

# DEVELOPING PATIENT ASSESSMENT GUIDELINES FOR CONVEXITY

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## Introduction:

Findings from an extensive literature review reveal insufficient evidence to support decisions made by clinicians for convexity use.<sup>1</sup> Patient assessment guidelines for convexity currently do not exist.<sup>1</sup> Recommendations from a panel of international nurses reinforced the need to develop evidence to fill in gaps regarding the correct use of convexity. One such gap that was identified was the development of evidence-based patient assessment guidelines for using convexity.

## Aims:

1) To develop a simple guide for assessing a patient's need for convexity. 2) To build evidence that supports a clinician's choice in choosing either flat or convex pouching systems to manage patients.

## Method:

An international group of experienced stoma care nurses reviewed the evidence regarding convexity and applied their collective experiences to develop a simple guide for patient assessment. Literature and industry-based resources were reviewed to determine supporting concepts for the use of convexity.<sup>1</sup> Key elements for stoma and peristomal skin assessment were ultimately distilled from this review. The draft guide was subsequently developed in spreadsheet format and piloted in several countries for accuracy and ease of use.

Based on these initial experiences, a more evolved and refined iteration was created based on this panel of experts' recommendations. This second iteration employing a unique 'scratch and reveal' answer sheet, was later revised based on preliminary testing during clinical practice. A third and final version was then assessed via an inter-rater reliability study across seven countries to determine its' consistency in responses and inter-rater agreement on the assessment scores.



## References:

1. Hoeflok J, Kittscha J, Purnell P. Use of Convexity in Pouching: A Comprehensive Review. J Wound Ostomy Continence Nurs. 2013 Sep-Oct;40(5):506-12.
2. Trochim, William M.K., Research methods Knowledge base 2006. - Introduction to Validity. <http://www.socialresearchmethods.net/kb/introval.php> p- Accessed March 2014.
3. Viera AJ, Garrett JM, Fam Med. 2005 May;37(5):360-3. Understanding interobserver agreement: the kappa statistic.

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## Validity Methodology:

Validity was built through a process of continual consensus by the clinician panel. This group agreed that all of the key elements of patient assessment were listed, and there was agreement about how those elements were described in the guide. The group also obtained early feedback from less experienced nurses to assess the readability of the guide.

## Reliability Testing Methodology\*:

Two or more nurses, one of whom was always a specialist nurse in stoma care, evaluated the same patient at the same time. Each person filled out a convexity guide independently. The responses to the nine patient assessment questions were used for the calculation of interrater reliability.

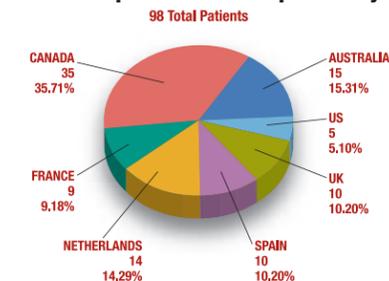
## Kappa Statistic:

Studies that measure the agreement between two or more observers should include a statistic that takes into account the fact that observers will sometimes agree or disagree simply by chance. The kappa statistic (or kappa coefficient) is the most commonly used statistic for this purpose. A kappa of 1 indicates perfect agreement, whereas a kappa of 0 indicates agreement equivalent to chance.<sup>3</sup>

## Key Learnings & Guide Limitations:

- Many clinicians found the guide simple and easy to use compared to other methods
- In the early postoperative period the stoma output might be non-existent – this is now addressed
- Positional changes during assessment are critical as peristomal topography can be highly variable (see images). This can also be problematic during the immediate postoperative period
- Support devices such as rods or bridges can obscure assessment
- The guide, while not prescribing a particular product solution, provided the clinician with the education necessary to correctly assess the patient
- Education on the correct guide use is paramount
- Clinicians would often rely on intuition and experience to make a decision regardless of guide recommendations

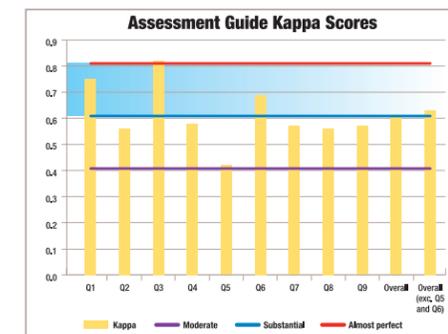
## Number of patients assessed per country



Convexity Guide Overall Kappa 0.63\*  
Interpretation: **Substantial agreement**

\* Overall Kappa calculated via average of individual kappa (excluding distal stoma kappas, q5 and q6)

- When the guide use was discontinued, experienced clinicians reverted to intuition with differing results from those who continued to use the guide
- Distal stoma was frequently difficult to identify
- Abdominal tone was frequently assessed incorrectly – users would often not palpate the abdomen and rely on visual assessment
- Opportunities for further research are indicated



Kappa Interpretation	
<0	Poor agreement
0.01 – 0.20	Slight agreement
0.21 – 0.40	Fair agreement
0.41 – 0.60	Moderate agreement
0.61 – 0.80	Substantial agreement
0.81 – 1.00	Almost perfect agreement

\* Data as of April 30, 2014



## Result:

A simple-to-use guide was developed that enables nurses from a variety of settings and expertise to assess a patient's need for convexity. The reverse side of this guide also captures initial and subsequent patient care data and product options and can be used as a platform for developing stronger evidence in ostomy care.

## Conclusion:

Evidence in ostomy care is evolving and may soon become mandatory. The convexity guide that was developed by this panel is reliable and valid for use by nurses to assess the convexity needs of patients with stomas. Further studies are planned to obtain evidence on the reliability of the guide when used in other languages. With the wide array of convexity options available to clinicians today, more evidence and support is needed. Product nomenclature remains confusing and in some cases misleading. This new guide provides one simple method that can be used to gather and build additional evidence in ostomy care.