Introduction

Convexity has been an integral part of ostomy care for over 50 years. Its origins were born from necessity and ingenuity, the early creative uses of pouches, rings, inserts, and filters were adapted to compensate for imperfect peristomal planes and stoma construction. Some of the first products developed included the reusable faceplates and karaya pouches, and have broadly expanded to include integrated convex barriers (with varying configurations) and accessory products. Despite its widespread use, a consolidated understanding of convexity is lacking. An international panel of experienced ostomy nurses was convened to review existing literature, reported practices, and anecdotal recommendations related to the use of convexity in ostomy care. The review broadly focuses on convexity terminology, assessment parameters, indications for use, contraindications, and available clinician tools to aid product decision making. This poster highlights the panel’s findings and identifies future needs to support the use of convexity.

Assessment

A unified tool to aid in patient assessment and product selection is not demonstrated in the literature. Numerous clinicians emphasize a variety of points (Figure 1) that contribute to determining the need for convexity, but most are terminologically inconsistent. The proliferation of convex products has resulted in a unique lexicon of associated terms. Most notably, the varying depths of convexity are often described as shallow, moderate, or deep. However, there is a recognized failure to standardize these terms across clinicians and industry. Variations in product design have resulted in new terms such as soft and firm to describe product flexibility or rigidity as the force applied by the product (Figure 3), but again fail to clearly codify. Some convex product features (such as its silhouette or profile) are acknowledged by clinicians, but have limited mention or description in the available literature. This failure of consistency leads to poor communication between clinicians: terms are used interchangeably, but do not necessarily correlate with the products’ features or dynamics.

Terminology

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Frequently Cited Applications

Years of clinical experiences, coupled with two to three decades of convex product availability, have resulted in multiple attempts to describe convex terminology. Most discussions describe harmonizing the peristomal topography with the shape of the chosen barrier. Uneven peristomal contours, and the concept of mimicking or matching these contours with skin barriers, are the most commonly referenced indications for convex usage. Inadequate stoma length is also frequently cited as requisite to convex selection. Discriminating between the reported properties of convex products (Fig. 4) and actual indications for use (Fig. 5), however, is challenging as these often become synonymous. Young (1982) broadly indicated that the most common reason for convex use was the inability to maintain a pouch seal for an acceptable period of time.

Frequently Cited Precautions

Convexity use is not without concern. There are broad cautionary statements related to rigid/firm convexity, indicating that inappropriate use can cause complications, yet, there is a paucity of literature that clearly correlates convex use with adverse events. The lack of these concerns either lack supporting data or fall within the realm of clinical observations. Mechanical injury to the stoma or peristomal skin is the most commonly described complication. While being described somewhat in the literature, restricting the use of convexity in the immediately postoperative period to protect the mucocutaneous junction also lacks supporting evidence. New theories that suggest soft convex products can either prevent or eliminate these potential risks also is anecdotal. These suppositions can lead to the belief that some products are more effective in some instances than others, but again lack any evidentiary support.

Conclusion

Complex extensors warranted the development of convex products and undoubtedly fueled its perforation into routine care. The subsequent accumulation of clinician and patient experiences has built a diverse, yet fragmented portfolio of indications, precautions, and terminology. At present, there is no reference that consolidates a comprehensive patient assessment with in-depth convex product knowledge, nor is there sufficient evidence to support the decisions for use. The panel strongly recommends the development of a formalized process that will support clinician decision-making for convex products.