

## **METHYLISOTHIAZOLINONE: NOT ONLY A EUROPEAN UNION ALLERGEN**

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Since its introduction in the early 1980's, thylchloroisothiazolinone/methylisothiazolinone (MCI/MI) has been identified as an important preservative contact allergen. In the early 2000's, methylisothiazolinone (MI) alone was introduced in industrial products (paints, cutting oils, glues) and in 2005, it was approved for preservation of cosmetic and household products at concentration of 100 ppm. In contrast, when combined with MCI, the MI maximum permitted concentration in cosmetics is 3.75 ppm, a much lower concentration. Recent studies have shown that the eliciting concentration of MI contact allergy can be as low as 10 to 49 ppm. In 2010, the first cases of cosmetic-related contact allergy to MI alone were published. Patch testing to MCI/MI but not MI alone can miss MI contact allergy due to the low concentration of MI in the patch test substance. The addition of MI alone to a screening allergen series in the U.S. is recommended and likely to uncover otherwise undiagnosed cases of allergy. We will discuss some illustrative clinical cases and present a review of the literature to demonstrate these concerns and increase awareness of MI alone as an important allergen. Likely if we look (and test), we will find a surprising rising prevalence of MI contact allergy, as our European colleagues have before us.

## **ALLERGIC CONTACT DERMATITIS DUE TO AN OSTOMY BARRIER SPRAY**

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Background: Over 1.5 million people worldwide are living with ostomies currently. Peristomal skin complications are common and can greatly affect a person's quality of life.

Objective: To present data on a 35 year old woman with persistent peristomal dermatitis.

Methods: Patch testing was performed to the following: a modified NACDG standard, cosmetic, fragrance, plastic/glue, epoxy, acrylate, rubber series, and the patient's Adapt Stoma Powder®, Adapt Barrier Ring®, New Image Cut-to-Fit Flextend Skin barrier® and 3M Cavilon No-Sting Barrier Spray®.

Results: She showed the following reactions: 3+ bullous to Cavilon No-Sting Barrier Spray® (48 and 72 hours; crusted erosion at 1 week), 1+ colophony and triethanolamine (72 hours), and 1+ benzoyl peroxide and propylene glycol (96 hours). The ingredients of the Cavilon No-Sting barrier spray® include hexamethyldisiloxane, isooctane, acrylate terpolymer (trade

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secret ingredient), and polyphenylmethysiloxane copolymer. 3M denied presence of colophony, benzoyl peroxide or propylene glycol in their product.

Conclusion: Given our patient's bullous reaction to the barrier spray, we cannot rule out an extreme irritant reaction to this product. It is concerning that a stay-on product meant for direct skin application in patients using stoma appliances, could cause such a response. Patients with peristomal dermatitis should always undergo patch testing to their ostomy products. In this case, had our patient not been tested to the Barrier Spray, we would have not elucidated the prime cause of her dermatitis.

## **ALLERGIC CONTACT DERMATITIS FROM ETHYLHEXYLGLYCERIN**

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Ethylhexylglycerin is used as a surfactant and antimicrobial in skin care products. It is reportedly used at concentrations up to 2% in leave-on products and 8% in wash-off products. There are three published reports of allergic contact dermatitis from this chemical. Two reports utilized patch tests with ethylhexylglycerin 5% in petrolatum; one used 10% pet. Including all three reports, there were 55 negative control patients.

We report a 66 year old female with a history of recurrent dermatitis worsened by sun exposure, usually while wearing sunscreens. Previous patch testing with the T.R.U.E.® Test was positive with methylchloroisothiazolinone/methylisothiazolinone (MCI/MI) and tixocortol pivalate. She avoided these, but her dermatitis persisted.

More comprehensive testing was subsequently performed with a 75 allergen baseline series, her skin care products, and additional cosmetic and fragrance ingredients. Photopatch testing of active sunscreen ingredients was also performed. She had positive patch tests with ethylhexylglycerin 5% pet (Sensiva® SC 50, >99% purity) and with both a Clinique and Neutrogena sunscreen, neither of which contained MCI/MI, but both of which contained ethylhexylglycerin. She also had positive patch tests with ethylhexylglycerin 1% and 0.1% in ethanol and 0.1%, and 0.01% in water. Glycerin 10% aq. was negative. Her dermatitis improved after avoiding ethylhexylglycerin.

30 other patients with suspected contact dermatitis from skin care products were also tested with ethylhexylglycerin 5% pet. All had negative results.

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## **AIRBORNE ALLERGIC CONTACT DERMATITIS TO TYLOSIN IN PHARMACY COMPOUNDERS**

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Tylosin is a broad spectrum macrolide antibiotic that is restricted to veterinary use. It is used to treat swine dysentery, respiratory infections in poultry and is mixed in animals' feed or water. Allergic contact dermatitis caused by tylosin has been reported in the literature from the farming industry and veterinary medicine. It is also reported as the most common antibiotic to cause allergic contact dermatitis in the above mentioned occupational settings. We present two cases of airborne allergic contact dermatitis from tylosin among veterinary pharmaceutical compounding technicians. To our knowledge only one other case of patch test confirmed tylosin allergy has been reported in the manufacturing setting. Our cases highlight the importance of patch testing in pharmaceutical compounding workers. Airborne allergic contact dermatitis may be of greater incidence given that the exposure is to the powdered form of potential allergens. Moreover, cross-sensitization among clinically relevant macrolide antibiotics may be a concern.

## **SYSTEMIC BLOODWOOD EXPOSURE PRECIPITATING FIXED DRUG ERUPTIONS (FDE)**

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We present a case of a 56-year-old female lumberyard owner who experienced several pruritic targetoid erythematous plaques on her palms, dorsal left foot, back, mouth, and legs, five days

after systemic exposure to bloodwood. Two years earlier, she was found to be patch test positive to several exotic woods, including blackwood. Upon reexamination in 2011, her lesions resembled multiple fixed drug eruptions (FDE) and were biopsy proven. She again reacted strongly to multiple exotic and domestic woods upon re-patch testing. This represents an interesting case of a FDE caused by systemic exposure to an allergen, to which the patient was previously found to be patch-test positive.

## **STABILITY OF SELECTED VOLATILE CONTACT ALLERGENS IN DIFFERENT PATCH TEST CHAMBERS UNDER DIFFERENT STORAGE CONDITIONS**

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Patch test preparations of volatile substances may evaporate during storage thereby giving rise to reduced patch test concentration.

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**Objectives:** This study investigated the stability of selected acrylates/methacrylates and fragrance allergens in 3 different test chambers under different storage conditions.

**Methods:** Petrolatum samples of methyl methacrylate (MMA), 2-hydroxyethyl methacrylate (2-HEMA), 2-hydroxypropyl acrylate (2-HPA), cinnamic aldehyde and eugenol patch test preparations were stored in 3 different test chambers (IQ-chamber, IQ Ultimate and Van der Bend transport container) at room temperature and in a refrigerator for up to 7 days and analyzed by High Pressure Liquid Chromatography (HPLC).

**Results:** The decrease in concentration was substantial for all five allergens under both storage conditions in IQ-chamber and IQ Ultimate, with the exception of 2-HEMA during storage in the refrigerator. For these 2 chamber systems the contact allergen concentration dropped below the stability limit in the following order: MMA, cinnamic aldehyde, 2-HPA, eugenol and 2-HEMA. In the Van der Bend transport container, the contact allergens exhibited acceptable stability under both storage conditions, while MMA and 2-HPA required cool storage for keeping the limit.

**Conclusion:** The Van der Bend transport container was the best device for storage of samples of volatile contact allergens.

## **ALLERGIC CONTACT DERMATITIS AND PATCH TESTING EDUCATION IN US DERMATOLOGY RESIDENCIES IN 2010: A SURVEY**

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**Background:** The state of allergic contact dermatitis (ACD) education has not been formally examined since the original study done by High et al in 2002.

**Objective:** To characterize the current state of ACD and patch testing education in US dermatology residency programs and to determine if there has been any significant improvement over the past 8 years.

**Method:** Survey of ACD education and patch testing practices in US dermatology residency

programs.

Results: Surveys were sent to program directors and chief residents at all 112 US dermatology residency programs. Of the 224 surveys sent out, 105 (46.88%) were returned. There were several statistically significant changes from the 2002 survey. More faculty members who are designated as ACD experts are now members of the American Contact Dermatitis Society (ACDS). Fewer programs now routinely review contact dermatitis specific journals. Residents are now more likely to receive didactic lectures on ACD. Program directors estimated graduating residents will now be less likely to perform the TRUE Test in practice, and although

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not statistically significant, program directors also estimated an increase in the number of residents that will use expanded tests.

Conclusions: Although some areas of ACD education have improved over the past 8 years, opportunities to further improve remain.

### **MAKING CONTACT TO ENHANCE CONTACT DERMATITIS – A SURVEY OF ACDS MEMBERS**

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To characterize members of the American Contact Dermatitis Society with respect to background, patch-testing practices, and sentiments regarding the society and its journal *Dermatitis*, we queried ACDS members for information that may guide and improve policy decision-making by officers of the society and its journal. The study was approved by The University of Texas Southwestern Medical Center Institutional Review Board. A one-page survey was sent to 650 members from the United States via postal mail accompanied by a stamped, self-addressed envelope for return. The same survey was sent to 72 international members via the internet. Descriptive statistics were used to analyze the data collected. Findings were also tested for significance using analysis of variance.

To date, we have received 229 responses (35%) from American members, of whom 25% identified themselves as academicians and 62% as community-based practitioners. Preliminary data suggest several trends and interesting insights, all of which will be presented at the annual meeting based on the entire complement of responses received at that time.

### **CONTACT DERMATITIS TO TOPICAL MEDICAMENTS: A RETROSPECTIVE CHART REVIEW FROM THE OTTAWA HOSPITAL PATCH TEST CLINIC**

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Background: Topical medicaments are frequently used and are a common cause of allergic contact dermatitis. This study will evaluate the prevalence of contact allergy to a wide array of topical medicaments and identify sources at the Ottawa Patch Test Clinic.

Methods: Patients were tested with the standard North American Contact Dermatitis screening series of 70 allergens plus supplementary allergens when indicated. A retrospective chart review of patients positive to topical medicaments between Jan 1, 2000 and Sept 30, 2010 was undertaken.

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Results: The average age of patients was 49.5 (N=100). 34% were atopic. Common sensitizers included topical antibiotics (59%), steroids (31%), anaesthetics (6%) and antifungals (6%). Patch testing showed that 61% of patients tested positive to antibiotics, 20% tested positive to topical steroids, 16% tested positive to topical anaesthetics and 1% of people tested positive to topical antifungals. The two most common positive reactions were to bacitracin (26%) and neomycin (18%). The most common positive reaction to a steroid screener was tixocortol-17-pivalate (group A) (11%), and the most common local anesthetic was lidocaine (7%).

Conclusion: Topical medicaments of all kinds are common causes of allergic contact dermatitis. Those that are more readily available, over the counter, are the most frequent culprits.

### **COBALT RELEASE FROM IMPLANTS AND CONSUMER ITEMS AND CHARACTERISTICS OF COBALT SENSITIZED DERMATITIS PATIENTS**

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Introduction: Cobalt allergy is prevalent in dermatitis patients. Little documentation exists about sources of cobalt exposure.

Objectives: To investigate putative sources of cobalt exposure and to present selected epidemiological data on cobalt allergy from patch tested dermatitis patients in an attempt to better understand cobalt allergy.

Materials and Methods: Dermatitis patients aged 4-99 years were patch tested with nickel, chromium or cobalt between 1985 and 2010. The cobalt spot test was used to test for cobalt ion release.

Results: 6 of 8 dental alloys and 10 of 98 revised hip implant components released cobalt whereas very few metallic consumer items gave positive reactions. Clinical relevance of positive cobalt test reactions was difficult to determine in the majority of patients. Isolated patch test reactivity to cobalt was less associated with occupational dermatitis and hand eczema than patch test reactivity to cobalt in combination with other contact allergies.

Conclusions: It is often difficult to interpret the relevance of a positive patch test to cobalt and there is a need for further studies to determine sources of cobalt exposure.

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### **PREVENTION OF AIRBORNE PROPOLIS-INDUCED ALLERGIC CONTACT DERMATITIS WITH BARRIER CREAM**

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Introduction: Airborne contact dermatitis from propolis can occur in non-beekeepers and may be preventable with use of a barrier cream.

Report of a Case: We describe a 34-year-old female who experienced pruritic rashes during

spring and summer for four years. Within two days following yard work, she developed erythematous, edematous papules on the face, neck, arms, and anterior thighs. Patch test to propolis was positive. Lesions persisted despite elimination of propolis from all personal and household products, leading to discovery of airborne exposure. Her problem started after she moved to a house near beekeepers. She was advised to protect with clothing and Tetrax barrier cream for outdoor work. One year later, she reports that diligent use of this cream prevents new skin lesions except at sites missed during application.

Discussion: Allergic dermatitis from airborne propolis is rarely reported. The single published case in a non-beekeeper was associated with gardening, as in our patient. In previous reports, face-mask and goggles were unsuccessful, and only avoidance prevented rash. Other than 5% quaternium-18 bentonite lotion against Toxicodendron, barrier products for preventing allergic contact dermatitis have undergone little study. To date no research has substantiated the benefit of barrier cream against airborne allergen exposure, but its prophylactic use may provide relief for patients suffering airborne contact dermatitis.

### **THREE CASES OF OCCUPATIONAL ALLERGIC CONTACT DERMATITIS FROM THE FOOD MANUFACTURING INDUSTRY**

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Background: Contact dermatitis from the food industry can be difficult to investigate because of a variety of potential allergens present at the workplace. Previously the majority of occupational cases from the food and catering industry were of Irritant Contact Dermatitis (ICD). This form has been most commonly observed in bakers, cooks, restaurant managers and grocery workers as these occupations involve frequent hand washing and exposure to possible irritants. However, exposure to potential allergens in the food manufacturing industry has not been extensively studied. In fact, Allergic Contact Dermatitis (ACD) related to food is under recognized and underreported.

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Cases: We present three cases of clinically relevant ACD from the food manufacturing industry. These include a 61-year-old man employed at a canola oil manufacturing company, a 52-year-old

woman working in oatmeal producing factory and a 44 year old man working in a candy making company. The clinically relevant allergens identified with patch testing in these cases were sesquiterpene lactones, cinnamon and cinnamic aldehyde respectively.

Conclusion: These cases emphasize the importance of testing custom allergens and raw products from the workplace. Exposures from the workplace should be investigated thoroughly and not dismissed as irritants. ACD is not only relevant in occupations involving food preparation but is also important in the food manufacturing industry.

### **WORKPLACE MANAGEMENT OF OCCUPATIONAL SKIN DISORDERS**

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Background: Occupational skin disorders are the second most common occupational disease, with contact dermatitis comprising 90-95% of occupational skin disease. Management is

challenging, and the economic burden of direct and indirect costs can be substantial.

Objective: To present practice suggestions for workplace management of occupational skin disorders.

Methods: Review of an illustrative case series (4) of occupational contact dermatitis.

Results: Workplace issues arising in this case series included an employer discouraging the patient from applying for worker's compensation; utilization of vocational rehabilitation; acquiring workplace samples in order to confirm the presence of a suspected allergen; and enforcement of the worker's right-to-know law for a skin disorder.

Conclusion: Management of occupational skin disorders requires collaboration between the dermatologist, patient, employer, and occupational physician. Knowledge of workplace issues and communication with the company physician or safety officer may assist dermatologists in management of occupational skin disorders.

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## **AN EXPANDED SERIES OF SCREENING ALLERGENS IN ADDITION TO SUPPLEMENTAL ALLERGEN TESTING IMPROVES DETECTION OF OCCUPATIONAL ALLERGIC CONTACT DERMATITIS**

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An expanded series of screening allergens in addition to supplemental allergen testing improves detection of occupational allergic contact dermatitis. An appropriate number of allergens is important for the diagnosis of occupational allergic contact dermatitis (OACD). This prospective trial of 100 participants compared the use of a 45 allergen series with the North American Contact Dermatitis Group (NACDG) 70 allergen series.

The primary outcome was to identify the number of patients with at least one positive patch test reaction in the 70 allergen NACDG screening series allergens that would have been missed with the 45 allergen series. Secondary outcomes included identifying the percentage of participants who reacted to supplemental allergen testing and those with any allergen identified, irrespective of the allergen series. After ethical review board approval, patch testing with the NACDG 70 allergen series and relevant supplement trays was carried out on patients referred for suspected OACD. Patch test results from the 70 allergen series were then compared to the 45 allergen series. Results showed that using the 45 allergen series alone missed 27% of participants compared to the 70 allergen series. Similarly, supplemental allergen testing yielded at least one positive test in 23%.

In summary, 50% of those with ACD would have been missed with the 45 allergen series and no supplemental testing. This study represents a prospective trial to demonstrate that an expanded series of screening allergens in addition to supplemental testing improves detection of occupational allergic contact dermatitis.

## **METAL ALLERGY-POSSIBLE SENSITIZATION CAUSE IN DENTAL PERSONNEL**

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Background: Direct contact, ingestion or implantation of metals may result in sensitization and dermatitis. Orthopedic and dental implants, valves, stents, prostheses and some gynecologic

devices are made from metal alloys. Orthopedic implants may contain stainless steel, cobaltchromium alloys, vitallium and titanium. Dental restorations may contain mercury amalgam (mercury, tin, silver, zinc, or copper), gold, indium, rhodium, chromium, stainless steel, palladium, titanium and cobalt. Dental workers may be at increased risk due to occupational and personal health exposures.

Purpose: To monitor the incidence and prevalence of allergic contact dermatitis to metals among dental personnel over a period of five years, using patch testing.

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Methods: The study was approved by the LLU IRB. Participants completed a questionnaire regarding symptoms, allergies, implants, product use, etc. Patch testing was conducted with T.R.U.E.TEST<sup>®</sup> (28 allergens), allergEAZE<sup>®</sup> (50 allergens) and 6 metals/metal mixes in hydrogel patches . Patches were removed at 48 and read at 72-96 hours.

Results: Among 202 subjects, 38 subjects had 50 reactions to metals. The most common reactions were nickel (11.4%), amalgam (5%), metal mix2-zinc chloride, cadmium chloride, manganese chloride, ammonium tetrachloroplatinate, ammonium heptamolybdate (3%) and cobalt (1.5%). Reactions also occurred to palladium, gold, titanium, mercury, copper and metal mix 1- copper sulfate, indium sulfate and rhodium sulfate.

Conclusion: Patch test results revealed 18.8% subjects allergic to metals with varied clinical relevance.

## **TESTING CUSTOM ALLERGENS FROM THE WORKPLACE: A REVIEW OF THE CURRENT METHODS AND SET UP OF A COMPREHENSIVE GUIDELINE**

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Background: When evaluating patients with suspected contact dermatitis from the workplace, one is often faced with potential allergens that have not yet been standardized. In order to completely assess a patient's dermatitis, testing of different materials from the workplace can be critical. To date, there is no widely accepted method for testing custom allergens.

Objective: To review the current methods described for testing custom allergens and to provide a stepwise approach that could be used as a guideline for testing custom allergens.

Method: Review of pertinent articles and textbooks published on the subject.

Results:

A stepwise approach for testing custom allergens is proposed:

1. Choosing which patient should be tested to custom allergens
2. Choosing the chemicals to be tested
3. Choosing the vehicle and the concentration for each chemical to be tested
4. Preparing the patch test substances
5. Choosing the method of testing the chemicals
6. Confirming the test results

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Conclusion: Different approaches to patch testing with custom allergens from the workplace were found. A guideline encompassing the different methods published for patch testing

custom allergens is proposed. The guideline provides a complete reference for the dermatologist who would want to perform this investigation.

## **OCCUPATIONALLY-RELATED CONTACT DERMATITIS IN NORTH AMERICAN FOOD SERVICE WORKERS REFERRED FOR PATCH TESTING**

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Background: Little is known about the epidemiology of contact dermatitis in food service workers (FSW).

Objectives: (1) Estimate the prevalence of contact dermatitis among FSW. (2) Characterize currently relevant and occupationally-related allergens among FSW.

Method: Retrospective cross-sectional analysis of North American Contact Dermatitis Group (NACDG) data from 1994 to 2008.

Results: Of 31,564 patients patch tested during the study period, 1,447 (4.6%) were FSW. Among FSW, 37.9% were male, 73.7% atopic, and 84.1% were Caucasian. Common occupations included eating/drinking establishment workers (27.8%), cooks (11.3%), and grocery workers (10.4%). The top three sites of dermatitis were hand (47.9%), arm (17.9%), and face (16.4%). The prevalence of irritant contact dermatitis was 32.1%. Occupationally-related skin disease was 74% greater in the FSW than in the non-FSW (27.9% vs 16.1%,  $p < 0.0001$ ). The overall frequency of  $\geq 1$  clinically and occupationally relevant reaction in FSW was 9.5%. The most frequent occupationally-related allergens were Thiuram (18.6%), Carba (15.9%), Nickel (9.0%), Quaternium-15 (4.8%), Chloroxymenol (4.1%), Cobalt (4.1%), and Compositae (4.1%). Gloves (38.0%), antibiotics (5.8%), fruits/ nuts/ vegetables (5.0%), and cosmetics (5.0%) were common allergen sources.

Conclusion: Not surprisingly, hand involvement and irritant contact dermatitis were common in FSW. Approximately 10% of FSW had  $\geq 1$  currently relevant and occupationally-related allergen. Common allergens included rubber accelerators, metals, and preservatives.

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## **FIRST RESULTS OF THE GERMAN MULTICENTRE STUDY “ROQ”: EFFECTIVENESS OF A NEW REHABILITATION PROGRAM FOR OCCUPATIONAL DERMATITIS**

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evaluate TIP. 1,788 patients with severe occupational skin diseases (93.4% OD) were treated and educated in five clinics with regular follow-ups. Total follow up period of patients will be 5 years.

During the inpatient phase, there was a significant improvement in the severity of OD (OHSI,  $p < 0.001$ ) and in the quality of life (DLQI,  $p < 0.001$ ). These effects were largely sustained during the outpatient follow-up phase and in the 4 weeks after return to work. 89.4 % of all patients employed topical steroids before TIP, including 52.5 % high grade topical steroids. 93.2% of the patients were able to refrain from topical steroids before returning to work. As a result of TIP, 88.8% returned to work immediately after TIP, 84.5% were still working after 1 yr .

Data reveals the effectiveness of this interdisciplinary (medical/educational) integrated rehabilitation program in seamless cooperation of clinics and dermatological practices for the patients' benefit. Also, the health economic potential of this rehabilitation measure becomes apparent, e.g. by increasing competitiveness of industry through strikingly reduced sick leave. Presently, the EADV "healthy skin @ work" campaign aims at further evaluating robustness and transferability of such concepts.

### **WHAT'S GOING ON WITH *DERMATITIS***

Ponciano D. Cruz, Jr., Editor, *Dermatitis* and Druanne Martin, Publisher, Lippincott Williams & Wilkins

In collaboration with a new publisher, Lippincott Williams & Wilkins (LWW), *Dermatitis* leaps into the future with improved technological applications and potential for social networking, while maintaining excellence in the traditional journal domains of publishing reviews,

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studies, and feature articles. The Editor and our publication overseer will provide an update on these aspects of the journal.

### **TOP 25 ALLERGENS NOT DETECTED USING A STANDARD SCREENING TRAY OF 28 ALLERGENS**

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Background: A standard method for diagnosing ACD in the United States is the T.R.U.E. Test™, which consists of 3 panels containing 20 individual allergens and 8 allergen mixes.

Objective: We sought to investigate the effectiveness of the current 3 panel T.R.U.E. Test as the primary diagnostic tool for detecting ACD.

Patients/Materials/Methods: A HIPAA-compliant retrospective analysis of 2,088 patients who underwent patch testing between 1995 and 2010. Study groups were analyzed to identify whether positive reactions were to allergens and/or mixes present on the T.R.U.E. Test panels.

Results: Of the 2,088 patch tested patients, 1,385 had at least 1 positive reaction. Among these 1,385 patients, 27.6% were fully evaluated by using only the T.R.U.E. Test series, 49.9% were partially evaluated, and 22.5% did not have any of their allergens detected. When assessing for clinical relevance, similar percentages were observed. Among the 25 top allergens not detected were members of the following groups: antibiotics/medicaments, preservatives/biocides, emulsifiers, surfactants/detergents, plastics/acrylates, plants, textile finishes, metals, rubber accelerators, and photostabilizers/sunscreens.

Conclusion: In our study, the current T.R.U.E. Test series of 28 allergens would have completely

identified allergens in only 27.6% of patients. Broadening the standard panel to include common allergens causing >50% of ACD in a given geographic location and aim testing allergens based upon the patient's history will increase the test's sensitivity.

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## **EVALUATION OF 280 SKIN WHITENING CREAMS AND GELS FOR MERCURY CONTENT: A WORLDWIDE INVESTIGATION**

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Mercury content in skin whitening products is a growing international public health concern. Repeated skin exposure to mercury may result in neurotoxicity, nephrotoxicity, and allergic contact dermatitis.

The objective of this study was to evaluate whitening products for mercury content. 280 whitening products were purchased online and in stores from 19 countries and were quantitatively analyzed by x-ray spectroscopy.

Mercury was found in creams from China, Thailand, The Philippines, and Japan. Approximately 10% of creams contained mercury above 1000 ppm; 40% of positive samples contained mercury in excess of 10,000 ppm. While no whitening creams manufactured in the USA contained mercury, case reports indicate widespread use of foreign products, especially among immigrant populations. Our findings confirm prevalent use worldwide of mercury as a melanotoxin in whitening creams and gels and highlight that they are readily available in internet commerce.

## **A CONTACT DERMATITIS PATIENT CHECKLIST TO IMPROVE PATIENT SAFETY**

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Background: There has been increasing attention to patient safety initiatives. Procedure checklists are one method being used to improve patient safety.

Objective: To develop and evaluate a contact dermatitis patient checklist.

Method: Building on checklists provided by several members of the ACDS, we developed a checklist to cover the patient journey from initial visit through final visit including patch test

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visits. The initial evaluation is focused on compliance with completing the checklist. Evaluation related to content is underway.

Results: The patch test checklist will be presented. It includes both procedural and educational activities. In addition to documenting procedures, it provides a quick guide to key educational steps in the patient journey. Initial evaluation of the checklist has been conducted to

determine compliance with its use. The checklist covers four visits and the patch test procedure. 10 checklists were evaluated. All were at least partially completed. The most common omission was signature of the person completing the particular visit section. The sections most commonly omitted were the initial visit and the final visit.

Conclusion: A patch test checklist may serve to ensure the appropriate steps in the patient journey are conducted and documented and may therefore improve quality and patient safety.

### **QUALITY OF LIFE IN PATCH-TESTED PATIENTS: A ONE-YEAR FOLLOW-UP**

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Author Affiliation: Dartmouth Hitchcock Medical Center, Lebanon, NH USA

Background: Quality of life (QoL) is an important outcome reflecting skin disease burden.

Objective: Measure emotional, functional, and symptom QoL at baseline, 4 months and one year following patch testing. Determine if having relevant positive patch tests, or other variables, correlate with improved QoL over time.

Methods: Dartmouth-Hitchcock Medical Center IRB approved this study. 106 patch-tested patients consented; Skindex-16 was completed at time of patch testing and by mailed questionnaire at four and twelve months. Overall score, and symptoms, emotions, and functioning subscores, were scaled to 100 points at baseline, four months, and one year.

Results: 90% of patients completed the study. QoL improved at 4 and 12 months. QoL scores for women from baseline to 1 year improved by 20.72 points (out of 100), versus a 14.80-point improvement for men (39% and 25% improvements, respectively). Patients with clinically relevant positive allergens had more improved QoL score from baseline to 1 year compared to patients without clinically relevant positive allergens (22.31 vs. 13.56, 37% and 27% improvements, respectively). Most marked improvement in QoL scores was identified between baseline and 4 months. Improvements were sustained throughout the one-year follow-up.

Conclusion: Patch testing—and identifying relevant allergens—can be an effective means of improving QoL. Identifying QoL 4 months after patch testing may be an appropriate indicator of QoL for the following months.

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### **CONTACT DERMATITIS TO SUNSCREENS**

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Objectives: To review the number of relevant allergic or photoallergic reactions to sunscreens at our institution. In a previous study, we had reported that irritant contact dermatitis to sunscreens was more common than allergic/photoallergic reactions, and that allergic reactions to excipients in sunscreens, such as preservatives and fragrances, were more common than to sunscreen actives.

Results: We identified 84 relevant allergic or photoallergic reactions in a total of 6292 patients

(1.3%) patch tested at the Skin and Cancer Foundation in Melbourne over an 18 year period. There were 438 reactions of unknown or old relevance (6.9%). The pattern of sunscreen allergy observed largely reflects the sunscreens used in the population. We have observed the greatest number of reactions to the UVB absorbers: 2 hydroxy 4 methoxybenzophenone (oxybenzone, benzophenone 3) (24) and 2 hydroxy 4 methoxybenzophenone-5-sulfonic acid (benzophenone 4) (19), and then, much less commonly to 4 tert butyl 4 methoxy dibenzoylmethane (Parsol 1789) (7), 2 ethylhexyl 4 methoxycinnamate (Parsol MCX),(7) and 3-(4-methylbenzilidene) camphor (Eusolex 6300) (5). Females were more likely to be affected with sunscreen allergy.

Conclusion: Allergic/photoallergic reactions to sunscreens are relatively uncommon in our patient population, and the most common agents are the benzophenones.

## **ALLERGIC CONTACT DERMATITIS FROM BUTYL AND OCTYL CYANOACRYLATE TISSUE ADHESIVES**

Daniel W. Shaw

Author Affiliation: Division of Dermatology, University of California, San Diego

Background: Several recent case reports have described allergic contact dermatitis from Dermabond.<sup>®</sup> This tissue adhesive contains octyl cyanoacrylate with several inactive ingredients and impurities, including very low levels of formaldehyde.

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Objective: a) To report patients with allergic contact dermatitis from Dermabond<sup>®</sup> and Indermil<sup>®</sup> (butyl cyanoacrylate), b) to identify the allergenic ingredient, and c) to assess concurrent patch test reactivity among cyanoacrylates.

Method: 99.6% pure butyl and 99.5% pure octyl cyanoacrylates were diluted to 10% pet. for patch testing of patients with suspected contact dermatitis from cyanoacrylates. These cyanoacrylates contained low levels of BHA or hydroquinone, sulfur dioxide, and impurities, including formaldehyde. Ethyl cyanoacrylate 10% pet was purchased from Chemotechnique Diagnostics.

Results: Two patients, one with a history of allergic contact dermatitis from Dermabond and the other from Indermil, had positive patch tests with ethyl, butyl, and octyl cyanoacrylate, but not with BHA, hydroquinone, or formaldehyde. One of the two patients also had positive patch tests with other methacrylates. A third patient with a history of contact stomatitis from methacrylate-containing temporary dental crowns and dental cements had positive patch tests with methacrylates and all three cyanoacrylates.

Conclusions: Allergic contact dermatitis from cyanoacrylate tissue adhesives is most likely caused by the cyanoacrylate. Concurrent patch test reactions were observed to all three cyanoacrylates in each of three patients tested.

## **TOPICAL WOUND CARE PRACTICES FOLLOWING DERMATOLOGIC PROCEDURES**

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Since it was discovered that moist wounds heal faster than dry ones, dermatologists have utilized topical therapies after procedures to promote healing. Although several studies have shown that topical antibiotic prophylaxis is ineffective in preventing infection and may result in more complications such as allergic contact dermatitis, recent reports suggest that they continue to be prescribed. The purpose of this study is to describe trends of dermatologists' use of topical therapies including topical antibiotics, white petrolatum, and other commercial products and the rationale for their use in different clinical scenarios. An IRB-approved online survey was distributed to over 500 members of the Association of Professors in Dermatology, Philadelphia Dermatology; Washington University in Saint Louis; and the faculty of the Harvard Combined Dermatology Program yielding 196 unique responses. Most surveyed dermatologists performed shave biopsies (99%, 195/196), punch biopsies (98%, 194/196), electrodesiccation and curettage (94%, 184/196), and excisions (88%, 173/196). Of practitioners who applied topical ointment following those dermatologic procedures, 17-21% used a topical antibiotic, 9-12% used Aquaphor, and the majority, 62-68%, applied petrolatum. The largest group of respondents spent over 50% of their time in general dermatology (66%, 129/196) followed by procedural dermatologists (22%, 43/196). The factors that influenced practitioner's choices in topical therapy included peer-reviewed articles (41%, 81/196), residency training (26%, 50/196), practice customs in the office (15%, 29/196), "other" reasons including personal experience (6%, 12/196), colleagues' practices (5%, 10/196), and finally fellowship training (3%, 6/196). On multivariate analysis, concern about contact dermatitis was inversely associated with using topical antibiotics (OR 0.1, 95% confidence interval, CI 0.3-0.5,  $p = 0.003$ ). A significant factor cited with choice of topical antibiotic use was "practice customs" in the office (OR 8.8, 95% CI 1.9-39.7,  $p = 0.005$ ).

## **SCREENING SKIN SENSITIZERS USING THE NOVEL *IN VITRO* SKIN SENSITIZATION ASSAY KERATINOSENS**

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Determination of skin sensitization potential is a critical toxicological endpoint in the development of novel ingredients used in cosmetic and personal care products. With the European Union regulatory deadline to ban animal testing of cosmetic ingredients for skin sensitization quickly approaching, and many companies proactively choosing to eliminate animal testing due to ethical considerations, alternative methods are urgently needed. The KeratinoSens assay is a cell-based reporter gene assay which can be used to assess the potential of chemicals to induce skin sensitization in humans. The Nrf2-Keap1 regulatory pathway acting on antioxidant response element dependent genes is as a key toxicity pathway induced by skin sensitizers. In the KeratinoSens assay, the induction of a luciferase gene under the control of the antioxidant response element (ARE) derived from the human AKR1C2 gene is quantified. In parallel, cytotoxicity is assessed by both Neutral Red Uptake (NRU) and MTT assays. Thus far, over 100 chemicals have been evaluated using the KeratinoSens assay and the results indicate a good predictive value (~ 85%) as compared to the available correlative *in vivo* and human clinical data. The results indicate that the KeratinoSens assay may be a valuable pre-clinical assay to assess the skin sensitization potential of a broad range of materials.

## **CONTACT SENSITIZATION TO COMMON HAPTENS IS ASSOCIATED WITH ATOPIC DERMATITIS: NEW INSIGHT**

Jacob P. Thyssen<sup>1</sup>, Allan Linneberg<sup>2</sup>, Kare Engkilde<sup>1</sup>, Torkil Menne<sup>1</sup>, Jeanne D. Johansen<sup>1</sup>  
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Introduction: It has been much debated whether atopic dermatitis is associated with contact sensitization since past findings have conflicted.

Objective: To investigate the association between atopic dermatitis and contact sensitization taking the likely route of allergen exposure into account.

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Materials and Methods: Questionnaire and clinical data from a cross-sectional study performed

in a general population in Copenhagen. A total of 3202 (40.4%) 18-69 year olds were patch tested, filaggrin genotyped for 2282del4 and R501X and questioned about AD  
Results: The variable contact sensitization to common chemicals, but not nickel and thimerosal, was significantly associated with atopic dermatitis (OR=2.53; CI95%=1.59-4.04). The higher prevalence of contact sensitization was mainly driven by fragrance chemicals. In a sub-analysis in non-pierced women, a positive association was also found for nickel sensitization.  
Conclusions: Nickel and thimerosal sensitization may introduce bias in data analysis since these allergies often develop following skin piercing where the skin compartments are bypassed. Clinicians should be aware of potentially increased levels of contact sensitization in individuals with atopic dermatitis. Patch testing should be considered at an early point in individuals with a history of atopic dermatitis and active disease.

## **USE OF THE ACAG CONTACT ALTERNATIVES CHARTS: AN IMPORTANT RESOURCE FOR ACDS MEMBERS**

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This presentation will demonstrate how to use the ACAG Alternatives charts available on the ACDS website. This extremely useful patient education resource provides a simple “at a glance” summary of the ACDS core allergens and additional common allergens in topical products. Starting this year, the products on the ACAG Alternatives Charts will be the same 1200 products found in the CAMP database.

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## **POSTER PRESENTATIONS**

### **AIMED TESTING WITH DIETHYLTHIOUREA OFTEN REVEALS CLINICALLY RELEVANT ALLERGIC CONTACT DERMATITIS FROM NEOPRENE RUBBER**

Anne Boe-Hansen Dall, Klaus Ejner Andersen, and Charlotte Gotthard Mortz

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Diethylthiourea is widely used in the rubber industry, particularly in neoprene rubber, and may cause allergic contact dermatitis. However, as thioureas are not part of the European baseline series the diagnosis of allergic contact dermatitis to thioureas depends on the clinical suspicion. Objectives: The aim was to examine sensitisation to diethylthiourea during a 19 year period using data from our Allergen Bank database. Further, to evaluate if the yield of aimed patch tests with diethylthiourea differed between the dermatologists in practice and those working at the department.

Patients and Methods: A total of 239 patients were tested with diethylthiourea 1% in petrolatum from the Allergen Bank from 1992 to 2010, and the records for patients with positive reactions were evaluated retrospectively.

Results: 151 were tested by 27 different dermatologists in practice giving a positive reaction in 16% (24/151) of the patients, and 88 patients were tested at the Department of Dermatology, giving 15% (13/88) with a positive reaction, all with current clinical relevance.

Conclusion: Clinical suspicion of neoprene rubber allergy and subsequent aimed patch testing with diethylthiourea gives a high yield of clinically relevant allergic patch tests for

dermatologists in practice and at the hospital department.

## **CONCURRENT SKIN AND RESPIRATORY SYMPTOMS AMONG WORKERS WITH SUSPECTED OCCUPATIONAL DISEASE**

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Objective: Many workers are exposed to chemicals that can cause both lung and skin responses but little work has examined exposure and responses in both systems together. The objective of this study was to estimate the prevalence and predictors of concurrent skin and respiratory symptoms.

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Methods: Subjects with suspected work-related skin and/or respiratory disease were recruited. Information on symptoms was collected via an interviewer-administered questionnaire. This study was approved by the Research Ethics Board at St. Michael's Hospital.

Results: There were 218 participants with a mean age of 45 years. Overall, 83 subjects (38%) reported both skin and respiratory symptoms and 40 (18%) reported both symptoms as workrelated.

Among subjects with suspected work-related skin disease, 28% reported work-related respiratory symptoms. Ten percent of subjects with suspected work-related respiratory disease reported a work-related skin rash. A history of eczema (OR 3.68, 95%CI. 1.7-7.8) and current smoking (OR 2.57, 95%CI. 1.2-5.8) were associated with reporting both skin and respiratory symptoms.

Conclusions: Some patients report work-related skin and respiratory symptoms. These concurrent symptoms may result from one or more workplace exposures, and should be considered in prevention and diagnosis.

Acknowledgements: This study was supported by a grant from the Community Initiatives and Research Program of the Workers Compensation Board (WCB) Manitoba.

## **HIGH ALTITUDE CONTACT DERMATITIS AND PATCH TEST RESULTS FROM 2009 THROUGH 2011**

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Author Affiliation: University of Colorado at Denver, Denver, CO

Objective: To compile patch testing outcomes at the University of Colorado Denver from 2009 to 2011.

Methods: Patch testing was completed over a 3-year period using a North American standard series in patients with suspected allergic contact dermatitis.

Results: 260 patients (70 male, 190 female), of whom 63 were under the age of 40, underwent patch testing. The 10 most common allergens to which patients demonstrated a positive response were nickel sulfate (16.4%), Myroxilon pereirae (balsam of Peru) (13.7%), potassium dichromate (13.0%), gold sodium thiosulfate (12.3%), fragrance mix I (9.7%), cobalt dichloride (8.4%), fragrance mix II (8.4%), dithiomorpholine (8.3%), quaternium-15 (7.5%), and methylchloroisothiazolinone/methylisothiazolinone (7.5%).

Conclusion: Nickel sulfate emerged as the most common contact allergen – a finding consistent with other large North American studies. Several other compounds ranking in the 10 most common allergens, including Myroxilon pereirae, potassium dichromate, fragrance mix I, cobalt dichloride, and quaternium-15, have also been identified as top allergens in prior North American series. Our data showed some variation in rates of positive responses to certain allergens which may be due to differences in referral patterns, environment or exposure.

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## **RECOMMENDATION TO INCLUDE HYDROXYMETHYL PENTILCICLOHEXANO-CARBOXIALDEIDO**

### **(LYRAL®) IN THE BRAZILIAN BASELINE PATCH TEST SERIES**

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The fragrances are important allergens to produce allergic contact dermatitis. Among these, a major player described in recent years is hidroximetil-pentilciclohexano-carboxialdeido (Lyrál®). We studied the sensitization to Lyrál 5 and 10% in patients with suspected allergic contact dermatitis to cosmetics in order to propose its inclusion in the Brazilian series. The standard and cosmetics series plus Lyrál were tested in 30 patients, as recommended by Allergy Department of the Brazilian Society of Dermatology (SBD) using Finn Chambers Å® . We used the reading criteria recommended by the International Contact Dermatitis Research Group. The results were analyzed statistically of 30 patients tested, 16 showed some sensitivity to cosmetics. Analyzing the presence of positive reactions to perfumes, except Lyrál, we found two patients positives to Balsam of Peru and 2 to fragrance-mix (total = 4-13.3%), similiary with brasilian results (11.6%). When we add the results of tests with Lyrál, the positivity increased to 26.6% (8 cases). Statistical analysis showed a higher probability of testing positive when the Lyrál was added, reinforcing the importance to include this allergen in the Brasilian cosmetic series.

## **GOLD SODIUM THIOSULFATE CRYSTAL SIZE AND REDOX STATE AS POSSIBLE EXPLANATION**

### **FOR DISCORDANT PATCH TEST RESULTS**

Carsten R. Hamann<sup>1</sup>, Dathan Hamann<sup>2</sup>, Kylin Hamann<sup>3</sup>, Curtis P. Hamann<sup>4</sup>

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Matsunaga et al and Davis et al independently report discordant gold sodium thiosulfate (GST) patch test results with 0.25% and 0.5% GST petrolatum preparations when testing simultaneously in the same patient. Syringes retrieved from clinics in Japan were evaluated analytically and concentrations were found to be within respective manufacturer specifications. Microscopically, crystal size and distribution was found to vary between manufacturer and concentration. Larger crystal clumping was identified as a consistent feature in 0.5% preparations with negative patch test results in patients with positive patch test results with 0.25% preparations and the absence of crystal clumping. One GST syringe was visibly distinct from the others having changed in color from opaque white to brown. Microscopically the morphology of GST crystal clumps had changed to vacuoles scattered with brown debris. We

suspect a redox reaction with the thiosulfate producing SO<sub>2</sub> gas which created the vacuoles and the debris is gold sulfide. Microscopic photographs from each of the four European GST producers were compared elucidating the differences in petrolatum excipients as well as size

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and distribution of crystals. Greater standardization and attention to stability will be important to improve concordance.

### **ADDITIVE VALUE OF PATCH TESTING CUSTOM EPOXY MATERIALS FROM THE WORKPLACE AT THE OCCUPATIONAL DISEASE SPECIALTY CLINIC IN TORONTO**

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Background: Allergic contact dermatitis (ACD) to epoxy resins is one of the major causes of occupationally-induced ACD. Testing of custom epoxy materials from the workplace is often performed in order to diagnose ACD.

Objective: To investigate the additive value of patch testing custom-made epoxy materials.

Method: Retrospective analysis of the outcomes of 24 patients who were tested to custom epoxy resin materials between January 2002 and July 2011.

Results: For 11 (46%) patients, the testing of their materials from work had no additional value (negative results). For 13 (54%) patients, there was an additional value of testing custom allergens. Of those, 7 (54%) patients had positive reactions to custom epoxy materials that reinforced the test results found with the commercially available allergens and 6 (46%) patients had positive reactions only to custom epoxy materials.

### **DEVELOPMENT OF A "WORKPLACE PRESCRIPTION" TO FACILITATE RETURN TO WORK FOR WORKERS WITH OCCUPATIONAL SKIN DISEASE**

Marie-Claude Houle, MD, FRCPC; Irena Kudla, HBSc, MHSc, CIH; Pilar Gomez, OT; Aaron Thompson, MD, FRCPC; D Linn Holness MD, FRCPC

Author Affiliation: Department of Occupational and Environmental Health, St. Michael's Hospital, University of Toronto, Canada

Background: Management of diseases caused by workplace exposures requires not only medical management but often also requires changes to the workplace to allow successful stay at work or return to work (RTW).

Objective: To develop a "Workplace Prescription" (WP) that could be given to workers by the treating physician to take back to their workplaces.

Method: 1. Obtain information from workers and employers in different sectors regarding the key components of a workplace prescription, including an understanding of the possible different employer positions that might receive such information and their different needs; 2)

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Develop a prototype WP; 3) obtain information from workers and employers regarding the prototype WP to develop the final version of the form.

Results: Using the workplace interventions identified and taking into consideration feedback from workers and employers, a prototype WP was developed.

Conclusion: This project aims to address the gap in communication between the physician and

employer concerning occupational skin disease. Information on primary prevention via a WP will have the added benefit of not only assisting the individual worker in the RTW process, but also providing a broader prevention message that will benefit co-workers and the workplace in general.

### **CONTACT SENSITIZATION TO RUBBER ADDITIVES SERIES OF ALLERGENS IN PATIENTS WITH SUSPECTED ALLERGIC CONTACT DERMATITIS IN BEIJING**

Hailian Xiang, Lin-feng Li

Author Affiliation: Department of Dermatology, Peking University Third Hospital, Haidian District, Beijing, P.R. China

Objective: To exam the frequency of contact sensitization to rubber additives series of allergens in patients with suspected allergic contact dermatitis in Beijing.

Methods: 631 consecutive patients with suspected allergic contact dermatitis patch tested in dermatology clinic, Peking University Third Hospital between May 2009 and September 2010 were studied. Patients were patch tested with European Standard Series of allergens and a Rubber Additives Series of allergens according to the methods recommended by International Contact Dermatitis Research Group.

Results: Compared with the positivity rate of rubber allergens patch tested in the Standard Series, the positivity rate of the Rubber Additives Series of allergens patch testing was much higher (13.8% VS 6.7%, p).

### **GUIDE TO SEARCH FOR CONTACT ALLERGENS IN BRAZILIAN DERMATOLOGICAL PRODUCTS.**

Vanessa Barreto Rocha, Maria Antonieta Scherrer, Bernardo Gontijo

Author Affiliation: Hospital das Clínicas – UFMG, Belo Horizonte, Brazil

Background: Preservatives and fragrances are important allergens found in numerous products. Currently, there is no database to identify these potential allergens in Brazilian dermatological products.

Objectives: To assess the presence of these allergens in Brazilian dermatological products and to create a Brazilian database that allows their identification in different products.

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Methods: The label content of 618 dermatological products comprising cosmeceuticals (144), soaps and cleansers (72), shampoos (34), topical (187) and injectable drugs (8) and sunscreens (106) was analyzed and the allergens cataloged.

Results: The most common allergens were: parabens (in 285 or 46.1% of products), propylene glycol (244 or 39.5%), phenoxyethanol (210 or 33.9%), BHT (118 or 19.1%), triethanolamine (98 or 15.8%), and cocamidopropylbetaine and isothiazolinones – (39 or 6.3% both). Formaldehyde and its releasers (bronopol, diazolidinyl urea and imidazolidinyl urea) and lanolin and its related alcohols were grouped. Their frequency was respectively 10.4% (in 64) and 47% (in 291).

Conclusions: Many preservatives and fragrances known for their sensitization potential were common in the products examined. These data was compiled into a software that renders them accessible to dermatologists. The program, named PPAC (Programa para Pesquisa de Alérgenos de Contato, Contact Allergens Search Software) will soon be available at the site of the Brazilian Society of Dermatology.

## **LEUKODERMA FOLLOWING OCCUPATIONAL ALLERGIC CONTACT DERMATITIS (OACD) TO POTASSIUM DICHROMATE**

Maria Rios Scherrer, Vanessa Rocha

Author Affiliation: UFMG, Belo Horizonte, Brazil

Background: Contact leukoderma has been associated with some allergens but not with potassium dichromate.

Objective: To report 2 cases of OACD in construction workers followed by leukoderma

Case Report:

1. A 57-year-old man has presented subacute eczematous lesions on his forearms, hands, legs for 8 years. After the rush began, some acromic lesions appeared on all affected sites. He was patch- tested to the Brazilian Standard Tray and showed 2+ reaction to potassium dichromate .
2. A 37- year-old man with chronic eczematous lesions on his hands and legs for 3 years, subsequently developed some acromic patches in 2 affected areas. The patch test was 2+ to potassium dichromate .

Neither patient showed leukoderma on the positive reaction sites or reported vitiligo cases in their families.

Discussion: Although contact leukoderma is not common, it has been seen in association with some allergens such as paraphenylenediamine , nickel, phenol, chloroxylonol, diphenylprone, propyl gallate, etc, but not with potassium dichromate. Despite some possible explanations like melanotoxicity and Koebner phenomeno, its pathophysiology still remains unknown. In this report, the presence of the hypopigmented lesions only on previously affected sites, the

temporal relationship with the contact and the absence of vitiligo in their families led to the diagnosis of contact leukoderma.

## **SYSTEMIC CONTACT DERMATITIS (SCD) TO NICKEL (NI)**

Maria Rios Scherrer, Vanessa Rocha

Author Affiliation: UFMG, Belo Horizonte, Brazil

Background: SCD may occur in patients with contact sensitivity when exposed to hapten orally, transcutaneously, intravenously or by inhalation.

Objective: To report 2 cases of SCD

Case reports:

1. A 22-year-old man with an acute episode of hand eczema, flexural dermatitis, toxicoderma and Baboon syndrome due to nickel contact present in his buckle belt and diet had the resolution of the flare after following the treatment, avoiding contact and having a low Ni diet.
2. A 35-year-old-Ni-sensitive woman presented perioral eruption for 6 months. It started soon after her dental braces placement and its resolution was achieved through treatment and tolerance development during this period.

Discussion: Although allergic contact dermatitis to Ni is very common, SCD is relatively rare. It may lead to various clinical patterns as demonstrated above. It is important to identify this type of reaction to provide optimal management of the individual patient.