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Fingertip Injury

Fingertip injuries are the most common injury to the hand needing evaluation in an emergency department in young children. Though often viewed as relatively minor injury improper management can lead to considerably loss of skilled hand function. Distal fingertip injuries in children are more common in boys, and right and left-hand injuries occur at near equal frequencies despite the majority of the population being right-handed. Crush injury predominates. Most of these injuries can be managed conservatively. Others will need surgical management. The goals of treatment are to maintain the length of the digit, as well as to provide well-padded, stable yet sensate pain-free skin with long-term functionality. Simple hand x-ray film should be obtained in all cases to determine bone involvement. Possible treatment includes primary closure, healing by secondary intention, skin grafting, local tissue rearrangement, microvascular free tissue transfer or perforator flaps. The PNB classification takes into consideration whether damage included the pulp, nail and/or bone. This will help determine if conservative management is needed for distal pulp isolated injuries or if the nail is involved full-thickness skin grafting is warrant since they contract less, are more durable, and regain sensibility better than split thickness grafts. An excellent donor site for these skin grafts is the hypothenar eminence. In children the absolute size of the defect relative to the size of the finger must be taken into consideration. If it is felt that the defect is too large for secondary intention healing, a full-thickness skin graft is a viable management option. Injuries with fingertip pulp loss and exposed bone necessitate more complex treatment options including local tissue flaps such as simple V-Y, cross finger, homodigital or distal-based thenar flaps. With more severe proximal injury or amputation with viable adequate tissue, reimplantation is an option. Hand surgeons are expert in the management of such injuries.

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Unexpected Pathology after Appendectomy

Acute appendicitis is the most common surgical emergency in children, making appendectomy the most frequent worldwide operation performed in the abdomen. Though obstruction of the lumen of the appendix by lymphoid hyperplasia or fecalith is the dominant factor causing appendicitis, other unexpected pathology may be the cause of obstruction of the lumen in less than 2% of all cases. Histopathological evaluation of the removed appendix is essential to determine the etiology of such causes. The most common unusual factors associated with appendicitis include carcinoids tumors, granulomatous disease, enterobiasis, eosinophilia, teniasis, ascariasis, lymphomas other infectious etiologies, melanosis coli, serosal inflammation, and xanthomatous changes. Carcinoids are the most common tumors found in the appendix. They are asymptomatic, difficult to diagnose, and are incidentally found on histopathological examination. Fortunately the carcinoid typically does not develop carcinoid syndrome, recurrence, and metastasis. Appendectomy alone is the only treatment necessary in most cases. *Enterobius vermicularis* (pinworm) is the most common helminth infection worldwide and a rare cause of appendicitis. After being hatched in the stomach, larvae migrate to the cecum to become adult. It is here that they can occlude the lumen of the appendix causing obstructive and inflammatory symptoms. Adult female pinworms travel at night to the perianal area depositing eggs and causing anal pruritus. After pathological diagnosis the child should receive antihelminthic therapy. Granulomatous disease of the appendix is a very rare cause of appendicitis reported in cases of Crohn's disease, sarcoidosis, foreign body reaction, and infectious processes. Acute eosinophilic appendicitis is the result of an allergic response associated with eosinophilic enteritis, polypoid lesions, intussusception or gastrointestinal bleeding. Other unusual findings in appendicitis such as melanosis coli, infectious processes, xanthomatous changes, lipomatous hypertrophy, and serosal inflammation are rare entities seldom causing complications.

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Bowel Length

Assessment of small bowel length determination in children and adults is essential specially in cases of large intestinal resections to determine and manage nutritional problem arising from reduced absorptive capacity. Small bowel length, defined as distance between Treitz and ileocecal valve, correlates with gestational age, sex, weight, height and racial origin of the subjects. For example in men the small intestine is 8% longer and the colon 14% longer than women. Intestinal length after loss of intestine is best expressed as a percentage of predicted for gestational age rather than the absolute length in centimeters. Between all the compounding variables affecting small bowel length, height has been found to correlate better by determining more exactly such length of the small and large intestine of humans. Height was chosen for practical reasons since the difference between observation and actual measurement is less compared to weight. A simple formula using height in centimeters has been developed for such purpose: Small bowel length (cm) = $6.741 - 80.409/\text{height (cm)}$. Similarly, Colon length (cm) = $0.111 * \text{height (cm)}$. Small bowel length (SBL) does not increase with growth like other anthropometric variables. The SBL/height ratio significantly decreases with growth; however, bowel diameter increases.

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