American Pediatric Surgical Association

Standardized Toolbox of Education for Pediatric Surgery

Intestinal Atresia

APSA Committee of Education
2012-13

STEPS
STANDARDIZED TOOLBOX OF EDUCATION FOR PEDIATRIC SURGERY

AMERICAN PEDIATRIC SURGICAL ASSOCIATION • FOUNDED 1970 •
PATIENT CARE • RESEARCH • TEACHING ®

Intestinal Atresia

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History

- **Newborn female infant with abdominal distension and failure to pass stool.**

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History Discussion

- Full term birth
- Mild polyhydramnios on prenatal US
- ? dilated loop of bowel on prenatal US
- Increasing distension after birth
- Bilious emesis

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Physical Exam

- Check vitals -> stable
- Appearance -> normal
- Cardiac evaluation -> normal
- Abdominal Evaluation
  - Soft
  - Distended
  - Decreased bowel sounds
- Inguinal evaluation -> normal
- Perineal evaluation -> normal

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Differential Diagnosis

- **Bilious emesis – Distension**
- **Bilious emesis – No Distension**
- **Non-Bilious emesis**

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Differential Diagnosis

- **Duodenal**
  - **Arrest in development**
  - **Associated anomalies**
  - **Chromosomal anomalies**
- **Jejunal – Ileal**
  - **Vascular accident**
  - **Other anomalies rare**

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Differential Diagnosis

- **Duodenal**
  - **Bilious emesis 75%**
  - **No distension**
  - **Rule out malrotation!**
- **Jejunal – Ileal**
  - **Bilious emesis 100%**
  - **Distension likely**

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Studies (Labs, Imaging)

- **What labs needed?**
- **What Imaging Needed?**

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Studies – Duodenal Atresia

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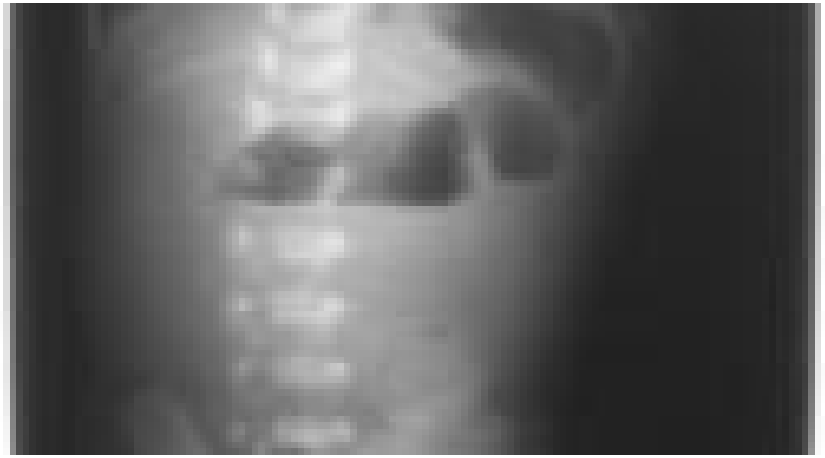
Studies – Jejunal Atresia



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Duodenal Atresia - Types

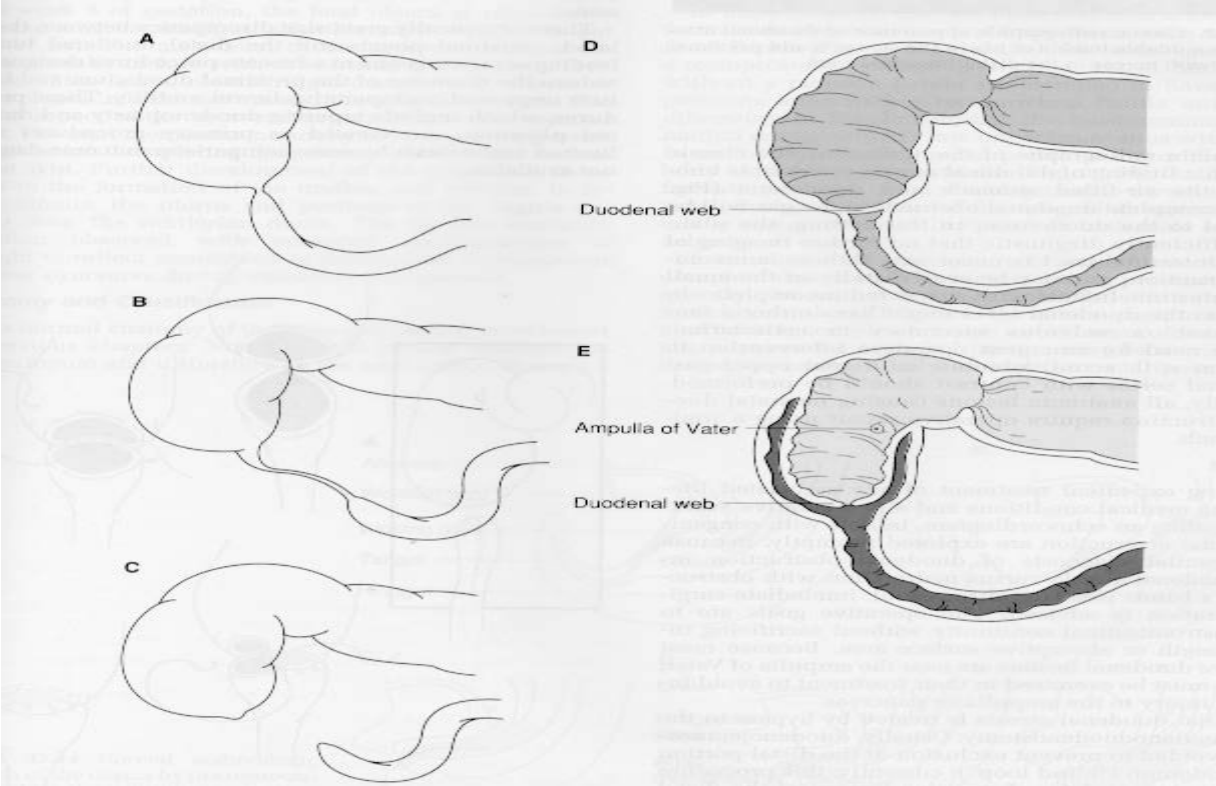

Figure 97.11. Anatomic forms of duodenal atresia *(A–C)* and webs *(D,E)*. In particular, *(E)* demonstrates the unique wind-sock deformity. This lesion is important and potentially confusing because the point of obstruction is not at the apparent point of change in luminal diameter.

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Duodenal Atresia – OR Findings

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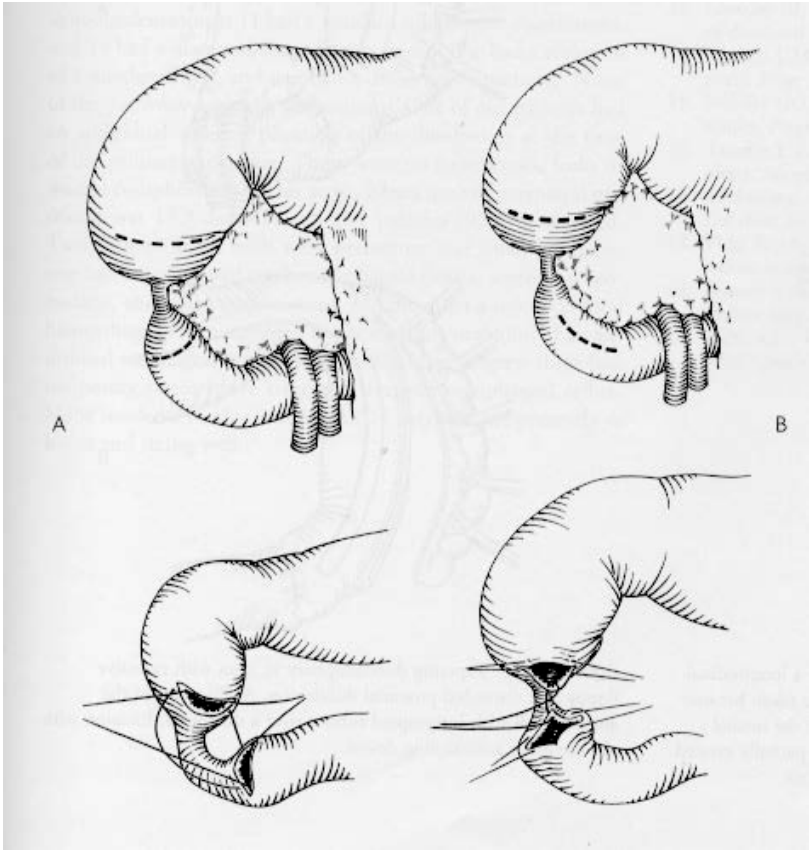
Duodenal Atresia – Repair



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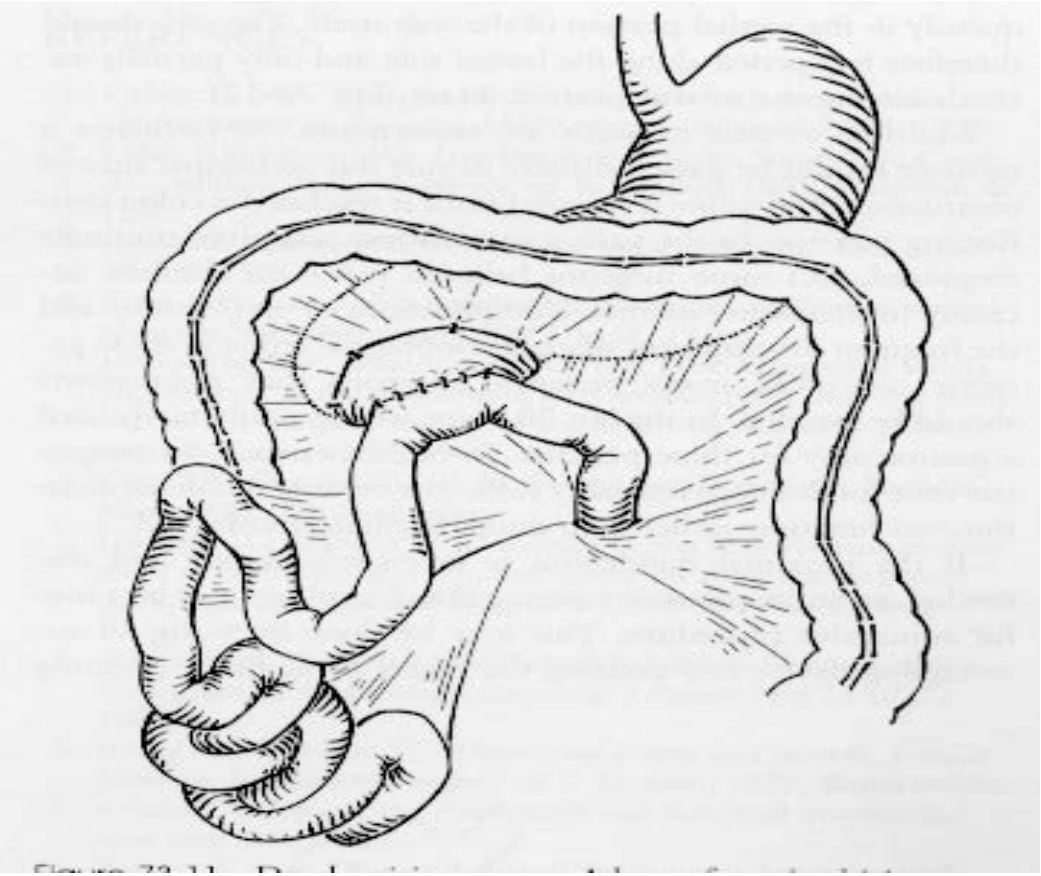
Duodenal Atresia – Repair



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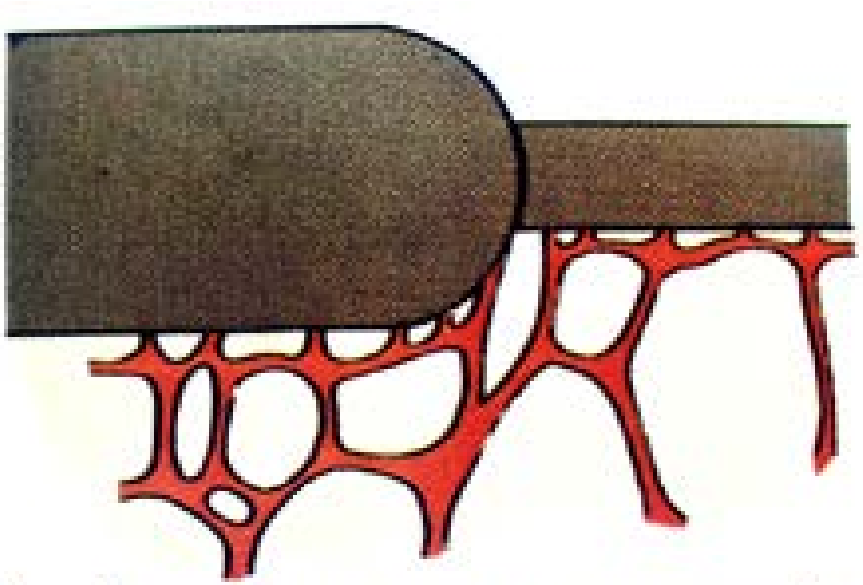
Small Bowel Atresia - Types



Type I: the proximal and distal ends are contiguous

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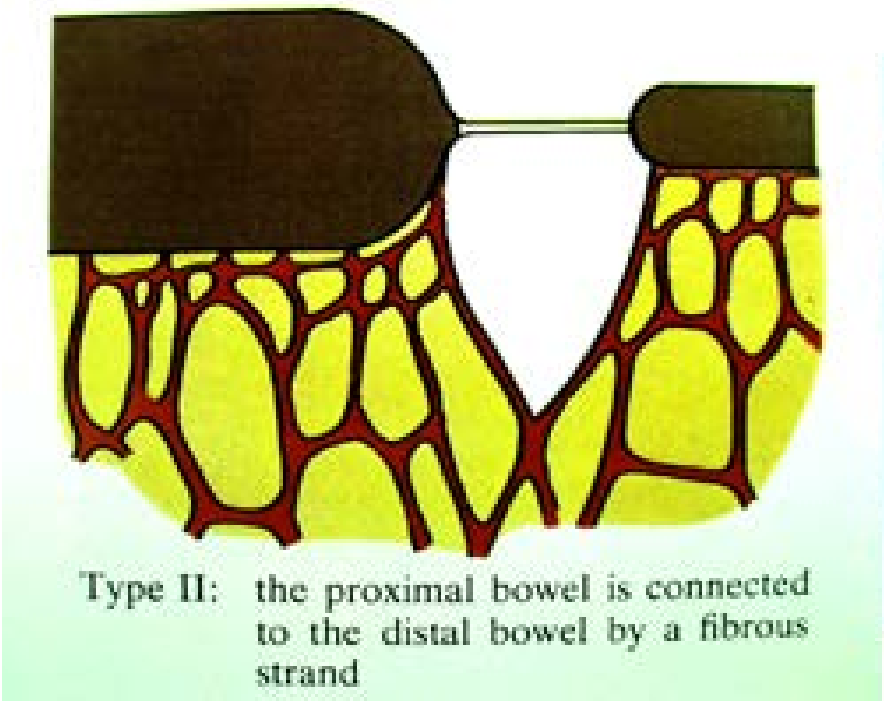
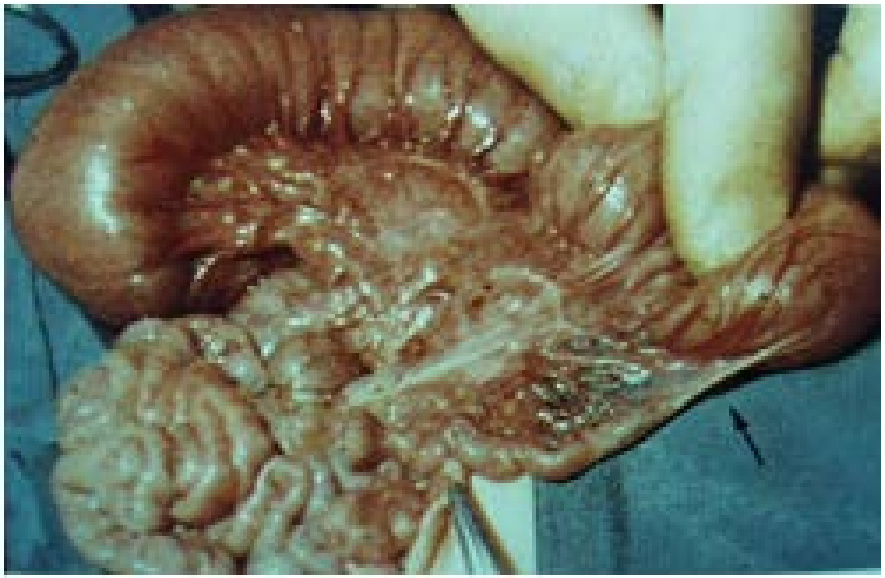


Type II: the proximal bowel is connected to the distal bowel by a fibrous strand



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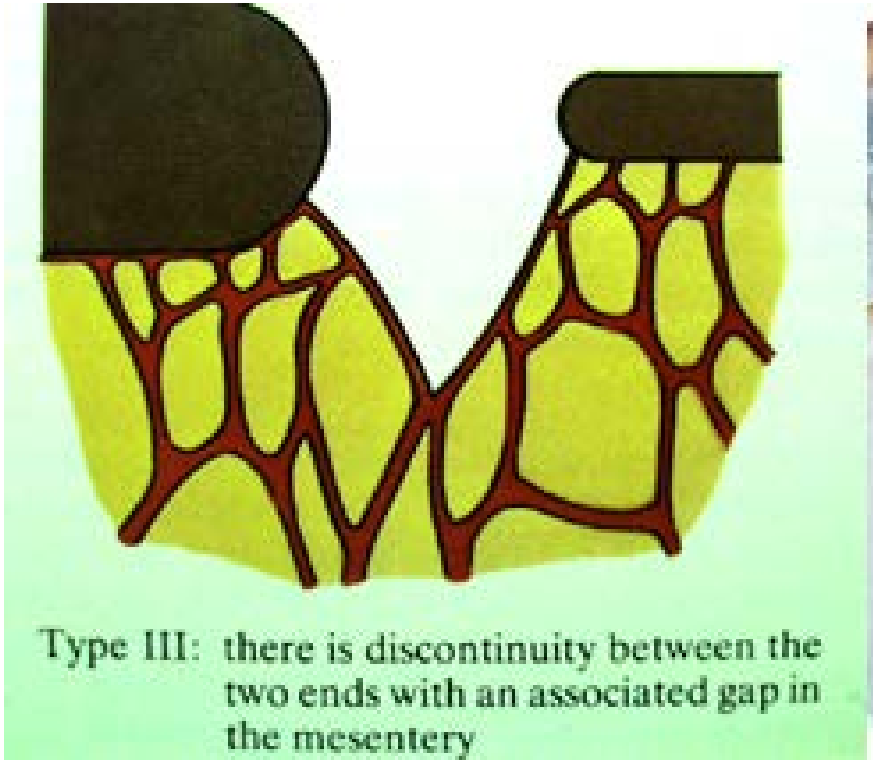

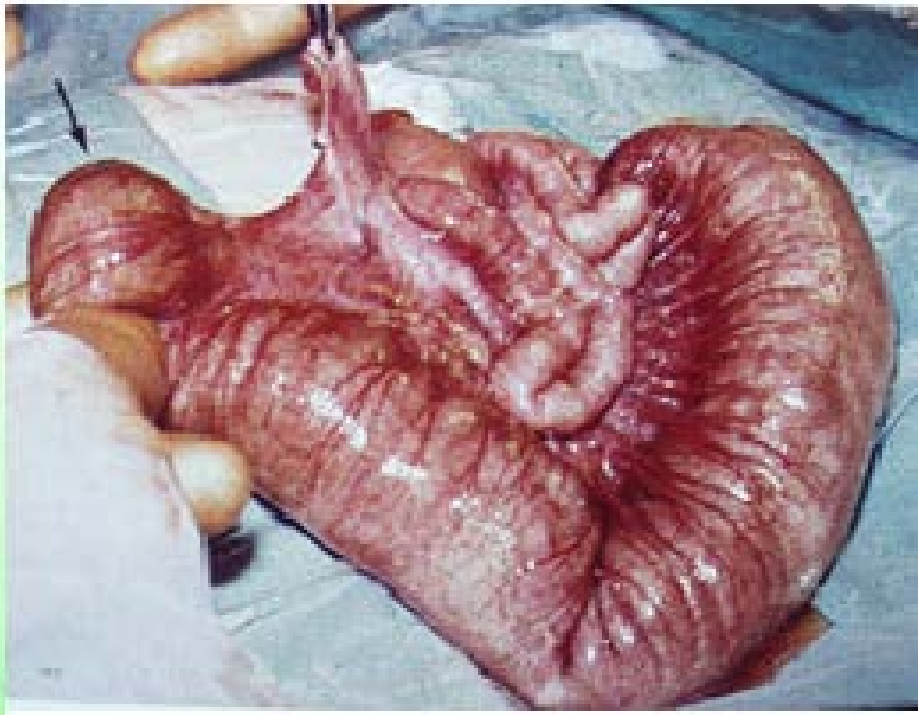

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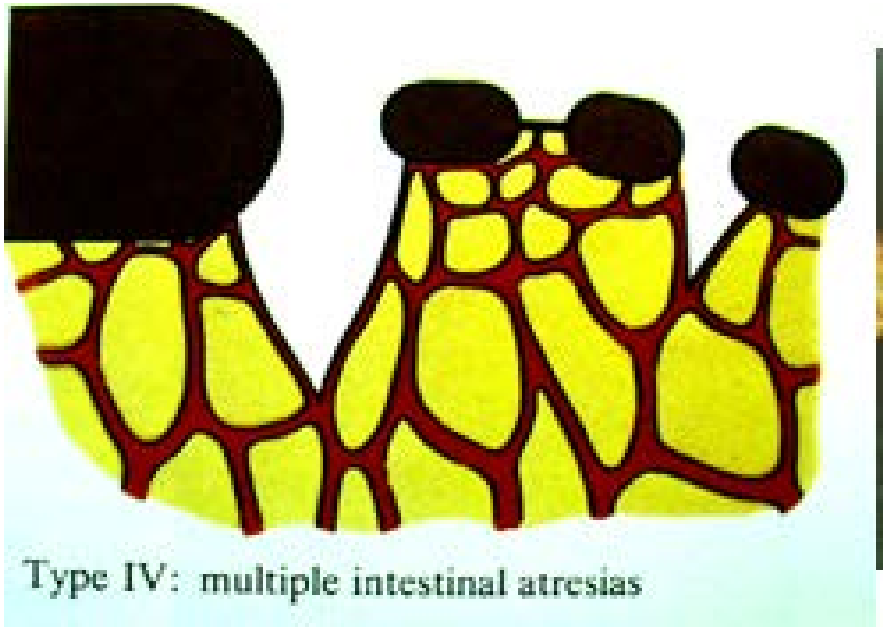

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Small Bowel Atresia - OR Findings

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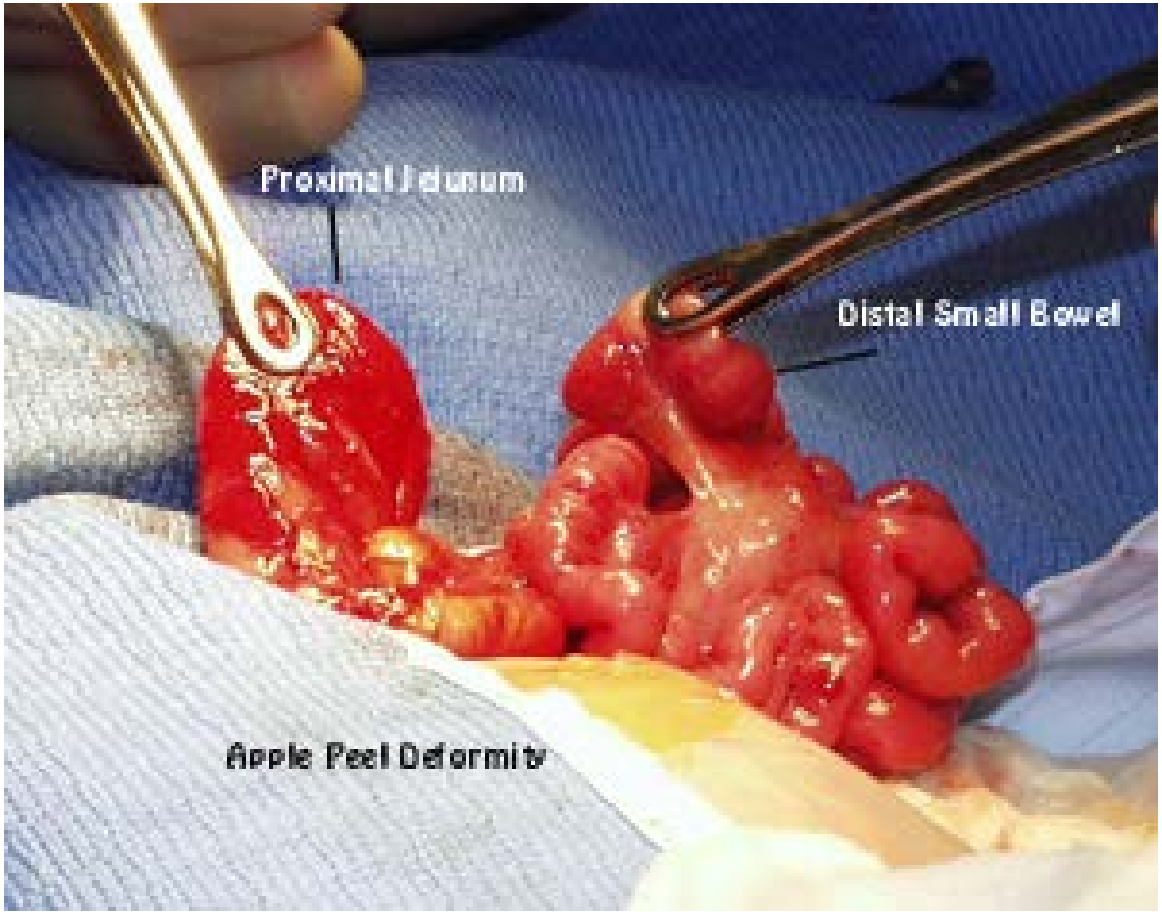

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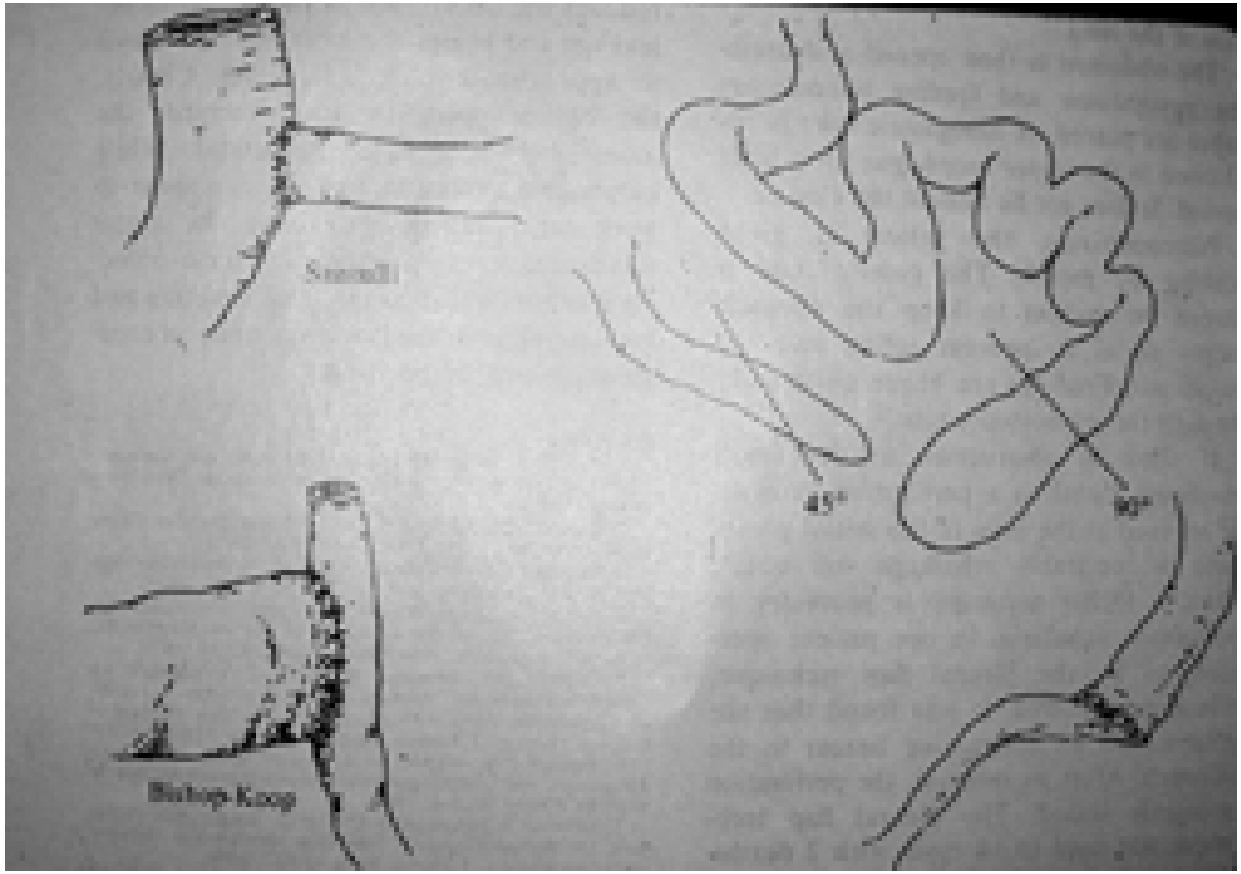
Small Bowel Atresia – Repair



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Complications

Peri-operative

- **Anastomotic leak**
- **Anastomotic stricture**
- **Infection**

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Complications

Long Term

- Delayed bowel function
- Malabsorption
- Short bowel syndrome

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Post-operative Management

- **NICU**
- **Await bowel function**
- **TPN**

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Post Lecture Questions

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Question 1

- **The most important differential diagnosis to duodenal atresia is:**
  A. Esophageal atresia
  B. Malrotation / volvulus
  C. Jejunal atresia
  D. Ileal atresia
  E. Anal atresia

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Question 2

- **The most common chromosomal defect associated with duodenal atresia is _____.**

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Question 2

- **The most common chromosomal defect associated with duodenal atresia is _____.**

Answer: Trisomy 21

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Question 3

Which of the following statements is correct:

A. Duodenal atresia usually presents with non-bilious emesis.

B. Jejunal and ileal atresias are caused by an arrest in development.

C. Duodenal atresias occur due to a vascular accident.

D. Jejunal and ileal atresias usually do not have any associated other anomalies.

E. Patients with trisomy 21 often present with jejunal atresias.

Answer: D

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Final Discussion/Review

- **Duodenal Atresia:**
  - **Bilious 75%**
  - **No distension -> cave malrotation!**
  - **Other anomalies**
- **Jejunal – Ileal Atresia**
  - **Always bilious**
  - **Distension likely**
  - **Other anomalies unlikely**

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