

# BUILDING AND STRENGTHENING FROSTBITE CARE IN BC

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# PROJECT



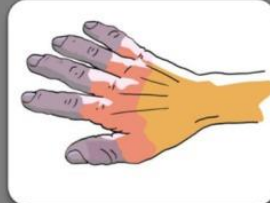

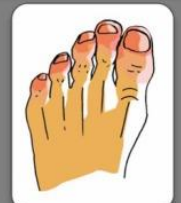



## Learning Goal

- Gain foundational knowledge of frostbite management and assessment
  - Up to Date, ECBC clinical summaries, previous Grand Round presentations

## Tasks

1. Perform an updated literature review since 2022
2. Development of a Provincial Survey
  - Goal: Establish a coordinated approach to frostbite management in British Columbia and identify areas for improvement

# ASSESSMENT

Grading severity of frostbite after rewarming			
Absence of cyanosis	Cyanosis on distal phalanx	Cyanosis up to MP joint	Cyanosis proximal to MP joint
			
			
Grade 1 No amputation of bone	Grade 2 Moderate risk of amputation	Grade 3 High risk of amputation	Grade 4 Risk of amputation 100%

## TREATMENT

Rewarming

Analgesia

Tetanus Prophylaxis

Debridement of clear blisters

Topical Aloe vera

Systemic hydration

Thrombolytics (tPA)

Vasodilator (Iloprost)

## Iloprost for the treatment of frostbite: a scoping review

Josianne Gauthier<sup>a</sup>, Dunavan Morris-Janzen<sup>b</sup> and Alexander Poole<sup>a,c</sup>

<sup>a</sup>Whitehorse General Hospital, Yukon Hospital Corporation, Whitehorse, Yukon, Canada; <sup>b</sup>Northern Medical Program, University of British Columbia, Prince George, British Columbia, Canada; <sup>c</sup>Department of Surgery, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada

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REVIEW

Open Access

## Frostbite treatment: a systematic review with meta-analyses



Ivo B. Regli<sup>1,2,3\*</sup> , Rosmarie Oberhammer<sup>4</sup>, Ken Zafren<sup>5,6</sup>, Hermann Brugger<sup>1,7</sup> and Giacomo Strapazzon<sup>1,7</sup>

SYSTEMATIC REVIEW ARTICLE

## Frostbite in the Pediatric Population *A Comprehensive Review and a Prospective Canadian Survey*

*Xiya Ma, MD, MSc,\* Jamilah Temfack Pouoh, MD,† Bénédicte Therrien Hogue, IPSSP,‡ and Emilie Bougie, MD, MHPE, FRCSC\*†‡*

ORIGINAL RESEARCH

## Exploring the Development of a Canadian Frostbite Care Network and the Future of Frostbite Care in Canada Using a Qualitative Approach

Lauren Klammer, BA, MPA, MD(c)<sup>1</sup>; Mary Ollier, MA, MD(c)<sup>2</sup>; Josianne Gauthier, BScPharm, MScPharm<sup>3</sup>; Lisa R. Allen, PhD<sup>4</sup>; Malcolm Davidson, BScH, MD(c)<sup>2</sup>; Yousuf Ahmed, MD<sup>3,6</sup>; Jenna Smith-Turchyn, PT, PhD<sup>7</sup>; Delphine Hansen-Jaumard, MD, CM<sup>8,9</sup>; Sebastien Hebert, BA, MD(c)<sup>10</sup>; Sarvesh Logsetty, MD<sup>11</sup>; Dunavan Morris-Jantzen, BAsc, MD(c)<sup>12</sup>; Rachel Peet, BMSc, MD(c)<sup>13</sup>; Alex J. Poole, MD<sup>3,14</sup>; Caitlin Champion, MD, MSc<sup>13,15</sup>

# LITERATURE REVIEW

ARCTIC MILITARY CONFERENCE IN COLD WEATHER MEDICINE

 OPEN ACCESS



# **Iloprost for the treatment of frostbite: a scoping review**

Josianne Gauthier<sup>a</sup>, Dunavan Morris-Janzen<sup>b</sup> and Alexander Poole<sup>a,c</sup>

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- Scoping review
- Iloprost reduces need for amputations compared to untreated cases
- Highlights gaps in research → lack of randomized controlled trials and limited study diversity
- Lack of standardized protocols



# Frostbite treatment: a systematic review with meta-analyses

Ivo B. Regli<sup>1,2,3\*</sup> , Rosmarie Oberhammer<sup>4</sup>, Ken Zafren<sup>5,6</sup>, Hermann Brugger<sup>1,7</sup> and Giacomo Strapazzon<sup>1,7</sup>

- Systemic review and meta-analysis focusing on frostbite treatments
- Meta-analysis → patients treated w/ thrombolytics w/in 24 hrs had improved outcomes
- Limited evidence for other treatments including hyperbaric oxygen therapy, calcium channel blockers and surgical debridement
- Variability in treatment protocols and outcome reporting

## Frostbite in the Pediatric Population *A Comprehensive Review and a Prospective Canadian Survey*

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and Emilie Bougie, MD, MHPE, FRCSC\*†‡*

- Combined literature review w/ survey of Canadian plastic surgeons
- No pediatric specific approaches/ guidelines
- Canadian surgeons tend to treat conservatively
- 50% considered iloprost but generally in grade 3 or 4
- Non considered thrombolytics



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- Canada wide survey and focus groups to assess current practices, identify challenges and explore the benefits of coordinated network
- Care variable in Canada
- Geographic limitations obtaining and administering iloprost
- Limited accessibility to experts in the field

## Emergency Care BC: Frostbite Treatment Provider Survey

Thank you for taking the time to complete this survey! We aim to establish a coordinated approach for frostbite management across British Columbia by conducting a survey among relevant stakeholders to assess geographical caseloads, resource distribution, and familiarity with existing protocols, thereby identifying key areas for improvement.

Please note that the information you provide is anonymous. Any future publications or presentations using the information gathered from this survey will be presented in an anonymized, aggregate format.

### Demographics

1. What is your professional role?
  - ☐ Emergency Department Physician
  - ☐ Hospital Pharmacist
  - ☐ Emergency Health Services
  - ☐ Registered Nurse (Emergency)
  - ☐ Nurse Practitioner (Emergency)
  - ☐ Emergency Department Manager
2. Which Health Authority are you currently practicing under?
  - ☐ Northern Health
  - ☐ Interior Health
  - ☐ Vancouver Island Health
  - ☐ Vancouver Coastal Health
  - ☐ Fraser Health
  - ☐ Provincial Health Services Authority
3. Is your practice in a Rural or Urban setting?
  - ☐ Rural Community (< 1,000)
  - ☐ Small-Medium City
  - ☐ Large city (>100,000)
4. What Site are you from?
  - ☐ [Click here to enter text](#)

### Case Volume

5. To your knowledge, approximately how many cases of frostbite have presented to your institution in the last 5 years?
  - ☐ 0
  - ☐ 1-2
  - ☐ 2-5
  - ☐ 5-10
  - ☐ > 10
6. Does your site have standardized discharge coding?
  - ☐ Yes
  - ☐ No
  - ☐ Unsure

### Frostbite Care Protocols

7. Does your facility/hospital have a formal frostbite protocol?
  - ☐ Yes
  - ☐ No
  - ☐ Unsure
8. If yes, what has helped you develop or implement a frostbite protocol?
  - ☐ [Click here to enter text](#)
9. If no, has your institution ever attempted to implement a frostbite protocol?
  - ☐ Yes
  - ☐ No
  - ☐ Unsure
10. If no, does your institution have the ability to transfer patients to a site with a protocol?
  - ☐ Yes
  - ☐ No
  - ☐ Unsure
11. What barriers has your institution faced in developing/ implementing a frostbite protocol?
  - ☐ Not applicable
  - ☐ Unsure
  - ☐ [Click here to enter text](#)

# SURVEY DEVELOPMENT

CALL TO ACTION

KEEP AN EYE OUT FOR THE SURVEY!

THANK-YOU