UNIVERSITY OF ALBERTA

DEPARTMENT OF MEDICINE
FACULTY OF MEDICINE & DENTISTRY

# ME2 MAJUMDAR RESEARCH & QUALITY IMPROVEMENT DAY


## & QI DAY

MAY 14, 2026. 08:00 AM

# Quality Improvement Abstracts

# Implementation and Evaluation of a Patient-Centered Adrenal Insufficiency Toolkit: A Quality Improvement Study

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Supervisor: Dr. Roseanne O. Yeung

## INTRODUCTION
Adrenal insufficiency is a life-threatening condition requiring lifelong glucocorticoid replacement and patient-led stress dosing. There is a lack of standardized, robust patient education for adrenal insufficiency, which contributes to preventable adrenal crises and emergency department visits. To address this gap, a patient-centered adrenal insufficiency toolkit was developed through Human-Centered Design in collaboration with patients, endocrinologists, and the Alberta Physician Learning Program. This study aims to evaluate the usability, comprehensibility, and perceived impact of the toolkit.

## METHODS
This quality improvement study includes adults with primary and secondary adrenal insufficiency (n=117) previously identified by endocrinologists in the Division of Endocrinology and Metabolism. Eligible participants will be invited via email by the research team on behalf of their endocrinologist, with study information, the toolkit, and a cross-sectional survey administered via REDCap. Informed consent will be assumed based on questionnaire completion, which will be stated in the invitation. Objectives will include gauging usability (ease of use, clarity), understanding (including stress dosing guidance), and confidence in self-management; these will be assessed using 5-point Likert scales. Composite scores for usability, self-efficacy, and acceptability will be calculated. Open-ended responses will undergo thematic analysis. Descriptive and subgroup analyses (including prior toolkit exposure) will inform iterative refinement and longitudinal evaluation.

## RESULTS
Data collection is ongoing. Planned analyses include descriptive statistics of composite scores and thematic analysis of qualitative feedback to evaluate toolkit usability, acceptability, and perceived impact, and to identify areas for improvement.

## CONCLUSIONS
This study will provide ongoing data on the usability and patient-perceived impact of the Adrenal Insufficiency patient toolkit. Findings will guide iterative improvements and support scalable strategies to enhance patient education and self-management, with the potential to reduce preventable adrenal complications.

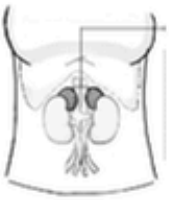
# ADRENAL INSUFFICIENCY

*PATIENT RESOURCE*

## ADRENAL HORMONES

Adrenal hormones are produced by the 2 adrenal glands that sit on top of each kidney. Adrenal insufficiency (AI) is a condition where the body cannot produce enough adrenal hormones which are essential to life.

Adrenal hormones are called "stress hormones" because they allow the body to respond to stress.



**Adrenal gland**

**Cortisol**
(a glucocorticoid hormone)
Regulates blood pressure, wound healing, and blood sugar

**Aldosterone**
(a mineralocorticoid hormone)
Regulates blood pressure, water, and salt balance

**Primary Adrenal Insufficiency** happens when the adrenal glands are directly affected (eg. from autoimmune disease, infection, or surgery), resulting in a lack of both cortisol and aldosterone.

**Secondary Adrenal Insufficiency** happens when the brain signals to the adrenal glands are affected (eg. from too much glucocorticoid for other conditions, opioid medications, or damage to the pituitary gland), resulting in a deficiency of only cortisol.

## HOW AI IS TREATED?

**Cortisol Replacement** → hydrocortisone (Cortef®), cortisone acetate, dexamethasone, OR prednisone

**Aldosterone Replacement** (For primary AI only) → fludrocortisone (Florinef®)

## TALK TO YOUR HEALTHCARE PROVIDER IF...

- Dizzy when getting out of bed or changing position
- Unwanted weight loss or weight gain
- Blood pressure too high (> 140/90 mmHg) or too low (< 90/60 mmHg)
- Mood changes (e.g. depression, anxiety, irritability)
- Worsening energy
- Blood sugars too high or too low
- Worsening salt craving
- Undergoing procedure or pregnancy

## SPECIAL CIRCUMSTANCES

During illness, surgery, physical injury, or emotional stress, your body requires additional cortisol doses and in some circumstances this can be life threatening if not treated (Adrenal Crisis).

***See your personal treatment plan regarding stress dosing and adrenal crisis management.***

## COMMON SYMPTOMS

- Fatigue/ exhaustion
- Fainting or dizziness on standing
- Low blood pressure
- Severe nausea, vomiting, and/or diarrhea
- Weight loss
- Back or abdominal pain
- Darkening of skin or gums (in primary AI only)
- Salt craving (in primary AI only)



# ADRENAL INSUFFICIENCY PERSONAL TREATMENT PLAN

**Please fill out this form with your doctor**

Name: _____

Date: _____
DD - MM - YYYY

**YOUR REGULAR TREATMENT DOSES (when feeling reasonably well):**

**Glucocorticoid:** ☐ Hydrocortisone (Cortef®) ☐ Cortisone acetate ☐ Prednisone ☐ Dexamethasone
Dosage: _____

**Mineralocorticoid:** ☐ Fludrocortisone (Florinef®) ☐ Not needed
Dosage: _____

## GENERAL SCENARIOS TO CONSIDER

**Home management of illness (e.g. fever or infection)**
- Dosage: Double or triple corticosteroid doses until recovery (for about 2 to 3 days).
- Stay hydrated; increase both salt and fluid intake.
- If requiring increased dose for more than 5 days, seek medical attention.

**Vomiting, persistent diarrhea, or persistent illness**
- Dosage: Triple stress hormone doses
- **If can not keep meds down, seek medical attention for IV hydrocortisone and possibly IV fluids.**

**Significant physical injury (e.g broken bones, sprains, or severe burns)**
- Dosage: Double the regular dose of oral medication on same day, then return to normal dose if feeling better.

**Travel**
- Take half of your total daily dose of glucocorticoid every 6 hours then continue your regular dose per local time zone.
- Carry emergency injectable hydrocortisone especially if you are travelling to remote areas.

**Significant emotional or psychological stress**
- Dosage: Stress dosing may be required.
- Please speak with your doctor for personalized adjustment.

## ADRENAL CRISIS

If you are experiencing these symptoms below or unable to keep your medications down, then **seek medical attention immediately or call 911**


Dosage: Triple stress hormone dose or use injectable hydrocortisone kit on the way to seeking urgent medical attention for IV hydrocortisone and IV fluids.

***See back for details.**

## WE RECOMMEND

- Wear a medical alert bracelet or necklace with the term "ADRENAL INSUFFICIENT- STEROID DEPENDENT".
- Keep a wallet card, and/or a have letter from your doctor outlining the need for emergency medications and dosing recommendations
- Ask your doctor about the need for an emergency glucocorticoid injection kit at home, which may be recommended in cases of significant illness or travel. Keep in mind, you still need to go to the hospital if you have adrenal crisis symptoms.
- Ensure that friends/family can recognize the signs and symptoms of adrenal crisis and when to get help.

## RESOURCES

- Hormone Health Network: http://www.hormone.org/diseases-and-conditions/adrenal-insufficiency
- Patient.info: https://patient.info/signs-symptoms/tiredness-fatigue/addisons-disease
- National Adrenal Disease Foundation: https://www.nadf.us/adrenal-disease/addisons-disease/
- AHS Health Link (available 24/7) Call 811 or visit https://myhealth.alberta.ca
- MyHealth Alberta: https://myhealth.alberta.ca/
- Injection kit video demos: https://www.addisonsdisease.org.uk/the-emergency-injection-for-the-treatment-of-adrenal-crisis

## NOTES

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## WATCH OUT FOR

**Pregnancy**
- Speak to your doctor about dosing once you find you are pregnant or are planning pregnancy. *Use cation and vaginal delivery procedure

**Strenuous exercise**
- Dosage: A temporary increase in stress hormone dosage may be required.
- Speak to your doctor for a personal plan.

**Hot temperatures or conditions**
- You may need extra doses of stress hormone or extra fludrocortisone.
- Stay hydrated, increase both salt and fluid intake.
- Speak to your doctor for a personal plan.

**Medical/dental procedure or surgery:**
- Dosage: Let your healthcare professional know of your adrenal insufficiency, as additional doses of stress hormones before and/or after maybe required. *Use the dental procedures.

## WE RECOMMEND


- Wear a medical alert bracelet or necklace with the term "ADRENAL INSUFFICIENT- STEROID DEPENDENT".
- Keep a wallet card, and/or a have letter from your doctor outlining the need for emergency medications and dosing recommendations
- Ask your doctor about the need for an emergency glucocorticoid injection kit at home, which may be recommended in cases of significant illness or travel. Keep in mind, you still need to go to the hospital if you have adrenal crisis symptoms.
- Ensure that friends/family can recognize the signs and symptoms of adrenal crisis and when to get help.


## MEDICAL/DENTAL PROCEDURES

**Admission to hospital or emergency department**
- Notify the healthcare team of your diagnosis of adrenal insufficiency, and notify your healthcare provider's office if you are being admitted to hospital.

**Minor Procedures with local anesthetic**
- Post-op: An extra dose of oral stress hormone can be taken, only if adrenal insufficiency symptoms occur.

**Labor/ Delivery**
- Pre-op: 100 mg hydrocortisone IV or IM at onset then every 6 hrs until delivery
- Post-op: Double the regular dose of oral stress hormone for 24-48 hours then return to normal dose if well.

**Minor Surgeries/Procedures Requiring General Sedation**
- Pre-op: 100 mg hydrocortisone IV or IM.
- Post-op: Double the regular dose of oral stress hormone for 24 hours then return to normal dose.

**Bronchoscopy**
**Endoscopy: Gastroscopy and/ or Colonoscopy**

**Major or Emergency Surgery** *(eg. joint surgery, transplant procedures)*
- Pre-op: 100 mg hydrocortisone IV or IM.
- Post-op: Double the regular dose of oral stress hormone for 48h hours and taper back to the normal dose.

**Dental procedures**
- **Worse dental procedure:** Take an extra dose of oral stress hormone if you develop adrenal insufficiency symptoms (can be taken post-procedure).
- **Surgery with local anaesthetic:** Double the regular dose of oral stress hormone one hour prior to surgery and for 24 hours post-procedure then return to normal dose.
- **Major dental surgery:** 100 mg hydrocortisone IV or IM prior to anaesthesia. Double the regular dose of oral stress hormone for 24 hours post-procedure then return to normal dose.

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# Re-skill CVC: A Randomized Controlled Trial of 360° Virtual Reality vs Video-Based Just-in-Time Training for Central Line Re-skilling

Amrit Ahluwalia, Nanki Ahluwalia, Brian Buchanan
Supervisor: Dr. Brian Buchanan

## INTRODUCTION

Maintaining competence in high-risk, low-frequency procedures remains a persistent challenge for practicing clinicians, particularly after training when procedural exposure declines. Central venous catheter (CVC) insertion is technically demanding and associated with serious complications when performed sub-optimally. Just-in-Time Training (JITT), commonly delivered via online videos, supports rapid pre-procedural review but lacks immersion and interactivity for effective skill re-acquisition. Virtual reality (VR) offers an immersive, standardized alternative. While prior studies focused on novice learners, the role of VR in re-skilling experienced clinicians remains underexplored. We aimed to determine whether VR-based JITT improves procedural performance compared to video-based JITT among senior clinicians.

## METHODS

This is a prospective, parallel-group, randomized controlled study. Sixteen senior trainees (postgraduate years 4–5), serving as a surrogate for early-career physicians, are randomized 1:1 to either a 360° immersive VR module or a standard 2D instructional video, delivered immediately prior to simulated CVC insertion in a deliberately minimalist, point-of-care JITT model. Procedural performance is video-recorded and independently assessed by two blinded raters using the Ottawa Surgical Competency Operating Room Evaluation (O-SCORE). The primary outcome is overall technical performance, including procedural skill, independence, and entrustability. Secondary outcomes include procedural time, learner confidence (5-point Likert scale), cognitive load (NASA-TLX), satisfaction, and knowledge retention. Outcomes are assessed immediately post-intervention and at 1 month.

## RESULTS

Recruitment and data collection are ongoing. We anticipate that VR-based JITT will improve procedural performance, independence, and confidence by enhancing spatial understanding and experiential learning, without increasing cognitive load compared to video-based training.

## CONCLUSIONS

This study addresses a critical gap by focusing on procedural re-skilling rather than initial acquisition. Findings will inform scalable, point-of-care strategies for maintaining procedural competence and enhancing patient safety among practicing clinicians.

# Quality-of-care indicator adherence for Staphylococcus aureus bacteremia has improved over time

Paul Greidanus, Mark McAllister, Tanis Dingle, Sarah Mansour, Arienne King, Stephanie W Smith, Justin Z Chen
Supervisor: Dr. Justin Chen

**INTRODUCTION**
Staphylococcus aureus bacteremia (SAB) is associated with substantial morbidity and a 10–30% mortality rate. Quality-of-care indicators (QCIs)—including repeat blood cultures to document clearance, infectious disease (ID) consultation, echocardiography, and appropriate antimicrobial therapy, both empirical and targeted therapy—have been proposed to guide optimal management. It is unclear whether adherence to these QCIs has changed over time. Our objective was to evaluate changes in QCI adherence in SAB across two time periods and to assess the association between QCI adherence and key clinical outcomes.

**METHODS**
We performed a retrospective chart review of adults admitted with SAB at a tertiary-care hospital in 2010–2012 and 2020–2022. Patients receiving palliative approaches or who died within 48 hours were excluded. QCI adherence was calculated as the proportion of eligible QCIs met per patient. QCI adherence between time periods was compared using the Mann–Whitney U test. In a predefined secondary analysis, logistic regression was used to examine whether QCI adherence was associated with 30-day mortality after adjusting for age, complicated SAB, MRSA, LOS, and comorbidities.

**RESULTS**
A total of 812 SAB cases were included (2010–2012: n=325; 2020–2022: n=487). Median QCI adherence increased significantly from 2010–2012 (78%, 95%CI 76-80) to 2020–2022 (mean 95%, 95%CI 94-96; p<0.0001). Adjusted analysis suggested lower mortality with better QCI adherence (aOR 0.61 [95% CI 0.50-0.73] ; p<0.0001). Subgroup analysis excluding ID consultation showed a similar trend though overall decreased QCI adherence (68.2% [95%CI 64.5-71.9], n=124 vs 79.2% [95%CI 74.4-84.0], n=52 ; p=0.0007).

**CONCLUSIONS**
QCI adherence in SAB improved substantially over the past decade despite no structured quality-improvement program, even without ID consultation (though to a lesser degree). Higher adherence was independently associated with reduced short-term mortality.

# Piloting a General Internal Medicine On-Call Physician to Improve Zone-Wide Care Coordination

Soraiya Lalani, Pamela Mathura, and Jennifer Ringrose
Supervisor: Dr. Pamela Mathura & Dr. Jennifer Ringrose

## INTRODUCTION

Alberta Health Services RAAPID (Referral, Access, Advice, Placement, Information & Destination) is a centralized call center connecting referring physicians to specialists supporting consultation, triage, and interfacility patient transfers across the Edmonton Zone (EZ). RAAPID calls for the General Internal Medicine (GIM) service are currently distributed across on-call physicians at different hospitals. Due to site capacity, there is often duplication of consultations, communication gaps, and increased physician workload. GIM physicians at hospital sites are simultaneously admitting local patients, making RAAPID calls a significant diversion. This project aimed to evaluate the impact of implementing a centralized GIM on-call physician to improve care coordination and physician workload.

## METHODS

A three-month pilot (January–April 2025) implemented a single designated GIM physician to manage all RAAPID calls across the EZ from 0730–1700, Monday to Friday. Measures included RAAPID, GIM onsite physician and referring physician satisfaction (collated informal feedback), patient disposition (transfer vs. advice/treat in place), call volume, duration of intervention, and GIMR physician satisfaction using daily shift reports. Qualitative data were analyzed using thematic analysis.

## RESULTS

A total of 227 RAAPID calls were included. Most patients were transferred to GIM (61.2%), while 25.6% were redirected to other services and 13.2% were managed with telephone advice only. Pre-intervention challenges included workflow inefficiencies, communication gaps, and variability across sites. Post-intervention feedback suggested that the RAAPID service appreciated the GIMR availability (answered calls faster), there was need for streamlined communication for handover but that the GIMR service reduced the need for duplicate consults, and decanted workload from the clinicians working at each site.

## CONCLUSIONS

A centralized GIM physician on-call model improved zone-wide care by increasing the number of patients who were able to be treated in place and decreasing the number of consultations to the on-site clinicians caring for local patients. Future work will focus on further refining communication.

# Patient and Healthcare Provider Voices – Listening to Improve: Evaluating a Multidisciplinary Coordination of Care Pathway for Pancreaticobiliary Cancer

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Supervisor: Dr. Pamela Mathura

## INTRODUCTION

The Edmonton Pancreaticobiliary Inflammation and Cancer (EPIC) program was launched in July 2023 to enhance care for pancreatic cancer patients by creating a streamlined, nurse navigator-supported pathway from diagnosis to treatment. The purpose of this study was to gather feedback from patients and family members during their involvement with the EPIC program to determine program strengths and areas for improvement.

## METHODS

Using sequential mixed methods, purposive sampling of participants in the EPIC program yielded three data sources: a health organization patient satisfaction survey, structured one-on-one telephone interviews, and nurse navigator (NN) notes. The patient satisfaction survey administered over eight months contained both closed- and open-ended questions. Closed-ended survey responses were analyzed descriptively, while open-ended responses underwent thematic analysis. Data from the interviews and NN notes were also analyzed thematically. Findings were integrated in a joint table.

## RESULTS

A total of 41 (46%, 41/90) patients completed the patient satisfaction survey, revealing four themes: satisfaction and praise, navigation and care coordination, family engagement, and areas for improvement. Telephone interviews with 63 (53%, 63/119) patients yielded 1,023 comments, affirming these themes and identifying four additional themes: emotionally supportive care, timely education, limited family engagement, and neutral or no recall feedback. Nurse navigator notes corroborated these findings and one more theme were identified: endorsement and advocacy for program sustainability. The areas for improvement included a desire for more face-to-face interactions, written follow-up, and to address language barriers. Findings across all data sources were consistent, patients appreciated the NN program for the timely navigation, communication and family engagement.

## CONCLUSIONS

Patient feedback offered valuable insights to advance the pancreaticobiliary inflammation and cancer NN program, as well as opportunities for improvement. To streamline and enhance data collection in the future, we plan to develop an evidence-based tool to systematically gather patient and family feedback after three months of program involvement.

# Effectiveness of Psychodermatologic Educational Modules on Atopic Dermatitis Patient Outcomes: A Randomized Controlled Trial

Michelle Sze Yiu Leung1, Kevin Li1, Danting Zheng2, Cécilia Bernier3, Aakankshya Kharel1, Serena Dienes4, Parsa Abdi5, Adam Yu1, Jia Qi Adam Bai6, Sofia Maruschak-Love1, Tarek Turk1, Sebastian Straube7,8, Marlene Dytoc9
Supervisor: Dr. Marlene Dytoc

**INTRODUCTION**
Atopic Dermatitis (AD) is a chronic inflammatory skin disorder associated with significant psychosocial morbidity—including anxiety, depression, and impaired social functioning—yet these dimensions remain underrepresented in standard dermatologic care. A prior scoping review of 40 studies found that pediatric interventions, particularly mindfulness and relaxation-based approaches, showed strong efficacy, while adult-focused research was limited and inconsistent. Intervention success appeared to depend more on emotional expression and social connectivity than on intensity alone. To address these gaps, we conducted a randomized controlled trial (RCT) evaluating the feasibility, acceptability, and efficacy of online psychodermatologic educational modules for pediatric and adult AD patients.

**METHODS**
Informed by a PRISMA-ScR compliant scoping review of five databases identifying 24 RCTs, we conducted a parallel-group RCT enrolling 57 pediatric and adult patients from three dermatology clinics. Participants were randomized to standard care alone (control, n=29) or standard care plus five evidence-based digital modules (intervention, n=28). Modules covered the skin-mind connection, itch-scratch cycle, self-efficacy, support networks, and mind-body techniques. Primary outcomes included the Dermatology Life Quality Index (DLQI) and Patient-Oriented Scoring for Atopic Dermatitis (PO-SCORAD), with qualitative feedback collected via REDCap at baseline, 4, and 12 weeks.

**RESULTS**
Recruitment targets were met and delivery was successful. Follow-up completion was 39% at 4 weeks and 25% at 12 weeks. Engaged participants reported high acceptability, improved self-management confidence, and particular appreciation for the skin-mind and itch-scratch modules. Pediatric patients showed promising improvements in quality of life (DLQI: −100% intervention vs. −29% control) and disease severity (PO-SCORAD: −30% vs. −18%, respectively) at 12 weeks. Adult results were mixed (DLQI: −36% intervention vs. −63% control; PO-SCORAD: −28% vs. −44%, respectively). Small sample sizes precluded statistical testing.

**CONCLUSIONS**
The modules demonstrated strong acceptability and preliminary benefit for pediatric AD patients. Retention challenges highlight engagement barriers in longitudinal digital health interventions. These findings provide feasibility insights and effect size estimates to inform future trial design.

# Psychodermatologic Patient Education for Atopic Dermatitis Management: A Scoping Review and Evidence Map

Kevin Li, Michelle Leung, Parsa Abdi, Serena Dienes, Tarek Turk, Liz Dennett, Xiaonan Chen, Sebastian Straube, Marlene Dytoc
Supervisor: Dr. Marlene Dytoc

**INTRODUCTION**
Atopic dermatitis (AD) is a chronic inflammatory skin condition with significant psychosocial impacts on patients and caregivers. While patient education has become foundational to AD management, programs that explicitly integrate psychodermatologic content, including information on the mind-skin connection, emotional impacts of AD, and behavioral coping strategies, remain understudied. We performed a scoping review to characterize the landscape of psychosocial patient education for AD and to identify avenues for future research.

**METHODS**
In accordance with PRISMA-SCR guidelines, we searched five databases (Medline, Embase, PsycInfo, CINAHL, Scopus) from 2005-2025, identifying 40 studies spanning pediatric and adult populations. Studies were synthesized descriptively with evidence mapping of randomized controlled trials (RCTs) to visualize intervention effectiveness patterns on AD severity and quality of life. Quality assessment of RCTs was performed using Cochrane RoB 2.

**RESULTS**
Pediatric interventions showed strongest evidence (13 RCTs), with education on mindfulness and relaxation techniques demonstrating greatest improvements: 4/5 studies showed significant AD severity improvements and 3/5 for quality of life. In-person education programs were most common (15 studies) and effective, emphasizing caregiver empowerment and stress management

Adult-focused research remained limited (5 RCTs only) and inconsistent, though mindfulness-based digital interventions showed promise. Digital and mobile health modalities demonstrated potential when incorporating interactivity and social connection, highlighting the importance of emotional expression and peer support. Key limitations include predominance of high-income country studies, small sample sizes, and substantial intervention heterogeneity.

**CONCLUSIONS**
This review provides the first comprehensive mapping of psychodermatologic education for AD, revealing significant research gaps in adult populations while identifying promising approaches for scalable interventions. Future research should prioritize large-scale trials with longer follow-up, culturally sensitive content, and expanded psychosocial outcomes. Clinicians should consider mindfulness-based interventions for pediatric populations and digital modalities emphasizing peer support and emotional expression. Success appears dependent on fostering engagement and social connectivity rather than intervention intensity alone.

# Mind-Skin Health Index (MSHI): A Novel Transdiagnostic Psychodermatology Screening Tool

P. Abdi, X. Chen, K. Li, C. Clark, T. Turk, M. Leung, S. Maruschak-Love, E. Fujiwara, A. Abba-Aji, K. Hibbard, K. Barber, C. Gorman, S. Wong, L. Sa Jia, H. Veilette, J. Koo, E. Chow, T. Salopek, J. Chiu, P. Hum, X. Li, L. Fiorillo, P. Ting, M. Dytoc
Supervisor: Dr. Marlene Dytoc

## INTRODUCTION

Despite the high prevalence of psychodermatologic conditions and their significant impact on patient well-being, no universally accepted screening tool currently exists. A systematic review of 81 studies identified 45 psychodermatologic assessment instruments, revealing a critical gap: no existing tool provides comprehensive, transdiagnostic assessment across the full spectrum of psychodermatologic presentations. This motivated the development of the Mind-Skin Health Index (MSHI), a brief, patient-centered screening tool for early identification and referral.

## METHODS

Content validation employed a multi-phase approach. An international expert panel (n = 18) across dermatology, psychiatry, psychology, and primary care completed a three-round modified Delphi consensus process, refining an initial pool of 28 candidate items. A subsequent two-round patient Delphi (n = 26) enhanced item comprehensibility and acceptability. Preliminary psychometric evaluation was conducted in a clinical dermatology sample (n = 90) using exploratory factor analysis (EFA).

## RESULTS

The Delphi process yielded an 18-item preliminary MSHI spanning four psychodermatologic domains: mood and anxiety symptoms, body-focused repetitive behaviors, somatic phenomena, and skin-related distress. EFA supported a unidimensional structure for the final 11-item solution (MSHI version 4).

## CONCLUSIONS

The MSHI demonstrates strong content validity and promising psychometric properties as a transdiagnostic screening tool for psychodermatologic conditions. Confirmatory factor analysis in a larger validation cohort is planned to further establish its clinical utility.

# Atopic Dermatitis in Indigenous Communities: Barriers to Care and Teledermatology Solutions

Kevin Li MSPH, Eileen Tang BSc, Jasmine Gill MD PharmD, Julia Beaucage MD, Andy Lee PhD, Ryley McClelland PhD, Parsa Abdi BEng, Tarek Turk MD PhD, Mariah Katsiris MD, Rachel Dorey MD, Elise Hansen MD, Pamela Mathura MBA PhD, Marlene Dytoc MD PhD
Supervisor: Dr. Marlene Dytoc

## INTRODUCTION

Indigenous communities in Canada experience higher atopic dermatitis prevalence alongside profound barriers to dermatologic care, shaped by historical and ongoing structural inequities related to colonization. These barriers include historical trauma, geographic isolation, unsafe water, inadequate housing, and cultural safety gaps. Despite significant disease burden, Indigenous participants comprise only 0.91% of atopic dermatitis clinical trial enrollment. This review synthesizes evidence on prevalence, assessment approaches, access barriers, and intervention models, centering Indigenous perspectives and structural determinants of health.

## METHODS

A systematic search of five databases identified six studies; an environmental scan catalogued 49 programs. No randomized trials specific to atopic dermatitis management in Indigenous populations exist. Dermatologic conditions affected 16.6-53.5% of Indigenous populations, exceeding general rates. Barriers emerged across four domains: systemic (historical trauma, research exclusion), geographic (remote locations accessible only by plane or ice roads), resource-related (water insecurity, mold exposure, medication costs), and cultural safety deficits (limited Indigenous providers, dismissal of traditional healing). Promising interventions included Indigenous Extension for Community Healthcare
Outcomes telementoring, hybrid models combining community navigators with electronic consultations, outreach rotations, and co-designed care pathways. Most programs reported positive outcomes but lacked standardized metrics for wait times, disease control, or equity stratification.

## RESULTS

Improving atopic dermatitis care for Indigenous communities requires approaches beyond clinical service delivery. Findings support the importance of addressing upstream determinants such as water security and housing, strengthening cultural safety training, Indigenous governance following Ownership-Control- Access-Possession principles, and developing standardized equity-focused evaluation metrics. Dermatologists can contribute through advocacy, adapting care to patients' material realities, and partnering with communities to co-design sustainable models of care.

## CONCLUSIONS

Improving atopic dermatitis care for Indigenous communities requires approaches beyond clinical service delivery. Findings support the importance of addressing upstream determinants such as water security and housing, strengthening cultural safety training, Indigenous governance following Ownership-Control- Access-Possession principles, and developing standardized equity-focused evaluation metrics.

# Over 25% of Inflammatory Bowel Disease Advanced Therapy Dose Escalations are based on Symptoms Alone: A Quality Improvement Opportunity

Scott MacKay, Clare McCabe-Woodrow, Karen O'Hara-Banack, Pam Eliuk, Karen I. Kroeker
Supervisor: Dr. Karen Kroeker

## INTRODUCTION

Choosing Wisely Canada (CWC) recommends that long-term therapies for Inflammatory Bowel Disease (IBD) should not be initiated or escalated based only on symptoms. Dose escalations of advanced IBD therapies can lead to increased costs, potential safety concerns, and may subject patients to long-term use of higher than necessary advanced therapy doses. This study provides a single-centre examination of advanced IBD therapy dose escalations including what indications were present to inform these management changes. To assess the proportion of advanced IBD therapy changes made between 2021 and 2025 at the University of Alberta IBD Unit which followed current CWC recommendations.

## METHODS

This retrospective cohort quality improvement study reviewed advanced IBD therapy dose escalations to determine which reported indications were present at time of escalation. Possible indications included patient symptoms, abnormal biomarkers (i.e., fecal calprotectin [FCP], C-reactive protein), active disease on endoscopy, imaging results (i.e., intestinal ultrasound, CT and/or MR enterography), serum drug and anti-drug antibody levels, and missed doses. Descriptive statistics were calculated for the overall cohort and subgroups for each advanced therapy agent.

## RESULTS

In total, 1334 advanced IBD therapy dose escalations for 1081 patients were reviewed. 384 (28.8%) dose escalations were made based on patient symptoms alone and 701 (52.5%) were made in response to active disease being identified. The remaining 249 (18.7%) escalations were based on serum drug and anti-drug antibodies levels, with or without concurrent symptoms. Anti-TNF agents were the most frequently escalated medication class with 728 (54.6%) escalations, followed by anti-IL12/23 with 358 (26.8%), anti-integrins with 190 (14.2%), JAK inhibitors with 45 (3.4%), and anti-IL23 with 13 (1.0%). Evidence of disease activity was most commonly obtained from FCP levels (48.4%) and endoscopic findings (47.4%). Dose de-escalations were also identified, with 54 de-escalations documented between 2021 and 2025.

## CONCLUSIONS

This study demonstrates the need for ongoing improvement in determining active IBD prior to advanced therapy dose escalations. Recommendations regarding the use of serum drug and anti-drug antibody levels to inform dose escalations could potentially minimize the discordance between current CWC recommendations and clinical practice as shown in this study. Further research assessing the clinical outcomes of patients who were dose escalated on the basis of symptoms alone is required.

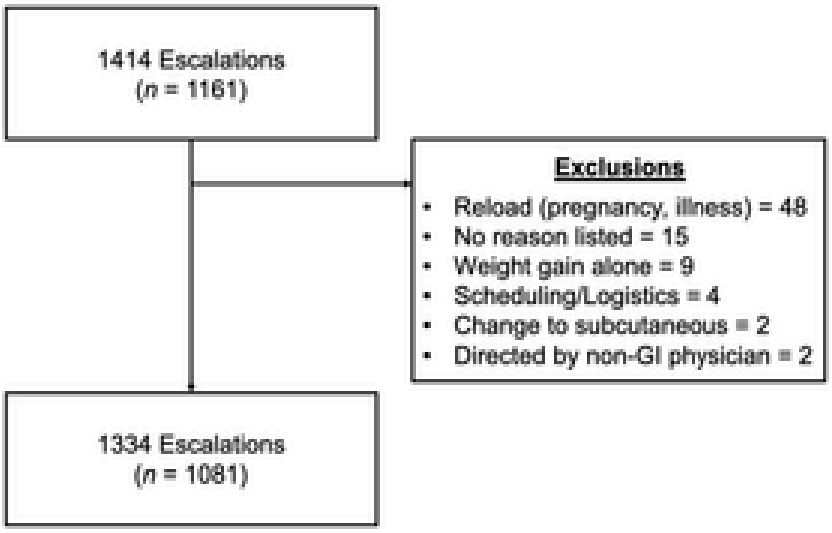


**Figure 1.** Flowchart of advanced IBD therapy dose escalations selected for inclusion in this study.

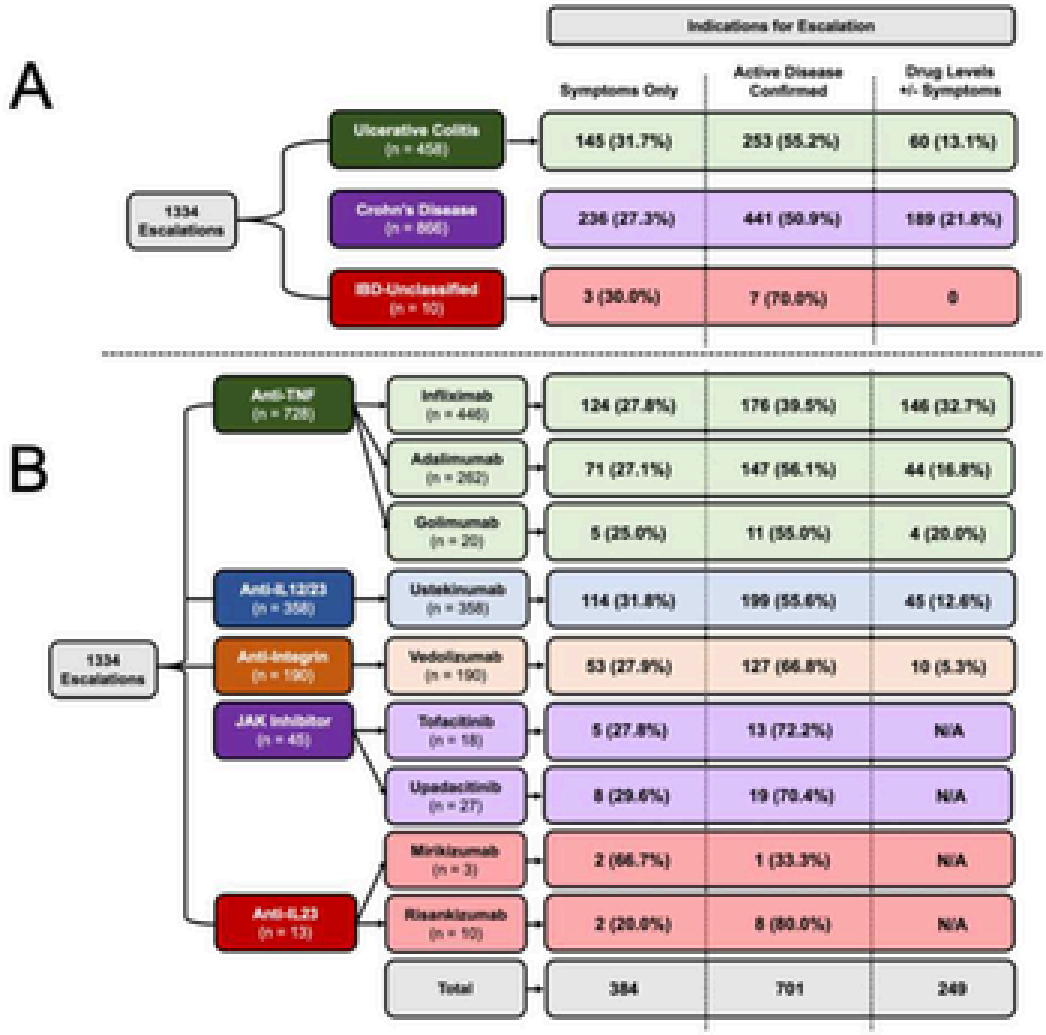


**Figure 2**. Summary of advanced IBD therapy dose escalations completed at the University of Alberta IBD Unit between 2021 and 2025 by IBD type (A) and advanced therapy type (B) with documented indications for escalation.

# Integrating Lived Experience into Research Recruitment: A Peer–Clinician Collaboration Model in Inpatient Spinal Cord Injury Rehabilitation

Yasaman Mashayekhi, Kendra Erhardt, Adalberto Loyola-Sanchez
Supervisor: Adalberto Loyola-Sanchez

## INTRODUCTION

The Rick Hansen Spinal Cord Injury Registry (RHSCIR) documents outcomes for individuals with spinal cord injury (SCI) across Canada. At the Glenrose Rehabilitation Hospital (GRH) in Edmonton, recruitment was initially conducted by a registered nurse (RN). Following staffing changes, recruitment transitioned to persons with lived experience of SCI (PWLEX) employed as peer support coordinators through SCI Alberta. This quality improvement study examines how peer-led RHSCIR recruitment shapes patient engagement during inpatient rehabilitation, and how this differs from nurse-led recruitment.

## METHODS

A qualitative descriptive approach was used. PWLEX documented written reflections following recruitment encounters with 24 inpatients over the study period. Reflections were analyzed using Braun and Clarke's (2006) six-phase thematic analysis framework, with an inductive approach to code generation and a hybrid second-pass to organize findings into broader domains. A semi-structured interview was conducted with the PWLEX to contextualize patterns identified in the reflections. A planned interview with the RN is ongoing and will provide a complementary role-based perspective. Data sources are integrated at the theme level.

## RESULTS

Preliminary findings identified five themes: (1) lived experience as a practical and relational resource — peers provided personalized guidance on equipment, driving, nutrition, and daily living that extended beyond clinical scope; (2) rapid trust formation and relational engagement — patients opened up authentically and quickly, in ways that differed markedly from interactions with clinical staff; (3) peer-supported SCI identity integration and reduction of isolation — peers helped patients reframe SCI as a livable reality, reducing isolation and supporting emerging disability identity; (4) identification of systemic and institutional gaps — peers surfaced missed referrals, inequitable access to peer support, and barriers created by shortened inpatient stays; and (5) peer-facilitated connection to community and services — peers actively linked patients to SCI Alberta programs, funding sources, and peer networks to ease community transition.

## CONCLUSIONS

These preliminary findings suggest that integrating community-based peer organizations, such as SCI Alberta, into inpatient rehabilitation research offers a promising model for enhancing patient experience. The PWLEX–clinician dynamic at GRH demonstrates that peer and discipline-based roles are complementary — each contributing distinct value to recruitment and patient support. Embedding PWLEX within the rehabilitation setting allowed patients to access lived experience knowledge, community connection, and emotional support beyond what clinical roles alone could provide. This points toward a broader quality improvement opportunity: formalizing peer–clinician collaboration in inpatient SCI rehabilitation as a standard of care. Final conclusions will incorporate nurse interview data to fully characterize this integrated model.

# Examining Care Aides' Perspectives and Attitudes toward the Adoption and Sustainment of Technology in Care Delivery: A Scoping Review.

Muyibat Omotunde, Kathleen F. Hunter, and Adrian Wagg
Supervisor: Dr. Adrian Wagg

**INTRODUCTION**
Care aides provide the majority of hands-on care across continuing care settings, yet their perspectives on health technologies used in care delivery remain underexamined. As frontline workers responsible for direct care, their attitudes, experiences, and perspectives may meaningfully influence whether technologies are adopted, integrated, and sustained in care delivery.

**METHODS**
A scoping review was conducted following the Joanna Briggs Institute (JBI) methodology. Searches of CINAHL, Cochrane Library, EMBASE, MEDLINE, SCOPUS, PROSPERO, Web of Science (including ProQuest Dissertations & Theses), and the JBI Evidence-Based Practice Database were completed for literature published between 2004 and February 2026, with no language restrictions. Grey literature, reports, and relevant websites were also searched. Two reviewers independently screened all titles, abstracts, and full texts. Data extraction captured study characteristics, care aide–specific findings, and factors related to technology uptake. Analysis was informed by the Consolidated Framework for Implementation Research (CFIR) and Rogers' Diffusion of Innovations theory.

**RESULTS**
Seventeen sources from five countries met the inclusion criteria. Technologies examined included mobile apps, digital tools, virtual and augmented reality, mechanical lift devices, medication administration systems, and sensor-based devices. Care aides generally perceived technologies as helpful when they supported workflow, increased efficiency, improved communication, enhanced safety, or improved care. Positive attitudes were associated with perceived usefulness, compatibility with daily routines, adequate training, and opportunities for hands-on experience. Barriers included inadequate training, network or infrastructure limitations, privacy concerns, perceived monitoring, physical space constraints, and worry that technologies might disrupt client–caregiver relationships. Only two studies focused exclusively on care aides.

**CONCLUSIONS**
Evidence remains limited regarding care aides' specific attitudes toward health technology, despite their central role in care delivery. Understanding their perspectives is essential for successful implementation, as care aides' perspectives and attitudes influence day-to-day technology use in care delivery and the long-term sustainment of innovation in practice.

# Cervical cancer screening adequacy in patients with autoimmune liver conditions and post-liver transplantation

Arshdeep Rattol, Dr. Ellina Lytvyak
Supervisor: Dr. Ellina Lytvyak

## INTRODUCTION

Patients who have autoimmune liver diseases (ALDs) and/or are post-liver transplant (post-LT) may have an increased risk of developing cervical cancer. This project aims to: (1) evaluate cervical cancer screening (CCS) rates in these patients; (2) identify predictors of non-adherence to recommended screening intervals (non-ARSI) that contribute to it; (3) assess the impact of the COVID-19 pandemic on CCS adequacy.

## METHODS

A retrospective cohort study was conducted using pap-smear data retrieved from the Alberta Cervical Cancer Screening Program and electronic medical records. 1372 screening-eligible patients were identified from 2020 (n = 620) and 2025 (n = 752). Adherence to screening intervals was defined according to criteria defined by the Canadian Task Force on Preventive Health Care. Chi square and univariate logistic regression were used to assess relationships between non-ARSI and participant characteristics.

## RESULTS

Of the screening eligible patients, 56.3% (n=773) were ARSI, with 57.1% (n=354) and 55.7% (n=419) in the 2020 and 2025 cohorts, respectively. CCS rates in both cohorts were significantly lower compared to the provincial target of 80% (2020 $p<0.001$; 2025: $p<0.001$). After adjusting for the contributing factors, the presence of cirrhosis (OR 1.38 [95%CI 1.08-1.77]), current smoking (OR 1.57 [95%CI 1.14-2.14]), obesity (OR 1.30 [95%CI 1.04-1.63]), and rural residence (OR 1.46 [95%CI 1.09-1.96]) were independently associated with non-ARSI.

## CONCLUSIONS

The CCS rates among females with ALDs and post-LT remain significantly lower compared to the provincial target and were not impacted by the COVID pandemic. Cirrhosis, smoking, rural residence and obesity independently increase the risk of non-ARSI.

# Percutaneous Transhepatic Biliary Drainage for Malignant Hilar Biliary Obstruction is Associated with Poor Outcomes – Is It Time to Reassess Its Clinical Utility?

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Supervisor: Dr, Gurpal Sandha

## INTRODUCTION

Biliary drainage (BD) of malignant biliary obstruction is important for quality of life and potential chemotherapy. Percutaneous transhepatic BD (PTBD) is an alternative when endoscopic stenting with ERCP is not possible. In malignant hilar biliary obstruction (MHBO), PTBD is often the preferred intervention as multiple branches may be obstructed rendering ERCP stenting suboptimal.

We aim to assess the impact of BD for MHBO on patient outcomes and compare them to management of extrahepatic obstruction.

## METHODS

Retrospective chart audit of all patients diagnosed with cholangiocarcinoma (CCA) at the University of Alberta Hospital from 07/2023-09/2025. Primary outcome was a reduction of the bilirubin to ⩽30 µmol/L. Secondary outcomes were successful initiation and completion of chemotherapy, procedural complications, re-interventions, hospital length of stay (HLOS), and mortality.

## RESULTS

52 pts (30 M), median age of 69 ± 9 years (52-94 years) presented with CCA. Location of CCA was intrahepatic in 14, hilar in 24, and extrahepatic in 14 patients. Only 2 patients with intrahepatic CCA underwent BD and were therefore not included in this review. We compared pts with MHBO with those that had extrahepatic CCA (see Table).

## CONCLUSIONS

The primary outcome was achieved with PTBD in 58% pts with MHBO but significant complications requiring multiple re-interventions precluded optimal chemotherapy, and were associated with a longer HLOS and shorter survival. Further inquiry into cost implications is required, and consideration for PTBD/ERCP in MHBO only on a case-by-case basis.

| | Hilar CCA | Extrahepatic CCA |
|---|---|---|
| Patients, n | 24 | 14 |
| Baseline bilirubin, µmol/L, median ± SD | 161 ± 150 | 181 ± 162 |
| Intervention, n | | |
| None | 4 | 1 |
| ERCP only | 2 | 10 |
| PTBD only | 13 | 0 |
| ERCP→PTBD | 4 | 3 |
| PTBD→ERCP | 1 | 0 |
| Lowest post-intervention bilirubin, µmol/L, median ± SD | 27 ± 56 | 14 ± 28 |
| Time to lowest bilirubin, days, median ± SD | 48 ± 53 | 35 ± 21 |
| Primary outcome, n | | |
| Patients with bilirubin ⩽30 µmol/L | 14 (58%) | 13 (93%) |
| Patients with bilirubin >31 µmol/L | 10 (42%) | 1 (7%) |
| Chemotherapy, n | | |
| Patients referred to cancer centre | 19/24 (79%) | 11/14 (79%) |
| Patients offered chemotherapy | 11/24 (46%) | 9/14 (64%) |
| Patients that started chemotherapy | 8/24 (33%) | 8/14 (57%) |
| Patients that finished chemotherapy | 0/24 (0) | 3/14 (21%) |
| Complications, n | | |
| Total | 17/24 (71%) | 4/14 (29%) |
| Bile leak | 14 | - |
| Drain/stent occlusion | 13 | 3 |
| Pancreatitis | 1 | 1 |
| Sepsis | 11 | 4 |
| Re-intervention, n | | |
| Patients needing repeat procedures | 17/24 (71%) | 4/14 (29%) |
| Total number of repeat procedures | 75 (range 1-11) | 11 (range 1-5) |
| Overall rate of repeat procedures/patient | 3.1 | 0.8 |
| Mortality, n | 14 (58%) | 9 (64%) |
| Time to death post-intervention, days, median ± SD | 202 ± 102 | 264 ± 120 |
| HLOS in days, median ± SD | 24 ± 14 | 4 ± 6 |

# Providers' Perspectives on Diagnostic Testing for Giant Cell Arteritis

Hae-Won Son, Tun Nyo, Chris Lyddell, Alison Clifford
Supervisor: Alison Clifford

## INTRODUCTION

Suspected giant cell arteritis (GCA) is a rheumatologic emergency, but there is no standard pathway for diagnosis at our centre. We aimed to improve our understanding of physicians' experiences with GCA and to identify strategies for improved access.

## METHODS

Specialist providers involved in diagnosis/treatment of patients with suspected GCA in Edmonton, AB, completed an anonymous online survey regarding their experiences requesting and/or performing temporal artery biopsy (TAB), PET/CT, and temporal artery ultrasound (U/S). Descriptive statistics and one-way ANOVAs were used for analysis.

## RESULTS

31 physicians from 5 specialties completed the survey. See Table 1 for physician demographics. Access to TAB was deemed the most essential diagnostic test (mean score 4.3 +/-0.86; 1=not important, 5=essential) compared to U/S (mean score 3.9 +/-0.79) and PET/CT (mean score 3.40 +/0.82), p=0.004. TAB was most difficult to access (mean score 3.8 +/-0.52; 1=easy to access, 5=cannot access) as compared to U/S or PET/CT (mean 2.6 +/-1.1 and 3.1 +/-0.91, respectively, p<0.001.)

Among 8 surgeons, an average of 6-10 TABs/each were performed last year. Surgical barriers included scheduling of urgent biopsies, and focused practice scope/limited capacity. Nuclear medicine physicians read 21-30 PET/CT scans for GCA/each last year. The limited number of scanners and inability to flag urgent cases were identified as barriers. The main reported barrier to U/S was that it is currently offered by a single provider.

62% (18/29) of respondents reported being very/somewhat unsatisfied with the process for diagnosis, and only 4/20 (20%) rheumatologists/neurologists reported feeling very confident about their current ability to diagnose GCA.

## CONCLUSIONS

Providers across multiple specialties were generally unsatisfied with current diagnostic testing for GCA, and most (80%) practitioners did not feel high confidence in ability to secure an accurate diagnosis quickly. Increasing access to TA U/S may help offset the need for TAB and improve care.

**Table 1. Demographics of survey respondents**

| Demographic | Count |
|---|---|
| Total respondents | 31 |
| **Respondent specialties** | |
| Rheumatologists | 18 (58.1%) |
| Ophthalmologists | 5 (15.1%) |
| Nuclear medicine physicians | 3 (9.7%) |
| General surgeons | 3 (9.7%) |
| Neurologists | 2 (6.5%) |
| **Practice setting** | |
| Primarily academic | 15 (48.4%) |
| Primarily community | 8 (25.8%) |
| Mix of academic and community | 8 (25.8%) |
| **Duration of practice** | |
| Physicians practicing >10 years | 19 (61.3%) |
| Physicians practicing for 2-10 years | 8 (25.8%) |
| Physicians practicing for <2 years | 4 (12.9%) |

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| | |
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