New Barbarians

It is difficult for me to judge the dynamics of civilizational processes in the modern world, but what is happening in some medical fields is probably connected with social processes. If so, then we are talking about degradation. Analyzing the changes that have taken place in pediatric colorectal surgery and gastroenterology over the past 40 years, we can find common patterns.

The Putin Phenomenon in Pediatric Colorectal Surgery

How a leader becomes an idol. In 1982, **deVries** and Peña published an article sharing the use of pull-though procedure through posterior sagittal approach, called posterior sagittal anorectoplasty (PSARP) which described 34 cases [1]. Two months later, an article by Peña and **Devriese** was described 54 cases of PSARP application [2]. Surprising is the inexplicable appearance of an additional 20 observations, as well as the ratios of different types of ARM. In all articles, the number of low types of ARM significantly predominate over high ones [3]. Only Peña has the opposite [2]. These amazing facts cast doubt on the reliability of the figures.

Peña consider "that the outstanding advantage offered by this technique is the extensive expo sure provided and the meticulous repair of the structures for achieving optimum continence". This phrase is nothing more than an advertisement because it contradicts the following statement. "The importance of the puborectalis sling has been recognized since the studies of Stephens and Smith. The majority of authors with the greatest experience in the field have supported this concept. Our incision exposes all the muscle structures in the region. We do not deny the existence of the sling but we have been unable to identify it. Nor do we understand why it should be considered more important than the rest of the muscle structures we found. We have named the muscle structure where the external sphincter merges with the levator ani (probably in the zone assigned to the puborectalis sling) "muscle complex." “[2].

His first article, posted to PubMed, which was published in the Journal of Pediatric Surgery thanks to his co-authorship with deVriese, young surgeon sent without the consent of the co-author as evidenced by the distortions of his surname and those inadmissible distortions that the famous pediatric surgeon could not miss.

First, Stephens demonstrated the need to preserve the puborectalis muscle (PRM) during defect reconstruction because it plays an important role in stool retention. The need to preserve the PRM is an axiom, which does not require references.

Second, Stephens proposed the concept of a pubococcygeal (P-C) line, which runs from the lower part of the pubic bone to the distal coccygeal vertebra. He showed that this line corresponds to the location of the PRM, which is located between the rectum and the anal canal. If the blind end of the intestine is located above this line, these cases are considered a high type, and if below the P-C line these cases are a low type [4]. Since then, it was believed that if the gut is located caudally of the P-C line, it means the patient has an anal canal that needs to be preserved during surgery [5,6,7,8]. As the authors emphasize, they considered these types of defects as the anal canal ectopy, although they continued to use the term "fistula". In a low ARM, "the bowel traverses the pelvic floor with its crucial puborectalis sling but fails to migrate back to the normal anal site. Hence, a vestibular vulval or perineal opening (“ectopic anus” or fistula) exists. Like all ectopic openings, these tend to be stenotic" [5].

Third, Peña should has known that sacrococcygeal approach as well as the perineal approach during anoplasty allows visualization of PRM. For example, Bielowicz-Hilgier used the pull-through procedure advocated by Stephens and Rehbein for ARM in surgery of high-type (above the puborectalis sling). The sacrococcygeal route of Kraske, adapted by Stephens for operative treatment of anorectal malformations, gives approach from behind to the supralevator space for identification of puborectalis sling. The muscle is separated from urethra or vagina, and gradually the tunnel through the sling and external sphincter is created [9]. Thus, the fact that Peña has been unable to identify PRM does not speak in favor of PSARP.

Fourth, Peña does not compare PSARP results with his previous experience because he had no experience with ARM patients. This is confirmed by his next phrase: "probably nobody has actually seen it (PRM) by means of the conventional incisions", i.e., he clearly did not see it. Meanwhile, Mulder et al's study shows that "The PSARP for high and intermediate anorectal malformations does not give better functional results than the pull-through operation" [10].

Fifth, the fact that Peña did not see the PRM during the operation does not give him the right to judge its role in fecal retention, neglecting numerous scientific studies that leave no doubt about its large role.

At sixth, the article does not mention either the internal anal sphincter or the anal canal, without which it is unthinkable to understand the pathophysiology of the low types of ARM. This proves that deVriese is not related to this article. Thus, a young surgeon who does not have any publications, experience in the treatment of ARM, as well as knowledge of the anatomy, and physiology of the anorectum, without any reason, creates new anatomical structures that correspond to his ideas: "We have named the muscle structure where the external sphincter merges with the levator ani (probably in the zone assigned to the puborectalis sling) "muscle complex." [2].

An analysis of the paper by Peña and deVriese [2] indicates that (1) the paper was written by Peña and submitted to the journal Pediatric Surgery without deVriese's knowledge. (2) This work is not a scientific study and all statements in it are unsubstantiated and contradict scientific facts. (3) However, it appears that these false claims were deliberately made to justify the use of PSARP, during which one must cross the PRM and destroy the anal canal.

Why has this article become the catechism of pediatric surgeons?

First, pediatric surgeons until 1982 believed that patients with low anomalies had an anal canal but continued to call it a fistula. History teaches that anatomical names should correspond to ideas about anatomy and physiology, because, sometimes in the collective consciousness the name remains longer than the understanding of the physiological essence.

Secondly, for surgeons unaware of the presence of the anal canal and the value of PRM, the posterior sagittal approach allowed easy and reliable access to the rectum. However, to reach the rectum, it is necessary to cross the PRM. At the last stage of the operation, the muscles are sutured, but in the muscle complex where the PRM according to Peña, does not differentiate, it is impossible to connect the cut ends of the PRM. And without this, the normal function of fecal retention is impossible. Peña's article made it clear that pediatric surgeons have nothing to worry about. He took responsibility.

Thirdly, a massive advertising campaign with multiple articles, meetings with colleagues, as well as annual courses on the surgical treatment of

colorectal problems in children played a big role. All articles claim remarkable results after PSARP, which may not be ideal, since children were born without an anal canal. These articles describe a variable number of patients, but none of them provides a comparative analysis with the results of the anal canal preserving operations. Meanwhile, the difference is huge and not in favor of PSARP. For example, de la Fuente et al reported that 90 per cent of 62 cases with low-type ARM were treated with "cutback" technique were good results, 8 per cent regular and 2 per cent poor [11]. Similar figures are given by Kyrklund et al [12]. The results of pediatric surgeons who destroy the anal canal are seen in a systematic review by Springford et al. "The prevalence range for long-term active problems was: fecal incontinence 16.7% to 76.7%; chronic constipation 22.2% to 86.7 %; urinary incontinence from 1.7% to 30.5%; ejaculatory dysfunction - from 15.6% to 41.2%; erectile dysfunction - from 5.6% to 11.8%" [13]. Most patients with ARM had an anal canal before surgery. Fecal retention and defecation are impossible without the anal canal. Therefore, all operated children need a lifelong bowel management program with a high reoperation rate.

Fourth, by inviting their supporters to the meetings, they together published the decisions of the congresses, after which their participants, being reviewers, defiantly rejected articles that did not correspond to consensus.

After the first article, for 40 years Peña published his new ideas, or joined the hypotheses of other authors without scientific justification. Throughout his career, he has not published a single scientific study. He always refers to his experience. Such a link has become a stamp. Reviewers reject articles that do not fit Peña's experience. Why does no one have a question: on what basis does Peña conduct experiments on children?

Results of the experiments of Peña and Levitt.

Historical amnesia. There are no references in modern articles to scientific studies that testify to the presence of the anal canal in low types of ARM and good results of treatment with preservation of the anal canal, which were published before 1982.

Complete separation of pediatric colorectal surgery from general surgery. Pediatric colorectal surgery has become Peña's domain. Since 1982, there have been no studies on the normal physiology of the anorectum and the pathological physiology of ARM. The children's

journals controlled by Peña and his followers do not publish advances in general physiology. Pediatric surgeon studies that conflict with Peña's experience and have been published in journals not supervised by Peña [14] are not cited. Therefore, pediatric surgeons do not know what the anal canal is.

How Peña and his colleagues experiment on children, what this leads to, and what conclusions he draws, can be seen in the following examples.

A. In 2009, Levitt et al, including Peña, reported the results of transanal rectosigmoid resection in 15 patients with chronic constipation, after more than 3 months of follow-up. They recommended this operation because "transanal rectosigmoid resection for medically intractable idiopathic constipation resulted in a dramatic reduction or elimination in laxatives use while preserving continence. It is a useful alternative to surgical options such as other colonic resections, antegrade enemas, and stomas" [15]. In 2017, the previous experiments were summed up. It turned out that a transanal approach with resection of rectosigmoid led to a high rate of soiling due to extensive stretching of the anal canal and loss of the rectal reservoir" [16]. During transanal resection of the rectosigmoid, down to the pectinate line Levitt et al removed 2/3 of the anal canal length. These patients developed true fecal incontinence, because of which they became disabled. This is further evidence that pediatric colorectal surgeons do not understand the role of the anal canal and destroy it. They draw erroneous conclusions about the cause of fecal incontinence. Obviously, this is the same cause of fecal incontinence as after destruction of the anal canal in low anorectal malformations.

B. Rectosigmoid resection for chronic constipation. Peña and colleagues propose rectosigmoid resection for chronic constipation, not realizing that bowel dilatation is due to anal dysfunction. Megacolon is not the cause of chronic constipation, but its consequence. Many surgeons have used rectosigmoid resection in patients with megarectuim throughout the 20th century. Bernard Duhamel summed up many years of experience: "Recto-sigmoidectomy does not improve these children" [17]. Although resection of the rectosigmoid will significantly reduce the amount of Senna for the immediate period after the operation, the megacolon will inevitably develop again over time as anal canal function remains impaired.

C. Persistent cloaca. Based on embryological studies, it was found that "Persistent cloaca is rare condition that occurs only in female infants. It

results from the total failure of the urorectal septum to descend, and therefore occurs at a very early stage of development (10-mm stage)" [18]. This means that the ureters, uterus and rectum open into a wide cavity (cloaca). The urethra, vagina and anal canal are absent. Only one hole is visible on the perineum. Okonkwo and Crocker wrote in 1977 that “Cloacal dysgenesis is a rare anomaly. Fifty cases have been reported in the literature” [19]. This is the only correct definition of a cloaca malformation, which was published on Wikipedia. But after I drew the attention of my list members, citing Wikipedia, Levitt changed the Wikipedia article, and now it is very difficult to find the correct interpretation of this pathology.

In 1977, Hendren first began to isolate the cloaca without adhering to the classical features [20]. Already in 1998, he described 195 cases of persistent cloaca. Here is an example of one of the forms: "At the mild end is a persisting urogenital sinus, which drains urine, and anteriorly displaced anus adjacent to it [21], which does not correspond to the scientific concept of a cloaca, since there are two holes.

This definition of cloaca, which has no scientific justification, began to be used by Peña. The explanation for this decision was not determined by the results of studies of the function of the bladder, internal and external urethral sphincters. He made this decision based on "a retrospective review of all girls with anorectal malformations treated from 1980 through September 2000 and on the pertinent literature" [22]. He diagnosed cloaca in 42 (6.8%) females who had previously been diagnosed with vaginal fistula. "Of the 617 patients his identified, only 6 were found to have a true rectovaginal fistula, an incidence of 1%" [22].

Peña's misrepresentation of the cloaca is reflected in the following passage: «Cloacas are a unique malformation. They exhibit varying behavior depending on the length of the urethra and are not dependent only on the common channel but also on the urethral length"[23]. Currently, the persistent cloaca supposedly is a defect in which the urethra. vagina, and rectum flows into a common canal [21, 22, 23]. From the point of view of embryology, the presence of the urethra indicates that the embryo has successfully passed the cloacal stage and along with the urethra, a vagina was formed. With this defect, hydrocolpos, i.e., accumulation of large amounts of fluid in the upper part of the vagina is often observed. There is no doubt that this is a result of narrowing and stenosis of the lower part of the vagina. Science rules out possibility of re-confluence of the urethra with the rectum and vagina. Thus, what Peña calls the common canal is a

narrowed part of the vagina. I proposed the hypothesis of the emergence in the embryonic period of ARM with a narrow distal part of the vagina [24]. Just as it is impossible to call the anal canal a rectal sac and remove it during an operation, it is also impossible to call the described defect by cloaca, immediately endowing it with functional problems of the cloaca and justifying severe postoperative complications.

First of all, it is necessary to establish the known reliable facts about the "persistent cloaca", namely about the ARM with a narrow vaginal fistula.

1. Before the change name and treatment, neither journal articles nor textbooks I found any difference in the functional results of pull-through operations in patients with vaginal fistulas (read persistent cloaca) compared with other types of high defects. In the literature, there is no information about problems with the urinary system in patients with rectovaginal fistula until most cases were called the cloaca.

2. I have not found a single study that determined the function of the bladder, internal and external urethral sphincters, or the level of rectal anomaly in these patients before surgery.

3. In articles about persistent cloaca, where surgeons limited themselves to only correcting rectal fistula with the addition of introitoplasty and/or dilatation of a narrow canal, all patients had an intact urogenital complex and none had documented recurrent urinary tract infection until adolescence [25]. Similar results are described by AbouZeid [26].

4. In the articles where the MRI of patients with a cloaca was done, I looked through 25 consecutive cases of examination before surgery and in none of the observations there was no catheterization of the bladder, and its volume was within normal limits.

5. Calling vaginal fistula cloaca, first Hendren [21] and then Peña began to apply correction of the urinary system as if it were a real cloaca [27,28]. When Hendren asked Peña about the role of the external urethral sphincter, Peña replied: - “My experience in the management of cloaca is that the girls who suffer from urinary incontinence don’t suffer from the lack of urinary sphincter but rather because of lack of contractility of the bladder” [28]. Do pediatric surgeons understand that Peña's answer doesn't make any sense? Medicine is a science and only scientific evidence is accepted as truth. Unfortunately, these experiments on children began to be performed by many gullible pediatric surgeons.

6. Publications by pediatric surgeons show that they present the female urethra as a sewer tube through which urine is expelled because of bladder contraction. As if the longer the urethra, the better it performs its function. If the urethra is less than 1.5 cm, a piece of tubing can be added to it to increase urinary retention [29,30,31]. This concept is contrary to the physiology of the urinary system.

A. The female urethra is an internal smooth muscle sphincter that is in constant contraction and reflexively opens in response to a certain bladder pressure [32]. If the urethra is isolated from the surrounding tissues, it loses its neural connection with other organs, including the bladder. In such cases, when the bladder fills, the urethra does not relax, resulting in the need for either permanent or intermittent catheterization of the bladder. Violation of the blood supply causes fibrous degeneration with a narrowing of the lumen up to obliteration and loss of the urethra. But this is the result of the surgery.

B. If 29% of healthy adult women have a urethral length of 2 cm [33], how can a urethra of less than 1.5 cm in infants not be good enough? Since the size of all organs and systems of the body is proportional to age and weight, the length of the female urethra with a weight of 20 kg should be at least three times less than that of an adult woman. Obviously, the measurements made by Peña and Levitt were very inaccurate (**Figure 1**).

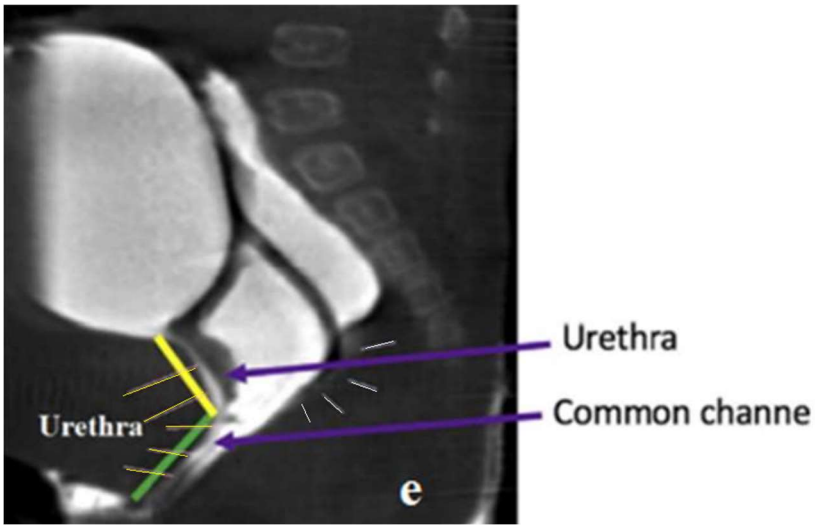

Figure 1. Study from Wood et al [34]. The purple arrows are drawn by the authors of this article. Where "common channel" is indicated, two channels are visible, separated by a gray strip, which represents the walls of the adjacent urethra and the narrow part of the vagina. As in normal, the urethra approaches the vagina and continues its course to the vulva next to the vagina. I marked it with yellow lines. Behind the vagina, a well-contrasted rectum is visible, ending at the level of the PRM

(pubococcygeal line). Below it, a poorly contrasted closed anal canal (white lines) is visible.

We see a normally formed, normally positioned and long urethra going to the perineum. We see the formed and functioning (closed) anal canal, which flows into the wide part of the vagina. This girl in the embryonic period successfully passed the cloacal stage. Previously separated urethra, vagina and anal canal theoretically cannot reconnect. Obviously, we are talking about ARM with a fistula in the vagina, with a narrowing of the distal part of the vagina.

C. The notion that the urethra in females with alleged cloaca does not provide normal bladder emptying has no evidence. Moreover, without urologic surgery urethra function normally [25,26]. Lengthening the urethra by creating a conduit for it to continue is counterintuitive, as this method only increases the resistance to urine flow.

D. The functional results of urogenital separation and total urogenital mobilization [35] in persistent cloaca are almost the same as in the classical cloaca, which is diagnosed less than once a year and in which the urethra is absent [36]. After surgery, the urethra very often does not function even for experienced surgeons: “When the common channel is shorter than 3 cm, about 20% of the patients will require intermittent catheterization to be able to empty their bladders. On the other hand, when the common channel is more than 3 cm, 80% of the patients require intermittent catheterization” [37]. According to Warne et al up to 50% of patients may have urinary incontinence or may be dependent on clean intermittent catheterization after cloaca repair [38].

E. The above evidence suggests that this pathology is ARM with a vaginal fistula, which differs from other malformations in that the distal part of the vagina is very narrow. On the other hand, there is not single evidence in favor of this pathology being considered a cloaca. In terms of the level of displacement, this defect is symmetrical to ARM with urethral fistula in males, who, as previously proven, have a functioning anal canal [39]. Schemes of the so-called persistent cloaca from Stafrace et al [40] are strong evidence for a functioning anal canal (**Figure 2)**.

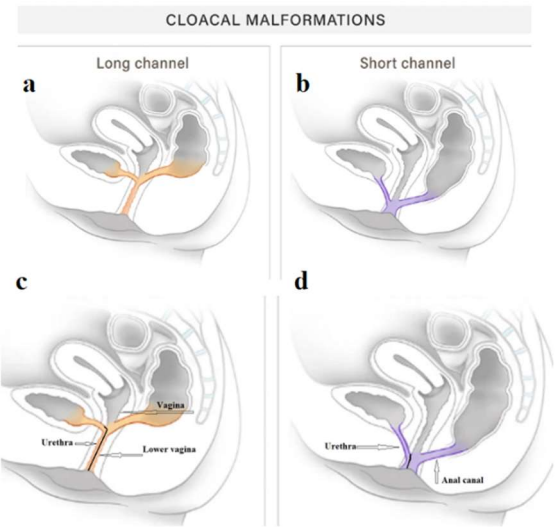

Figure 2. (a, b). Schemes from Stafrace et al [40]. (c, d). The same schemes with my correction, according to the measurement of the urethra in Figure 1.

An analysis of the literature shows that by preserving the anal canal and not damaging the urethra, it is possible to ensure the normal function of the urinary and anorectal systems in most patients. And gynecologists will expand the distal part of the vagina to the required width.

Conclusion

1. When comparing the results of ARM by PSARP treatment with methods saving of the anal canal, advantage a huge advantage of anal canal-saving methods, since PSARP irreversibly destroys the anal canal, which leads to fecal incontinence and chronic constipation. The claim to the contrary has no scientific evidence, is false, and is detrimental to the health of children operated on by PSARP.
2. Peña and Levitt's proposed transanal rectosigmoid resection in children with chronic constipation resulted in irreversible anal damage and fecal incontinence. Rectosigmoid resection for megacolon is a difficult operation that brings temporary relief. Its use is not justified.
3. Changing the name of ARM with vaginal fistula to persistent cloaca has no justification. However, it served as a justification for the use of operations damaging the urinary system and resulted in poor functional results, comparable to those after correction of the real cloaca.

Peña and Levitt spent 40 years aggressively falsely promoting their methods, silencing their critics. In article Halleran et al [41] every statement and reference are false [42]. Why such an obvious lie was not

noticed by the reviewers and editors of the journal. Why, for 40 years, all the anti-science activities of Peña and Levitt, because of which the health and happiness of many thousands of people suffered, were not rejected by pediatric surgeons? This amazing phenomenon, by analogy with the public opinion in Russia, I called the phenomenon of Putin.

Immeasurable faith in the luminary is created by massive false propaganda. In the minds of people, a conviction arises that the luminary cannot be wrong. Understanding this, the leader associates any failure with circumstances beyond his control. Putin blames the West and NATO for everything. Why are these false claims accepted by the Russian society? Some believe, others fear.

Peña et al. associate poor results of operations with the absence of the anal canal, spinal dysraphism, dysfunction of the bladder, and shortening of the urethra. Why are these lies accepted by the community of pediatric surgeons? It is possible that some surgeons understand the groundlessness of Peña's ideas, but do not dare to speak out against, fearing to lose their work. But the majority grew up on a misunderstanding of the exceptional importance of scientific proof. They were only allowed to share their experience. Peña lied like a great scientist, and all pediatric surgeons wrote reports on the use of his methods. I think the analogy is very close. This is the Putin phenomenon.

References

1. deVries PA, Peña A. Posterior sagittal anorectoplasty. J Pediatr Surg. 1982 Oct;17(5):638-43. doi: 10.1016/s0022-3468(82)80126-7.
2. Peña A, Devries PA. Posterior sagittal anorectoplasty: important technical considerations and new applications. J Pediatr Surg. 1982 Dec;17(6):796- 811. doi: 10.1016/s0022-3468(82)80448-x.
3. de Blaauw I, Wijers CH, Schmiedeke E, et al. First results of a European multi-center registry of patients with anorectal malformations. J Pediatr Surg. 2013 Dec;48(12):2530-5. doi: 10.1016/j.jpedsurg.2013.07.022.
4. Stephens FD. Imperforate rectum. A new surgical technique. Med J Australia. 1953;1:202.
5. Nixon HH. Anorectal anomalies: with an international proposed classification. Postgrad Med J. 1972 Aug; 48(562): 465–470. doi: 10.1136/pgmj.48.562.465

6. Wilkinson AW. Congenital anomalies of the anus and rectum. Arch Dis Child. 1972 Dec; 47(256): 960–969. doi: 10.1136/adc.47.256.960 4.
7. Scott JE. The microscopic anatomy of the terminal intestinal canal in ectopic vulval anus. J Pediatr Surg. 1966 Oct;1(5):441-5. doi: 10.1016/0022-3468(66)90131-x.
8. Swain VA, Tucker SM. The results of operation in 46 cases of malformation of the anus and rectum. Gut. 1962 Sep; 3(3): 245–251. doi: 10.1136/gut.3.3.245
9. Bielowicz-Hilgier A. Sacrococcygeal approach in the treatment of defects of the lower segment of the digestive tract. Probl Med Wieku Rozwoj. 1979;9:177-208
10. Mulder W, de Jong E, Wauters I, et al. Posterior sagittal anorectoplasty: functional results of primary and secondary operations in comparison to the pull-through method in anorectal malformations. Eur J Pediatr Surg. 1995 Jun;5(3):170-3. doi: 10.1055/s-2008-1066197.
11. de la Fuente AQ, Arance MG, Cortés L. Low ano-rectal malformations. An Esp Pediatr. Aug-Sep 1979;12(8-9):603-6.
12. Kyrklund K, Pakarinen MP, Taskinen S, Rintala RJ. Bowel function and lower urinary tract symptoms in males with low anorectal malformations: an update of controlled, long-term outcomes. Int J Colorectal Dis. 2015 Feb;30(2):221-8. doi: 10.1007/s00384-014-2074-9.
13. Springford LR, Connor MJ, Jones K, et al. Prevalence of Active Long-term Problems in Patients With Anorectal Malformations: A Systematic Review. Dis Colon Rectum. 2016 Jun;59(6):570-80. doi: 10.1097/DCR.0000000000000576.
14. Ruttenstock EM1 , Zani A, Huber-Zeyringer A, Höllwarth ME. Pre-and postoperative rectal manometric assessment of patients with anorectal malformations: should we preserve the fistula? Dis Colon Rectum. 2013 Apr;56(4):499-504. doi: 10.1097/DCR.0b013e31826e4a38.
15. Levitt MA, Martin CA, Falcone Jr RA, Peña A. Transanal rectosigmoid resection for severe intractable idiopathic constipation. J Pediatr Surg. 2009 Jun;44(6):1285-90; discussion 1290-1. doi: 10.1016/j.jpedsurg.2009.02.049.
16. Gasior A, Brisighelli G, Diefenbach K, et al. Surgical Management of Functional Constipation: Preliminary Report of a New Approach Using a Laparoscopic Sigmoid Resection Combined with a Malone

Appendicostomy. Eur J Pediatr Surg. 2017 Aug;27(4):336-340. doi: 10.1055/s-0036-1593606.
17. Duhamel B. Physio-pathology of the Internal Anal Sphincter. Jun 1969, Arch Dis Child, 44 (235), 377-81. DOI: 10.1136/adc.44.235.377
18. Jorge JMN, Habr-Gama A. Anatomy and Embryology of the Colon, Rectum, and Anus. In: Wolff B.G. et al. (eds) The ASCRS Textbook of Colon and Rectal Surgery. Springer, New York, NY 2007; 1-22.
19. Okonkwo JE, Crocker KM. Cloacal dysgenesis. Obstet Gynecol. 1977 Jul;50(1):97-101.
20. Hendren WH. Surgical management of urogenital sinus abnormalities. J Pediatr Surg. 1977 Jun;12(3):339-57. doi: 10.1016/0022-3468(77)90010-0.
21. Hendren WH. Cloaca, the most severe degree of imperforate anus: experience with 195 cases. Ann Surg. 1998 Sep;228(3):331-46. doi: 10.1097/00000658-199809000-00006.
22. Rosen NG, Hong AR, Soffer SZ, Rodriguez G, Peña A. Rectovaginal fistula: a common diagnostic error with significant consequences in girls with anorectal malformations. J Pediatr Surg. 2002 Jul;37(7):961-5; discussion 961-5. doi: 10.1053/jpsu.2002.33816.
23. Reck-Burneo CA, Vilanova-Sanchez A, Wood RJ, Levitt MA, Bates DG. Imaging in anorectal and cloacal malformations. Pediatr Radiol. 2018 Mar;48(3):443-444. doi: 10.1007/s00247-017-4040-5.
24. Levin MD. Persistent cloaca. Pathophysiology, diagnosis, and treatment. https://www.anorectalmalformations.com/_files/ugd/4d1c1d_de324cb6a88a4e96bf2ab4fde0eefd5b.pdf
25. Kittur DH, Vora RM. Persistent Cloaca: A Long-term Follow-up Study. J Indian Assoc Pediatr Surg. Apr-Jun 2017;22(2):126-127. doi: 10.4103/0971-9261.202685.
26. AbouZeid AA. Achieving Full Anatomical Correction in Girls with cloacal anomalies: A Necessity or an Overdoing? The journal of genital surgery. Volume 1, January 2019, Page 1-10 DOI:10.21608/JGS.2019.7646.1015.
27. Peña A. The surgical management of persistent cloaca: results in 54 patients treated with a posterior sagittal approach. J Pediatr Surg. 1989 Jun;24(6):590-8. doi: 10.1016/s0022-3468(89)80514-7.

28. Peña A. Total urogenital mobilization--an easier way to repair cloacas. J Pediatr Surg. 1997 Feb;32(2):263-7; discussion 267-8. doi: 10.1016/s0022-3468(97)90191-3.
29. Wood RJ, Reck-Burneo CA, Dajusta D, et al. Erratum to "Cloaca reconstruction: A new algorithm which considers the role of urethral length in determining surgical planning" [YJPSU 53/1 (2018) 90-95]. J Pediatr Surg. 2018 Mar;53(3):582-583. doi: 10.1016/j.jpedsurg.2018.02.051.
30. 16. Levitt MA, Peña A. Cloacal malformations: lessons learned from 490 cases. Semin Pediatr Surg. 2010 May;19(2):128-38. doi: 10.1053/j.sempedsurg.2009.11.012.
31. Wood RJ, Reck-Burneo CA, Dajusta D, et al. Cloaca reconstruction: a new algorithm which considers the role of urethral length in determining surgical planning. J Pediatr Surg. 2017 Oct 12:S0022-3468(17)30644-9. doi: 10.1016/j.jpedsurg.2017.10.022.
32. Levin MD. Normal lower urinary tract motility. Hypothesis. Pelviperineolohy. 2017; 36(2):37-40. (Open access).
33. Umek WH, Kearney R, Morgan DM, et al. The axial location of structural regions in the urethra: a magnetic resonance study in nulliparous women. Obstet Gynecol. 2003 Nov;102(5 Pt 1):1039-45. doi: 10.1016/j.obstetgynecol.2003.04.001.
34. Wood RJ, Reck-Burneo CA, Dajusta D, et al. Erratum to "Cloaca reconstruction: A new algorithm which considers the role of urethral length in determining surgical planning" [YJPSU 53/1 (2018) 90-95]. J Pediatr Surg. 2018 Mar;53(3):582-583. doi: 10.1016/j.jpedsurg.2018.02.051.
35. Peña A. Total urogenital mobilization--an easier way to repair cloacas. J Pediatr Surg. 1997 Feb;32(2):263-7; discussion 267-8. doi: 10.1016/s0022-3468(97)90191-3.
36. Rink RC, Herndon CDA, Cain MP, et al. Upper and lower urinary tract outcome after surgical repair of cloacal malformations: a three-decade experience. BJU Int. 2005 Jul;96(1):131-4. doi: 10.1111/j.1464- 410X.2005.05581.x.
37. Gupta A, Bischoff A, Peña A, et al. The great divide: septation and malformation of the cloaca, and its implications for surgeons. Pediatr Surg Int. 2014 Nov;30(11):1089-95. doi: 10.1007/s00383-014-3593-8.
38. Warne SA, Wilcox DT, Ransley PG. Long-term urological outcome of patients presenting with persistent cloaca. J Urol. 2002

Oct;168(4 Pt2):1859-62; discussion 1862. doi: 10.1097/01.ju.0000030712.17096.0d.
39. Levin MD. The pathological physiology of the anorectal defects, from the new concept to the new treatment. Eksp Klin Gastroenterol. 2013; (11):38-48.
40. Stafrace S, Lobo L, Augdal TA. et al. Imaging of anorectal malformations: where are we now? Abdominal imaging task force of the European Society of Paediatric Radiology. Pediatr Radiol. 2022 Jun 1. doi: 10.1007/s00247-022-05395-7.
41. Halleran DR, Coyle D, Kulaylat AN, et al. The cutback revisited - The posterior rectal advancement anoplasty for certain anorectal malformations with rectoperineal fistula. Pediatr Surg. 2021 Dec 17;S0022-3468(21)00845-9. doi: 10.1016/j.jpedsurg.2021.12.014.
42. Levin MD. Letter to the editor. They immersed in lies https://www.anorectalmalformations.com/_files/ugd/4d1c1d_ea62970c815f48e6871a8a0b70b18b7a.pdf

Wood RJ, Reck-Burneo CA, Dajusta D, et al. Erratum to "Cloaca reconstruction: A new algorithm which considers the role of urethral length in determining surgical planning" [YJPSU 53/1 (2018) 90-95]. J Pediatr Surg. 2018 Mar;53(3):582-583. doi: 10.1016/j.jpedsurg.2018.02.051.

Stafrace S, Lobo L, Augdal TA. et al. Imaging of anorectal malformations: where are we now? Abdominal imaging task force of the European Society of Paediatric Radiology. Pediatr Radiol. 2022 Jun 1. doi: 10.1007/s00247-022-05395-7.