICDRG Standard Battery of patch tests. Interpretation of the results can sometimes be very difficult (see Chapter 3).

Certain individuals seem particularly prone to develop skin problems in industry. Hannuksela (1980) reported on the susceptibility of atopic subjects. He suggested that atopic individuals coming into contact with foodstuffs may develop a variety of cutaneous reactions including contact urticaria with a typical weal and flare, but also a dermatitis resembling other types of contact dermatitis. The place of constitutional skin disease in industry is considered in Chapter 4.

Progress may be expected if current interest in industrial dermatology is maintained. The special needs are for more accurate identification of the risk factors, (a) in the external working environment and, equally as important, (b) in the susceptibilities of individual types of skin. Zschunke (1980) has stressed five principles for the better management of industrial dermatitis which we fully endorse. They are:

- 1 improvement in technology
- 2 improvement in personal protection
- 3 elimination and replacement of noxious materials
- 4 legislation
- 5 information and instruction

### ***Information***

Any social security office is able to provide the following useful pamphlets for more detailed information:

- NI 196 Social Security Benefit Rates
- NI 16 SSP and Sickness Benefit
- NI 16A Invalidity Benefit
- NI 2 Industrial Injuries: Prescribed Industrial Diseases
- NI 6 Industrial Injuries: Disablement Benefit and Increases
- NI 10 Industrial Injuries: Industrial Death Benefits