PAEDIATRIC STOMAS

Most people when thinking about bags and stomas don't think of children.

This is because there is a lower incidence of children requiring stomas than in the adult population.

This article will explain some of the differences between adult and childhood stomal care including looking at some of the more common conditions requiring stomas in children.

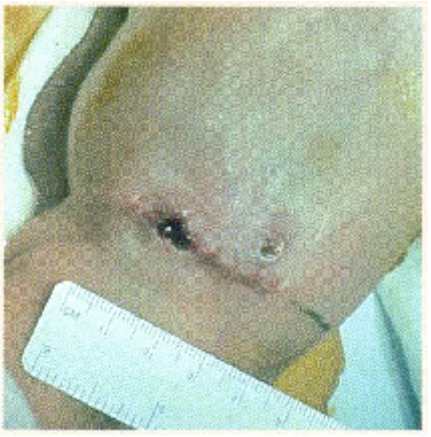
Most of the paediatric conditions requiring stomas are benign, *(compared to cancerous conditions in adults)*, and therefore the stomas are often temporary. Some exceptions are: feeding gastrostomies and jejunostomies that are often permanent in severely neurologically impaired children.

Paediatric Indications for Stomas

Some of the common conditions requiring stomas in children are:

Necrotising Enterocolitis (N.E.C.)

N.E.C. is a catastrophic infection of the bowel in premature babies, due to their poor circulation, oxygenation and immunity, resulting in gangrenous perforation of the bowel. It requires temporary stomas to decompress the bowel.



An NEC Stoma is shown here

Atresias

Refers to congenital gaps in the bowel, in other words the baby is born with missing bowel. They can have can have significant Short Bowel Syndrome *(not enough bowel to absorb nutrients)* as well as the problems with the remaining bowel having poor peristalsis and function.

Anorectal Anomalies

Some children are born with no anus or rectum and have associated poor development of the continence muscles and nerves. They require a stoma in order to decompress the bowel until construction of anus can be performed. They often have continence and toilet training problems in the long-term depending on how badly developed their nervous and muscular system is.

Hirschsprung Disease

These children have an absence of Ganglion cells, extending upwards from the anus through the bowel for a variable distance. Ganglion cells are the nerve relay cells in the bowel, therefore "no ganglion cells equals any peristalsis". This means no movement of

the bowel content resulting in obstruction or blockage symptoms. They present with Neonatal Bowel Obstruction or extremely severe constipation. The only treatment is removal of the bowel, which does not contain ganglion cells, and reconnection of remaining bowel to the anus. This is traditionally done by a number of staged procedures with the fashioning of temporary stomas.

Neuronal Intestinal Dysplasia (N.I.D.)

Severe intractable constipation due to abnormal bowel nerve development; although ganglion cells are present they may be abnormal, poorly linked or in decreased numbers.

Severe forms of N.I.D. needing stomas are extremely rare, certainly rarer than Hirschsprung, which has an incidence of approximately 1 in 4000 births.

Faecal Incontinence

Some congenital abnormalities result in faecal incontinence e.g. Spina Bifida, anorectal anomaly, and severe Hirschsprung.

Renal Tract Abnormalities

It is possible to be born with renal system obstruction, malformations or incontinence requiring stomas. In those babies born with obstruction they require decompression to prevent renal damage e.g. Ureterostomy or Vesicostomy *(stomas of the ureter or bladder).*

Conditions where there is an absence of bladder or bladder sphincter muscles like bladder exstrophy and cloaca are rare. Ileal conduits can be performed although sometimes a form of semi continent stoma may be used. Similarly these continent catherisable stomas, where a segment of small bowel, ureter or appendix, is sewn to the bladder can simplify the process of regular catherisation of a poorly functioning bladder in conditions like Spina Bifida.

Inflammatory Bowel Disease

Malignancy rare (e.g. rhadomyoblastoma)

Specialised Paediatric Stomas and Other Points of Difference

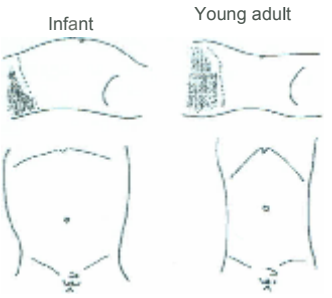
By the benign nature of most of the above paediatric conditions, particularly in cases where there are congenital problems with continence, the use of catherisable continent stomas are often available. These include Mitrofinoff stomas *(appendix to bladder)*, Malone-type Antegrade Continent Enema Stomas *(appendix re-implanted in caecum to allow regular direct colonic washouts to prevent faecal incontinence or treat N.I.D.S)*; and, Chait cecosotomy.

Although there is high acceptance of stomas within the adult community there is poor acceptance in teenagers who desire above all else peer acceptance and conformity, especially considering fragile body images at this age. The need for this article is symptomatic of the lack of community knowledge in this area. This of course is partly due to the general rarity of incidence but also partly to the emotional pressure to project healthiness and "normality" in the young.

There are purely physical differences between stomas and their care, between adults and children. Obviously tiny appliances are difficult to source and care for, yet must be robust enough to handle rolling, crawling, climbing, jungle gyms, swings, slippery slides, etc. Accidents / bag spills are more frequent with greatly increased usage of all appliances. The skin is very fine and less resilient therefore stomal care must be meticulous. However some mothers do find it strangely messy, no matter how happy they are to have the medical condition corrected, to adapt to nappies after the neatness of bag changes!

Infants have different abdominal dimensions and musculature. The abdominal wall is very thin *(note the typical protuberant belly of the infant and toddler)* and the muscles give poor support for the stomas making prolapse much more common. Especially in the premature babies whose muscles and entire abdominal wall are only millimetres thick.

Similarly the protuberant round contour of the average infant makes stoma appliances difficult to apply and keep on. The width of the child's anterior abdomen is wider in dimension than the length and the pelvis is shallow *(see illustration).* Therefore it is difficult to site the stoma as ideally as an adult with regard to the umbilicus and pelvic bones. Often in the very small, the stoma must be placed within the operative wound as opposed to a separate incision due to lack of space.



Thus in many ways paediatric stomas are much more difficult to look after because all care is done by the child's carers, and the stomas are more difficult to fit and keep on. It is therefore always a source of wonder to me how parents coping with all the demands of a new child including lack of sleep and feeding demands, also cope with a stoma. For all these children, the wonderful inner strength of parents especially mothers can only be admired and congratulated.

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