Views and Practice

Residents’ pocket card guide to improve eczema prescription: our experience in a tertiary hospital dermatology clinic

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Introduction

We introduced a "Resident's guide to prescribing in eczema" in response to mounting residents' concerns with prescribing in dermatological conditions. This simple yet practical guide reduced prescription intervention rates significantly (7.6% from 86.7%) and was well-received by residents. Practical guides such as these are feasible educational tools to cultivate and establish proficient prescribing skills in residents.

As Dermatology postings during undergraduate and postgraduate trainings are traditionally short, many residents find prescribing for skin conditions a daunting challenge. In our institution (National University Hospital, Singapore), residents of the Internal Medicine (IM) programme rotate through the University Dermatology Clinic for a minimum of two weeks out of the 3-year programme. We aimed to introduce measures to improve residents' confidence in prescribing for eczema, a quintessential dermatological condition.

This was a qualitative study on residents' prescribing abilities in eczema and how a simple pocket guide could improve this. We designed the "Resident's guide to prescribing in eczema" which included the following conditions: atopic eczema, venous eczema, stasis eczema, contact allergic eczema and irritant contact eczema. It was a durable A5 pocket-sized guidebook (Figure 1) designed to allow for ease of reference whenever required. It contained practical advice pertaining to eczema severity (pictorial guide), treatment options (in particular topical corticosteroid strengths and formulations), lifestyle advice and special considerations (i.e. clinical pearls). This guide was distributed to all residents on Day 1 of their dermatology posting with instructions to familiarise themselves with it.

During the rotation, all patients with a diagnosis of eczema receive a preliminary prescription (P1) by a resident. As per usual clinic protocol, a dermatology consultant will subsequently review the case together with the resident, and an intervention to the prescription (P2) will be made if deemed necessary. We performed a comparative analysis of both prescriptions (P1, P2) and compared the results to a control group of residents who had not received the guide. We also surveyed the residents on their experience using the guide.

A total of 66 prescriptions by 15 residents were collected. Five (7.6%) prescriptions required
### Resident's Quick Guide to Prescribing for Eczema

<table>
<thead>
<tr>
<th>Severity</th>
<th>Description</th>
<th>Pictorial Example</th>
<th>Example steroid prescriptions</th>
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</table>
| Mild     | - Mild erythema, scaling, oedema                                             | ![Mild Eczema Example](image1) | Mildly potent:  
1. Betamethasone Valerate 0.025-0.05% Cream BD +/- 3% Clioquinol  
2. Hydrocortisone 1% BD  
3. Desonide 0.05% lotion BD |
|          | - Limited BSA                                                                |                   |                                                                  |
|          | - Minimal impact on sleep, daily activities, psychosocial well being         |                   |                                                                  |
| Moderate | - Moderate erythema, scaling, oedema                                          | ![Moderate Eczema Example](image2) | Moderately potent:  
1. Betamethasone Valerate 0.1% Cream BD  
2. Mometasone 0.1% cream/lotion (Eomet)  
3. Fluticasone propionate OD |
|          | - Larger BSA                                                                 |                   |                                                                  |
|          | - Localized skin thickening                                                  |                   |                                                                  |
|          | - Moderate impact on sleep, daily activities, psychosocial well being         |                   |                                                                  |
| Severe   | - Widespread BSA                                                             | ![Severe Eczema Example](image3) | Very potent:  
1. Betamethasone Diproprionate 0.05 cream/ointment BD  
2. Clobetasol Propionate 0.05% cream/ointment bd |
|          | - Extensive erythema                                                         |                   |                                                                  |
|          | - May be associated with vesicles, bleeding, oozing, cracking & lichenification |                   |                                                                  |
|          | - Incipient itch                                                             |                   |                                                                  |
|          | - Severe impact on sleep, daily activities, psychosocial well being          |                   |                                                                  |

### For all patients

1. **Avoidance of trigger factors (where feasible)**
   - Irritants: Soaps, detergents, disinfectants
   - Allergens: Pets, dust mites, pollen, mold
   - Weather: Heat, high/low humidity
   - Stress

2. **Moisturisers**
   - Apply 2-3 times a day, after shower and at bedtime.
   - Examples: Aquous cream, urea cream
   - Consider white soft paraffin if dry +++

3. **Itch**
   - Consider sedative antihistamines at bedtime, e.g. chlorpheniramine 4-8mg ON, Hydroxyzine 10-25mg ON (caution in elderly)

### Special considerations

1. **Sensitive areas (Face, eyelids, skin folds)**
   - Consider topical calcineurin inhibitors, e.g. tacrolimus ointment
   - Consider very mildly potent steroids: e.g. Desonide ointment 0.05%, Betamethasone valerate 0.025%

2. **Thick/hyperkeratotic lesions**
   - Consider salicylic acid 1% or 5%, diprosalic ointment

3. **Superimposed infection/ open wound**
   - Consider: PP wash or compress bd
   - Consider fusidic acid cream or betamethasone valerate/clioquinol cream

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**Figure 1.** Resident's guide to prescribing in eczema.
intervention by a consultant (Figure 2). The prescriptions requiring intervention are represented in Figure 3. For topical corticosteroids, four (6.1%) prescriptions which prescribed a corticosteroid required intervention; of these, three required an "upgrading" of class, and one required "downgrading" from class 4 to class 2. Only two (3%) prescriptions were intervened to add on antihistamines. No intervention was necessary for moisturisers or oral agents. In comparison, the control group had an overall intervention rate of 13 out of 15 residents (86.7%). Of the 10 residents who responded to the survey, eight found the guide "useful"/"very useful" and 9 would recommend it to a fellow resident.

Skin diseases are major contributors of disease burden in society, affecting people of ages. Collectively, they are the 18th leading cause of health burden worldwide and 4th leading cause of non-fatal health burden globally in 2010. As dermatological conditions are frequently chronic in nature, they can have significant psychosocial and financial impacts. These problems are compounded by inappropriate and/or irrational prescription of medications.

In our study, we showed that implementing a simple intervention such as this guidebook can have demonstrable benefits. The overall intervention rate dropped from 86.7% in the control group, to 7.6% in the group that received the guidebook. We postulate that gaining knowledge and familiarity for prescribing for dermatological conditions is not difficult; it is the lack of exposure to these conditions in the general ward and practical clinical guidance that perpetuates this notion. In addition, the guidebook was well-received with 9 out of 10 residents stating that they would recommend it to a fellow resident.

A prescription is essentially a written instruction by a qualified medical professional with the intent to provide medication or treatment for the benefit of the patient. If reflects the doctor's knowledge and attitude towards the patient, taking into account his/her physical and financial condition. If a doctor does not feel confident in his or her prescribing abilities, this will likely have downstream effects on a patient's well-being.

We recognise several limitations of our study. Our sample size is small and limited to internal medicine residents in a single hospital. Furthermore, our study focused on a single
dermatological condition. Although the results may not be generalisable to all residents and conditions, our study demonstrates that tailored interventions such as this, has potential to have far-reaching effects. The strengths of this study are twofold: Firstly, it is the first study to our knowledge to observe residents' prescription writing for eczema, a specific dermatological condition. Secondly, real clinical patients, not hypothetical scenarios where residents may react differently, were conducted.

In conclusion, this guide reduced prescription intervention rates and was favoured by residents. Finally, as residency training is a time when practice habits are cultivated and established, training programmes should place a greater emphasis on fostering confidence on prescribing, a key skill for all physicians. These practical guides are a feasible educational tool to enhance residents' learning experience.

Reference