

Return to Work for Nurses With Hand Dermatitis

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Background: Occupational skin disease is common in healthcare workers. If the healthcare worker develops moderate to severe dermatitis, return to work (RTW) may be challenging.

Objectives: The study objectives were to review the impact of an RTW program on the work status of nurses with occupational hand dermatitis and to identify successful intervention methods and strategies.

Methods: Nurses who received RTW services at a tertiary occupational medicine clinic were identified, and information related to their diagnosis and RTW was abstracted from their charts.

Results: Eighteen nurses with irritant hand dermatitis who received RTW services were identified. Twelve nurses (67%) were performing administrative duties because of their skin condition when admitted to the RTW program, and others were performing patient care with modifications. A graduated RTW trial was commonly implemented with optimized skin care management and monitoring by physicians and the RTW coordinator. Upon discharge, 14 nurses (78%) had returned to their nursing roles with direct patient care, 3 (17%) were working as nurses in non-patient care roles, and 1 (6%) was on permanent disability.

Conclusions: A graduated RTW trial to reduce cumulative irritant exposure is a crucial strategy to facilitate nurses' transition back to work and to maintain direct patient care nursing roles.

Healthcare workers including nurses are at increased risk of occupational skin disease, primarily related to their exposure to wet work. Recent studies suggest that 20% to 50% of healthcare workers may have dermatitis.^{1–4} Although the prevalence and risk factors have been studied, there is relatively little known about lost time from work and return to work (RTW), particularly programs designed to assist with RTW.

There has been considerable research, primarily related to work-related injury and musculoskeletal disease, on delineating key features of successful RTW. These include the following: (1) workplace commitment to health and safety; (2) an offer of modified work; (3) RTW planners ensure that a plan supports returning worker without disadvantaging coworkers and supervisors; (4) supervisors are trained

in disability management; (5) the employer makes early and considerate contact; (6) someone has responsibility to coordinate RTW; and (7) employers and healthcare providers communicate as needed and as appropriate.⁵

A systematic review by Nicholson et al⁶ provides information about the management of occupational contact dermatitis (OCD). It provides no specific information about RTW programs and notes that many studies do not specify which work practice changes had been made. Interventions that had varying evidence of benefit included avoidance of exposure, exposure controls, enhanced use of gloves, education, and skin creams.

German and Danish investigators have developed secondary and tertiary prevention programs for workers with OCD. The programs have been evaluated and demonstrate positive results, but there is little detail provided about the actual RTW interventions.^{7–9}

The objectives of our study are to review the impact of an RTW program on the work status of nurses with occupational hand dermatitis and to identify successful intervention methods and strategies.

METHODS

The study was approved by the research ethics board of St Michael's Hospital in Toronto, Ontario, Canada.

Return-to-Work Program

The Occupational Disease Specialty Program is the provincial referral center for the Ontario Workplace Safety and Insurance

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Board (WSIB) for workers who have work-related occupational disease including skin disease. The program is funded by the WSIB. The multidisciplinary skin disease team is focused on diagnosis and management recommendations, including RTW assistance for workers with work-related skin diseases. The team includes dermatologists, occupational medicine physicians, patch test technicians, an occupational hygienist, and an occupational therapist who is the RTW coordinator (RTWC). The assessment process includes an initial interview with the occupational hygienist to obtain a detailed occupational exposure history, assessment by the dermatologist including patch testing if indicated, and, if needed, a formal referral to the RTW program, approved by the WSIB. The RTWC, within the multidisciplinary team, facilitates, negotiates, and coordinates RTW plans in collaboration with all parties (worker, union representative if applicable, employer, WSIB, and healthcare team). As part of this process, the RTWC (1) liaises with the employer via telephone and in some instances in person at the work site regarding preinjury job duties and, if required, options for modified and/or alternate work duties; (2) identifies worker/employer/union representative concerns and potential RTW barriers; (3) outlines the workplace recommendations and provides education to all parties and the healthcare professionals including those at the workplace involved in the worker's ongoing care; (4) monitors the implementation of the plan and RTW progress and updates all parties involved through telephone communication and work site visits; and (5), if needed, modifies the RTW plan in consultation with the dermatologist and other team members.

Data Collection

From our clinic database, we identified 18 nurses who had been assessed in the Occupational Disease Specialty Program and who had received comprehensive RTW service from 2006 to 2014.

The patients' demographics, work status, and clinical history were abstracted from the physician and RTWC letters. In addition, a number of RTW variables were created as described hereafter. These included RTW intervention strategies, RTW program components, and RTW barriers and facilitators.

Return-to-Work Variables

Using the RTW principles and in discussion with the RTWC, occupational hygienist, and physicians, a variety of processes, program components, barriers, and facilitators were identified. The key RTW processes used were the following: (1) communication, including case conferencing (with all parties) and formal letters of the RTW plan to the employer; (2) education; and (3) ongoing monitoring with the RTWC and follow-up with the clinic physicians.

The program components that were used in RTW were the following: (1) RTW trials with graduated shifts or hours; (2) modified work between patient care duties; (3) setting work precautions, including avoiding or reducing exposures; (4) the use of

appropriate personal protective equipment (usually gloves); (5) skin management such as skin care products and medications; and (6) the use of a skin diary to record dates, work tasks, rating of the skin condition, use of personal protective equipment, and comments regarding unusual events (ie, infectious outbreaks requiring additional handwashing and glove use, changes in product [skin care or personal protective equipment] exposure, and symptoms).

Graduated RTW was one of the cornerstones of RTW. All graduated RTW plans involved slowly increasing increments of bedside nursing duties that eased the nurses back into their regular clinical roles. This helped the physicians and RTWC determine the irritant threshold for each individual, which allowed the nurses to perform their duties with minimal to no symptoms in the long term. A graduated-shift trial started with 1 patient care shift and modified duties for the rest of the shift cycle. If the nurse's hands remained clear, regular shifts were increased to 2 consecutive days, followed by 3 consecutive days, if tolerated. Similarly, a graduated-hours trial began with 4 hours of patient care with the rest of the shift on modified duties (not direct patient care); hours were increased for the next shift cycle if the hands remained symptom free. Modified work away from direct patient care, including administrative tasks, chart audits, and various other desk duties within each shift cycle, was the common factor for all graduated RTW to reduce the cumulative effect on irritant contact dermatitis. Figure 1 outlines the RTW process.

The RTW barriers identified included the following: (1) ongoing skin issues; (2) continued exposure to irritants and allergens; (3) skin management plans that were challenging for the worker to adhere to (difficult management plan); (4) recommended skin care products not approved by Infection Prevention and Control; and (5) modified work not available. The facilitators identified were the following: (1) modified work available, (2) good communication between the parties, and (3) worker adherence to the treatment and management plan.

Analysis

Data were entered into an Excel file and analyzed using SAS 9.3 (SAS Institute, Cary, NC). Simple descriptive statistics including means and frequencies were calculated.

RESULTS

Demographic and Diagnostic Information

The mean age of the 18 nurses when they presented was 42 years and 94% were women. They were distributed among 12 hospitals with 3 hospitals having more than 1 worker included in this review.

All nurses had work-related irritant contact dermatitis. In addition, 33% were diagnosed with work-related allergic contact dermatitis (ACD). The specific work-relevant allergens included common fragrances and preservatives found in hand cleansers and sanitizers. One nurse had a reaction to her gloves. Three nurses (17%) were diagnosed with work-aggravated atopic dermatitis with

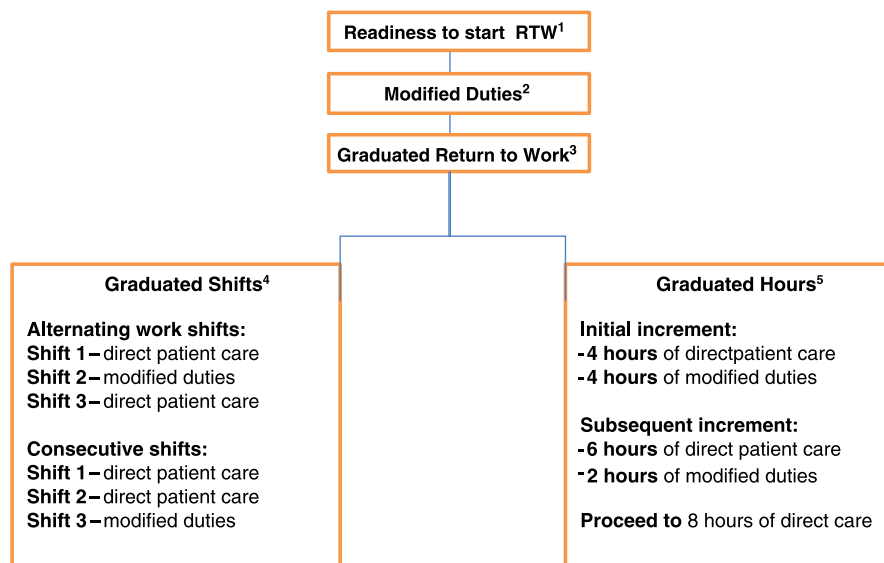


Figure 1. Nurses' RTW plan by way of graduated shifts or graduated hours.

their exacerbations showing a clear temporal relationship with work. Atopic history was reported by 55%; 33% had hay fever, 28% had asthma, and 33% had childhood eczema.

Work Status

Table 1 outlines the nurses' work status before and after the RTW intervention. At the time of admission into the RTW program, 12 (67%) of the nurses were performing temporary alternative duties away from direct patient care, such as administrative tasks, chart audits, and acting as a charge nurse or a telehealth nurse. Six nurses (33%) were involved in patient care; although in all cases, adjustments had been made to either the type of work they were doing (eg, no isolation rooms) or the amount of time they were working in patient care activities. Nine nurses (50%) had lost workdays because of their skin problem. Of these 9 nurses, 5 had lost less than 1 week, 2 had lost approximately 1 month, 1 had lost 3 months from a second part-time job, and another had lost 8 months.

At follow-up, at least 6 months after discharge from the RTW program, 14 (78%) of the nurses returned to patient care and 3 (17%) transitioned to non-patient care roles as nurses. Only 1 nurse (6%) did not return to work.

TABLE 1. Work Status (N = 18)

Work Status	Pre-RTW Program, n (%)	Post-RTW Intervention, n (%)
Direct patient care with modification	6 (33)	14 (78)
Non-patient care positions	12 (67)	3 (17)
Not working because of skin disease	0	1 (6)

Return-to-Work Education, Communication, and Monitoring

All nurses received one-on-one additional education about their diagnoses and management, the role of the RTWC, and steps in the RTW process. There was ongoing communication between the nurse and RTWC, in person or via telephone. In addition, case conferences between the various parties (worker, employer, WSIB, union representative if applicable, and RTWC) occurred. A formal written RTW plan was provided to the employer in all but 1 case. All nurses had physician monitoring through review of pictures and skin care diary and communication with the RTWC. Six nurses (33%) had physician follow-up appointments during the RTW process. For 3 nurses (17%), their union representative was involved during the RTW process. The WSIB RTW mediator was involved in 1 case.

Return-to-Work Program Components

The various RTW interventions are summarized in Table 2. A graduated RTW plan was formulated and customized for all nurses. A graduated-shift trial was suggested for 12 nurses (67%) and a graduated-hours trial for 6 nurses (33%). Two nurses did not participate in RTW trials; in 1 case, both the nurse and the employer declined, citing previously attempted and failed RTW trials, and in the other case, the nurse went back to school to finish her education but later returned to work. Of importance, modified non-patient care work within each shift cycle (whether on graduated shifts or hours) was also implemented for 14 (78%) of the nurses to reduce the cumulative effect on irritant contact dermatitis. For the other workers, their part-time status or non-patient care position already allowed for reduced exposure.

Workplace skin protection and management practices were optimized. The dermatologists recommended glove liners for

TABLE 2. Return-to-Work Interventions (N = 18)

	%
Graduated RTW	
Graduated shifts	61
Graduated hours	33
Modified work between shifts or hours	67
Return-to-work permanent precautions	
No more than 2 consecutive shifts and no frequent hand cleansing	17
No direct patient care	11
Permanent disability	6
Return to work in different unit	11
Skin monitoring	100
Glove recommendations	94
Recommendations for specific skin products at work	89
Medications	61
Recommendations for specific skin products at home	61
Avoid exposures (allergens)	33

94% of the nurses and specific skin products for work for 89%. Sixty-one percent received recommendations for specific skin care products for use at home and prescribed topical therapies. The 6 nurses with ACD were advised to avoid their particular allergens, and all nurses were advised to reduce, as much as possible, exposure to irritants. Furthermore, the RTWC and the dermatologists monitored all nurses' skin status and work trial progress closely. The monitoring included the use of a skin symptom diary plus serial photographs of the skin. These were sent to the RTWC who then consulted with the dermatologist as to further recommendations.

Return-to-Work Barriers and Facilitators

Barriers to RTW included disease factors and workplace factors (Table 3). Disease factors included 7 nurses (39%) who had ongoing symptoms that required different treatment. Five nurses (28%) reported continuing exposures at work to either high levels of irritation through hand cleansing or their specific allergens. Two nurses (11%) found the skin care regimen cumbersome and noted that it interfered with their nursing duties. Workplace factors included rejection of recommendations for specific hand sanitizers by Infection Prevention and Control departments and the absence of available modified work. Other barriers that were encountered during the RTW process included a workplace infection control policy that did not allow 1 nurse to continue to work if she had any cracked skin as well as poor understanding of the pathogenesis of irritant contact dermatitis and lack of availability of recommended hand sanitizers.

The review also revealed several factors that facilitated the nurses' return to their original nursing role. Modified work was available for 17 nurses (94%) away from direct patient care to allow

their hands to heal and for RTW protocols to be arranged between the RTWC and workplace. There was good communication between all parties in 17 cases (94%). All nurses adhered to skin management and RTW protocol.

DISCUSSION

Clinicians have much to consider when advising nurses with hand dermatitis with respect to RTW. Workplace adjustments must be made, in addition to optimized treatment, to improve functional outcomes while preventing further disease deterioration that may arise from wet work and adhering to infection control protocols. We have developed and successfully implemented a multidisciplinary RTW program that not only diagnoses and treats the occupational hand dermatitis but also implements RTW trials by liaising with the nurses and their employers to facilitate their ongoing RTW with minimal to no symptoms. This dedicated RTW program has practical value to be applied to all patients with OCD wishing to RTW.

The main objectives of this study are to review the impact of the RTW program on the work status of nurses with occupational hand dermatitis and to identify successful interventions and program components. The increase in the percentages of nurses returning to direct patient care after the RTW program (33%–78%, N=18) can attest to the success of our program, including its interventions, strategies, and the multidisciplinary team. Three nurses (17%) were back at a nursing-related job without direct patient care duties. Only 1 nurse was permanently disabled and unable to return to nursing. As a result of our RTW program, 94% of nurses were able to improve and maintain their functional outcome and manage their dermatitis symptoms.

This success (and its maintenance) is facilitated by a specific RTWC role that is central to organizing the RTW process on the nurses' behalf and obtaining the employers' cooperation. The RTWC does so by consulting with the physicians, patient, and employer to formulate, execute, and monitor a plan that returns the nurse to the original role but with adjustments to control exposure to the causative agents. The RTWC also liaises between the parties to facilitate seamless communication about ongoing treatment needs and workplace modifications.

TABLE 3. Barriers and Facilitators to RTW (N = 18)

	%
Barriers	
Ongoing skin issues	39
Continued exposures	28
Difficult management	11
Products not accepted by Infection Prevention and Control	11
Modified work not available	6
Facilitators	
Modified work available	94
Good communication between workplace parties	94
Worker adherent with treatment	100

A program in Germany has demonstrated effectiveness of their in-hospital tertiary prevention program (patient health, psychological education diagnostic procedures, dermatologic treatment) with respect to enabling patients with occupational dermatitis to remain in their profession.¹⁰ However, lack of details regarding their RTW phase and the in-patient format makes practical application of their program difficult in some jurisdictions. In this study, we have outlined the communication and program components of our RTW strategy, as well as the barriers and facilitators that were encountered in this RTW process. Our program focus is outpatient based and uses graduated RTW trials to implement work task adjustments to actively control nurses' exposure to wet work irritation. With slowly increasing increments of direct patient care and, more importantly, modified duties between consecutive blocks of bedside nursing, the nurses' cumulative exposure to wet work, including frequent handwashing and gloving, can be reduced.

This study also revealed barriers and facilitators for nurses to return and remain at work. Some of the barriers were administrative—related to the workplace itself (eg, unavailable modified work, a limited number of sanitizers approved by infection control, etc). Other barriers could involve both workplace and individual disease factors, such as ongoing symptoms, continued exposures, and a difficult skin management program for the nurse to implement and adhere to. Many of the facilitators were dependent on the employers, their resources, and their understanding of the occupational nature of the condition. All workplaces were cooperative in this population of nurse patients; perhaps because they are healthcare facilities, there is more awareness and an accommodating attitude. With workers in other occupations, there may be an even greater need for a dedicated RTWC and program to advocate on the patients' behalf, to educate the employer and formulate an RTW plan that both manages the dermatitis and allows the worker to return as soon as possible and to remain at work.

This study has limitations. Our study included a small sample of 18 nurses. Although this is a limited cohort, the irritation from wet work, frequent handwashing, and gloving is common for many workers with irritant occupational hand dermatitis. The program described is a resource-intensive program that requires multidisciplinary care. However, some of the skin care management recommendations and graduated RTW trials can be broadly and practically applied to workers of various occupations.

CONCLUSIONS

This multidisciplinary RTW program has demonstrated success in reintroducing nurses with hand dermatitis to their direct patient care duties and maintaining their nursing roles while controlling their symptoms. Graduated RTW trials and optimized skin treatment were the 2 pillars of the RTW intervention to achieve both medical and functional recovery. Another essential component was continuous skin progress monitoring to determine the individual irritant threshold, so their ability to work in patient care was maximized with minimal symptoms. The communication interventions and program components of this RTW program outlined in the present study can be applied in practice for patients with hand dermatitis across other occupations.

REFERENCES

1. Luk NM, Lee HC, Luk CK. Hand eczema among Hong Kong nurses: a self-report questionnaire survey conducted in a regional hospital. *Contact Dermatitis* 2011;65:329–335.
2. Van der Meer EWC, Boot CRL, van der Gulden JWJ, et al. Hand eczema among healthcare professionals in the Netherlands: prevalence, absenteeism and presenteeism. *Contact Dermatitis* 2013;69:164–171.
3. Lan CC, Feng WW, Lu YW, et al. Hand eczema among university hospital nursing staff: identification of high-risk sector and impact on quality of life. *Contact Dermatitis* 2008;59:301–306.
4. Ibler KS, Jemec GB, Flyvholm MA, et al. Hand eczema: prevalence and risk factors of hand eczema in a population of 2274 healthcare workers. *Contact Dermatitis* 2012;67:200–207.
5. Institute for Work and Health. Seven “principles” for successful return to work. *Institute for Work and Health*; 2014. Available at: <http://www.iwh.on.ca/seven-principles-for-rtw>. Accessed August 21, 2016.
6. Nicholson PJ, Llewellyn D, English JS. Evidence-based guidelines for the prevention, identification and management of occupational contact dermatitis and urticaria. *Contact Dermatitis* 2010;63:177–186.
7. Wilke A, Gediga K, Schlesinger T, et al. Sustainability of interdisciplinary secondary prevention in patients with occupational hand eczema: a 5-year follow-up survey. *Contact Dermatitis* 2012;67:208–216.
8. Ibler KS, Jemec GB, Diepgen TL, et al. Skin care education and individual counselling versus treatment as usual in healthcare workers with hand eczema: randomised clinical trial. *BMJ* 2012;345:e7822.
9. Skudlik C, Wulfhorst B, Gediga G, et al. Tertiary individual prevention of occupational skin diseases: a decade's experience with recalcitrant occupational dermatitis. *Int Arch Occup Environ Health* 2008;81:1059–1064.
10. Weisshaar E, Skudlik C, Scheidt R, et al. Multicentre study 'rehabilitation of occupational skin diseases – optimization and quality assurance of inpatient management of (ROQ)' – results from 12-month follow-up. *Contact Dermatitis* 2012;68:169–174.