

# Stoma Bags



**AN HISTORICAL PERSPECTIVE  
FRANCESCA MARTIN  
AUCKLAND DHB**



# Introduction



- Development of stoma bags closely entwined with
  - Improved surgical techniques and stoma formation
  - Stomal Therapy as a nursing specialty
  - Ostomy patient networking
  - Innovative thinking and research to solve problems



# Distant Past



- Some recorded instances of bowel fistulas caused by battle wounds and abdominal trauma. No records of what was used to capture waste.

# 18<sup>th</sup> Century



- 1706 – records of battlefield wounds causing a prolapsed colostomy.
- 1710 – colostomy formed on baby with a birth defect. The stoma was placed on the side of the body rather than the front and a tin box was held in place over the stoma by straps. (1)

# 18<sup>th</sup> Century



- 1776 –first successful recorded stoma of large intestine for bowel obstruction.
  - Sponge attached to opening to absorb leakage with elastic bandage
- In future procedures leather pouches and glass bottles were used for waste management



# 1920s



- 'Koenig-Rutzen' rubber pouch held in place with rubber cement was developed and used widely
- Koenig-Rutzen ileostomy pouch with a screw outlet is still on sale on Salts website for GBP36 – GBP50

## 1920s – 1950s



- Davol Rubber Company made rubber pouches for colostomates – one of many small entrepreneurial ostomy companies.
- In the USA there were about 25 small ostomy companies prior to 1960
- Many of these companies were started by people who had a stoma themselves or a family member with one.  
(2)

# Davol Colostomy Appliance



# Stomas



- Most stomas were colostomies until 20<sup>th</sup> century
- First reported ileostomy in 1879 on patient with malignant obstruction
- Ileostomies associated with high output, severe abdominal pain, severe skin breakdown and high mortality rates

# Evolution of Ileostomies



- Dr Bryan Brooke 1952
  - Introduced the 'budded' stoma
- Dr Rupert Turnbull and Dr George Crile at Cleveland Clinic 1954
  - Reduction of complications and mortality associated with ileostomy construction (3)

# Development of Specialty



- Up to the 1950s/1960s ostomy patients isolated and left to manage stoma themselves with poor education and equipment
- 1958 Dr Turnbull at Cleveland Clinic appointed Norma N. Gill as first Enterostomal Therapist
- 1961 first training programme for Enterostomal Therapists set up at Cleveland Clinic
- 1962 founding of first Ostomy Association (4)

# Development of pouching systems



- 1950s and 1960s
- More advanced abdominal surgery and stoma formation called for better pouching systems
- Urostomy formation required pouches with tight seals
- Various rubber pouches were used – cumbersome and uncomfortable

# Older pouching systems



# Coloplast



- Denmark 1954
  - Elise Sorensen, a nurse, had an idea for an ostomy pouch that would adhere after her sister had a colectomy and required a stoma.
  - Elise approached Aage Louis-Hansen who at the urging of his wife Johanne created an adhesive ostomy bag. (5)

# Coloplast Story



# Development of Pouches



- 1960s - companies in the USA started to develop vinyl semi disposable pouches – they lasted up to 12 weeks. Lighter and more comfortable than rubber pouches
  - Two piece with face plate that attached to skin with adhesives
  - Tincture of Benzoin used for skin protection

## 1960s and 70s



- Skin barriers developed – karaya washers and barriers
- PVDC odour proof films used by both Hollister and Coloplast
- Development of filters – Coloplast introduced Filtrodor

# Hydrocolloid



- Hydrocolloid medical adhesive developed in 1960s by Dr James Chen of E.R.Squibb & Sons for use in dentistry
- Hydrocolloid has ability to stick to warm moist surfaces
- Sir E.S.R Hughes, Colorectal surgeon, and Sr Elinor Kyte, Stoma Therapist, Melbourne, realised the uses of hydrocolloid for use with stomas

# Hydrocolloid



- Adhesive material that has ability to absorb moisture
- Contains Pectin, Gelatine, Natrium Carboxy Methylcellulose, Polyisobutaleen
- Mixed with other ingredients for elasticity and flexibility

# Hydrocolloid



- Introduction of 'Stomahesive' wafers by Squibb in 1972
- First hydrocolloid skin barrier
- Considered to be major development in ostomy industry
- Increased wear time of appliances from 1-2 days to 5-7days

# 1970s



- More sophisticated marketing
- Research study by Squibb showed comfort, security, odour management and convenience to be main concerns of patients and STNs
- Accessories added to ostomy range – pouch deodorants, skin barrier wipes, karaya paste

# ConvaTec



- 1978 Squibb introduced two piece product called Sur Fit Plus
- Squibb then created ConvaTec which concentrated on ostomy and wound care (6)

# Hollister



- Printing company founded in 1921 by John Dickinson Schneider
- Evolved to manufacture of medical products
- In 1960s an employee approached John Schneider with an idea for ostomy products
- By 1970s was dominant in production of ostomy appliances in USA (7)

# European Ostomy Companies



- Salts Healthcare Ltd – founded in 1700 in the UK
- Dansac - Founded in 1971 in Fredensborg, Denmark
- B. Braun (Germany) – Biotrol started ostomy production in 1973, joined B.Braun 1992
- T.G.Eakin Ltd – founded in 1974
- Welland Medical Ltd founded in 1988 in UK.

# 1980s



- Further developments of two piece ostomy systems by most companies
- Development of second generation hydrocolloid skin barriers – ConvaTec's Durahesive for urostomies
- Development of pastes
- Development of paediatric ostomy systems

# 1990s



- Pre cut stoma bags
- Improved locking systems for two piece appliances
- Increased comfort of pouches
- Convex inserts and convex pouches

# 2000 to present



- Greater sophistication of pouching systems
  - Improved air filters
  - Integrated closures
  - Fabric covered pouches
  - Greater range of convexity
  - More accessories such as seals, odour eliminators, skin barriers, adhesive removers
  - Lifestyle pouches – smaller, lower profile, flexible barriers

# Conclusion



- Pre 1960s having a stoma often led to social isolation, painful skin and poor quality of life
- In the years since Ostomy companies have developed more comfortable, reliable and longer lasting pouching systems to suit almost every ostomate.



- The Ostomy companies

- have built up reliable distribution systems
- Asked their customers – patients and nurses – what they want
- Done research and development and used innovative thinking to solve issues
- Provided a huge range of products that are skin friendly, trustworthy and meet patients' needs



- Ostomy companies have also
  - Supported Stomal Therapy Nurses through education, funding of conferences, webinars and product training
  - Supported ostomates through Ostomy Associations and enabled ostomates to compare and evaluate products for themselves
  - Provided education packages for ostomates and their families

# Ostomy Companies in NZ



Thank you to

Coloplast

ConvaTec

Dansac

Hollister

Omnigon – B Braun, Eakin, Welland

Salts

For making our patients' lives better and our jobs easier.

# References



1. Ostomy and Stoma Bags History. Available at: <https://www.stomabags.com/blog/ostomy-and-ostomy-bags-history>. Accessed 22 July 2018.
2. Davidson W, Fischer J, History of Ostomy Products Manufacturers in *Enterostomal Therapy Nursing. Growth and Evolution of a Nursing Specialty Worldwide*. Eds Erwin-Toth P, Krasner D, 2<sup>nd</sup> Edition. 2012 p.83
3. Doughty D, History of Stoma Creation and Surgical Advances in *Fecal and Urinary Diversions Management Principles*. Eds Colwell J, Goldberg M, Carmel J. p.9. Mosby 2004
4. d'E Stevens P, Development of Enterostomal Therapy as an International Nursing Specialty in *Enterostomal Therapy Nursing. Growth and Evolution of a Nursing Specialty Worldwide*. Eds Erwin-Toth P, Krasner D 2<sup>nd</sup> Edition. 2012 p.75
5. Available at <https://www.coloplast.com/about-coloplast/history>. Accessed 8 September 2018
6. Davidson W, Fischer J, History of Ostomy Products Manufacturers in *Enterostomal Therapy Nursing. Growth and Evolution of a Nursing Specialty Worldwide*. Eds Erwin-Toth P, Krasner D, 2<sup>nd</sup> Edition. 2012 p.88
7. Ostomy Pouch History./Hollister U.S. Available at [www.hollister.com/in/newslanding](http://www.hollister.com/in/newslanding). Accessed 8 September 2018