

Nailed Wellness: A Proposal for Training Nail Salons to Detect Signs of Organ System Dysfunction on their Client's Nails



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ABSTRACT

The physical characteristics of one's fingernails can indicate a large variety of diseases. Nail salon staff can be trained to recognize red flags on a client's nails with an emphasis on safely screening clients and referring them to the appropriate healthcare providers when necessary. This proposal is based on the Save Your Skin Foundation's successful skin cancer detection framework used in hair salons across Canada. Training consists of informational posters and short videos. This system would empower workers outside of the healthcare sector to advocate for the health of their clients while creating another tier of disease screening.

RÉSUMÉ

Les caractéristiques physiques des ongles peuvent être un signe d'une grande variété de maladies. Le personnel des salons de manucure peut être enseigné à reconnaître les signes inquiétants sur les ongles d'un client et les orienter vers une équipe de soins de santé appropriée si nécessaire. Cette proposition est basée sur le cadre de détection du cancer de la peau de la « Save Your Skin Foundation », utilisé avec succès dans les salons de coiffure à travers le Canada. L'enseignement consiste en des affiches d'information et de courtes vidéos. Ce système permettrait aux travailleurs n'appartenant pas au secteur de la santé de défendre la santé de leurs clients tout en créant un autre niveau de contrôle des maladies.

INTRODUCTION

The substantial costs of healthcare have immense political and social implications in the Canadian context, emphasizing the urgent need for cost-effective care. The present proposal describes an early screening system for systemic and specific organ conditions that present on the nails, utilizing pre-existing resources in nail salons to improve health outcomes for Canadians without placing a severe burden on the healthcare system. Often regarded as windows to systemic diseases, even subtle abnormalities in patients' nails may indicate serious ailments.¹ As such, the examination of nails may enable improved diagnosis and management of such conditions.² For example, abnormalities in nail morphology, such as koilonychia, clubbing, and pincer nails, may suggest the presence of thyroid disorders, infective endocarditis, and renal disease, respectively.¹ Drs. Grover and Bansal note that a nail-based screening program could prove effective, as prevention is preferable to treatments when there is acceptable specificity, sensitivity, and low cost with minimal discomfort for patients and examiners.³ As such, the present proposal suggests the implementation of an early screening system wherein nail salon artists are primed to detect nail abnormalities suggestive of systemic conditions. This would rely on brief informational posters and videos. Correspondingly, inconspicuous or previously unnoticed systemic diseases may be detected early and swiftly treated.

HOW ARE NAILS WINDOWS FOR SYSTEMIC DISEASE?

The physical characteristics of one's nails (e.g., shape, colour, surface) can indicate a large variety of diseases. Examples of characteristics include:

1. Koilonychia is characterized by a reverse nail curvature most visible in the fingernails (Figure 1A).^{1,4} This is attributable to multiple conditions, including chronic iron deficiency anemia, occupational factors, hemochromatosis, coronary disease, and thyroid disorders.^{1,4}
2. Nail clubbing presents with an increase in the curvature of the longitudinal and transverse axes of the nails, commonly accompanied by tissue swelling around the fingertips (Figure 1B).^{5,6} It may be indicative of various conditions, particularly infective endocarditis, inflammatory bowel disease, lung malignancies, or cystic fibrosis.¹
3. Dolichonychia occurs when the nails are substantially longer than they are wide (Figure 1C).^{1,7} This nail presentation has been associated with hypopituitarism and Marfan's syndrome.^{1,7}
4. Brachyonychia is characterized by nails that are narrower relative to their length (Figure 1D).^{1,8} This may be linked to hyperparathyroidism and psoriatic arthropathy.¹

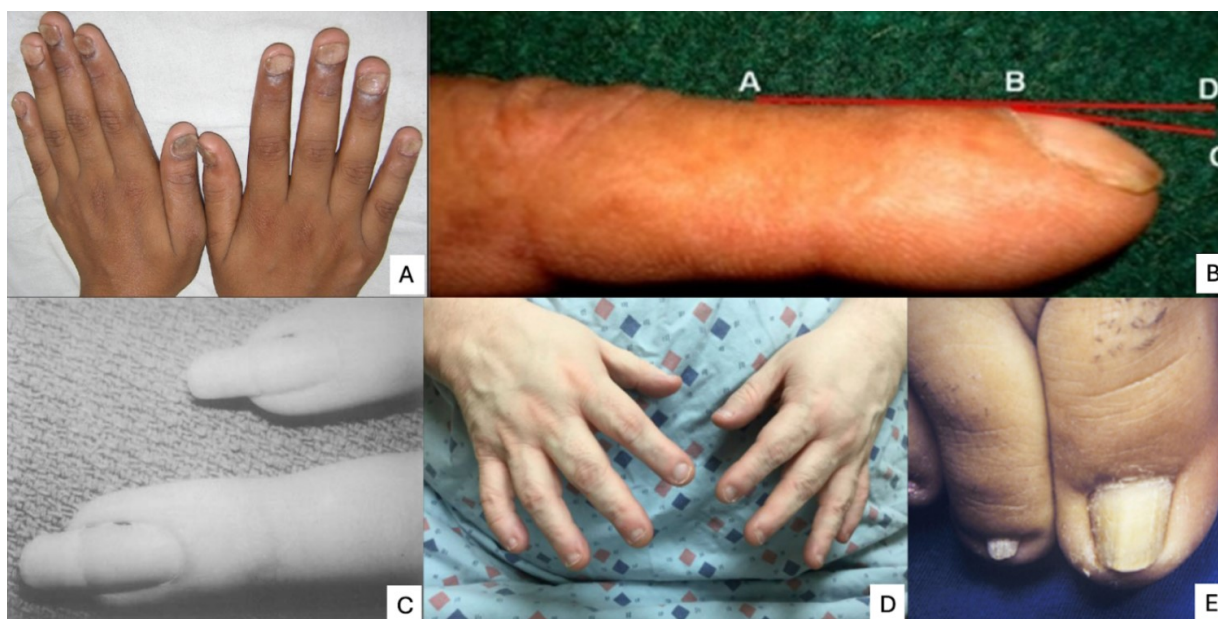


Figure 1. Visual depictions of nail abnormalities associated with organ dysfunction. (A) Koilonychia features nails with a concave outer surface.¹ (B) Clubbed nails have an atypical downward angle.⁶ (C) Dolichonychia is exhibited by nails that are abnormally long and slender.⁷ (D) Brachyonychia is represented by nails that are wide and flat.⁸ (E) Pincer nails are distally curved inward.⁹

5. Pincer nails exhibit increased transverse curvature along the nail's length and are particularly pronounced towards the tip (Figure 1E).^{1,9} These may be indicative of end-stage renal disease secondary to diabetes mellitus, gastrointestinal malignancies, Kawasaki disease, renal failure, amyotrophic lateral sclerosis, or systemic lupus erythematosus.^{1,9}

The aforementioned systemic diseases associated with nail abnormalities can have devastating effects on patient well-being, warranting early detection and corresponding treatment.

PROPOSAL: HOW CAN CANADA BETTER SCREEN FOR THESE DISEASES?

To create an avenue for early screening of such conditions, we propose an initiative titled "Nailed Wellness." This project aims to educate and empower nail salon artists to recognize red flags in a client's nails and confidently speak up to refer them to a physician. This program would involve a short bilingual instructional video and provide salons with posters highlighting the main red flags to which attention should be paid. Notably, this program would rely on pictures of patients with light and dark skin tones, ensuring that no case is missed.

More specifically, the poster and video would highlight the 5-step nail examination technique described by dermatologist Mark Holzberg. The specific steps are to examine the colour and shape of the 1) nail folds, 2) lunula, 3) nail bed, 4) hyponychium, and 5) nail plate.¹⁰ An acronym, such as "Filing Leaves Beautiful Hands Perfectly," would be used on the poster to ease understanding and aid recall. Next to each step, there would be pictures of red flag findings on multiple different skin colours. If the nail salon technician notices any of the abnormalities listed on the poster, they will be instructed to give their client a card with follow-up steps. This card would explain that the technician found a nail abnormality during the appointment and instruct the client to see a doctor for further assessment. This card would have fill-in-the-blanks in which the technician can fill out the date of the abnormality identification, its location, and any descriptive information.

A screening project such as this ultimately benefits the healthcare system, which includes larger stakeholders such as the Ministry of Health, provincial/territorial associ-

ations, and local health authorities. Educational institutions that specialize in the industry being targeted (i.e., nail technician training institutions) would be the major stakeholder targets for such a program. The project on which this proposal is based was able to successfully connect with these stakeholders and disseminate important screening information to trainees. Providing an estimate of cost is difficult at this stage of planning, but similar existing projects started with a budget of ten thousand dollars.^{11,12}

HAS THIS BEEN DONE BEFORE?

Our proposal is modelled after the Save Your Skin Foundation (SYSF) Styling Hair & Saving Lives (Sty-Lives) initiative.¹¹ This program aimed to educate hairstylists and barbers to detect suspicious skin lesions on their clients' skin, acting as an early screening system for skin cancers.¹¹ In doing this, the SYSF hoped to obtain earlier detection of skin cancers and facilitate client-healthcare provider communication.¹¹ To better inform the Nailed Wellness initiative, our team conferred with Jasmine MacGowan, a managing director at the SYSF. MacGowan noted that the primary component provided to the salons was an instructional 4-and-a-half-minute video, with supporting resources being a poster (Figure 2) and a brochure.¹² By 2023, the initiative had recruited over 300 hairstylists and formed some notable collaborations with the Ontario Medical Students Association and educational institutions (e.g., St. Lawrence College, Coast Mountain College, Algonquin College, and Versailles Academy), integrating the content into the schools' curricula.^{12,13} Sty-lives was also presented to a women's support group for new immigrants aspiring to become hairstylists in Canada.¹²

A cross-sectional study by Gibbs et al. surveyed 229 hairdressers and found that 73% of them believed they should be trained in skin cancer detection.¹⁴ Additionally, 47.2% of the sample wanted to learn about skin cancer detection through the use of a video.¹⁴ Another study by Bailey et al. surveyed 203 hair professionals and found that 49% were "very" or "extremely" interested in skin cancer education programs.¹⁵ Overall, hairdressers are willing and eager to conduct screenings. Hopefully, nail salon technicians have a similar outlook.

WHAT COULD LIMIT THIS PROPOSAL?

The salon staff not being medically trained/certified is one of the greatest strengths and novelties of this proposal, in addition to being a limitation. Ultimately, a false positive may cause unneeded stress for customers and the medical system. Customers would have to commit time to follow up with a healthcare professional in addition to the worry of being flagged, while the healthcare system may need to entertain more worried patients. MacGowan noted that there was initial pushback due to a misconception that they wanted hairstylists to become experts in skin cancers.¹² As such, they adjusted their language to “emphasize providing tools for hairstylists to confidently address concerns rather than expecting expertise.”¹² Fortunately, this proposal operates in a world where the SYSF has trailblazed the path toward a successful project and has encountered these errors. Thus, the language in advertising and training will clearly explain the role of salon staff and not conflate them with healthcare workers. Notably, the Sty-lives initiative began with a ten thousand dollar budget for content design and print, administrative fees, and video production.¹² Since then, a yearly budget has been maintained for the continuation of this project.¹² These costs are ultimately inherent to a project such as this, but working on an established framework means that costs should not be as high as the Sty-lives project. Finally, it would be difficult to convince salons to participate if there was a high barrier to entry (e.g., cost or accessibility). Thus, the Sty-lives project centers around providing free content and videos, even offering private training sessions at no cost.^{11,12} MacGowan believes this is the key to effective recruitment of participants.^{11,12} While this can also be time-consuming and costly, it would be the goal for Nailed Wellness.

WHAT ARE THE NEXT STEPS?

The success of Nailed Wellness depends on the salon workers' ability to recognize nail abnormalities suggestive of system disease. As such, standardized and easily digestible training materials depicting common nail abnormalities on a diverse array of patients must be created and disseminated across Canada. Moreover, nail technician schools may incorporate training programs into their curriculum, enabling salon workers' ability to recognize and report nail abnormalities indicative of broader health concerns. If this initiative proves beneficial in the Canadian context, it may have immense potential for international application to improve patient health and reduce healthcare costs.



Figure 2. Sty-Lives Poster (in English and French) and follow-up card.¹¹

CONCLUSION

Utilizing lessons learned from the Sty-lives initiative can allow for the implementation of a screening system in nail salons. This intervention would take advantage of the fact that the physical characteristics of one's fingernails can indicate a large variety of systemic diseases. Nail salon staff can be trained to recognize red flags on client nails through the use of informational posters and videos and referring them to the appropriate healthcare providers when necessary. This is an early, simple, and high-yield intervention that reaches outside of the healthcare system to save time, money, and lives. This system would empower workers outside of the healthcare sector to advocate for the health of their clients.

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Conflicts of Interest Disclosure

There are no conflicts of interest to declare.