



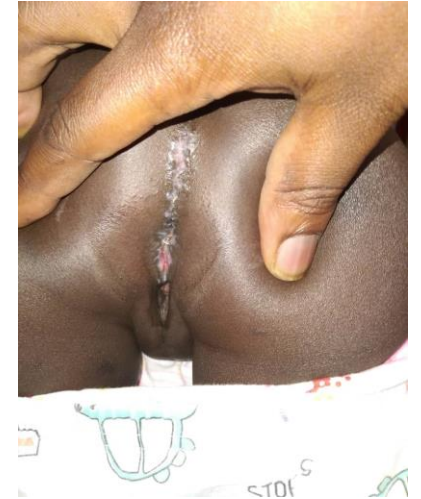
**CHILDREN'S
SURGICAL
HOSPITAL**



anorectal malformations

Hirschsprung's disease

| ARM | PSARP | PSARP pull through | ASARP | anoplasty | PSARPVUP |
|-----|-------|--------------------|-------|-----------|----------|
| 149 | 128 | 7 | 3 | 3 | 8 |



| Hirschsprung's disease | Swenson | Soave | Duhamel | | |
|------------------------|---------|-------|---------|--|--|
| 59 | 41 | 14 | 4 | | |





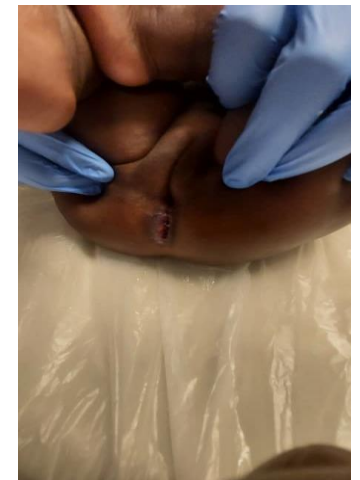
anorectal malformations

| ANORECTAL MALFORMATIONS (ARM) N = 146 | | |
|---------------------------------------|-----------|-------------|
| | N | % |
| Patient Sex | | |
| Male | 68 | 46.57 |
| Female | 78 | 53.42 |
| Colostomy At Presentation | | |
| No colostomy | 27 | 18.49 |
| Colostomy present | 119 | 81.50 |
| Type of ARM | Male(n/%) | Female(n/%) |
| Recto urethral fistula | 31(45.58) | 0(0.00) |
| Perineal fistula | 22(32.35) | 10(6.84) |
| Rectovesical fistula | 10(14.70) | 0(0.00) |
| Recto vestibular fistula | 0(0.00) | 58(74.35) |
| Cloaca | 0(0.00) | 8(10.26) |
| Arm with no fistula | 5(6.00) | 0(0.00) |
| Rectovaginal fistula | 0(0.00) | 2(2.56) |

| N: 146 | | | |
|--------------------------------|-----------|-----------|-----------|
| | Male | Female | freq. |
| Spine | 5 | 14 | 19 |
| Renal | 5 | 5 | 10 |
| Undescended Testis | 5 | 0 | 5 |
| Limb | 1 | 3 | 4 |
| GIT | 1 | 1 | 2 |
| CHD | 1 | 1 | 2 |
| Mayer-Rokitansky-Küster-Hauser | 0 | 2 | 2 |
| Currarino Syndrome | 1 | 1 | 2 |
| Tethered cord | 0 | 1 | 1 |
| Hypospadias | 0 | 1 | 1 |
| Tracheomalacia | 1 | 0 | 1 |
| VACTERL | 0 | 1 | 1 |
| TOTAL | 20 | 30 | 50 |

anorectal malformations

| ANORECTAL MALFORMATIONS (ARM) N = 146 | | |
|---------------------------------------|-----|-------|
| | N | % |
| Surgical Correction Done | | |
| Primary Procedure | 19 | 13.01 |
| 2 staged PSARP | 1 | 0.68 |
| 3 staged PSARP | 126 | 86.30 |
| Type of procedure | | |
| PSARP | 128 | 87.67 |
| Anoplasty | 2 | 1.36 |
| PSARP- Pull through | 7 | 4.79 |
| PSARVUP | 8 | 5.47 |
| ASARP | 1 | 0.68 |
| Age At Perineal procedure | | |
| 1 month to 1year | 34 | 23.28 |
| 1 – 5 years | 97 | 66.43 |
| Above 5years | 15 | 10.27 |





anorectal malformations

| Complications at one month | | | |
|---------------------------------|-----------|------------------------------------|-----------|
| Major perineal wound dehiscence | 8 | Perineal incision wound dehiscence | 14 |
| Surgical injuries | 2 | Anoplasty dehiscence | 5 |
| Stenosis | 1 | Stool incontinence | 4 |
| Sepsis | 1 | Excoriations | 2 |
| Abdominal SSI | 1 | | |
| | | | |
| Total | 13 | | 25 |

| Complications at six months | | | |
|-------------------------------------|-----------|------------------------|-----------|
| Stoma wound SSI | 5 | Stoma closure site SSI | 11 |
| Anal stenosis | 3 | Stool incontinence | 10 |
| Urinary incontinence | 3 | Excoriations | 2 |
| Anastomotic leak post stoma closure | 3 | Rectal prolapse | 4 |
| Mislocated anus | 2 | | |
| Rectal prolapse | 2 | | |
| Vaginal stenosis | 1 | | |
| DVT | 1 | | |
| Total | 20 | | 27 |



anorectal malformations

Colostomy: Unfortunately, transverse colostomies, loop colostomy and Hartman colostomy are still frequently done for patients with ARM.

The ideal colostomy remains a completely divided proximal sigmoid colostomy (at the junction of the descending and sigmoid segments of colon)

Anal mapping: An essential component in the management of patients with ARM, especially in higher forms where the sphincter location is not obvious on inspection. Lack of availability of such instrumentation is a significant limiting factor in resource-limited settings. Typical replacements for the popular Peña muscle stimulator are the inexpensive anesthesia nerve stimulators that can be attached via alligator clamps to needles or to a bipolar forceps.

Caring for children with colorectal disease in the context of limited resources *Seminars in Pediatric Surgery (2010) 19, 118-127*



Hirschsprung's disease

| HIRSCHSPRUNG'S DISEASE (HD) | | |
|-----------------------------|----|-------|
| | N | (%) |
| | 39 | |
| Surgical Correction Done | | |
| Primary pull through | 3 | 7.69 |
| 2 staged Pull through | 28 | 71.79 |
| 3 staged Pull through | 8 | 20.51 |
| Type of Pull-through done | | |
| Swenson procedure | 22 | 56.41 |
| Soave procedure | 17 | 43.59 |
| Age At Pull Through | | |
| | | |
| One to five years | 29 | 74.36 |
| Above 5 years | 10 | 25.64 |

| Complications at first month of follow up | | |
|---|----|-------|
| Mortality | 1 | 2.56 |
| SSI/dehiscence | 3 | 7.69 |
| Anastomotic leak | 1 | 2.56 |
| Constipation | 2 | 5.13 |
| Enterocolitis | 3 | 7.69 |
| Anastomotic stenosis | 1 | 2.56 |
| Peri anal excoriation | 4 | 10.26 |
| Others | 8 | 20.51 |
| None | 10 | 25.64 |
| Lost to follow up | 6 | 15.39 |
| Complications at six months of follow up | | |
| Constipation | 6 | 18.18 |
| Soiling | 4 | 12.12 |
| Anal stenosis | 2 | 6.06 |
| Other | 5 | 15.15 |
| HAEC | 1 | 3.03 |
| None | 3 | 9.09 |
| Lost to follow up | 12 | 36.36 |
| Missing data | 6 | |



Hirschsprung's disease (diagnosis)

Abdominal x-ray / Contrast enema: The combination of extreme gaseous distension, hugely dilated loops of large bowel, and massive fecal loading of the colon is diagnostic for HD. The contrast enema may show a clear transition zone.

Fecaloma: The retained feces in the distal colon can be very difficult to remove, especially after a barium enema. To do this successfully requires dedication and application from the nursing staff, often supplemented by separate bowel washouts in the operating room and, if necessary, on-table lavage.

Hystology/Rectal biopsy: The resources to obtain and interpret suction rectal biopsy specimens are not available, and the only option is a full-thickness posterior rectal biopsy carried out under a general anesthetic. An adequate quantity of the bowel muscle wall must be included for evaluation.



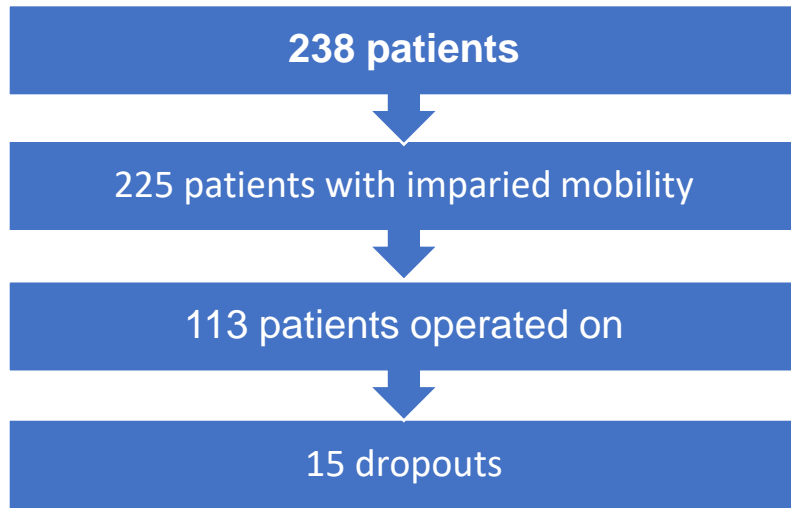


Hirschsprung's disease (surgery)

.Primary pull-through: The use of a primary procedure in the malnourished, late-presenting patient with an extremely dilated proximal colon is not advisable. Once the colostomy is performed, the distal colon requires 3 to 12 months to adequately reduce in size for a successful pull-through.

Transition zone: Late presentation of long segment HD is rare. The transition zone in most patients who present late is in the rectosigmoid. Usually, the residual fecaloma in dilated bowel is a good clinical indication that the transition zone has been reached. When there is doubt about the level of the transition zone and histologic confirmation is not available, the bowel at the level of a well-functioning colostomy may be used for the pull-through.

Post burn contractures



- Treatment consisted in operating on burn sequelae such as contractures, hypertrophic scars and hard cords.
- Impaired mobility was our only indication for the operation.
- The most common methods of surgery were skin grafting and Z-plasty.
- A continued and often long-lasting follow-up by occupational therapists and physiotherapists is highly mandatory in order to guarantee good long-term results

| surgeries | 151 | |
|-----------|---------------------------|----|
| | Patients with 4 surgeries | 2 |
| | Patients with 3 surgeries | 3 |
| | Patients with 2 surgeries | 19 |
| | | 24 |

Post burn contractures

| | |
|----------------------|------------|
| Head and Neck | 11% |
| Upper Limb | 77% |
| Trunk | 1% |
| Pelvis | 1% |
| Lower Limb | 10% |

| | procedures | |
|-------------------|-------------------|--|
| Z plasty | 91 | |
| Skin graft | 131 | |
| • Split thickness | 27 | |
| • Full thickness | 104 | |
| flap | 44 | |
| Scar excision | 60 | |





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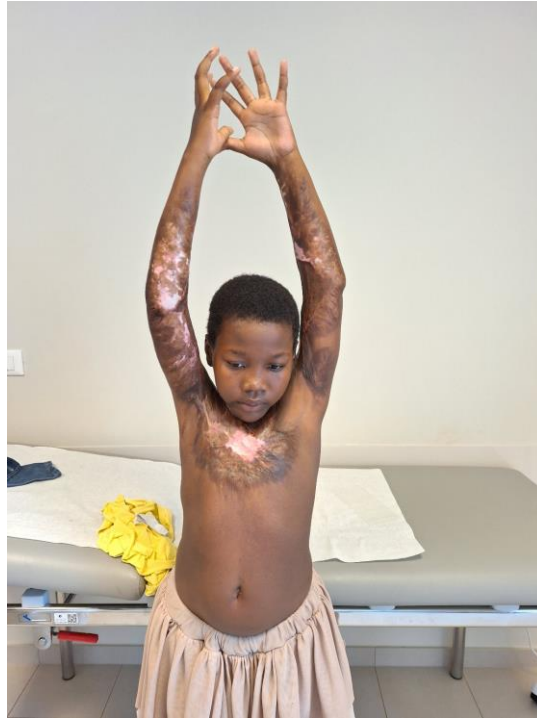
Post burn contractures





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Post burn contractures



Cleft lip and palate

Cleft lip and/or palate (CL/P) is the most common craniofacial congenital anomaly worldwide. Yet, CL/P is undertreated in low- and middle-income countries (LMICs). Untreated children with CL/P experience malnutrition, poor dentition, ear infections, speech deficiencies, and extreme social stigma which has resulted in abandonment or infanticide. These experiences are exacerbated by delays in care.

| | |
|---------------------------------------|-----------|
| Cleft lip and palate surgeries | 40 |
| Cleft lip repair | 13 |
| Cleft palate repair | 3 |
| Soft palate repair (two stages) | 17 |
| Hard palte repair (two stages) | 7 |

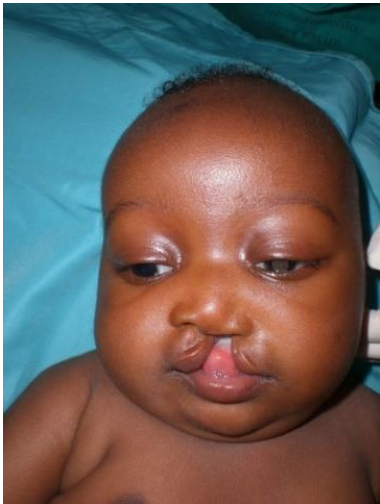


Cleft lip and palate

Surgeons in developing countries modify the timing of their repairs to improve results.

There are indications that early repair of both lip and palate in one surgical session is not inferior in outcome to the traditional staged procedure.

The aim when working in Developing Countries is to work toward the self-sufficiency: teach them a simple basic approach to cleft repair that is reproducible.



Protocols for repair of cleft lip and palate deformities were varied, with Millard's and von Langenbeck's techniques being the preferred approach for the management of cleft lip and palate deformities, respectively. A large proportion of providers have limited access to core cleft care supporting teams, especially speech language pathologists, orthodontists, and audiologists. Several challenging barriers to cleft care were also identified at both the institutional and individual levels and are reported.



hypospadias

| types | patients | surgeries |
|-----------------|----------|-----------|
| glandular | 19 | 21 |
| coronal | 48 | 56 |
| distal penile | 15 | 17 |
| midshaft | 53 | 61 |
| proximal penile | 15 | 18 |
| penoscrotal | 79 | 114 |
| perineal | 24 | 29 |

| hypospadias | mild | severe | |
|-------------|------|--------|--|
| N. 253 | 45% | 55% | |





hypospadias

| techniques | | surgeries |
|------------------|--|-----------|
| TIP | | 100 |
| Bracka (1°stage) | | 173 |
| Bracka(2° stage) | | 62 |
| Onlay Duckett | | 6 |
| Koyanagi | | 3 |
| Mathieu | | 5 |
| others | | 3 |

