<< Acute Appendicitis >>

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demiology & Demographics

Lifetime Risk

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Peak Incidence

Most frequently occurs in individuals between **10 and 30 years of age**. While it can occur at any age, incidence drops significantly in the elderly.

Gender Ratio

There is a slight male predominance, with a male-to- female ratio of approximately **1.4:1**. However, the risk of a false positive diagnosis is higher in females.

Epidemiology & Demographics

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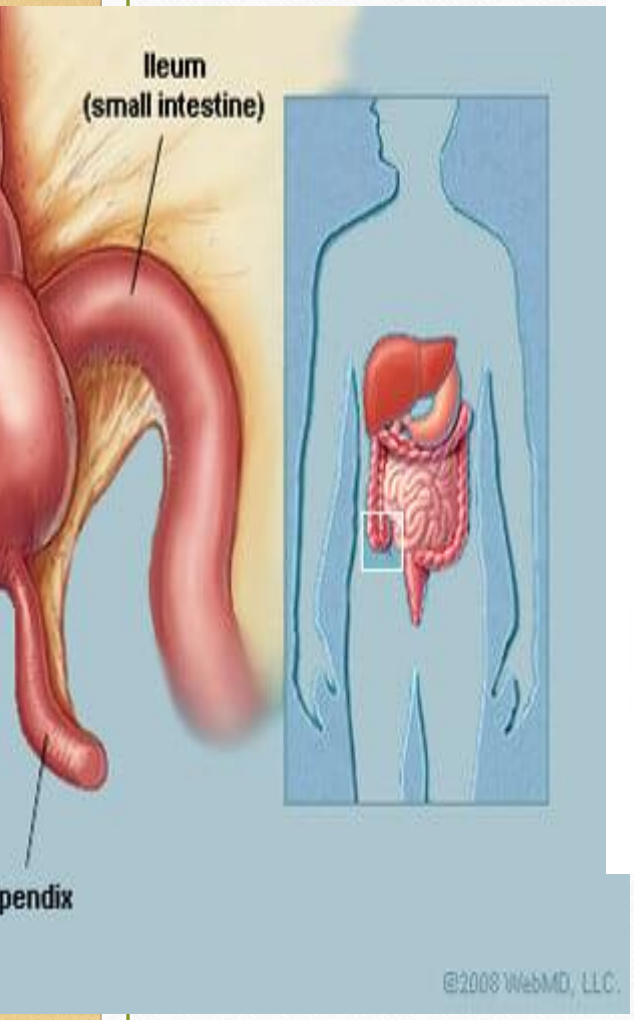
Ileum
(small intestine)
ppendix
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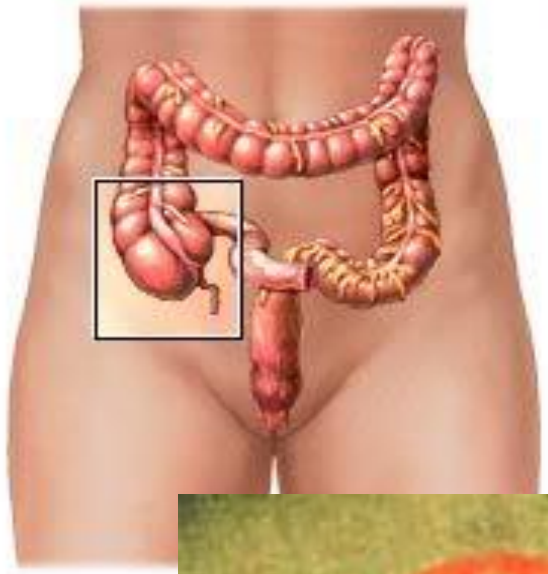
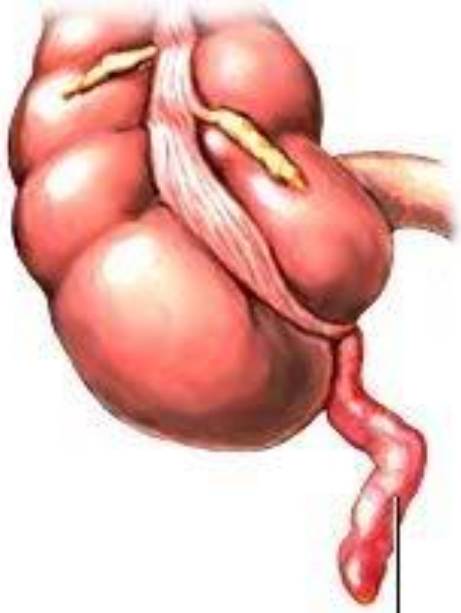
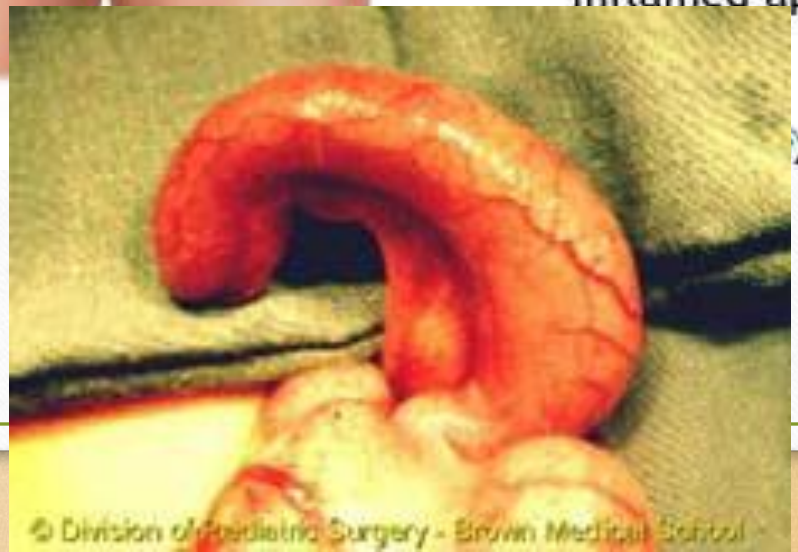



Inflamed appendix

A.D.A.M.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rgical Anatomy of the Appendix

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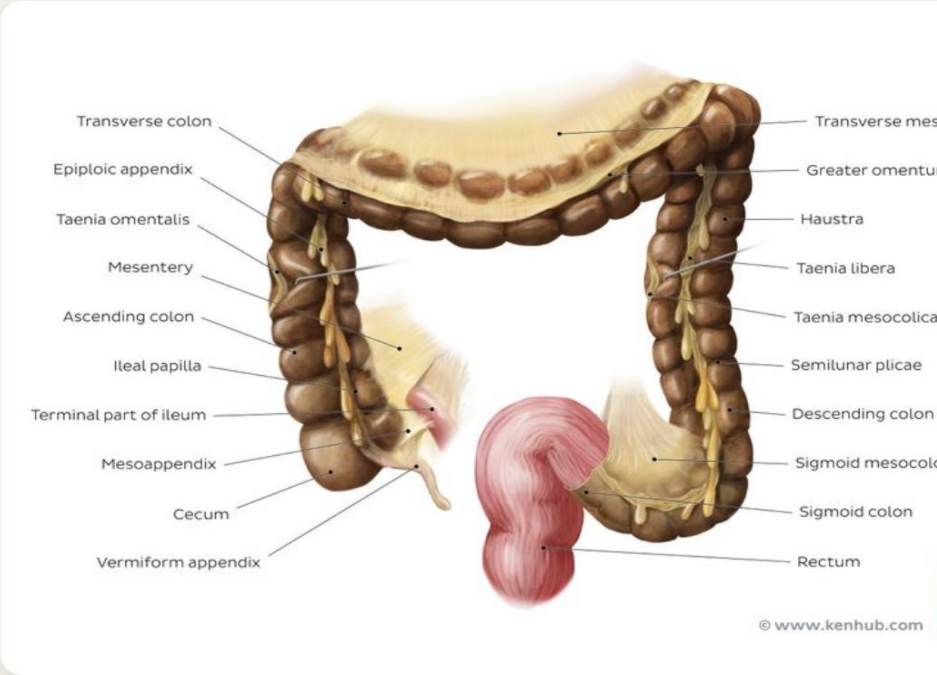
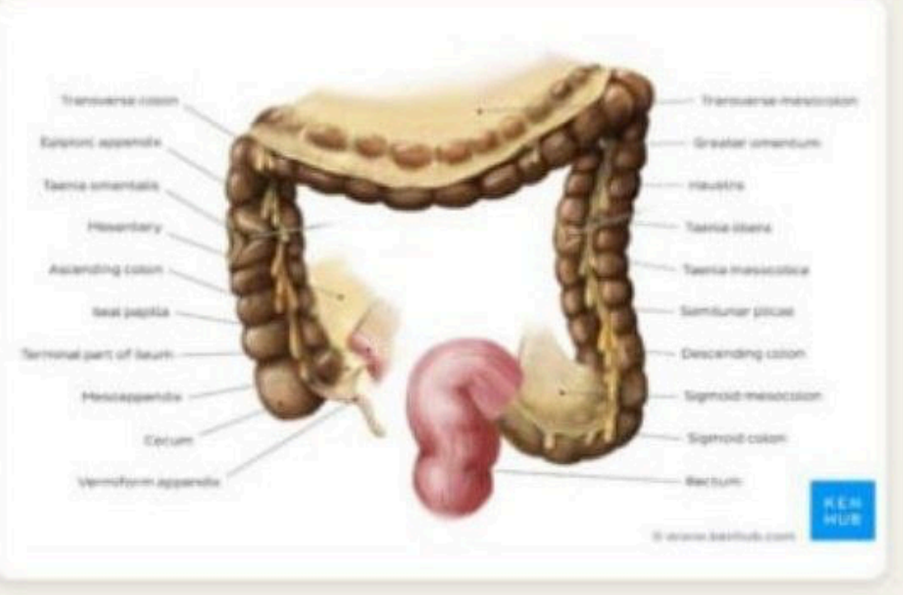
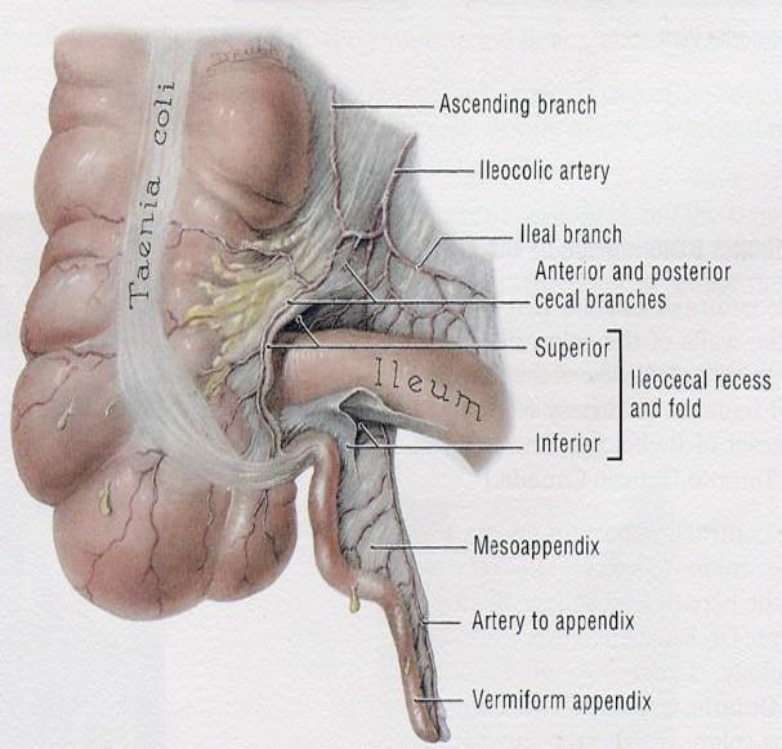


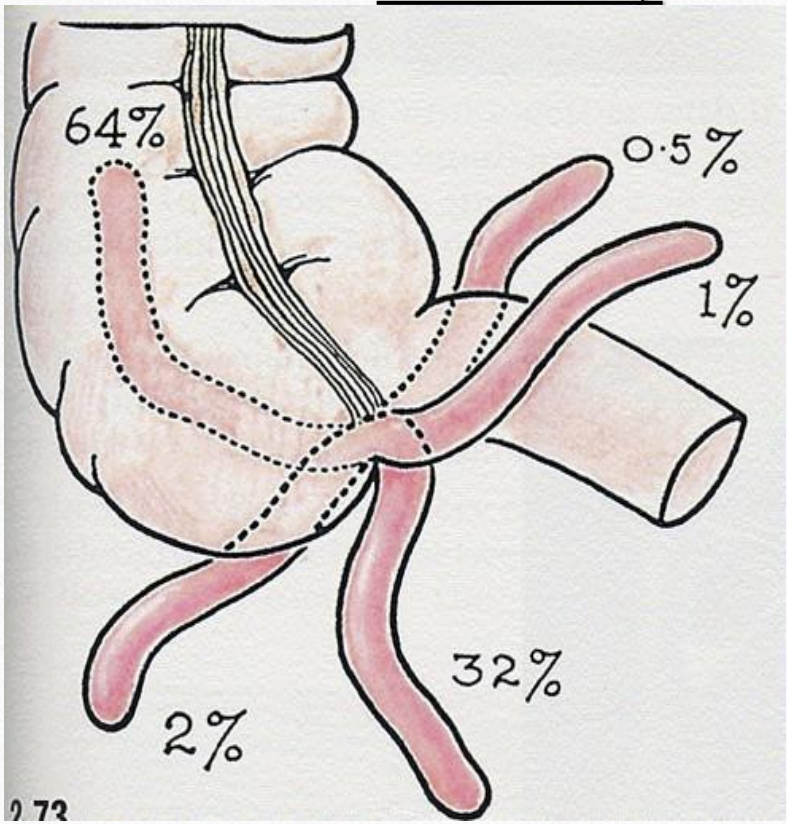
Surgical Anatomy of the Appendix

- The vermiform appendix is a blind-ended diverticulum attached to the posteromedial wall of the **cecum**.
- It is located approximately 1.7 to 2.5 cm inferior to the terminal ileum.
- The base of the appendix can reliably be found at the convergence of the three **taeniae coli**.
- Blood supply is via the **appendicular artery**, a terminal branch of the ileocolic artery, traveling within the mesoappendix.
- Because it is an end-artery, vascular compromise rapidly leads to tissue ischemia and necrosis.



Anatomy

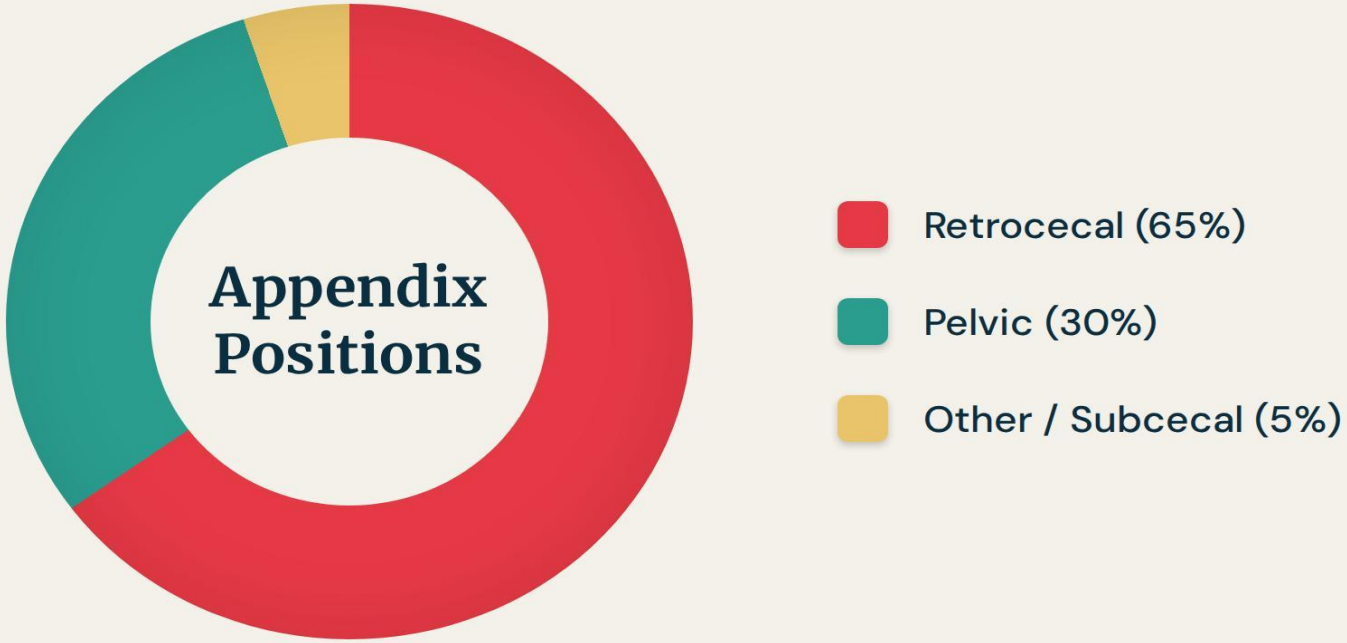




Anatomical variants

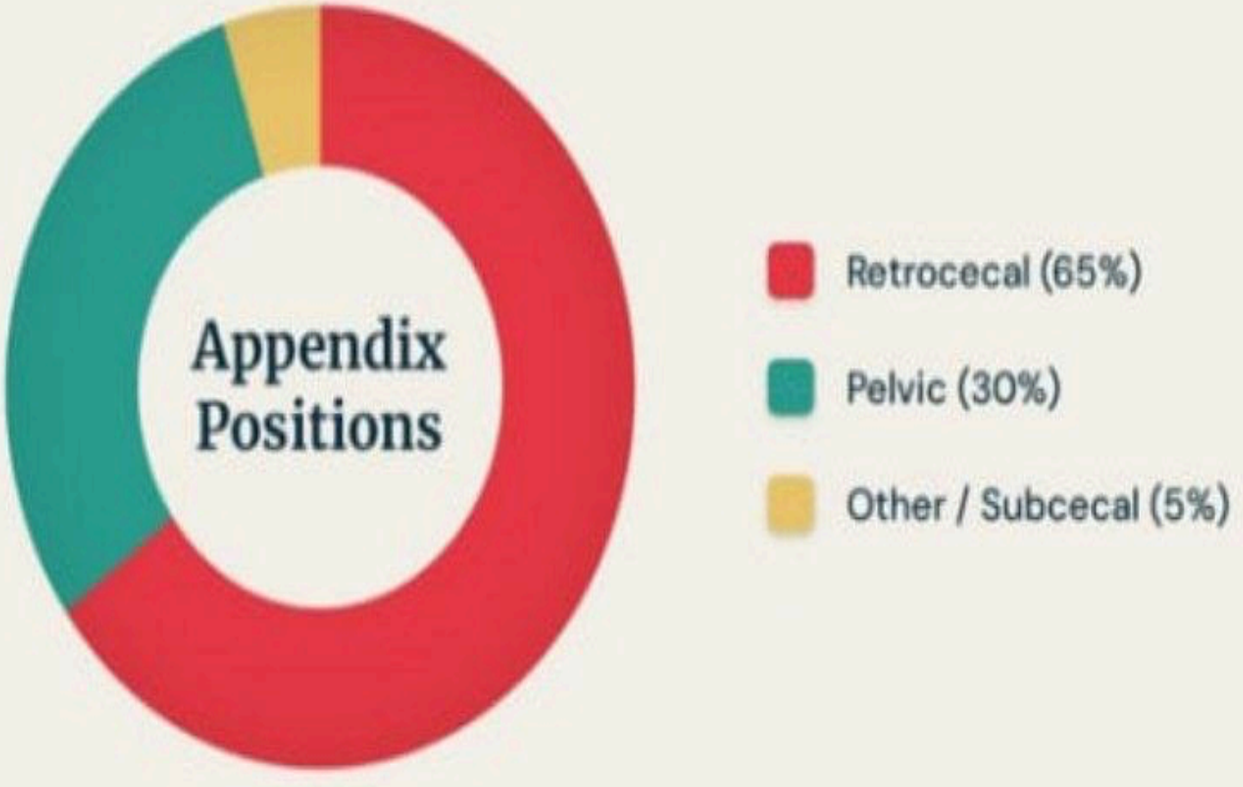
localization gives all the symptoms .

nical Variations & Locations



The anatomical position dictates the clinical presentation. A retrocecal appendix may present with flank pain and a positive psoas sign, while a pelvic appendix may cause suprapubic pain, dysuria, and a positive obturator sign.

Anatomical Variations & Locations



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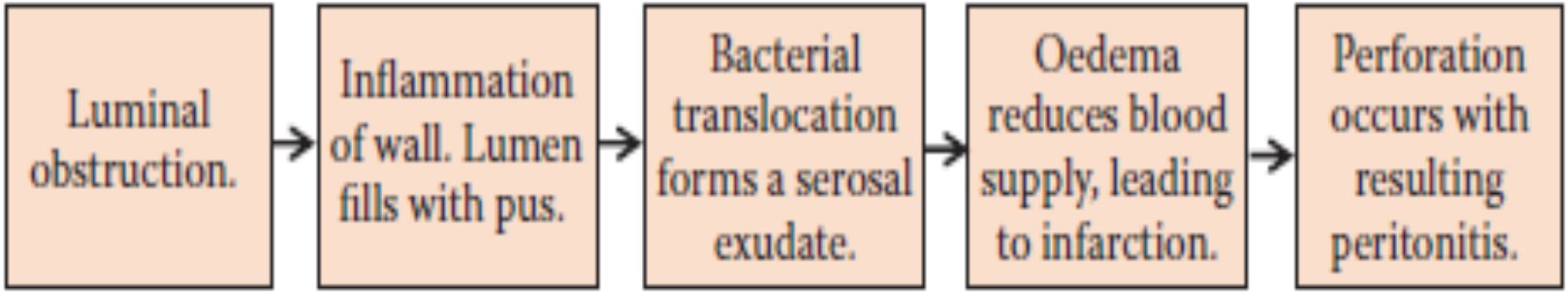
Classification – on the stage of destructive changes :

I. Acute appendicitis

II. Chronic appendicitis – result of the not operated resolved acute app



Pathological process of acute appendicitis.

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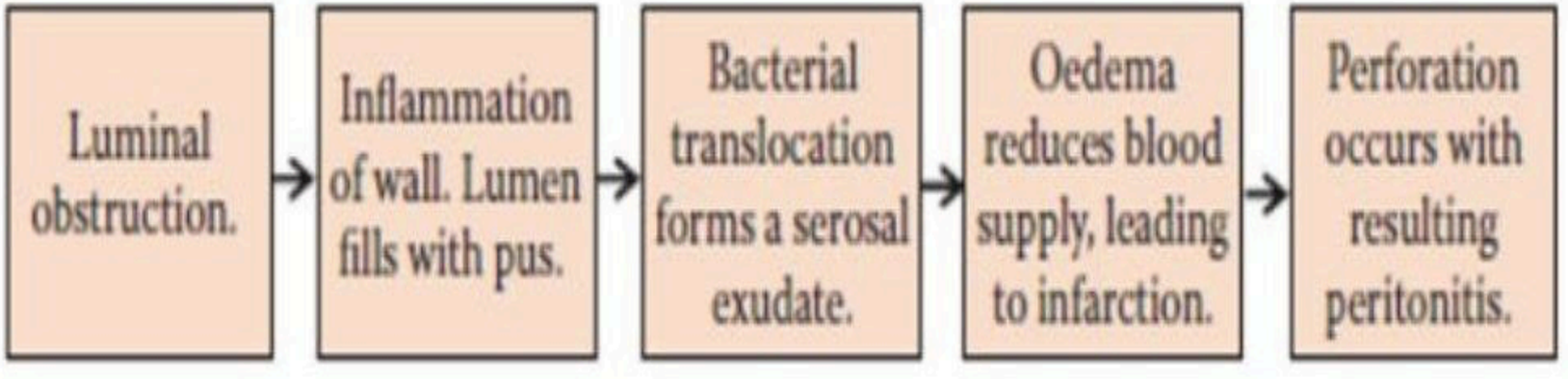


Pathological process of acute appendicitis.

Etiology and pathogenesis :

1. Mechanical reason - obturation of the appendix lumen (coprolythiase, bending , foreign body)

luminal hypertension

vessels' compression, interruption of the venous and lymphatic outflow, edema of the organ's wall, vessels' thrombosis

loss of the barrier function of the mucous

penetration of the intestinal flora into the wall of the appendix
mural destruction

2. Vascular reason

3. Infectious reason

Clinical features:

Can vary a lot, considering anatomical variations of the **appendix position**

 # Abdominal pain
Initially vague, colicky central abdominal pain.
Visceral pain caused by luminal obstruction of the appendix and stretch of the visceral peritoneum.
Localizing to the right iliac fossa and becoming constant.
The pain changes as the parietal peritoneum becomes involved.

Usually accompanied by a **low-grade fever, nausea, vomiting and anorexia.**

The **appendix position** varies and can result in different symptoms; for example a pelvic appendix may cause urinary symptoms or diarrhea.

On examination there may be general signs of sepsis:
Usually a low-grade pyrexia initially, which may spike up to 38–39°C in the presence of ***perforation*** or ***abscess*** formation.
There may be **tachycardia**, **flushing** and evidence of **dehydration**.

Pain irradiations into :

- the perineum – if pelvic localization
- right lumbar region – if retroperitoneal localization
  right flank
- right hypochondrium – if retrocecal localization
- in mesogastrium - if median localization

Abdominal examination :

Tenderness over **McBurney's** point is the usual feature.
There may also be **signs of peritoneal inflammation**, including:
Guarding, tenderness on percussion, pain on coughing or other movement.

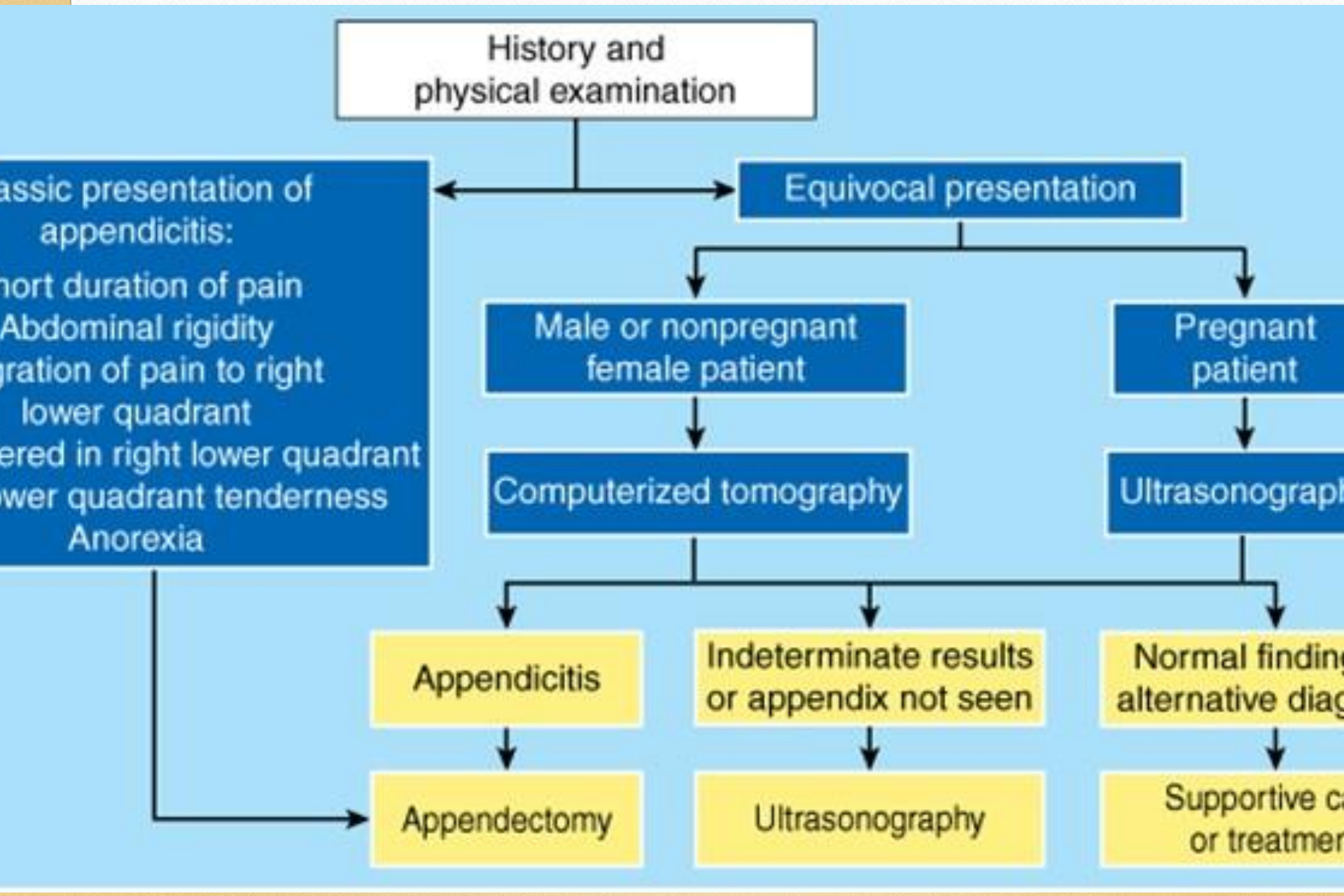
Signs of generalized peritonitis may develop as the illness progresses with abdominal rigidity.

Rovsing's sign: Pain is felt in the RIF when pressure is applied to the LIF.

There must also be **RIF tenderness** for this sign to be positive.

Psoas sign: The patient keeps his or her hip in flexion to relieve his or her pain.
The appendix is anatomically adjacent to the psoas muscle, which is involved in hip flexion

PR examination may reveal **tenderness anterolateral on the right.**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Abdominal rigidity
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Anorexia
Equivocal presentation
Male or nonpregnant female patient
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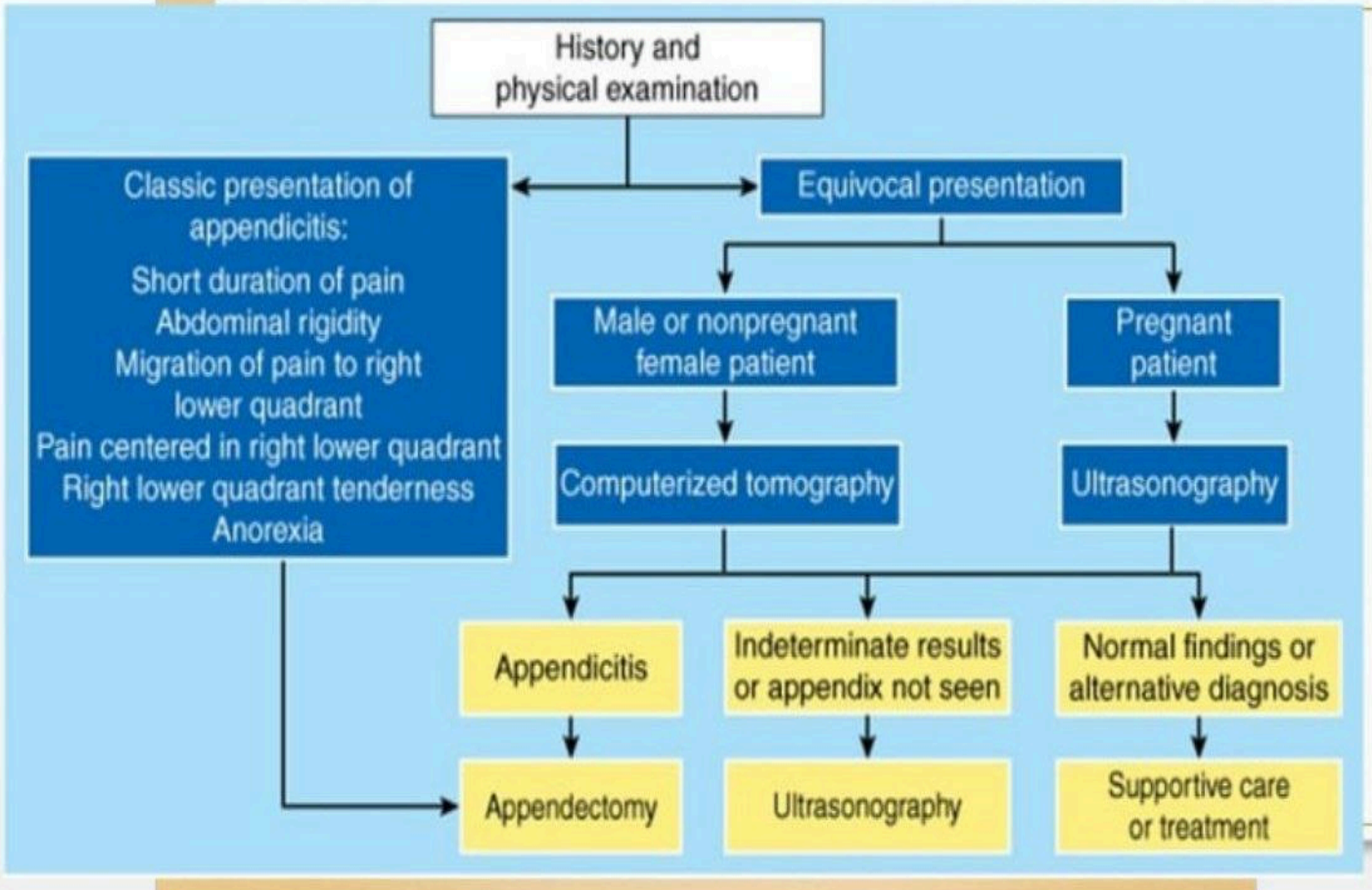
History and physical examination
Classic presentation of appendicitis:
Short duration of pain
Abdominal rigidity
Migration of pain to right lower quadrant
Pain centered in right lower quadrant
Right lower quadrant tenderness
Anorexia
Equivocal presentation
Male or nonpregnant female patient
Pregnant patient
Computerized tomography
Ultrasonography
Appendicitis
Indeterminate results or appendix not seen
Normal findings or alternative diagnosis
Appendectomy
Ultrasonography
Supportive care or treatment

Diagnosis :

The diagnosis of appendicitis is a clinical one; however there are some tests that may useful, particularly where the diagnosis is not clear-cut. These include:

The performance of a **full blood count (FBC)** can be useful to determine whether or no the patient has a leucocytosis.

A **urinalysis** to exclude urinary tract infection. Although appendicitis may cause a hematu or pyuria with associated urinary symptoms.

A **pregnancy test** in women of child-bearing age is mandatory to rule out an ectopic pregnancy.

An **ultrasound** scan (USS) in women to exclude tubo-ovarian pathology as the cause of R pain

A **computed tomography (CT) scan** can be useful especially in the elderly where a caec tumor may be causative, or in the obese where examination is difficult.

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ALVARADO SCORING SYSTEM
(SYMPTOMS SCORE)

	Manifestations	Value
Symptoms	Migration of pain	1
	Anorexia	1
	Nausea/vomiting	1
Signs	RLQ tenderness	2
	Rebound	1
	Elevated temperature	1
Laboratory values	Leukocytosis	2
	Left shift	1
		Total Points 10

Score	
7-10	
5-6	Ra
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Score	Inference
7-10	Strongly predictive of appendicitis
5-6	Equivocal Radiological investigations
1-4	Appendicitis ruled out

gnostic Imaging Accuracy

While MRI boasts the highest accuracy and lacks radiation, its use is generally reserved for pregnant patients where inconclusive due to cost and availability limitations.

Treatment

- Absolute bed rest & NPO
- IV Fluids Supplements
- Analgesics
- Antibiotics
- Appendectomy (within 24 hours ASAP)

Indications of Appendectomy

- Acute Appendicitis
- Recurrent Appendicitis
- Mucocele of Appendix
- Carcinoma

LA	OA
Decreased wound infection rate	Cheaper
Earlier return to normal life	Shorter operating time
Shorter Hospital stay	
Can assess the rest of the abdominal cavity with ease	
? Associated with increased intra-abdominal infections	
More beneficial in obese, females and employed pts	

Complications :

- Abscess formation; peri-appendicular, pelvic or sub-hepatic.
- Post-operative collection or abscess.
- Wound problems, including infection or hematoma.
- Intestinal obstruction due to adhesion formation within the abdomen.

Thank you