

Intussusception

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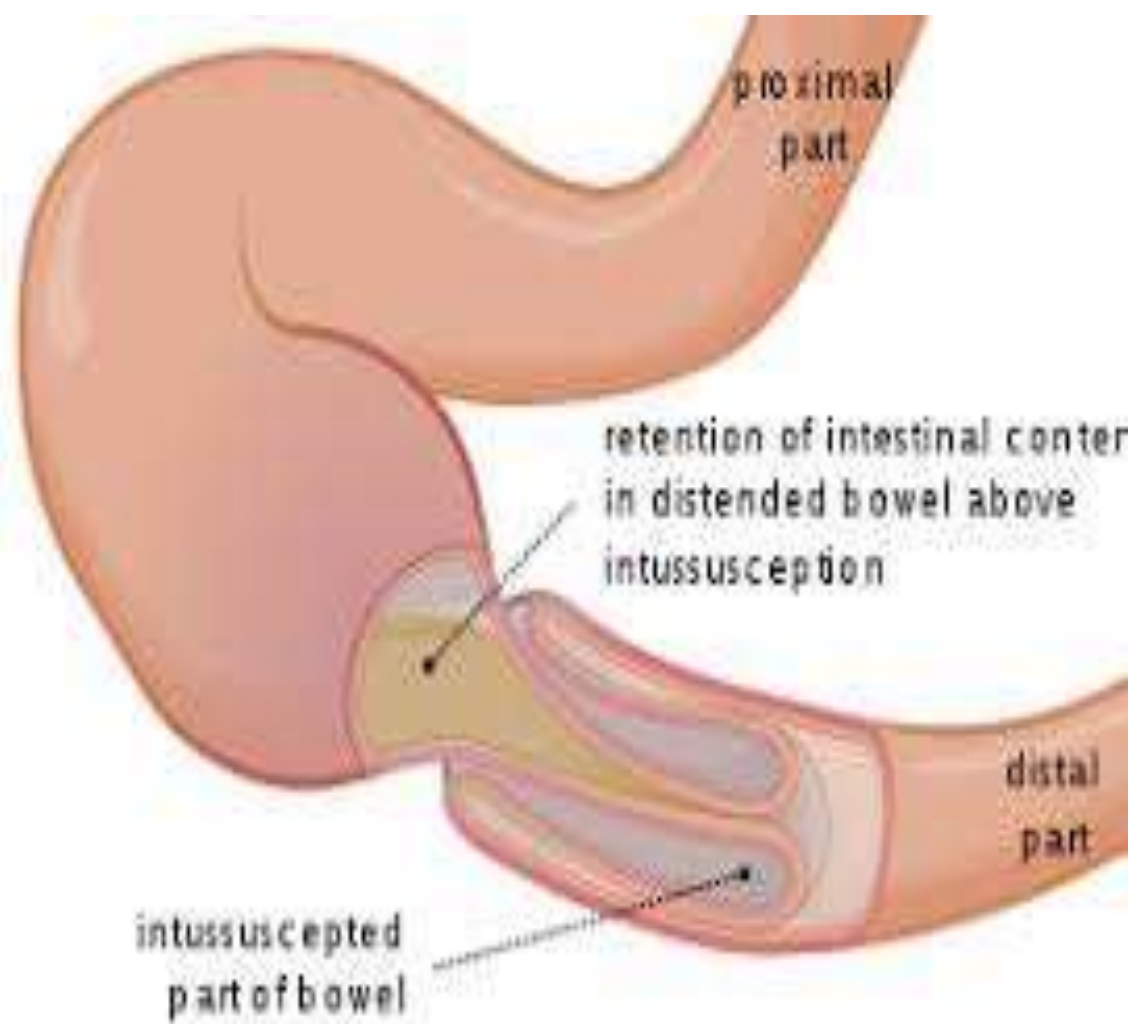
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Intussusception – Telescoping of a proximal segment of the intestine(intussusceptum) into a distal segment (intussuscipten).

It is the most common abdominal emergency in early childhood, particularly in children younger than two years of age.

The majority of cases in children are idiopathic.



Epidemiology

Most common cause of intestinal obstruction in infants between 6 and 36 months of age.

Approximately 60% < 1 year old 80 to 90%.

Intussusception is less common before three months and after six years of age .

Male: female ratio of approximately 3:2.

INTUSSUSCEPTION ANATOMIC LOCATIONS

- Ileocolic - most common in children
- Ileo-ileocolic - second most common
- Enteroenteric
 - ileo-ileal, jejuno-jejunal
 - more common in adults
- Caecocolic, colocolic

Pathogenesis

- The intussusceptum, telescopes into the intussuscipien → dragging the associated mesentery with it.
- Venous and lymphatic congestion
- Edema
- Strangulated obstruction
- Ischemia....necrosis....perforation....peritonitis sepsis....shock...death

Lead point

- A lead point is a lesion or variation in the intestine that is trapped by peristalsis and dragged into a distal segment of the intestine, causing intussusception.
- A Meckel diverticulum, intestinal polyp, intestinal duplication, hemangioma, tumor (lymphoma), appendix, ectopic pancreas can act as a lead point for intussusception.
- 25% of cases have pathological lead point.

Etiology -

Approximately 75% of cases are idiopathic because there is no clear disease trigger or pathological lead point.

Viral infections can stimulate lymphatic tissue in the intestinal tract, resulting in hypertrophy of Peyer patches in the lymphoid rich terminal ileum, which may act as a lead point for ileocolic intussusception.

Postoperative- The intussusception is thought to be caused by uncoordinated peristaltic activity and/or traction from sutures or devices such as a gastrojejunal feeding tube.

CLINICAL MANIFESTATIONS

History

Early

- Patients with intussusception typically develop the sudden onset of intermittent, severe, crampy, progressive abdominal pain, accompanied by inconsolable crying and drawing up of the legs toward the abdomen.
- Between symptoms child will be playing and doing normal activity.
- Vomitings.

Later

- Continuous abdominal pain

The stool may contains gross or occult blood or be a mixture of blood and mucous and sloughing mucosa, giving it the appearance of currant jelly.

- Lethargy
- Palpable abdominal mass.

Physical

A sausage shaped abdominal mass.

Abdominal distension

Dehydration

Classic triad (<15% of cases)

- Intermittent colicky abdominal pain
- RLQ sausage shaped abdominal mass .
- currant jelly stool is seen in less than 15% of patients at the time of presentation.

Occasionally, the initial presenting sign is lethargy or altered consciousness alone, without pain, rectal bleeding, or other symptoms that suggest an intra-abdominal process and is often confused with sepsis.

Diagnosis

Ultrasonography — Ultrasonography is the method of choice to detect intussusception.

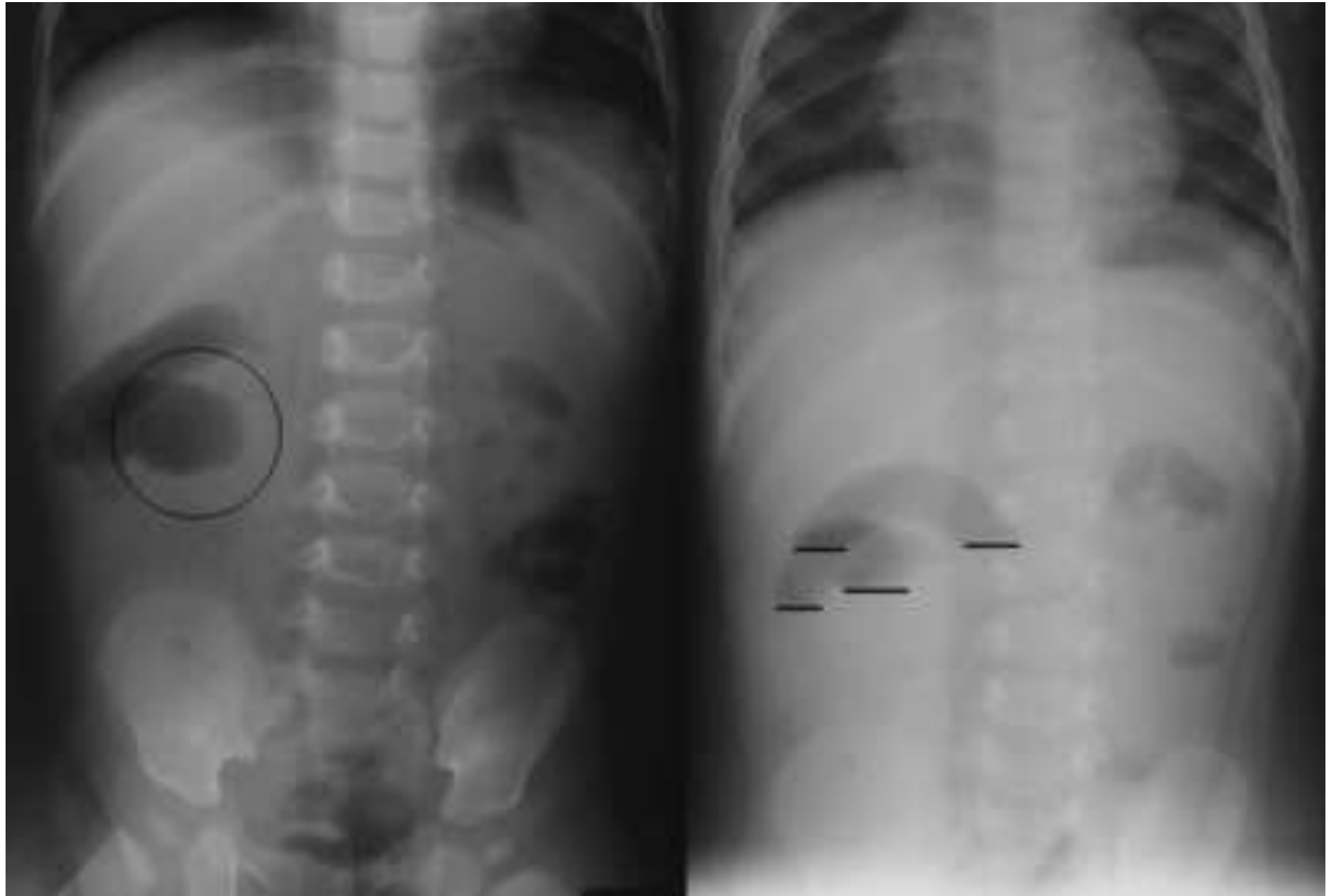
- A Doughnut or 'target sign' is seen, representing layers of the intestine within the intestine Dx accuracy is approx 85%.
- May also be visible on abdo CT with IV contrast.



Abdominal plain film – low sensitivity and specificity

- Signs of intestinal obstruction
- Pneumoperitoneum

Contrast x-ray - Patients with typical presentation can proceed directly to contrast study (enema) advantage of being diagnostic (barium will outline a concave 'meniscus') and therapeutic.



Treatment

- Stabilize and resuscitate with intravenous fluids
Hydration, electrolyte, acid-base balance.
- Stomach should be decompressed with a nasogastric tube.
- Antibiotics- if signs of infection (fever, peritonitis)

Ampicillin

Gentamycin

Metronidazole

Duration – uncomplicated reduced with air enema - 24-48 hrs
- perforated bowel with resection- 1 week post-op

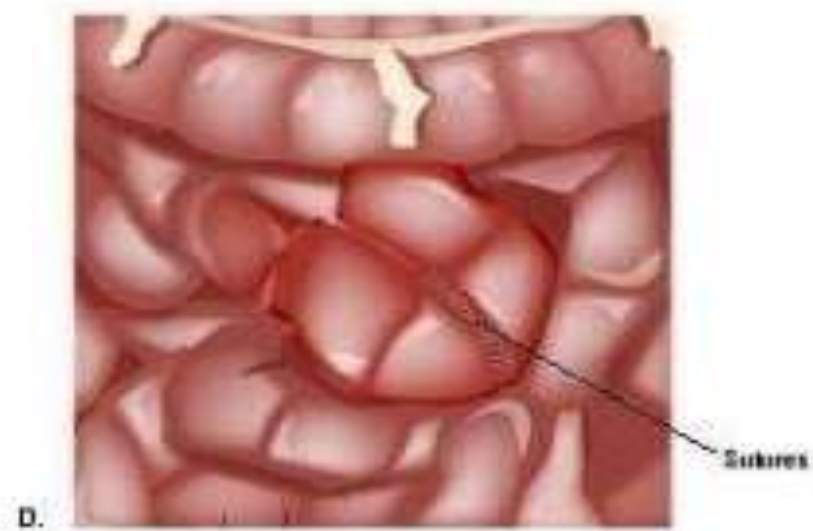
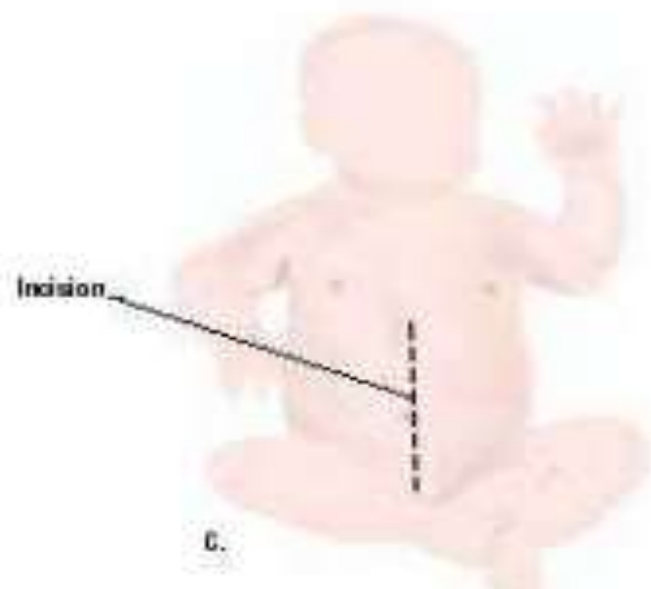
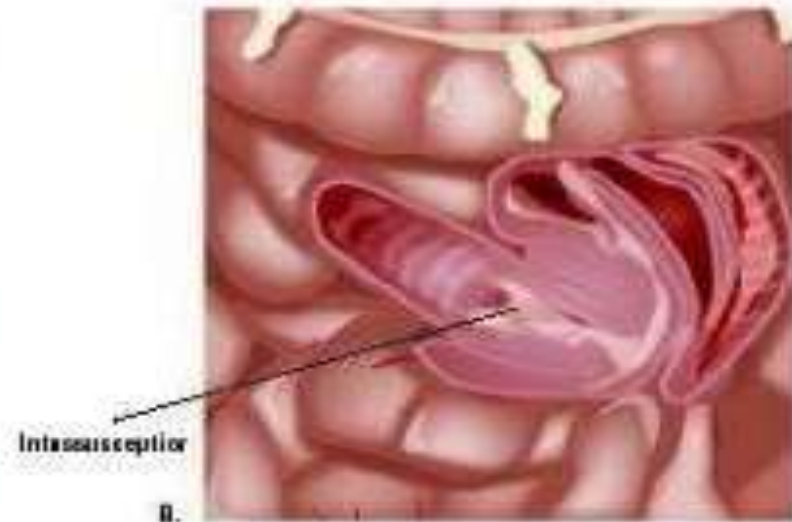
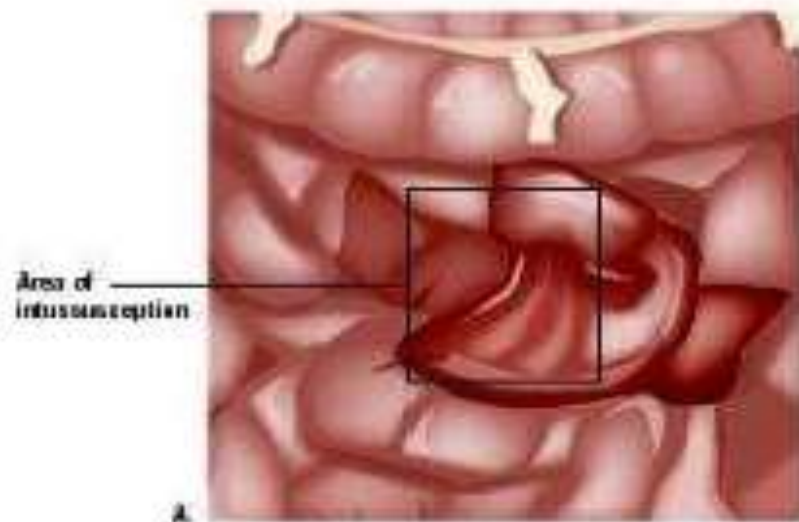
Non-operative treatment

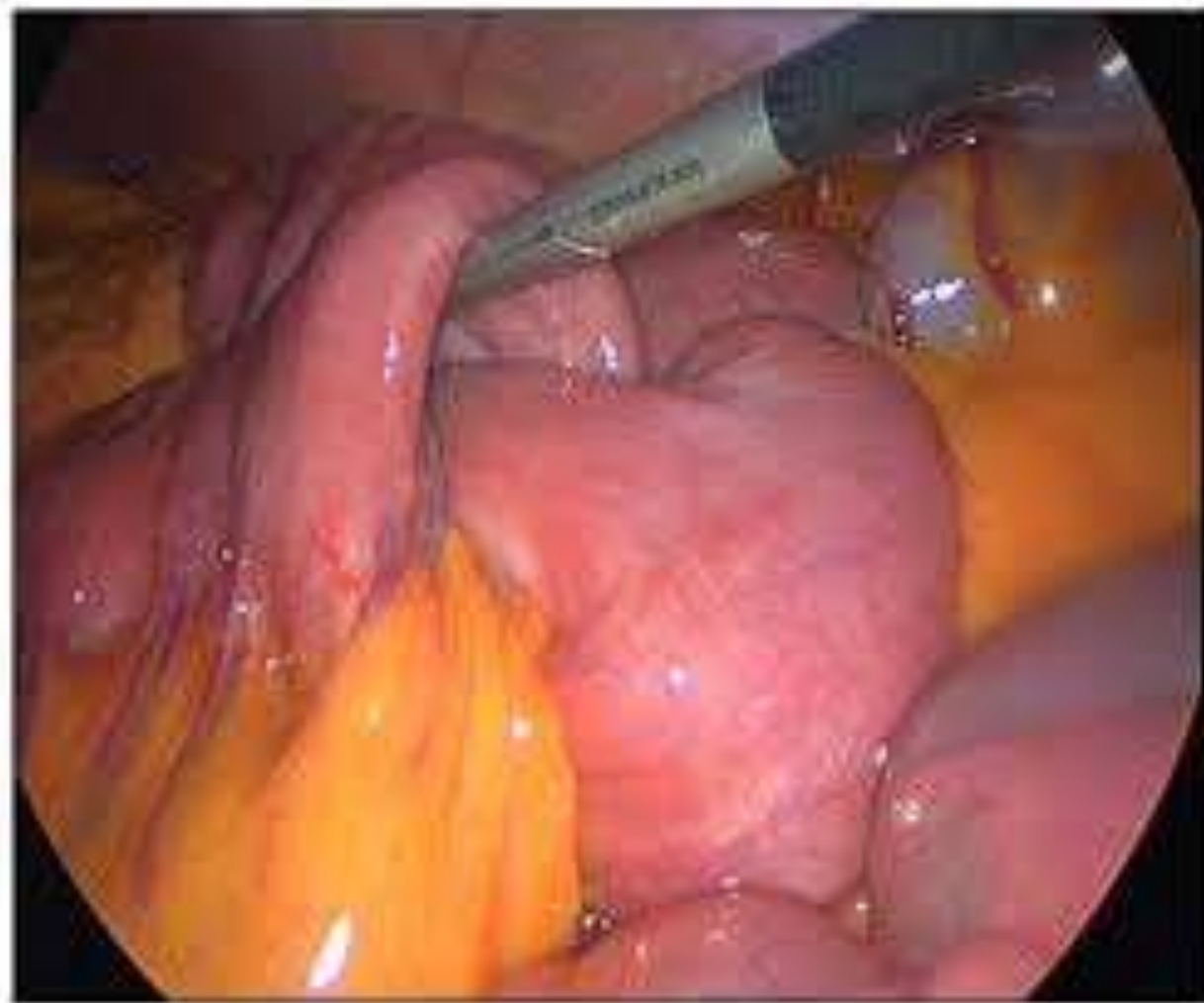
- Stable patients and no evidence of bowel perforation should be treated with Non-operative reduction
- Non-operative reduction using hydrostatic or pneumatic pressure by enema
- Risk of perforation – adv in pneumatic technique.

Surgical treatment – open / laparoscopically

- Indicated for patients with peritonitis or evidence of perforation or in whom non-operative reduction is unsuccessful.
- Manual reduction at operation is attempted
- If manual reduction fails or in case of perforation, necrosis, pathological lead point – bowel resection and primary anastomosis is performed.
- The risk of recurrence is approximately 1 percent after manual reduction and virtually nonexistent after surgical resection.

Intussusception reduction





Complications - Rarely occur when diagnosis is prompt.

- Necrosis and bowel perforation from strangulated intussusception
- Peritonitis and Sepsis
- Hypovolemia and circulatory shock
- Electrolyte imbalance
- Perforation during non operative reduction.
- Wound infection.
- Adhesions causing bowel obstruction.
- Recurrence.
- 10% after successful non-operative reduction.

With early diagnosis, appropriate fluid resuscitation and therapy, the mortality rate from intussusception in children is < 1%.

If left untreated, this condition is uniformly fatal in 2-5 days.

THANKS