



## **PEDIATRIC SURGERY Update** ©

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### **Bowel Management**

Fecal incontinence (FI) could be the outcome after surgery for anorectal malformations (imperforate anus) or Hirschsprung's disease. FI can be further subdivided by history and contrast studies into those with a tendency to constipation (megacigmoid) or diarrhea (a non-dilatated colon running straight from the splenic flexure to the anus). Bowel management aims to improve the personal and social burden inherent to this problem promoting independence in the affected child. The most effective regimen consists of regular and complete emptying of the colon limiting the episodes of fecal soilage. This is accomplished with the use of a daily enema program, dietary manipulation, laxatives and drugs. The enema is administered while the child sits in the toilet at a rate of 10-20 cc/kg of weight. To avoid spillage the silastic tube must have a balloon to seal the distal rectum. After enema administration the balloon is deflated and the child allowed to evacuate the colonic content. Leaving the balloon partially inflated encourages the child to expel it as a biofeedback mechanism allowing some patients to realize they have some minimal control to be exploited. If the enema program is effective in a 3 to 6 month period, the child can become a candidate for a Malone procedure (appendicostomy). Children with constipation and megacigmoid needs large volume enemas. Likewise, the large megacigmoid can cause overflow pseudo incontinence that is only helped with sigmoid resection. Those with diarrhea may need constipating diet and anti-motility drugs. A few children that continue with incontinence in spite adequate therapy might benefit from a permanent colostomy.

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### **Bladder Rhabdomyosarcoma**

Bladder Rhabdomyosarcoma (B-RMS) is the most common tumor of the lower genitourinary tract in children (mean appearance at five years of age). Most B-RMS arise

from the submucous tissue of the bladder base, trigone and neck infiltrating the prostatic urethra and surrounding pelvic fascia. Only 20% arise from the bladder dome. Urinary or fecal retention, hematuria, UTI or palpable mass are initial presentation. Embryonal (75%) and botryoid (25%) histological variant predominates. MRI is recommended as the key method of diagnosis and follow-up of pelvic RMS. Unless staging demonstrates a small or dome lesion amenable to surgical resection, initial management should consist of high dose multiagent chemotherapy (VAC) and low-dose irradiation (40 Gy). Response could be: 1- complete, needing follow-up imaging and cystoscopy, 2- partial (< 50%) or none, needing total cystectomy or anterior exenteration. Survival is hampered by metastasis, local invasion and prostatic origin of the tumor. These children need aggressive treatment modality including total cystectomy. Bladder function preservation is difficult to achieve due to location of the lesion, radiation cystitis and hemorrhagic cystitis (cyclophosphamide).

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### Fournier's Gangrene

Necrotizing fasciitis of the perineum, genitalia (scrotum and penis) and the abdominal wall is commonly known as Fournier's Gangrene (FG). FG is an emergency condition that is very rarely seen in the pediatric age. Thrombosis of small arteries in the genital area results in ischemic injury. In children, FG is seen after circumcision, insect bites, anorectal trauma, burns, diaper rash, perianal skin abscesses, and bone marrow transplant. Most affected children are infants. Patients develop abrupt, rapidly progressive gangrenous infection with fever, perineal pain, swelling and blistering of the genital area with systemic signs of toxicity. Infecting organisms comprise both aerobic and anaerobic organisms. Management consists of broad spectrum antimicrobial therapy, aggressive and frequent surgical debridement, and if necessary, urinary and colonic diversions to control the

infection. Fortunately pediatric cases can be successfully managed with a more conservative surgical approach and have a significantly lower mortality rate than adult cases.

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