

Survey of patch testing in Scotland

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We have surveyed Scottish dermatologists to establish the extent of patch testing, to assess the reasons for referral and to document resources and methods used by dermatologists. 104 questionnaires were sent to members of the Scottish Dermatological Society. 82 questionnaires (79%) were returned. 50% of respondents were consultants, 27% were trainees and 23% held staff grade or clinical assistant positions. The mean waiting time for a patch test appointment was 4.5 months. The most frequent reasons for patch testing were localized eczema, eczema not responding to conventional treatment, occupational eczema, history of contact sensitivity and eczema of uncertain cause. 17 of 82 respondents (21%) were the principal clinicians supervising patch testing in their hospitals. 11 of 17 read reactions at 2 and 4 days. Mean time spent on advising patients was 13 min per patients. 7 of 17 were dissatisfied with resources available for patient education and 16 of 17 felt they would benefit from a central source for patient information. Only 4 of 17 centres recorded patch test results on a database and 3 centres regularly reviewed their patch test results. In conclusion, we have identified areas of patch testing that require further improvement.

Key words: patch testing; audit; survey; questionnaire; patch testing methods; reasons for patch testing; resources. © Munksgaard, 2000.

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Patch testing is critical for the investigation of allergic contact dermatitis. Patch testing is common in dermatology departments in Europe, but there have been few studies on the extent of patch testing, and the methods of patch testing used by individual investigators.

The decision to patch test depends on a variety of factors, such as the experience of the referring clinician and available resources. Standardization of materials and techniques has made patch testing more accurate and reproducible, but it is not yet clear which categories of patients benefit most from patch testing. We have surveyed Scottish dermatologists to establish the extent of patch testing in Scotland, to assess the reasons for referral for patch testing and to document resources and methods used by dermatologists. The information from this questionnaire may be useful in the development of guidelines for patch test referral and may form a basis for future patch testing audit.

Materials and Methods

A questionnaire was designed, pre-tested and modified. Questions assessed basic demographic information, reasons for referral, and resources

and methods for patch testing. The questionnaire was distributed to all members of the Scottish Dermatology Society who practised in Scotland. Scotland was chosen as the study area because it is geographically well-defined and has separate National Health Service funding.

Results

104 questionnaires were sent, and 82 were returned (79% response rate). Patch testing was performed by all respondents. The extent of patch testing among non-responders was not known as questionnaires were anonymous. 50% of respondents were consultants, 27% were trainees (registrars or senior house officers) and 23% held staff grade or clinical assistant positions. 12% had a major interest in contact dermatitis and 53% claimed a minor interest in the subject. 96% of patch testing was done within the same hospital trust. The mean waiting time for a patch test appointment was 4.5 months (Fig. 1).

Reasons for referral for patch testing

Factors influencing the decision to refer patients for patch testing are shown in Tables 1–3.

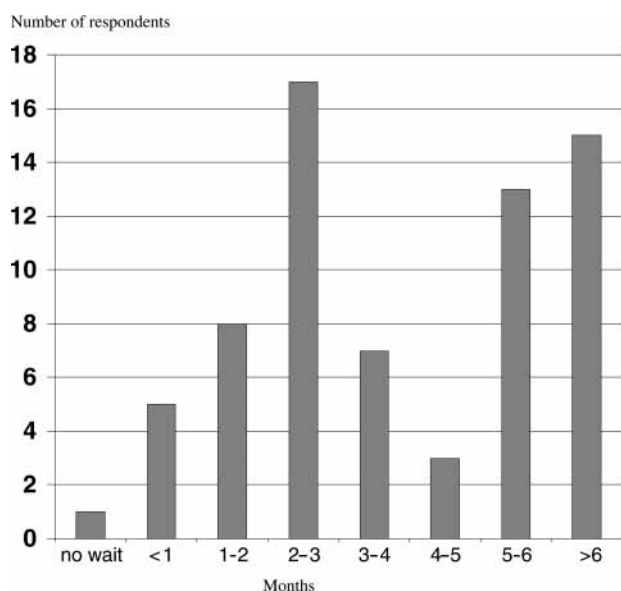


Fig. 1. Waiting time for patch testing

Table 1. Responses to the question: "Which factors in the patient's history would make you more likely to refer for delayed hypersensitivity patch testing?" (chosen from a list)

Factors	No. positive responses
eczema localized to particular body site	81 (99%)
eczema not responding to conventional treatment	79 (96%)
history of medicament sensitivity	78 (95%)
skin reaction after contact with fragrances	72 (88%)
skin reactions after contact with costume jewellery	65 (79%)
skin reaction after contact with Elastoplast	62 (76%)
duration of eczema greater than 1 year	49 (60%)
patient keen for patch testing	27 (33%)

Method of patch testing

17 of 82 respondents (21%) were the principal clinicians supervising patch testing in their hospitals. Finn Chambers were used in all centres and Scanpor (11 of 17) was the most common adhesive tape used. Chemotechnique was the main allergen supplier (13 of 17) followed by Hermal (4 of 17). 11 of 17 read reactions at day 2 and day 4, 1 read reactions at day 2 and day 3 and 5 did single reading (1 at day 2, 3 at day 3 and 1 at day 4). All patch test responses were read by doctors except in 1 centre where the 2nd reading was read by a nurse. All centres gave verbal and written allergen avoidance advice to their patients. 9 of 17 clinicians supervising patch testing indicated they would patch test pregnant women, if necessary.

Resources for patch testing

3 centres patch tested more than 500 patients per year, 5 centres less than 100 patients per year and

the median was between 201 and 300 patients per year. Average time spent on advising patients was 13 min per patient (range from 5 min to 30 min). 10 of 17 patch testing dermatologists wrote their own patient information sheets, 11 obtained information from books and 9 from another patch test unit. 7 of 17 were dissatisfied with resources available for patient education and 16 of 17 felt they would benefit from a central source of patient information. The responses to questions on support staff and review of patch test results are shown in Table 4.

Discussion

This survey demonstrates that patch testing is widely practised in Scotland. In contrast, more than a quarter of North American dermatol-

Table 2. Responses to question: "Which factors in the patient's history would make you less likely to refer for delayed hypersensitivity patch testing?" (chosen from a list)

Factors	No. positive response
regular oral prednisolone – 30 mg/day	63 (77%)
age less than 14	55 (67%)
regular oral prednisolone – 7.5 mg/day	29 (35%)
patient keen for allergy testing	24 (29%)
age greater than 65	21 (26%)

Table 3. Responses to question: "In which of the following conditions would you organize delayed hypersensitivity patch testing, in the majority of patients you see with the conditions?"

Conditions	No. positive responses
occupational eczema	75 (92%)
eczema localised to a particular body site	72 (88%)
eczema not responding to conventional treatment	71 (87%)
leg ulcer	65 (79%)
hand eczema	65 (79%)
classical textile allergy	57 (70%)
eczema of uncertain cause	52 (63%)
pruritus vulvae	44 (54%)
photosensitive dermatitis	44 (54%)
classical nickel allergy	37 (45%)
adult atopic eczema	32 (39%)
orofacial granulomatosis	32 (39%)
discoid eczema	11 (13%)
pigmented purpuric dermatosis	7 (8%)
urticaria	7 (8%)

Table 4. Responses to resource questions

Questions	Yes	No
Do you have dedicated nursing staff?	65%	35%
Do you record results in a database?	23.5%	76.5%
Do you regularly review results?	18%	82%
Do you regularly review patch test materials?	59%	41%

Table 5. Summary of conditions that were routinely referred for patch testing

eczema localized to a particular body site
eczema not responding to conventional treatment
occupational eczema
history of contact sensitivity
eczema of uncertain cause

ogists in 1990 did not refer patients for patch testing (1). The findings of this study shows that there is agreement on conditions that should be referred for patch testing and these are summarized in Table 5.

20% of childhood eczema may be due to contact factors (2) and atopy may be a predisposing factor for contact hypersensitivity (3–5). Patch testing has been demonstrated to be a useful investigation in childhood dermatitis, and allergen avoidance leads to improvement of dermatitis (6). Despite this, our study demonstrates that many dermatologists were reluctant to patch test patients less than 14-years-old. This may be due to underestimation of prevalence, but practical difficulties (i.e., missing school or accompanying adult missing work) of patch testing children may also be important.

To date, there is conflicting information on prevalence of allergic contact dermatitis in the elderly population (7–9). There is evidence to suggest increasing age is associated with decreased delayed hypersensitivity reactions (10) and reduced ability to be sensitized by new allergens (11). However, it has also been shown that contact dermatitis in elderly patients is often due to multiple allergens (9), and patch testing therefore remains an important investigation in the elderly, although some elderly patients may be too frail to attend hospital.

The study demonstrates mixed opinions on the subject of patch testing pregnant women. Some dermatologists may be reluctant to patch test pregnant women due to fear of litigation in the case of foetal loss or malformation. There is no evidence to suggest that patch testing is dangerous although there is anecdotal evidence to confirm the safety of the procedure in pregnancy. There is a case report of patch test reactions varying with the menstrual cycle (12) and the oral contraceptive pill is thought to be associated with increase sensitivity to di-nitrochlorobenzene (13). This suggests that patch testing in pregnancy is, at best, unpredictable and we would at present recommend deferring patch testing in pregnant women if possible.

Systemic corticosteroids are effective for the treatment of allergic contact dermatitis and likely to suppress patch test reactions. It has been demonstrated that prednisolone above 30 mg per day is associated with a reduction of patch test reaction

in 10 out of 18 patients (14). Most dermatologists do not patch test patients on prednisolone 30 mg/day and 1/3 of those surveyed do not patch test patients on prednisolone 7.5 mg/day. There is insufficient evidence at present to provide guidelines, but, if possible, patch testing should be deferred until completion of systemic and topical corticosteroid treatment.

Few respondents would refer patients with discoid eczema for patch testing, although one study suggests there may be benefit (15). A high number of respondents indicated they would refer patients with orofacial granulomatosis and urticaria for patch testing; this is likely to be due to local research interests.

Controversies remain on an optimal patch test reading schedule. It is generally accepted that 2 readings should be performed and a 3rd reading at day 5 may add further positive results (16). A single day 2 reading is associated with the loss of up to 1/3 of positive reactions and irritant reactions can mistakenly be considered allergic (17,18). Most Scottish centres read tests at day 2 and day 4, but 5 centres read tests on only 1 occasion. It is not possible to determine whether the number of patch test readings were limited due to geographical or resource restrictions (the respondents were anonymous), but the long waiting times for patch testing suggest resources are constrained in Scotland. It is important that patch testing is adequately financed to permit a high quality diagnostic service for all patients in the area.

The majority of Scottish dermatologists would like to have access to a central source of patient information, though at present there is no such facility in the United Kingdom. One suggestion would be for the British Contact Dermatitis Group to provide consensus patient information leaflets, but appropriate counselling remains essential.

A recent audit suggests the minimum referral rate for patch testing in a developed country should be 1:700 per population (19). The same study also finds a linear relationship between number of referrals and positive yield. Rietschel suggests the appropriate use of this service is for yield to be between 30% to 60% (20). With many areas already experiencing long waiting lists for patch testing, there is a need for improved resources and cost-benefit analyses of existing resources. Audit of patch test results is time consuming and not regularly performed by Scottish dermatologists. Computerized record keeping should help retrieval of patch test data and simplify the audit process.

In conclusion, this study has identified conditions that should be referred for patch testing and areas of patch testing that require further im-

provement. The findings from this survey may form the basis for future audit.

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