Prophylactic Antibiotics

Antibiotics have an important role in preventing wound infections during emergent and elective surgery. The most critical factors in prevention of postoperative wound infections are sound judgment and proper technique of the surgeon and surgical team. Antibiotics prophylaxis in surgery is governed by such factors as: surgical wound classification (most important), host immune system function and immune competence, host nutritional status, type and prolongation of the surgical procedure, hospital vs. community emerging difficult to manage strains, and emergency vs. elective procedure. According to wound type, clean procedures (hernias, excisions, biopsy) need no use of prophylactic antibiotics. Clean contaminated procedures (surgery entering airway, bowel, breast, urinary or bile lumen) should receive one preoperative dose of broad spectrum antibiotic followed by 24 hours postoperative prophylaxis. Contaminated and dirty surgical procedures (empyema, non-prepared bowel perforation, perforated appendicitis, infected urinary tract) should receive preoperative double antibiotic therapy continued according to individual laboratory and clinical condition in the postoperative period. Special considerations such immune, asplenic and nutritional compromised hosts should receive antibiotic prophylaxis. Prolonged procedures beyond three hours should receive an intraoperative dose. Long-term hospitalized children submitted to surgery should receive high graded antibiotic therapy due to colonization with antibiotic resistant strains.

References:
1- ACS Surgery: Principles and Practice, Chapter 1: Basic Surgical and Perioperative Considerations, pags 9 and 13, 2006
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Playground Injuries

Children sustaining injuries from playground equipment constitute a common cause of visiting the emergency room of Children hospitals. Injuries are usually minor, but sometimes serious head or extremity injury or even death can occur. Injuries consist of fractures (most common), contusion/abrasions, laceration, hematomas, strains/sprains and brain injury. In order of frequency monkey bars are responsible from the majority of cases, followed very closely by swings and slides. Geographically, they occur with almost the same frequency at school, recreation/sporting facilities and home. Body area injured consist of the upper extremity (most common), followed by head/neck, lower extremity and trunk. Most of the children are managed and released the same day. Monkey bars injuries
are usually fractures, while swings at school cause most brain injuries (mechanism: a young child moves behind a moving swing). Upper extremity fractures due to climbing apparatus, where younger children sustained more injuries on slides. Removing and replacing unsafe equipment is an effective strategy for preventing playground injuries.

References:

Internal Hernias

Internal hernias are a rare cause of bowel obstruction (5%) in children and adults. These mesenteric defects are most commonly acquired or congenital in nature. Acquired internal hernias occur postoperatively resulting from incomplete closure of surgically created mesenteric defects. Congenital mesenteric defects represent 10% of all internal hernias. Pathogenesis of these congenital defects includes regression of the dorsal mesentery, enlargement of a hypovascular area and compression of mesentery by the colon. Most congenital mesenteric defects that lead to herniation occur in the small bowel mesentery, are 2 to 3 cm wide and trap a loop of ileum. Herniation of small bowel through the falciform ligament and Winslow’s foramen has also been reported. Clinically, children shows sign of intermittent small bowel obstruction, nausea, vomiting, abdominal pain and distension which can follow into bowel incarceration or strangulation. Preoperative diagnosis is difficult and a high index of suspicion is needed to order appropriate studies for diagnosis such as upper bowel contrast studies or CT-Scan. Misdiagnosis results in delayed exploration which leads to bowel necrosis and death. Surgical exploration is the only means of definitive diagnosis.

References:
3- Agresta F, Michelet I, Candiotto E, Bedin N: Incarcerated internal hernia of the small intestine through a breach of the broad ligament: two cases and a literature review. JSLS. 11(2):255-7, 2007