

# Case Studies in Convexity

## Product Management

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### Introduction

The following case studies are clinical situations in which convexity has been used with successful patient outcomes. It serves as an indication of the value of convexity in stoma care practice and gives some practical solutions to some challenging situations.

#### Case 1 **Mr. S. Stoma in Crease**



**Problem:** This very obese man had formation of ileal conduit. Urinary stents were in-situ post-operatively, however the urine started bypassing the stents and undermining the pouching system. The pouching system would leak in only a few hours. When this happened, urine seemed to pool at the edge of the stoma.



**Solution:** Until the stents came out, a hydrocolloid seal and one-piece moderate depth convex urostomy pouch was used. The stoma measured 30mm. To achieve a good pouching seal, the seal was stretched to 30mm and a pre-sized 38mm pouching system was used. This protected the skin so that undermining did not occur, and the convexity provided the extra support to the stoma margins. This situation had been clinically experienced before on several occasions, where the urine came from around the stents instead of directly from them and was easily recognized and treated.



**Outcome:** When the stents were removed, urine came out from the middle of the conduit so undermining ceased, and the patient was able to simplify his pouching regimen by wearing a moderate depth convex appliance (no seal required) and belt. The stoma aperture was reduced to 32mm, and he simply stretched the skin upward prior to apply the pouching system. The patient has been leak-free since discharge.



## Case 2 Mrs. X. Pyoderma Gangrenosum



**Problem:** This patient who had a urostomy formed as a result of treatment for bladder cancer had a large abdomen and a history of multiple sclerosis and insulin-dependent diabetes. She also later developed a parastomal hernia and went on to develop extensive pyoderma gangrenosum around the stoma, which had a moderate exudate and was bleeding. She was not suitable for a hernia repair and had uncontrolled blood glucose levels.



**Solution:** Alginate sheets were applied directly to wound base and hydrocolloid protective sheets applied over the alginate. A moderate depth one-piece convex urostomy pouching system and ostomy belt was applied. Wear time achieved was two days.



**Outcome:** The patient remained leak-free and was able to achieve a predictable routine with stoma care. Continued improvement of the pyoderma gangrenosum showed a reduction in size with slow progress.

## Case 3 Mr. X. Stenosis of Ileal Conduit



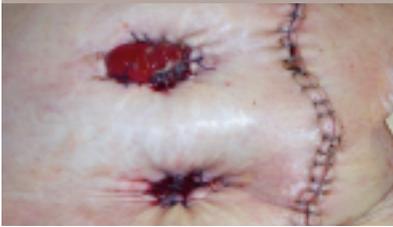
**Problem:** This man had formation of a urostomy as a result of treatment for bladder cancer four years ago and had adjunctive radiotherapy. The stoma was never spouted well, and he developed painful and uncontrollable hyperkeratosis for several months around a stenosed stoma. This condition caused leakage, pain and the patient was unable to visualise the stoma.



**Solution:** The aperture of the one-piece moderate depth convex pouching system was resized smaller as the stoma opening measured smaller than previously. A hydrocolloid sheet (4cm x 4cm with a hole cut in the middle) and a half a thin hydrocolloid seal was placed at 3 and 6 o'clock. To provide additional support and pressure, an ostomy belt was also fitted. The pouching system was changed daily. Regular follow-up and assessment of the pouching system was made. The patient was re-educated to be accurate with pouch application.

**Outcome:** The patient experienced no leakage, was free from pain and returned to independence. Following a course of corticosteroids for a respiratory infection, the hyperkeratosis spontaneously healed.

#### Case 4 **Ms. X. Poor Stoma Construction**



**Problem:** This patient had a peritonectomy performed for metastatic colo-rectal cancer with Hyperthermic Intraperitoneal Chemotherapy (HIPEC). The stoma was poorly constructed in terms of shape, location, aperture opening and height. She was also receiving cytotoxic medication and needed a leak-free pouching system.

**Solution:** A hydrocolloid seal and flat pouching system was used post-operatively as mucocutaneous (MC) separation is common after HIPEC. The use of the seal provided adequate skin protection and gentle convexity without causing undue pressure to the MC junction. It was noted early in assessment that due to the construction of the stoma, some form of convexity would be needed on discharge, particularly when the patient became more mobile. Moderate depth convexity pouching system was applied when discharged.

**Outcome:** The patient remained leak-free.

#### Case 5 **Mrs. D. Badly Sited Stoma**



**Problem:** Mrs D was an obese palliative patient who had an oval sigmoid colostomy with fluid output due to an irradiated bowel. The stoma was also badly sited in an abdominal fold. The stoma care nurse tried pliable flat bags, but the flexible appliance caused the faeces to travel against the force of a closed stoma.



**Solution:** The rigidity of convexity had a role in keeping the abdominal fold up and preventing leakage. The patient was managed with a hydrocolloid seal which the patient could apply herself on the back of a moderate one-piece convex pouching system.



**Outcome:** The patient's skin healed and she was able to apply the pouch correctly over the seal which provided skin protection for 24 hours between pouch changes. The use of the seal enabled oval shaping underneath a pre-cut convex pouching system.



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