

## ISSUE 10: IN-SERVICE BRIEF THE EVOLUTIONARY RESPONSE TO GLOVE ALLERGIES

### NATURAL RUBBER LATEX ALLERGY - Type I Allergy: IgE Mediated

Immediate – reaction occurs minutes after exposure. Caused by contact with latex proteins. Typically diagnosed with skin prick testing (<30 Minutes) and/or specific IgE blood tests by an allergist.

### ALLERGIC CONTACT DERMATITIS (ACD) - Type IV Allergy: T-Cell Mediated

Delayed type hypersensitivity as the reaction does not occur immediately. Caused by exposure to specific chemical residues. Typically diagnosed with Patch Testing (over 5 days) by a dermatologist.

### IRRITANT CONTACT DERMATITIS (ICD) - Non-allergic

This is a condition affecting the skin, and is not an allergy. Common causes include exposure to wet work, hand hygiene and gloves.

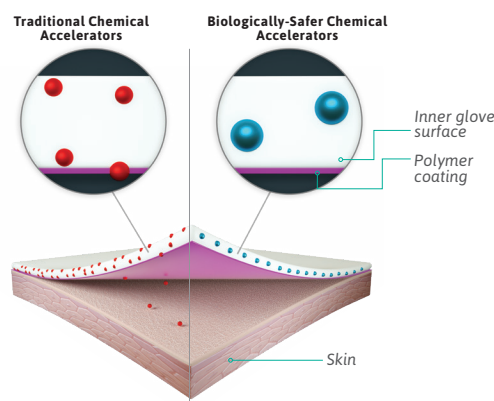
Diagnoses in healthcare workers with occupational skin disease.  
Table modified from Higgins et al <sup>1</sup>

Diagnosis	Healthcare workers with occupational skin disease (N = 555) n (%) <sup>*</sup>
ICD	439 (79.1)
ACD	276 (49.7)
Natural rubber latex allergy	72 (13.0)
Contact urticaria (excluding latex allergy)/protein contact dermatitis	21 (3.8)
Dermographism/urticaria	9 (1.6)
Other (e.g. endogenous eczema; psoriasis; other inflammatory skin disease; persistent post-occupational dermatitis; skin infections)	248 (44.7)
Total diagnoses <sup>*</sup>	1,068

<sup>\*</sup>Note: patients could have multiple diagnoses

### NEW TECHNOLOGIES

As healthcare workers have transitioned from latex to more synthetic glove use, rubber chemical accelerators are among the most common allergens causing ACD today. As a result, leading glove manufacturers are reformulating gloves in order to reduce allergy risk. Biologically-safer accelerators that leave no residue or reduce residue from passing through the glove are being used to lower the risk.



Unlike traditional chemical accelerators which may not remain in the glove, biologically-safer rubber accelerators are known to either be completely consumed during production or remain within the glove film.



Skin Prick Testing



Patch Testing

#### REFERENCES

- Higgins C, Palmer A, Cahill J, Nixon R. Occupational skin disease among Australian healthcare workers; a retrospective analysis from an occupational dermatology clinic, 1993-2014. 2016;75(4):213-22.

It is always important to refer to a dermatologist for persistent cases of dermatitis. After thorough history taking and patch testing, culprit allergens can be avoided and appropriate treatment and avoidance instituted.

Please read InTouch Clinical Update Issue 10 - THE EVOLUTIONARY RESPONSE TO GLOVE ALLERGIES: A CURRENT DERMATOLOGY REVIEW for more information on this topic.