

# A CASE FOR CONVEXITY



Stoma Size in mm	Impression Convex Urostomy Pouch	Impression Convex Drainable Pouch	Impression Convex Flange	Pouch Size to fit Impression Flange
17 1/2	1480	-	4430	25mm
18 5/8	1481	-	4431	25mm
19 3/4	1482	3610/3680	4432	25mm
20 7/8	1483	3611/3681	4433	25mm
21 1	1484	3612/3682	4434	25mm
22 1 1/8	1485	3613/3683	4435	38mm
22 1 1/4	1486	3614/3684	4436	38mm
23 1 3/8	1487	3615/3685	4437	38mm
23 1 1/2	1488	3616/3686	4438	38mm
24 1 5/8	-	3617/3687	4439	51mm
24 1 3/4	1489	3618/3688	44310	51mm
25 2	-	3619/3689	44311	51mm
	Box of 10	Box of 10	Box of 10	Box of 5



**Hollister Limited**  
 Rectory Court · 42 Broad Street · Wokingham · Berkshire RG11 1AB  
 Tel: (0734) 775545 · Fax: (0734) 775881

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*The management of problematic stomas can be a very costly, time-consuming process, and may have serious implications for both the ostomist and health professionals involved in his care.*

*For the ostomist, frequent leakage, peristomal skin breakdown and embarrassing odour, can easily lead to loss of confidence and encourage social isolation.*

*The professional with responsibility for stoma care, has few options when managing problematic flush or retracted stomas and for even the most experienced nurse, solving the problem can be a challenge.*

*This booklet provides a simple introduction to those management options, as well as a brief explanation of the causes of retraction and associated problems. In particular, this booklet will help you to recognise the need for convexity.*

Auriol L Lawson  
Clinical Specialist  
Hollister Limited

## INTRODUCTION

Retraction of the abdominal stoma is a well recognised complication which affects a significant proportion of the ostomy population.

Barbara Wade, in her research, 'A Stoma is for Life'<sup>1</sup>, found that approximately 16% of the 120 ostomists interviewed, had experienced complications associated with stomal retraction in their first year following surgery.

It is probable that as many as 40% of all ostomists will experience similar problems in the long term.

The optimum length of an abdominal stoma is 2.5cms, measured from the surface of the anterior abdominal wall. A stoma which fails to protrude sufficiently, may present serious management problems for both the patient and those involved in his care. It is important to note, however, that many patients, and in particular, colostomists, whose stomas are often flush by design, may never present with skin or leakage problems.

## WHAT FACTORS CAUSE STOMAL RETRACTION?

Stomal retraction occurs most commonly in the early post-operative period, but may also present as a long term complication. Retraction may be complete or partial and there are various factors which contribute to this problem.

### *Surgical Technique*

It is not always possible for the surgeon to construct the perfect stoma every time, and technical difficulties at the time of operation may result in a stoma which fails to project beyond the surface of the skin.

A poor surgical technique employed by an inexperienced operator, will undoubtedly result in a less than perfect stoma, whilst a lack of appreciation of the needs of the ostomist, has the potential to impede recovery and prolong rehabilitation.

The incidence of difficult-to-manage stomas is increasing as more surgeons create diverting loop ileostomies to protect the anastomoses of ileo-anal pouches<sup>2</sup>.

### *Sliding Recession*

This complication occurs in 10-15% of patients with ostomies and is directly related to surgical technique, the aperture through the abdominal wall being too large<sup>3</sup>.

Sliding recession causes problems mainly at night when the patient is supine, the stoma sliding back to skin level. Frequent leakage and subsequent peristomal dermatitis are commonly associated with sliding recession (Figure 1).

Local refashioning of the stoma, or even resiting, may be indicated if conventional management methods fail.



Figure 1: Sliding Recession

### *Ischaemia*

Ischaemia of the distal stoma is a relatively common complication which may arise in the early post-operative phase, or in the longer term. It occurs most commonly in the obese patient.

Post-operative ischaemia may occur if the distal portion of the bowel is brought out through the abdominal wall with tension applied to the mesentery. Sufficient mobility should be allowed to enable the bowel to pass through the abdominal wall and be everted, as blood which is supplied via the mesenteric membrane may become compromised and ischaemia or necrosis ensue. A newly fashioned stoma with a compromised blood supply may appear dusky pink or purple in colour, and sloughing of the stomal mucosa may occur. In many instances, the blood supply may recover sufficiently for the stoma to be viable, but may otherwise result in a less than perfect ostomy.

As a long term complication, retraction is often accompanied by stenosis or narrowing of the distal stoma, due to ischaemia resulting from internal scarring and adhesions. In the presence of symptoms associated with obstruction, this complication will usually require local refashioning, and it is important to note that frequent abdominal surgery (including local revision), will inevitably produce additional scarring and the potential for further problems.

A constricting aperture through the abdominal wall also has the potential to impair the blood supply to the distal stoma.

### *Dehiscence*

The formation of fistulae and abscesses as a result of local infection or Crohn's Disease, for example, may lead to dehiscence or separation of the mucocutaneous junction. A poor nutritional state will also contribute to this complication as the healing process may be impaired. Complete or partial retraction of the stoma may result with subsequent scarring of the peristomal margins, as healing and granulation eventually take place (Figures 2 and 3).

Indentation and other irregularities of the surface of the peristomal skin may subsequently lead to channelling of urine or stomal effluent.

Dehiscence may also occur if the stoma is not adequately sutured to the skin.

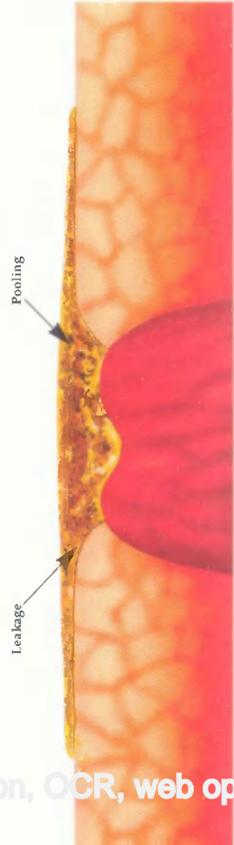


Figure 2: Complete Retraction



Figure 3: Partial Retraction

**Obesity**

Obesity is a common cause of stomal retraction in the short and long term.

Many surgeons will refuse to perform elective stoma surgery on the grossly obese patient, and may insist on weight reduction first to avoid complications associated with stoma management later. The 'moat effect' demonstrates the effect of stoma surgery which is performed through a fatty abdomen and results in pooling and leakage of stomal effluent with all the associated problems (Figure 4).

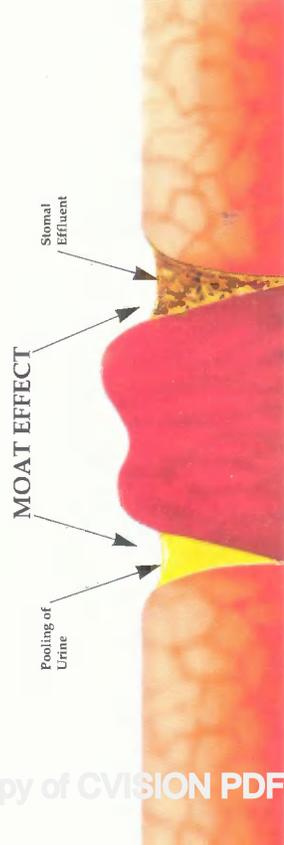


Figure 4: The 'Moat Effect'

Excessive weight gain following surgery may also give rise to management problems, in particular, the 'Sinking Stoma Syndrome'. This complication occurs as fat deposits build up around the stoma, creating the illusion that the stoma is retracting or 'sinking' (Figure 5). Management of this condition can be extremely difficult and weight reduction is strongly advised whenever possible, with close supervision and dietary advice to ensure patient compliance.



Figure 5: Sinking Stoma

**Peristomal Skin Excoriation**

Leakage and frequent pouch/flange removal will eventually lead to excoriation and subsequent breakdown of the peristomal skin. Peristomal dermatitis due to seepage of stomal effluent beneath the appliance faceplate may lead to further problems such as fibrotic skin changes and narrowing of the peristomal margins which may subsequently require hospital admission for treatment (Figure 6).

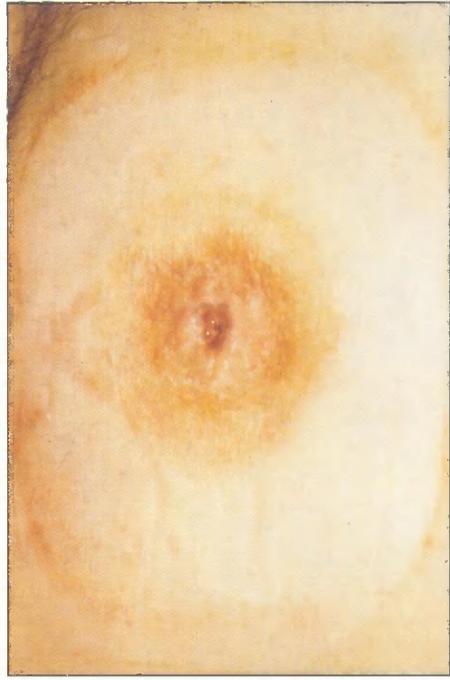


Figure 6: Fibrotic Skin Changes

## MANAGEMENT OPTIONS

A small variety of options is available to the nurse when assisting patients to manage problematic stomas.

A simple option is to create convexity by applying radial pressure to the peristomal area, to project the retracted or partly retracted stoma, whilst protecting the skin from the effects of stomal effluent.

Convexity may be achieved in a variety of ways, from the addition of a simple belt to the more complex time-consuming application of skin care accessories.

### *Abdominal Support*

An adjustable belt, used independently, or in conjunction with a semi-rigid rigid faceplate or belt adaptor, will usually provide adequate pressure to the peristomal area to achieve sufficient projection of the stoma.

To be successful, this method of management requires the belt to be worn tightly (lightly around the waist with the risk that the appliance may be 'dragged' over the stoma). For some patients the use of a belt and faceplate may be difficult to assemble and may be extremely uncomfortable.

Alternatively, a specially adapted corset (for ladies) or a support garment may be preferable, although this option may prove less successful.

### *Levelling Skin Contours*

A further option is to build up any recessed areas around the retracted stoma in a careful, methodical manner, using skin care accessories such as skin barriers and filler paste.

The desired depth of 'build-up' may be achieved by layering individual pieces of skin barrier and filler paste, taking care to allow each layer to 'set' and dry before applying the pouch or flange (Figure 7).

Levelling skin contours often helps to reduce leakage and deterioration of the peristomal skin, but this method of management may only be successful with careful assessment of the problem beforehand.

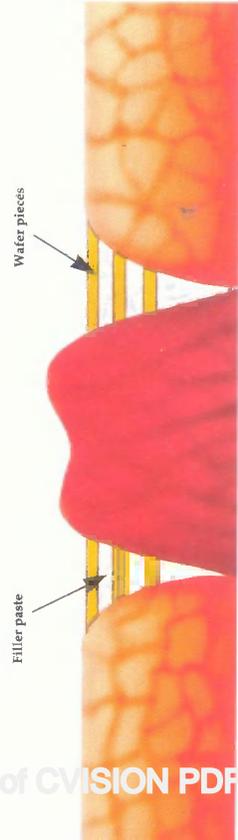


Figure 7: Levelling skin contours

Skin barriers are an integral part of most ostomy pouches and flanges, some of which are more durable than others in the presence of stomal discharge. Seepage of urine or corrosive small bowel effluent has the potential to destroy the integrity of even the most durable seal, especially if the stoma is flush or retracted beyond skin level.

This method of management may be complicated and time-consuming for many patients, especially the elderly and less dextrous who may require the assistance of a relative or community nurse, and if selected, careful consideration must be given to the patient's ability to cope with the complex assembly of multi-component management systems.

### *Convex Inserts*

In recent years, the availability of convex inserts has helped to overcome problems associated with retraction, but only to a limited extent. Designed for use only with two-piece ostomy systems, convex inserts may not be suitable for patients with limited dexterity. Insertion and removal (if necessary) may be difficult, and if used incorrectly, rigid plastic inserts have the potential to cause linear ulceration of the stomal mucosa.

### *Surgery*

A further option, and often a last resort, is to consider surgical refashioning of the stoma. This may require a 4 or 5 day stay in hospital, or longer, depending upon whether local or complete revision is necessary. Surgery carries with it all the usual post-operative risks, plus the uncertainty that ultimately there may be no improvement.

The option of further surgical assault is always at the discretion of the surgeon who may decide that further surgery is not feasible.

## THE SOLUTION

The Stoma Care Nurse has a further option of considering an ostomy system which will considerably help to improve life for many ostomists.

A single component pouch or flange with 'built-in' convexity has many advantages over traditional ostomy systems and methods of management which are not always successful or suited to the needs of the ostomist (Figure 8).

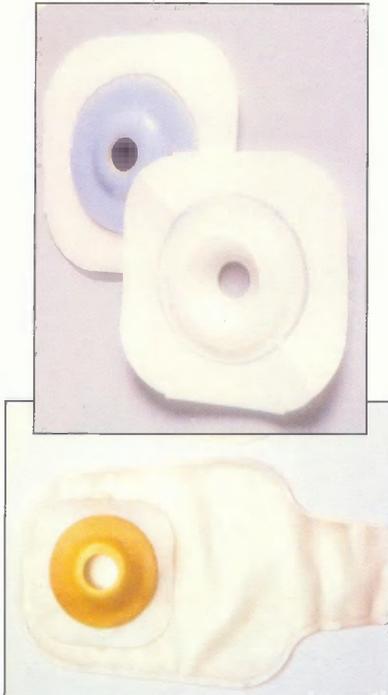


Figure 8: IMPRESSION Convex Pouch and Flange

The clinical acceptability of convexity as a solution to the management of most problematic stomas, is well proven, and in clinical use has been shown to significantly improve average wear time and reduce peristomal skin excoriation.

By design, integral convexity allows the skin barrier to conform to abdominal contours, placing it in much closer proximity to the skin than conventional skin barriers, whilst ensuring a secure seal (Figure 9).



Figure 9: Sinking stoma, convex skin barrier in position, stoma projects

This method of management can be considered for any patient with a flush or recessed stoma which frequently results in embarrassing leakage and deterioration of the peristomal skin.

Post-operatively, convexity can be used effectively to promote healing of the peristomal margins, when healing is delayed by pooling and leakage of stoma effluent. In selected patients, integral convexity can be a useful tool in the management of the collapsed stoma, when dehiscence of the muco-cutaneous junction occurs post-operatively. For the ileostomist in particular, corrosive fecal discharge bathing the peristomal skin can delay discharge from hospital and prolong rehabilitation.

In the obese patient, convexity can be used to manage problems associated with leakage, either in the short or long term. The 'moat effect' which often requires costly skin accessories and levelling of skin contours, can be satisfactorily managed with a convex skin barrier and filler paste (Figure 10).



CONVEX SKIN BARRIER IN POSITION, NO POOLING,  
SKIN PROTECTED

Figure 10: Moat Effect with convex skin barrier

Conversely, convexity may also be used to improve appliance wear time when excessive weight loss results in loose abdominal skin which may increase the frequency of leakage problems.

Additional convexity can be achieved by the application of a belt, although this may not be necessary or desirable.

Elderly and less dextrous patients, and those with visual impairment can benefit from an ostomy system which requires little time and effort to apply, whilst helping to promote patient confidence and independence.

Experience has shown that the risks and costs associated with surgical revision of the problematic stoma can be avoided with the use of pre-shaped convex skin barriers which are an integral part of the ostomy management system.

Impression Convex Skin Barrier is a 'therapeutic tool' which can be used effectively to treat as well as manage many problems associated with stoma retraction. Additionally, cost-conscious nurses and surgeons, working within tight economic constraints can also benefit.

The pre-shaped convex skin barrier has been shown to improve the quality of life of many ostomists, whilst providing the professional with a further management option.

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