Intestinal lengthening surgery

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Intestinal failure (IF) signifies the inability to absorb nutrients from food to maintain weight or attain normal growth. Causes of IF include resection and abnormal motility or function causing diarrhea and poor absorption. Although parenteral nutrition (PN) has allowed for delivery of nutrients directly into the bloodstream associated complications it can be life-threatening. Several centers attempted intestinal transplantation in 1960’s and 70’s, but the field was largely abandoned due to the uniform death from sepsis and rejection in the early postoperative period. After the early abandonment of intestinal transplantation, an innovative surgical technique was introduced by Dr. Bianchi in 1980 (longitudinal division of small bowel into 2 parallel segments). There are over 100 patients in 11 case reports or small series that have shown the procedure to be successful in improving absorption and weaning PN in 60 % with 83% patient survival. In 2003, Kim introduced an alternative lengthening surgery called serial transverse enteroplasty (STEP). This procedure appears technically easier the longitudinal lengthening and has been rapidly adopted by many centers. The STEP registry reported in 2007 described 38 patients with mean 12 month follow-up from 19 centers. In the registry report, of the 29 undergoing STEP that were TPN dependent, 10 (34%) were weaned from PN and 3 died (mortality = 8%). In 2007, the University of Nebraska compared their single center outcomes of these 2 procedures in the largest series of lengthening surgeries published. There were 66 patients (43 Bianchi and 34 STEP). Survival was 91% and weaning from PN in 60% with no differences between the procedures. Although, intestinal transplantation has now become clinically successful, intestinal lengthening remains a viable alternative in many patients with IF and avoids the need for life-long immunosuppression, with its attendant risks.

Biography
Debra Sudan is a recognized national and international leader in the medical and surgical therapy of short bowel syndrome. She has published over 100 manuscripts, is the lead author of the largest single center series of intestinal lengthening surgeries for the treatment of intestinal failure and has been invited to give lectures on intestinal failure management on 4 continents. She is the Division Chief and Surgical Director of Abdominal Transplant Surgery at Duke University since 2008, where she initiated an extremely successful small bowel transplant program to complement the excellent programs in liver, kidney and pancreas transplantation.