

# The Pediatric Nausea Assessment Tool: French translation and face validity in Francophone-Canadian pediatric oncology patients

by Anne Choquette, Araby Sivananthan, Annie Guillemette, Erin O'Shaughnessy, Martha Pinheiro-Maltez, Linda MacKeigan, Anne-Marie Langevin, and L. Lee Dupuis

## INTRODUCTION

Chemotherapy-induced nausea and vomiting (CINV) continue to negatively influence the quality of life of both adult and pediatric cancer patients (Dupuis et al., 2010; Farrell et al., 2013; Russo et al., 2014; Hinds et al., 2009; Sommariva et al., 2016). Vomiting and retching are symptoms that can be assessed objectively while nausea, a subjective symptom, is more difficult to quantify. Adult cancer patients can usually describe the severity of the nausea they feel using self-report visual analog or adjectival rating scales. Instruments such as the Multinational Association of Supportive Care in Cancer Antiemesis Tool (available from [www.mascc.org](http://www.mascc.org)) have been validated for this purpose and are recommended by experts in the field (Hesketh et al., 2015).

In 2006, we developed the Pediatric Nausea Assessment Tool (PeNAT), a four-face visual analog scale derived from the Wong-Baker pain scale and an accompanying script, for assessment of nausea severity by English-speaking children aged 4–18 years receiving chemotherapy (Dupuis et al., 2006). The English-language PeNAT is reliable and valid (Dupuis

et al., 2006). It has been used to describe the burden of nausea in children receiving various chemotherapies (Vol et al., 2016; Patel et al., 2020; Clinton et al., 2012), to evaluate the efficacy of antiemetic interventions (Dupuis et al., 2018; Evans et al., 2018) and to assess nausea severity as part of routine clinical care (McKinnon & Jupp, 2019). However, its use is restricted to English-speaking patients.

Canada has two official languages: French and English. In the 2016 Canadian census, 20% of respondents indicated that French was the language most often spoken in their home (Statistics Canada, 2016). This represents more than seven million Canadians. Francophone children are unable to easily communicate the severity of their nausea without a tool in their language. Thus, symptom severity cannot be accurately assessed, and quality of life may suffer due to unresolved nausea (Dupuis et al., 2016). Further, without a French-language, patient-report tool to assess nausea severity, Francophone children cannot participate in trials evaluating antiemetic interventions. We, therefore, undertook to translate the English-language PeNAT into French and test its face validity for the assessment of chemotherapy-induced nausea (CIN) severity by Francophone-Canadian pediatric oncology patients.

## AUTHOR NOTES

Anne Choquette, RN, MScN, CPON; Montreal Children's Hospital, McGill University Hospital Centre, Montréal, Québec

Araby Sivananthan, BSc; Research Institute, The Hospital for Sick Children, Toronto, ON

Annie Guillemette, MSc; Montreal Children's Hospital, McGill University Hospital Centre, Montréal, Québec

Erin O'Shaughnessy, RN, MScN; Children's Hospital of Eastern Ontario, Ottawa, ON

Martha Pinheiro-Maltez, RN, MScN, CPHON; Children's Hospital of Eastern Ontario, Ottawa, ON

Linda MacKeigan, PhD; Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON

Anne-Marie Langevin, MD; UT Health Science Center, San Antonio, TX

L. Lee Dupuis, RPh, PhD, FCSHP, Research Institute, The Hospital for Sick Children, Toronto, ON; Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON; Department of Pharmacy, The Hospital for Sick Children, Toronto, ON

**Address for correspondence:** L. Lee Dupuis, RPh, PhD, 555 University Ave., Toronto, ON M5M 1X3

[lee.dupuis@sickkids.ca](mailto:lee.dupuis@sickkids.ca)

Tel: 416-813-7654 x 309355; Fax: 416-813-5979

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## METHODS

We undertook this study in two stages. First, the English-language version of the PeNAT and supporting documents (administration script, diary, and diary instruction sheet) were translated and reviewed. Second, the face validity of the French-language version of the PeNAT and supporting documents was tested in pediatric patients and their parents. In the first phase, healthcare professionals from the Children's Hospital of Eastern Ontario (CHEO) reviewed the French-language version of the PeNAT. In the second phase, patients and parents were recruited at The Hospital for Sick Children (SickKids) and Montreal Children's Hospital (MCH). The Research Ethics Boards of SickKids, MCH, CHEO and McGill University approved the study. All participants provided informed consent or assent, as appropriate.

### French translation of the PeNAT

The previously validated English-language PeNAT and supporting documents (Dupuis et al., 2006) were translated into French by a professional translation service. The translation process incorporated current standards (Canadian General Standards Board, 2008) and best practices (Txabarriaga, 2009) and included the following: 1) translation of the source