



What is a Case Study?

A case study is a method of providing a creative and innovative solution to a real-world problem. This case study will be presented in the form of a competition. It lays out the nature of the problem, asks specific challenge question, and provides general guidance on the solution sought.

The Customer

Emma is a 16 year old girl who was diagnosed with ulcerative colitis at the age of 7. She underwent 5 surgeries within 8 years including the removal of her large intestine. As a result, she lived for 8 years with a colostomy bag. Emma's mother conveyed how difficult it was to always be nearby to help change Emma's colostomy bag at a moment's notice. They spent roughly \$300 a month on supplies that weren't covered by insurance. And her daughter experiences constant anxiety from the noise, smell, and leakage from the bag. Throughout her childhood, Emma had to face raw skin irritations, leakages from the upper right side attachment, anxiety from noises in the classroom, wearing baggy clothing to conceal the bag, and the anxiety of waking in the middle of the night to a bed of excrement. This experience changed Emma from being outgoing and social to being reserved and embarrassed.

The Challenge

To improve any part of the physical and/or emotion wellbeing of patients using colostomy bags. Three major problems are associated with living with colostomy: leakages, skin irritation, and odor from the bags/pouches. Innovations can come in any form of product design, service, or accessory related to the physical and/or emotional wellbeing of patients.

Judges will evaluate presentations based on the following criteria:

- 1) How well your solution addresses the challenge
- 2) Feasibility of your product and/or service
- 3) Demonstration of business viability
- 4) Adherence to the three components described in the *Pitch Presentation* section below.

Pitch presentation

This competition culminates in a 'Shark tank'-style pitch presentation that will take place on April 17, 2020. During this presentation your team is asked to pitch your innovative solution to a panel of esteemed judges. The top 3 (three) teams will be awarded scholarships. The

pitch should take no longer than 5 (five) minutes and must include the following 3 (three) components:

1. **Problem.** Briefly present the problem you are addressing.
2. **Product.** Present to the judges your innovative and creative solution to the problem discussed above. This may be a product and/or service that helps to address the problem. Be detailed in your description and presentation to provide the judges and audience a good understanding of what your solution is.
3. **Plan.** Present the plan for operationalizing your solution. In this section you will cover the financial, managerial, and marketing aspects of how you plan to proceed with your product/service and turn it into a viable business.

You may use *business model canvas* to better articulate this section. The following document provides a brief overview and guidance on how to develop a *business model canvas* along with examples from major companies/products such as Skype, a Lemonade Stand, Flickr, and Gillette.

<https://case.edu/provostscholars/sites/case.edu.provostscholars/files/2018-03/Business-Model-Canvas.pdf>. You may also explore online resources for other examples of *business model canvas*.

Awards and Future Directions

Once pitch presentations are over, the panel of judges will vote to select the best 3 (three) presentations, which will be awarded scholarships. The 1st place will be awarded a \$3,000; 2nd place will be awarded \$1,500; and 3rd place will be awarded \$500. In addition, these teams will be invited to develop their ideas further and receive advisement from the Case Study Competition team of advisors.

Background Information on Ostomy and Colostomy

According to the [United Ostomy Associations of America](#) (UOAA), an *ostomy* causes a change in the way urine or stool exits the body as a result of a surgical procedure. Bodily waste is rerouted from its usual path because of malfunctioning parts of the urinary or digestive system. An ostomy can be temporary or permanent.

Ostomy surgery is a life-saving procedure that allows bodily waste to pass through a surgically created stoma on the abdomen into a prosthetic known as a 'pouch' or 'ostomy bag' on the outside of the body or an internal surgically created pouch for continent diversion surgeries. An ostomy may be necessary due to birth defects, cancer, inflammatory bowel disease, diverticulitis, incontinence and many other medical conditions. They are also necessary in cases of severe abdominal or pelvic trauma resulting from accidents or from injuries sustained during military service.

A *stoma* is the opening created by ostomy surgery. It is located on the abdomen and is dark pink in color. For most ostomies, a colostomy bag or pouch is worn over the stoma to collect stool or urine.

Colostomy is the surgically created opening of the colon (large intestine) which results in a stoma. A colostomy is created when a portion of the colon or the rectum is removed and the remaining colon is brought to the abdominal wall. It may further be defined by the portion of the colon involved and/or its permanence.

History of the Colostomy Bags

In the early '70s the ostomy industry began to explore the needs of the ostomate. The philosophy changed from “we can provide what you need” to “what do you need that we can provide?” Developers recognized that a pouching system must be more than safe and effective; it must also consider quality of life.

Approximately 100,000 ostomy surgeries are performed annually in the United States. There are approximately 725,000-1 million people in the US who have an ostomy. People of all ages have life-saving ostomy surgery for a wide variety of reasons and most go on to live active and healthy lives. You have very likely already met someone with an ostomy but never knew it.

The pouching system we know today is a disposable product made of a skin-friendly, water-repellent, cloth-like material covering film laminates. Qualities include pouch films that help mask odor; noise-reducing pouch material; filters to help reduce ballooning of the pouch due to gas; flexible and thin skin barriers that are designed to stick to the skin with or without the use of belts; and integrated closures eliminating the need for separate clamps. All this is contained within a system that may weigh between 12 and 20 grams. Modern systems are low in profile, and designed for comfort, confidence and discretion; with a goal to get people with ostomies back into everyday life.



Colostomy Bag Varieties and Major Design Components

There are two types of pouching systems: one-piece and two-piece. Each has different advantages. Both pouching system types include a skin barrier and pouch. The skin barrier is the adhesive portion of your pouching system that is immediately around your stoma. It's sometimes called a wafer. The pouch is the bag that collects output from the stoma. Pouches are available in several lengths, and in ultra-clear, transparent, and opaque. You can also select pouches that have a soft cover, to help increase your comfort and provide added discretion.

- One-piece pouching system: With this type of system, the skin barrier is permanently attached to the pouch, so it's a single unit. When changing a one-piece pouching system, the pouch and skin barrier are removed together. The system is simple to apply - just peel and stick. Another advantage is that it lies flatter against the skin and may show less under clothing.

- Two-piece pouching system: This system includes a skin barrier and pouch as two separate pieces. The plastic ring, or flange, in a two-piece system connects the two parts together, making it easy to unsnap and discard the pouch.
- Drainable pouches: These have either a clamp or an integrated closure. They are meant to be emptied when they are about one-third to half full of output. You should consider using a drainable pouch if you have output frequently throughout the day.
- Closed pouches: Disposable pouches - there is no draining required. Patients who utilize these: output is less frequent, and pouch needs to be emptied just one or two times a day. Closed pouches do not have clamps and must be replaced to be emptied.

More information can be found at:

<https://www.hollister.com/en/ostomycare/ostomylearningcenter/usingostomyproducts/whatyouneedtoknowaboutostomypouchingsystems>

Related Issues

Despite all advances in colostomy bag or pouch technology, patients report serious and quality of life (QOL) reducing experiences with currently marketed colostomy bags/pouches. Results from multiple studies and literature reviews suggest that living with a colostomy negatively influences the overall QOL of the patients. [A systematic review](#) conducted in 2016 and multiple other studies (summarized in Appendix A) concluded that all studies, considered in the review, found that individuals living with a colostomy experiences overall decline in their QOL. Among major problems reported in these studies were issues related to skin irritations, intimacy and sexual problems, anxiety and depression, body image changes, low self-esteem due to appearance, gas and odors, fear of discovery and smells in social settings, challenges with travel and outdoor activities, and worries about noises, among other things. [Another study](#) has found that 54% of interviewed individuals living with colostomy decreased their willingness to go out and indicated a worsening of the social environment. A more detailed summary of various studies on colostomy are available in Appendix A.

A recent survey conducted by the Augusta University Center for Instructional Innovation has revealed that the top colostomy bag concerns were leakages (65%), clothing fit (63%), skin irritations (61%), intimacy and sexuality (48%), and noise (39%).

Timeline/Process

- **Innovation Sessions** are designed to introduce topics related to creative design solutions to challenges and are aimed at assisting teams to better navigate towards developing their own solution. The schedule and topics for these sessions are the following:
 - Introduction to the Case Study and Competition: Wednesday February 19, 2020
 - 3-4pm, University Hall 227, Summerville Campus
 - Innovation Session I: Wednesday February 26, 2020
 - *The key to user innovation*
 - *Creative problem solving*
 - *Ostomy nurse presentation*
 - 3-4 pm, JSAC Coffeehouse, Summerville Campus

- Innovation Session II: Wednesday March 11, 2020
 - *Innovation Process and Commercialization*
 - 3-4 pm, University Hall 227, Summerville Campus

- **Office Hours** will be held on February 19; March 4; March 18; March 25; April 1; and April 15. During this time, the Case Study Competition leadership/advisors will be available to answer questions you may have.

- **Pitch Competition:** April 17, 2020
 - **Time:** 3pm
 - **Location:** *to be announced*

Case Study Competition Leadership Team

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Appendix A – Literature Review Summary Table

| Year | Title | Journal | Objective | Findings | URL | Source | Keywords | Search Term |
|------|---|---|--|---|---|--|---|--|
| 1984 | Stigma in patients with rectal cancer: a community study. | Journal of Epidemiol Community Health | To assess perceived stigma in a community survey of the quality of life in 420 rectal cancer patients, of whom 265 had a permanent colostomy. The study also investigated the value of considering stigma as a psychosocial dimension in its own right to complement the traditional approach to quality of life in terms of physical, emotional, and social well-being. | Feelings of stigma were associated with poor health, particularly emotional disorders, with the presence of other medical problems, and with dissatisfaction. Patients who perceived stigma made more use of medical services but were less satisfied with them, particularly with regard to communication with health professionals. Socio-economic factors, such as employment status, higher income, and higher social and housing class, did not protect patients against feeling stigmatized by cancer or by colostomy. Most patients, with the exception of those with close relationships with intimates, but the stigmatized were more likely to have withdrawn from participation in social activities. Assessing stigma by self-rating gives information which adds to that obtained by the usual methods of assessing quality of life. | doi:10.1136/jch.38.4.284 | L. D. McDonald, & H. R. Anderson. (1984). Stigma in Patients with Rectal Cancer: A Community Study. <i>Journal of Epidemiology and Community Health</i> (1979-), 38(4), 284. Retrieved from http://eproxy.augusta.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edjsr&AN=edjsr.25566505&site-ed-live&scope-site | Stable Life Stoma Complication | Colostomy and social impact/Quality of life/stigma |
| 2008 | Struggles, strengths, and strategies: an ethnographic study exploring the experiences of adolescents living with an ostomy | Health and Quality of Life Outcomes | To explore adolescents' experiences and quality of life following ostomy surgery. Finding effective ways to minimize stress and embarrassment and reframe personal shame, constitute important clinical priorities. Young people especially have difficulties with body image, self-esteem issues as well as social isolation from their peers. Many also view themselves with repulsion after surgery. | Adolescents are profoundly affected by their ostomy. Adolescents convey strength as well as adjustment struggles. Identified impacts include body intrusion and body image changes, decreased independence, secrecy about the ostomy, adjustment over time, challenges for the family, and strategies for constructively moving forward. Finding effective ways to minimize stress and embarrassment and reframe personal shame, constitute important clinical priorities. Young people especially have difficulties with body image, self-esteem issues as well as social isolation from their peers. Many also view themselves with repulsion after surgery. | https://doi.org/10.1186/1477-7525-6-114 | Nicholas, D.B., Swan, S.R., Gerstle, T. et al. Struggles, strengths, and strategies: an ethnographic study exploring the experiences of adolescents living with an ostomy. <i>Health Qual Life Outcomes</i> 6, 114 (2008) doi:10.1186/1477-7525-6-114 | Adolescent, Colostomy, Ostomy | Colostomy and social impact/Quality of life/stigma |
| 2011 | Gender Differences in Quality of Life Among Long-Term Colorectal Cancer Survivors With Ostomies | Oncology Nursing Forum | To describe how gender shapes the concerns and adaptations of long-term (i.e., more than five years) colorectal cancer survivors with ostomies. This article in particular takes a deep dive into various social and other issues between genders and is an excellent source. | While both males and females discussed social support, activities, and resiliency related to ostomies, women seemed to suffer significantly from coping with and adjusting to a new lifestyle, sleep issues and body image. Women scored worse with depression, spiritual well-being and suicide than men. Travel and sexual issues related to ostomies were discussed with some experiencing serious psychological trauma while others had relative low issues. Other issues included embarrassment in social situations and work more for women than men however, financial issues were of concern to both groups. | https://doi.org/10.1188/11.ONF.587-596 | Grant, M., McMullen, C.K., Altschuler, A., Mohler, M.J., Hornbrook, M.C., Herrinton, L.J., ... Krouse, R.S. (2011). Gender Differences in Quality of Life Among Long-Term Colorectal Cancer Survivors With Ostomies. <i>Oncology Nursing Forum</i> , 38(5), 587-596. https://doi.org/10.1188/11.ONF.587-596 | Adaptation, Psychological; Self Care; Colostomy; Ileostomy; Social | Colostomy or Ostomy and social |
| 2016 | Psychological Adaptation to Alteration of Body Image among Stoma Patients: A Descriptive Study | Indian Journal of Psychological Medicine | To identify the factors that influence adaptation to altered body image. | Poor adaptation to alteration of body image was associated with younger age, overweight, and temporary stoma. Individuals at risk of poor adaptation should be identified before surgery and counseled before surgery, after surgery, and during follow-up visits. Poor body image can lead to social isolation if not considered before surgery. | https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5229924/ | Jayrajah, U., & Samarasekera, D. N. (2017). Psychological Adaptation to Alteration of Body Image among Stoma Patients: A Descriptive Study. <i>Indian Journal of Psychological Medicine</i> , 39(1), 63-68. doi:10.4103/0253-7176.198944 | Colostomy, social impact, quality of life, stigma, psychological | Colostomy or ostomy and life/stigma |
| 2017 | Relative Tranquility in Ostomy Patients' Social Life: A Qualitative Content Analysis | World Journal Of Surgery | To study a number of Iranian ostomy patients' main problems with social interactions and a peaceful existence within the constraints of ostomy surgery, how they deal with factors and the outcome of their efforts to manage that problem in their daily lives. Relative tranquility in patients' social life shows that despite all efforts made by patients to return to the community, they cannot fully trust to keep their social life. Shortage of ET nurses, deficit of Ostomy Association or ostomy care centers in the community and lack of follow-up care after discharge can delay the return of the patient to the community. Also, society unfamiliar with ostomy has created problems in the social life of these patients. | A qualitative content analysis was performed. Most of colostomy patients were married, had a bachelor degree and received adjuvant therapy. Many single and divorced patients avoid marriage due to self-esteem issues. There may be a significant association between the quality of marital life and physical well-being. Tensions between couples may lead to the reduction in mutual support tendency. Finding out the causes of the vulnerability of married life ostomy patients can help to solve this problem in ostomy patients. In addition, consultation with the patient's spouse before and after surgery about possible changes in the lives of patients can reduce their family problems. Relative tranquility in patients' social life shows that despite all efforts made by patients to return to the community, they cannot fully trust to keep their social life. Shortage of ET nurses, deficit of Ostomy Association or ostomy care centers in the community and lack of follow-up care after discharge can delay the return of the patient to the community. Also, society unfamiliar with ostomy has created problems in the social life of these patients. | https://doi.org/10.1007/s00268-017-3983-z | Sarabi, N., Navipour, H., & Mohammadi, E. (2017). Relative Tranquility in Ostomy Patients' Social Life: A Qualitative Content Analysis. <i>Military Medical & Pharmaceutical Journal of Serbia</i> , 51(8), 2136-2142. https://doi.org/10.1007/s00268-017-3983-z | Stable Life Stoma Complication Social Impact | Colostomy and gas colostomy and social |
| 2017 | Research priorities about stoma-related quality of life from the perspective of people with a stoma: A pilot survey. | Health Expectations | To improve the quality of life of people with a stoma through use of evidence-based practice based on research priorities set by patients. | Pouch leakage can cause discomfort and distress and the fear of this happening can profoundly affect daily life, activities, and social life. Women, more than men are more impacted by diet in social settings, sexuality and family support as well as appearance. Note that this study included 74% females and 26% males, mostly 21 y or older. | https://doi.org/10.1111/hex.12585 | Hubbard, G., Taylor, C., Beeken, B., Campbell, A., Gracey, J., Grimmett, W., ... Gorely, T. (2017). Research priorities about stoma-related quality of life from the perspective of people with a stoma: A pilot survey. <i>Health Expectations</i> , 20(6), 1421-1427. https://doi.org/10.1111/hex.12585 | colostomy, ostomy, public/patient involvement, research priorities, stoma, stromy | Social impact and colostomy, quality of life and colostomy |
| 2018 | Psychological and spiritual well-being aspects of the quality of life in colostomy patients. | Vojnisanitski Pregled (Military Medical and Pharmaceutical Journal of Serbia) | assessment of psychological and spiritual dimension of the quality of life in colostomy patients, regarding the gender and age. | Anxiety, depression and fear were dominating factors in the research results. Some positive aspects included the ability to remember things better and more control (or same) of. This study found very little gender differences but noted that younger patients had a harder time with self care which led to low self-esteem and fear of discovery/smells in social settings. Older age groups showed a higher level of confidence while younger people experience much more insecurity. | https://doi.org/10.2298/VSP151183578 | Repić, G., Ivanović, S., Stanojević, Č., & Trgojević, S. (2018). Psychological and spiritual well-being aspects of the quality of life in colostomy patients. <i>Vojnisanitski Pregled: Military Medical & Pharmaceutical Journal of Serbia</i> , 52(6), 611. https://doi.org/10.2298/VSP151183578 | Colostomy, social impact, quality of life, stigma, psychological | Colostomy and social impact/Quality of life/stigma |
| 2018 | Stigma, perceived blame, self-blame, and depressive symptoms in men with colorectal cancer | Psychooncology | To measure the prevalence of stigma, self-blame, and perceived blame from others for their illness among men with colorectal cancer (CRC) and examined whether these factors were associated with depressive symptoms, independent of clinical and sociodemographic factors. | Cancer stigma and self-blame are problems for a significant minority of men with colorectal cancer and are independent predictors of depressive symptoms. This could be an important source of stress in men with CRC. | https://www.ncbi.nlm.nih.gov/pmc/articles/PMC600727/ | Phelan, S. M., Griffin, J. M., Jackson, G. L., Zafra, S. Y., Helfferstein, W., Sabnis, M., ... van Ryn, M. (2013). Stigma, perceived blame, self-blame, and depressive symptoms in men with colorectal cancer. <i>Psycho-oncology</i> , 22(1), 65-73. doi:10.1002/pon.2048 | Colostomy, social impact, quality of life, stigma, psychological | Colostomy or ostomy and social impact/Quality of life/stigma |
| 2019 | The correlation between stigma and adjustment in patients with permanent colostomy in the Midlands of China. | World Council of Enterostomal Therapists Journal | To investigate the correlation between stigma and ostomy adjustment in patients with a permanent colostomy. | It is suggested that health professionals need to pay more attention to patients' expressed feelings of stigma to improve their ability to adjust to living with a colostomy. Self-stoma care performed, the degree of communication with medical staff, financial insecurity and social rejection when added into the regression equation had a significant negative impact on relationships and social interactions outside the family. | doi:10.2322/wcet.39.1.33-39 | Fang-fang Xu, Wei-hua Yu, Mei Yu, Sheng-qin Wang, & Gui-hua Zhou. (2019). The correlation between stigma and adjustment in patients with a permanent colostomy in the Midlands of China. <i>World Council of Enterostomal Therapists Journal</i> , 39(1), 33. Retrieved from http://eproxy.augusta.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edjsr&AN=13550213&site-ed-live&scope-site | Colostomy, social impact, quality of life, stigma, psychological | Colostomy and social impact/Quality of life/stigma |
| 2017 | Research priorities about stoma-related quality of life from the perspective of people with a stoma: A pilot survey | Wernywell | The purpose of this article was to give colostomy bag users some strategies or helpful tips on how to avoid their bag bursting. | 1. Check the fit of your Colostomy bag 2. Try Different Pouching Systems 3. If it does not fit, do not patch it 4. Diet to reduce Colostomy Gas-avoiding foods: cabbage, onions, broccoli, carbonates drinks, dairy products, spicy or ried, greasy foods | https://doi.org/10.1111/hex.12585 | American Cancer Society and United Ostomy Associations of America | Colostomy, social impact, quality of life, stigma, psychological | ostomy related gas problems |
| 2019 | My Stoma Seems to be Changing Size/Shape Is This Normal? | GI Society | This website discusses what causes stomas to change their shape and size. The changing its shape and size is also a major issue of leakage in the colostomy bag. The change is normal and users are expected to adjust, but it is not always that simple. This website explains how and why the stoma changes its shape and size. | Changes can occur after surgery, where the swelling of the stoma begins to depreciate after 6 weeks. Changes that occur overtime are due to weight gain (including pregnancies) 10lbs or more can cause surrounding skin to pull the stoma in, changes he contours of the skin surrounding your stoma, and frequent leaks. Hemias and inguine also causes the stoma reshaping and resting over time. The website did not offer strategies, however it did advise users to contact an ET (Enterostomal Therapy Nurse). | http://webcche.googleusercontent.com/search?q=stoma&https://dadigit.org/information-what-causes-stoma-bleeding&https://www.gi-society.org/2019/09/04/what-causes-stoma-bleeding/ | Canadian Society of Intestinal Research | stoma, size, shape, post-surgery | how do stomas change sizes |
| 2012 | Weight gain can cause retraction of an intestinal stoma, possibly resulting in difficulty with wafer and pouch fit, daily care challenges, and discomfort. This cross-sectional study examined the association between body mass index (BMI) and ostomy-related problems among long-term (5+ years post-diagnosis) colorectal cancer (CRC) survivors. | US National Library of Medicine | | A change in BMI is associated with ostomy-related problems among long-term CRC survivors. Education and care practices may need to be adapted for changes in abdominal shape. Health care providers should caution that a significant increase or decrease in BMI may cause ostomy-related problems. | https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3546631/ | National Center for Biotechnology Information | Colorectal cancer, ostomy, stoma, BMI, body mass index | |
| 2016 | Ostomy-related problems and their impact on quality of life of colorectal cancer ostomates: a systematic review | Quality Of Life Research: An International Journal Of Quality Of Life Aspects Of Treatment, Care And Rehabilitation | The aims to examine patient-related studies describing ostomy-related problems and their impact on the perceived QOL of long-term colostomates | Of the 4447 citations identified, 14 prevalently descriptive cross-sectional studies were included. Three different validated multidimensional instruments for measuring QOL in ostomates were used (EORTC C30/QOL36, MECHQOL, Stoma QOL Questionnaire). All studies demonstrated that living with a colostomy influences the overall QOL negatively. The ostomy-related problems described included sexual problems, depressive feelings, gas, constipation, dissatisfaction with appearance, change in clothing, travel difficulties, feeling tired and worry about noises. | https://doi.org/10.1007/s11136-015-1050-3 | Vonk-Klaassen, S. M., de Vecht, H. M., den Ouden, M. E. M., Eddes, E. H., & Schuurmans, M. J. (2016). Ostomy-related problems and their impact on quality of life of colorectal cancer ostomates: a systematic review. <i>Quality Of Life Research: An International Journal Of Quality Of Life Aspects Of Treatment, Care And Rehabilitation</i> , 25(1), 125-133. https://doi.org/10.1007/s11136-015-1050-3 | gas | ostomy and gas |
| 2013 | Managing Ostomy Accidents - Leaks, Sleeping, Odors, and Blowouts | Not a Journal | Straightforward tips and products that can help you to best prevent and manage accidents with an ostomy in your normal day-to-day life. | Specifically pertaining to gas: odor is mentioned as is a "blowout" which can be due to gas or other things such as a filter malfunctioning. Gives tips on how to prevent odor and "blowouts". | http://www.ostomyguide.com/managing-ostomy-accidents-leaks-sleeping-odors-blowouts/ | | Ostomy patient gas problems | |
| 2015 | The Ostomy Life Study: The everyday challenges faced by people living with a stoma in a snapshot | Gastrointestinal Nursing | The aim of the Ostomy Life Study was to get a better understanding of the challenges that people living with a stoma face in their everyday lives. | With more than 4000 participants from 11 countries, the study provides a wealth of information covering all age groups, stoma types, stoma products and a variety of cultures. The results show that the majority of ostomates have issues related to leakage and ballooning which, among other things, have a negative effect on sleep, or lead to unplanned appliance changes for approximately 40% of the respondents. Two piece users are concerned specifically about coupling failure and the associated consequences. The results can be used to provide guidance in everyday stoma care and in development of new products. | https://www.researchgate.net/journal/1479-5248_Gastrointestinal_Nursing | | Ostomy, Quality of life, life experiences, international perspectives, survey | |
| 2017 | The impact of colostomy on the patient's life | Journal of Coloproctology | To evaluate the emotional, psychological, sexual, social, and professional impact, before and after surgery, on individuals submitted to a colostomy. | Of the interviewees, 53.64% decreased their willingness to go out and do activities outside their homes, with a statistical significance of $p = 0.001$. Regarding the environment, 53.85% of the interviewees showed a perception of worsening of the environment. About physical activity, 66.65% showed a difference in the performance of physical activity after colostomy, being statistically significant, with $p = 0.001$. The sports environment did not change in 50% of the participants. Patient sexuality showed a significant decline with statistical significance ($p = 0.008$). | https://www.sciencedirect.com/science/article/pii/S2237936317300436 | Karls de Campos, A., Luis Henrique Benites Bots, A., Andy Petrouianu, Priscila Argento Rebelo, Angela Alves Correia de Souza, Ivone Panhoca | Colostomy/Quality of life/digestive system surgical procedures | |

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