Appendicitis

Objective

- To provide a detailed, evidence-based overview of appendicitis.
- To understand its anatomy, pathophysiology, microbiology, clinical features, scoring systems, diagnosis, management, and complications.
- To enhance clinical decision-making through updated surgical and non-surgical management options.
- To review variations in presentation across age, gender, and patient subgroups.

Introduction

- The term "vermiform" appendix comes from the Latin word for "worm-shaped", named after its slender, tubular structure.
- The term appendicitis originates from Latin, combining appendix with the suffix -itis, which denotes inflammation hence, it refers to inflammation of the appendix.
- Appendicitis is the most common cause of intra-abdominal emergency and also the most common general surgical emergency in children and young adults.
- It is one of the main differential diagnoses of unclear abdominal conditions.
- The presentation of appendicitis can vary from being subclinical and self-resolving to serious complications such as sepsis and death.

- Téoule, P., Laffolie, J. de, Rolle, U., & Reissfelder, C. (2020). Acute Appendicitis in Childhood and Adulthood. Deutsches Arzteblatt International, 117(45), 764–774. https://doi.org/10.3238/arztebl.2020.0764
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Incidence

- As the leading cause of acute abdominal pain requiring surgery, appendicitis affects roughly 1 in 1,000 people each year.
- Appendicitis most often strikes between the ages of 10 and 20, though it can happen at any age. On average, people first experience appendicitis around age 28. It’s rare in infants, likely because their appendiceal opening is wider.
- Men are slightly more likely to develop it than women, with a male-to-female ratio of about 1.4:1. Over a lifetime, roughly 8.6% of men and 6.7% of women will experience appendicitis. However, women face a higher chance of needing an appendectomy, 23.1% compared to 12% in men. Adolescent girls (ages 12–16) are the most likely group to undergo this surgery.
- Appendectomy rates vary worldwide. In Western countries, about 16% of people will have their appendix removed at some point, while in Africa and Asia, where diets tend to be higher in fiber, the numbers are much lower.
- In developed countries, deaths from acute appendicitis are rare (around 0.3%). However, if the appendix ruptures, mortality climbs to 1.7%, and in cases of widespread infection (peritonitis), it can reach up to 5%.
- Globally, cases tend to rise in the summer months compared to winter, though the reasons for this seasonal pattern remain unclear.

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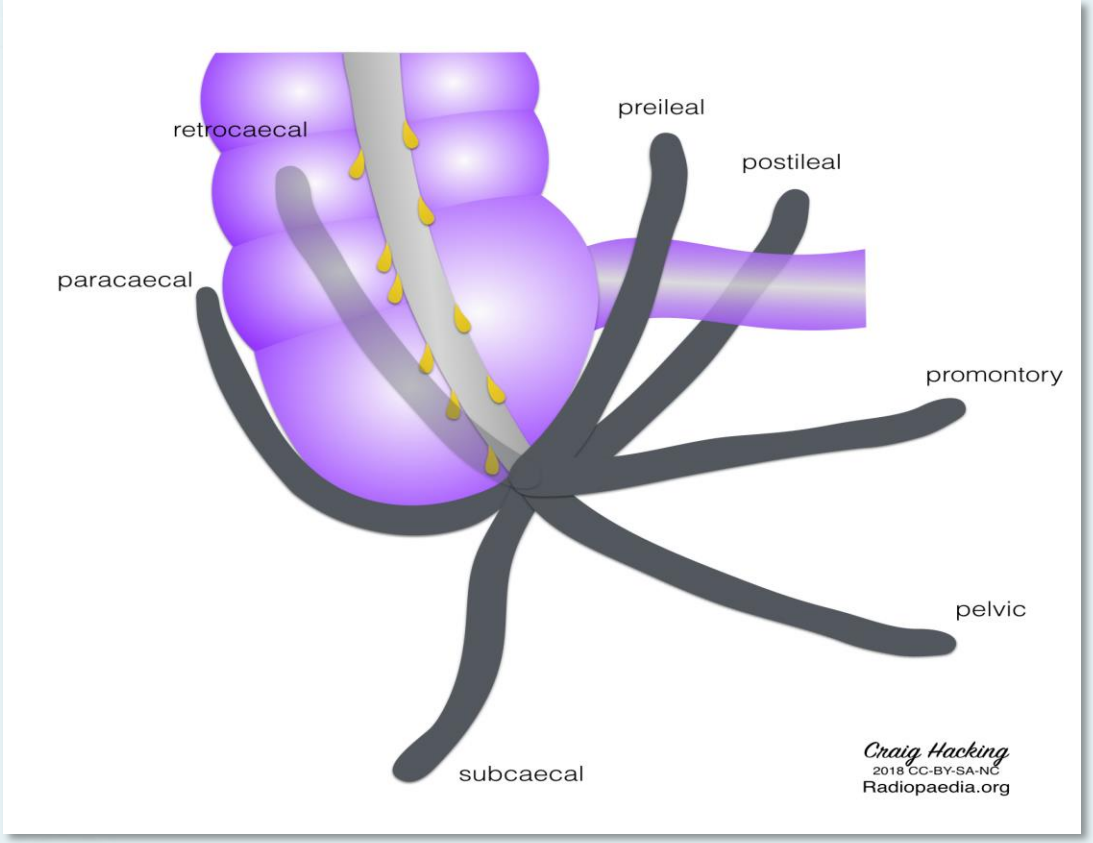
Anatomy

- The appendix is a narrow, worm-like, blind-ending pouch arising from the caecum at the convergence of the taeniae coli.
- **Length**: Its length typically ranges from 5 to 35 cm, with an average of 9 cm.
- **Position**: The base is fixed, but the tip can vary in position and can lie anywhere from the pelvis to behind the caecum or ileum.
  - **Most common position:** Retrocaecal (~64%),
  - Second most common: Pelvic (~32%)
  - Factors such as posture, respiration, and distention of adjacent bowels can influence the position of the appendix.
  - Other positions are depicted *in the adjacent image*.
- **Layers:** Serosa, muscularis, submucosa (rich in lymphoid tissue), and mucosa (with mucus-secreting goblet cells).



"Radiopaedia - Drawing Anatomic various positions of the appendix - English labels" by Craig Hacking, license: CC BY-NC-SA

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Anatomy

- **Blood Supply:** The **appendicular artery** (a branch of the ileocolic artery- a branch of a superior mesenteric artery) runs through the mesoappendix and terminates at the tip of the appendix. Thrombosis risk increases distally due to tight adherence.
- **Nerve supply:** The appendix receives autonomic innervation from the superior mesenteric plexus. Afferent sensory fibres from the appendix travel along sympathetic nerves and enter the spinal cord at the T10 segment, which aligns with the umbilical dermatome.
- **Lymphatic drainage:** The appendix and caecum ultimately drains into superior mesenteric lymph nodes. The caecum drains through multiple intermediate mesenteric nodes, while the appendix drains via a single intermediate node before both drain into the ileocolic nodes.
- **Embryology:** Develops by the **8th week** of gestation as part of the midgut. During fetal development, the midgut undergoes a counterclockwise rotation, which normally positions the cecum and appendix in the right iliac fossa. However, in case of malrotation, the appendix can end up in unusual locations(near the gallbladder in the right upper quadrant or even on the left side), and in extremely rare cases, it may be absent from birth or duplication or triplication of the appendix can occur.
- **Age-related factors:** Children have a wider, funnel-shaped lumen, reducing obstruction risk, while older adults often experience luminal obliteration, lowering appendicitis likelihood.

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Function

- The role of the appendix has long been debated. No definitive function has been confirmed in humans, and the appendix has traditionally been considered a vestigial organ.
- According to certain theories, neuroendocrine cells in its mucosa are believed to secrete amines and hormones that contribute to various biological regulatory processes, while its lymphoid tissue is believed to support B lymphocyte maturation and IgA antibody production.
- The presence of gut-associated lymphoid tissue has led to speculation about its role in immune function, though specifics remain unclear. More recently, with growing insight into gut immunity, a new theory suggests the appendix acts as a "safe house" for beneficial gut microbes. During episodes of severe diarrhoea, which may flush out normal gut flora, the appendix could help restore microbial balance.

Hodge, B. D., Kashyap, S., & Khorasani-Zadeh, A. (2025). Anatomy, Abdomen and Pelvis: Appendix. In StatPearls. StatPearls Publishing. http://www.ncbi.nlm.nih.gov/books/NBK459205/

Causes

Category	Specific Causes
Luminal Obstruction	• Appendicolith (faecolith) – Calcified faecal matter blocking the lumen • Lymphoid hyperplasia – Swelling of lymphoid tissue (common in children) • Foreign bodies • Strictures/scarring – From prior inflammation or infection • Mucocele – Mucin-filled swelling due to chronic obstruction (may indicate malignancy)
Infections	• Viral infections – Trigger lymphoid hyperplasia. • Parasitic infections • Bacterial infections – Secondary to obstruction.
Neoplasms	• Carcinoid tumours • Adenocarcinoma • Mucinous neoplasms (e.g., malignant mucocele) • Lymphoma (e.g., Burkitt's lymphoma)

- Walter, K. (2021). Acute Appendicitis. JAMA, 326(22), 2339. https://doi.org/10.1001/jama.2021.20410
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Causes

Category	Specific Causes
Anatomical Factors	• Malrotation – Appendix in abnormal location (e.g., near gallbladder) • Short mesoappendix/kinking – Predisposes to obstruction • Amyand's hernia – Appendix trapped in inguinal hernia
Diet and Lifestyle	• Low-fibre diet – Linked to faecolith formation (higher incidence in Western countries) • High processed-food intake
Miscellaneous	• Idiopathic – No clear obstruction (possible genetic/environmental triggers) • Ischemia – Vascular compromise (e.g., appendicular artery thrombosis)

Children: Predominantly lymphoid hyperplasia (post-viral) or parasitic infections.
Adults: More likely faecoliths, tumors, or infections.

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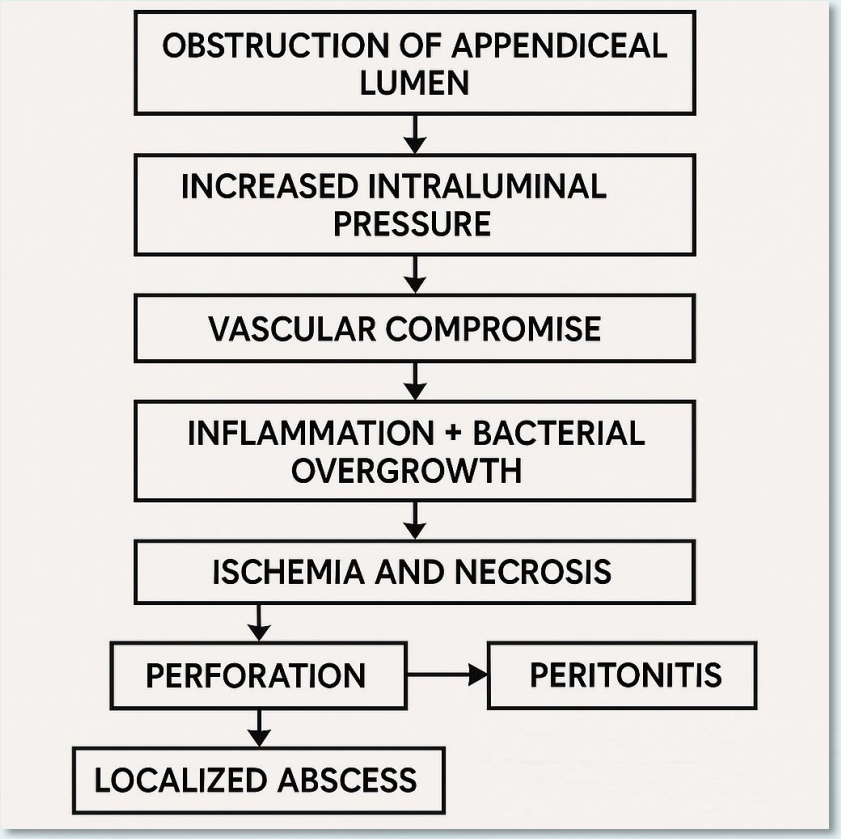
Etiopathogenesis

- The severity of the infection and duration of the disease process directly correlate with the degree and extent of the inflammation observed.



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Microbiology

- The appendix normally harbours bacteria like E. coli and Bacteroides, which are the most commonly identified bacteria in appendicitis.
- When the appendix gets obstructed, bacterial overgrowth triggers inflammation and abscess formation. It has been shown that perforated appendicitis involves more diverse and abundant bacteria than uncomplicated cases, linking microbial load to disease severity.
- E. coli, particularly prevalent in developing countries, is found in approximately 66–85% of cases. Other frequently reported pathogens include:
  - Aeromonas hydrophila (more common in developing regions)
  - Klebsiella pneumoniae (5.9%–25.6%)
  - Pseudomonas aeruginosa (3.9%–15.4%)
  - Enterococcus spp. (including E. faecalis and E. faecium, ~1.9%–5.9%)
  - Streptococcus spp.
  - Less common: Staphylococcus xylosus, S. epidermidis, Serratia fonticola, Enterobacter cloacae, Raoultella terrigena, and Citrobacter youngae

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Types of Appendicitis

- Appendicitis is mainly classified as Acute and Chronic.
- **Acute Appendicitis:**
  - Acute appendicitis can be further classified as :
    - **Uncomplicated Appendicitis:**
      - Inflammation of the appendix without rupture, abscess, phlegmon, or gangrene.
      - Characterised by dull serosa, borderline-dilated vessels, and localised neutrophilic infiltration (mucosa/submucosa).
    - **Complicated Appendicitis :**
      - Involves more severe inflammation and is associated with :
        - Phlegmon (inflammatory mass)
        - Gangrene (necrosis of the appendix wall)
        - Perforation
        - Abscess formation
      - Histopathologically marked by transmural inflammation, microabscesses, vascular thrombosis, and extensive ulceration.

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Types of Appendicitis

- **Chronic Appendicitis**
    - Also known as **'the grumbling appendix'.**
    - It is rare, with an occurrence of 1.5%
    - Mild but persistent abdominal pain, often in the right lower quadrant. Pain can last longer than 1–2 days and may continue for weeks, months, or even years.
    - The exact cause is unclear. It is believed to result from partial and long-term obstruction of the appendiceal lumen.
    - Difficult to diagnose due to unusual presentation. Diagnosis is confirmed histologically, not clinically, by identifying chronic inflammatory cells and fibrous tissue in the appendix wall.
    - Laparoscopy may help in diagnosis.
    - Elective appendectomy is advisable if symptoms persist or recur, especially with associated signs like anorexia or tenderness.
- **Recurrent Appendicitis**
    - It is a separate medical entity on its own.
    - One or more short-lived episodes (24–48 hours) of acute inflammation that resolve spontaneously.
    - Thought to be due to transient obstruction or excessive mucus production.
    - Requires elective appendectomy if symptoms recur.

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Types of Appendicitis

Based on histopathology, acute appendicitis can be classified as :

- **Suppurative (Phlegmonous) Appendicitis**
  - Acute inflammation with dense neutrophilic infiltration throughout the appendix wall.
  - Ulceration, intramural abscesses and vascular thrombosis can be observed.
  - Grossly presents with poorly-demarcated serosa, dilation of the appendix serosal exudate, congestion, and dilated lumen.
- **Gangrenous Appendicitis**
  - Severe form is characterised by ischemic necrosis of the appendix wall.
  - Progresses to perforation if untreated.
  - Appears discoloured (purple/green/black) and friable upon surgical inspection.
- **Periappendicitis**
  - Involves inflammation of the serosa and subserosa only.Muscularis propria remains uninvolved.
  - Often occurs secondary to adjacent inflammatory processes.
  - The gross appearance of periappendicitis can range from a normal-looking serosa to one showing congestion and exudative infiltration.

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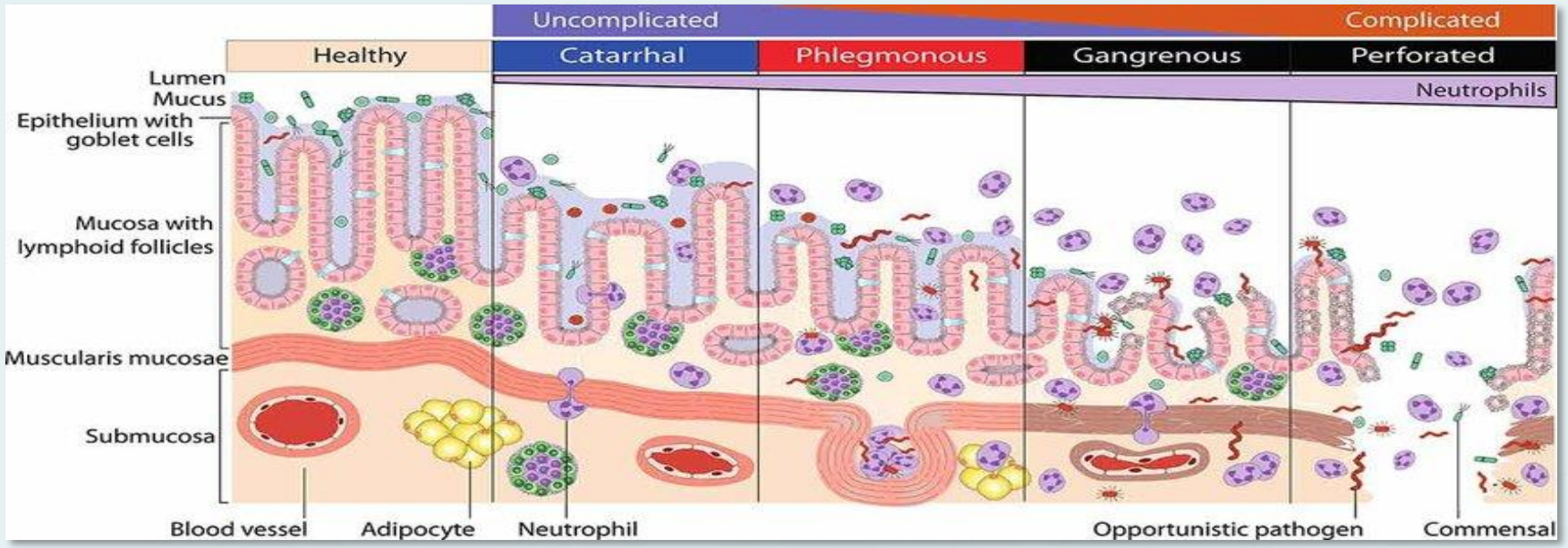
Types of Appendicitis

- **Perforated appendicitis**
  - Marked by severe inflammation involving both the appendix and the surrounding mesoappendix.
  - Histopathology shows transmural inflammation, neutrophil infiltration, abscess formation, and signs of perforation, indicating an advanced, high-grade inflammatory process.



Acute appendicitis manifests as two microbiome state types with oral pathogens influencing severity- Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/Disease-stages-of-acute-appendicitis-Catarrhal-or-early-appendicitis-is-characterized-by_fig1_367364137 [accessed 14 May 2025]

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Clinical Features

- **Pain**
  - Starts as vague, colicky periumbilical pain (visceral T8-T10 nerve irritation).
  - Migrates to the right iliac fossa (RIF) within 12–24 hours (parietal peritoneum inflammation).
  - Initially, it is intermittent but becomes constant and sharp.
  - Worse with movement(coughing/walking) and can awaken from sleep.
- **Other Symptoms**
  - Anorexia
  - Nausea/Vomiting.
  - Low-grade fever (~40% febrile at presentation)
  - Malaise
- **Atypical Presentations**
  - Retrocaecal: Right flank or loin pain; minimal peritoneal signs
  - Pelvic appendix: Groin pain, dysuria, urinary frequency (mimics UTI/gynecologic pathology).
  - Retroileal appendix: Poorly localised pain, diarrhoea.
- **General examination**
  - Flushed cheeks, coated tongue and foetor.
  - Patients prefer to lie still.
  - Children may lie with one or both hips flexed.

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Clinical Features

- Classic symptoms of appendicitis may only be present in 50% of cases.
- Approximately 75% of patients with acute appendicitis seek medical attention within the first 24 hours of symptom onset.
- In contrast, cases of complicated appendicitis often exhibit a more prolonged clinical course, with symptoms persisting beyond 48 hours.

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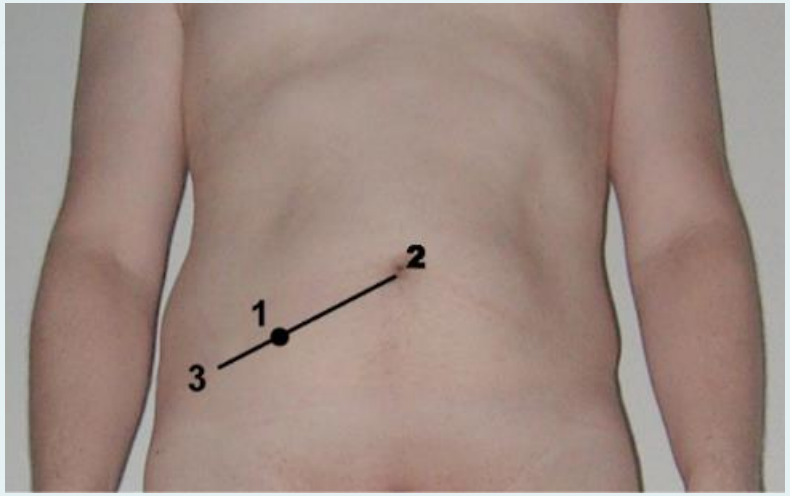
Signs

- **McBurney's Point Tenderness**
  - Located two-thirds of the way from the umbilicus to the ASIS
  - Site of maximal tenderness in classic appendicitis.
- **Rovsing's Sign**
  - Deep palpation in the left iliac fossa causes pain in the right iliac fossa
  - Indicates peritoneal irritation.
  - Caused by retrograde air movement in the colon due to compression, causing distension of the inflamed appendix and activating the viscerosensory reflex.
- **Kocher-Volkovich Sign**
  - Initial epigastric pain with vomiting, later localising to McBurney's point
  - Reflects early general peritoneal irritation, not yet gangrenous/perforated
- **Blumberg-Shchetkin Sign (Rebound Tenderness)**
  - Pain upon release of pressure at McBurney's point.
  - Indicates parietal peritoneal inflammation
- **Psoas Sign/Iliopsoas Sign(Cope's sign)**
  - Pain in the right lower quadrant with right hip extension or right thigh flexion
  - Patients may maintain hip flexion to relieve discomfort



Location of McBurney's point (1) located two-thirds of the distance from the umbilicus (2) to the right anterior superior iliac spine (3)

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Signs

- **Obturator Sign**
  - Pain with internal rotation of the flexed thigh
  - Indicates pelvic appendix irritating the obturator internus muscle
- **Dunphy Sign**
  - Increased abdominal pain during coughing or increased intra-abdominal pressure
  - Suggests peritoneal inflammation

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Scoring systems in appendicits

- Even though over 26 scoring systems exist, the Alvarado score (1986) and Appendicitis Inflammatory Response (AIR) score (2008) are the most commonly used clinical tools to assess the likelihood of acute appendicitis.
- The Alvarado score is primarily useful for ruling out appendicitis due to its high sensitivity (99%) at a threshold ≥5, though its specificity is low (43%). A threshold ≥7 improves specificity (81%) but lowers sensitivity (82%). It is more valuable in low-resource or primary care settings where access to imaging is limited.
- **Alvarado Scoring System**:
  - A score of 1–4 suggests the patient can be discharged home, 5–6 warrants observation, while a score of 7–10 indicates the need for urgent surgical intervention.

Features	Score
Migratory pain to right iliac fossa	1
Nausea/Vomiting	1
Anorexia	1
Tenderness in right iliac fossa	2
Rebound tenderness in right iliac fossa	1
Elevated temperature	1
Leukocytosis	2
Shift to the left of neutrophils	1

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Scoring systems in appendicits

- **Modified Alvarado score**:
  - The modified Alvarado score assigns up to 9 points; a score ≥7 strongly suggests appendicitis.

Features	Score
Migratory pain to right iliac fossa	1
Nausea/Vomiting	1
Anorexia	1
Tenderness in right iliac fossa	2
Rebound tenderness	1
Elevated temperature	1
Leukocytosis	2

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Scoring systems in appendicits

- **Appendicitis Inflammatory Response scoring system (AIR):**
  - The AIR score with a cut-off >8 demonstrates both high sensitivity and specificity (99%), making it more accurate for diagnosis than the Alvarado score.
  - Scores ranging from 0–4 imply the patient may be safely discharged, scores of 5–8 suggest the need for observation, and scores between 9–12 indicate a likely need for surgical intervention.
- **The Adult Appendicitis Score (AAS)** stratifies patients into high, intermediate, and low risk, reduces unnecessary imaging, and lowers negative appendectomy rates.
  - In clinical practice, AAS is found to be more reliable than the Alvarado scoring system.
- Clinical diagnosis remains key, as no scoring system or investigation definitively confirms appendicitis. Scoring systems should be considered adjuncts to clinical judgment.

Features		Score
Vomiting		1
Pain in right inferior fossa		1
Rebound tenderness or muscular defense	Light	1
	Medium	2
	Strong	3
Body Temperature	>38.5°C	1
Polymorphonuclear leukocytes	70-84%	1
	>85%	2
WBC Count	10.0-14.9x10^9/L	1
	≥15.0x10^9/L	2
CRP Concentration	10-49 g/L	1
	>50 g/L	2

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Diagnosis

- **Imaging Modalities**
  - **X-ray**
    - Appendicolith visible on plain X-ray in 5–15% of cases
  - **Ultrasonography (USG)**
    - First-line in children and pregnant women
    - Non-invasive, no radiation, but operator-dependent
    - Findings: Appendix >6 mm, non-compressibility, appendicolith, increased echogenicity of the periappendiceal fat
  - **CT Scan**
    - Most accurate modality in adults
    - Findings:
      - Appendix >6 mm, wall thickening >2 mm,
      - Periappendiceal fat stranding,
      - Enhancement of the appendiceal wall,
      - The presence of inflamed soft tissue at the appendiceal base separating the appendix from the caecum,
      - Appendicolith
    - Allows for alternative causes of abdominal pain to be diagnosed.
    - Expensive
    - An abdominopelvic CT scan with intravenous contrast demonstrates >95% accuracy in diagnosing acute appendicitis in adults.
    - Avoid in pediatric and pregnant patients due to radiation risk

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Diagnosis

- **Imaging Modalities** (*cont'd*)
  - **MRI**
    - Used mainly for pregnant patients
    - High sensitivity and specificity, but expensive and less available
    - Findings: luminal distension and dilation, wall thickening, periappendiceal fluid
- **Laboratory Investigations**
  - Leukocytosis in ~2/3 of patients; WBC >10,000/mm³ is common
  - Left shift/bandemia indicates severity
  - CRP: Elevated CRP + WBC increases the likelihood of complicated appendicitis
  - Normal CRP + WBC has a high negative predictive value
  - **Triple test** (normal CT + normal CRP + WBC) reduces false negatives

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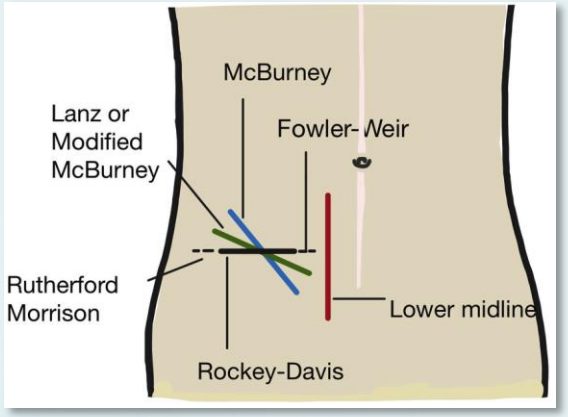
Treatment

- **General Principles**
  - Appendectomy is the treatment of choice for acute appendicitis in all age groups.
  - Laparoscopic appendicectomy is the **gold standard** of treatment.
  - NPO (nil per os) status, IV fluids, analgesia, and IV antibiotics are initiated upon diagnosis.
  - Early appendectomy is preferred; delays beyond 24–48 hrs increase risks (e.g., perforation, infections).
- **Surgical Management:**
  - **Laparoscopic Appendectomy**
    - Preferred method for uncomplicated cases.
    - Performed through 3 small incisions to remove the appendix
  - **Open Appendectomy:** Performed via local site incisions to access the appendix. They are:
    - **McBurney's incision (oblique):**
      - Made at 1/3rd the distance from the right anterior superior iliac spine to the umbilicus.
      - Oriented perpendicular to the spino-umbilical line.
    - **Lanz incision:**
      - A cosmetic modification of McBurney's incision.
      - Follows Langer's lines for better cosmetic results.
    - **Rockey-Davis incision (transverse):**
      - A horizontal incision at the same location.
      - Can be extended:
        - Medially (**Fowler-Weir extension**).
        - Laterally (**Rutherford Morrison extension**) for improved exposure.



Treatment of Acute Appendicitis - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/arious-incisions-used-for-open-appendectomy_fig3_386447611 [accessed 14 May 2025]

Treatment

- **Advanced Techniques:**
  - **SILS (Single-Incision Laparoscopic Surgery):**
    - One incision (usually umbilicus), better cosmetic results
    - Risks: incisional hernia, high conversion rate (~40%) to conventional laparoscopy
  - **NOTES (Natural Orifice Transluminal Endoscopic Surgery):**
    - Scarless via GI/vaginal tract, still experimental
    - Often requires laparoscopic assistance
  - **ERAT (Endoscopic Retrograde Appendicitis Therapy):**
    - Endoscopic drainage, faecolith removal, and stenting
    - High success rate (93.8–95%) with low recurrence
- **Conservative Management:**
  - **Antibiotics Alone:**
    - Reserved for uncomplicated appendicitis
    - 10-day course of broad-spectrum antibiotics
    - Recurrent appendicitis in 15–41% within 1 year
    - Less effective than surgery by ~18%

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Treatment

- **Non-Operative Management (NOM):**
  - May be appropriate for select, stable patients
  - Requires:
    - Absence of appendicolith or high-risk CT findings
    - Good home support system
    - Active monitoring or outpatient follow-up
- **Management of Complicated Appendicitis:**
  - Severe infection or sepsis: emergency appendectomy + IV antibiotics
  - Abscess formation:
    - Initial percutaneous drainage
    - IV antibiotics
    - Interval appendectomy after 6–8 weeks
  - Extensive contamination: intraoperative irrigation; drains may be used.
  - Surgery under general anaesthesia; prophylactic antibiotics pre-op.

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Complications

- Wound infection – occurs in ~10% of cases.
- Intra-abdominal abscess/collection – ~5%
- Postoperative ileus – ~2%.
- Surgical site infections (SSI) – more common in perforated appendicitis.
- Haematomas and postoperative pain
- Recurrent appendicitis – seen in up to 50% of patients managed non-operatively.
- Stump appendicitis – due to incomplete removal; prevented by ensuring a stump ≤5 mm.
- Leakage from appendiceal stump may cause high-output faecal fistula
- Postoperative peritoneal sepsis
- Diffuse peritonitis
- Pylephlebitis and pylethrombosis – rare but serious
- Persistent fever and weight loss may indicate internal fistulae or sepsis.

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Complications

- Appendiceal abscess – presents with swinging fever, tachycardia, and a localised mass.
  - Best managed surgically (standard RIF incision).
  - May require interval appendectomy after 6–12 weeks if treated conservatively.
- Appendiceal mass – often managed non-operatively
- Faecal fistula
- Internal fistulae
- Intestinal obstruction
- Hydroureteronephrosis
- Scarring from ruptured appendicitis may cause infertility or ectopic pregnancy.

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Differential Diagnosis

- **Gastrointestinal Causes**
  - Crohn's ileitis (especially acute presentation)
  - Mesenteric adenitis
  - Complicated cecal diverticulitis
  - Gastroenteritis
  - Right-sided colitis
  - Inflammatory bowel disease (IBD)
  - Irritable bowel syndrome (IBS)
  - Bowel cancer
  - Pancreatitis
- **Genitourinary Causes**
  - Urinary tract infection (UTI)
  - Urolithiasis
  - Renal colic
- **Male-Specific Causes**
  - Testicular torsion
  - Epididymitis
  - Hernia

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Differential Diagnosis

- **Gynaecological Causes (in females):**
  - Mittelschmerz
  - Ruptured ovarian cyst
  - Ectopic pregnancy
  - Tubo-ovarian abscess
  - Pelvic inflammatory disease (PID)
  - Endometriosis
  - Round ligament syndrome
- **Musculoskeletal Causes:**
  - Rectus muscle haematoma
  - Iliopsoas myositis
  - Paraspinal infection

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Differential Diagnosis

- **Approach to Differentiation**
  - **Detailed history:**
    - Menstrual/sexual history in females (rule out gynaecological causes)
    - Past medical history of IBD or Crohn's
    - Recent viral illness (suggests mesenteric adenitis)
    - Family history of cancer or bowel disorders
  - **Examination :**
    - Genital exam in males
    - Pelvic exam in females with bimanual testing
    - Digital rectal exam
  - **Investigations to Aid Differentiation**
    - Urinalysis
    - Pregnancy test (β-hCG)
    - Imaging: CT/MRI, USG
    - Blood tests: Inflammatory markers, amylase

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Variations

- **Pregnant Women**
  - Appendicitis is the most common general surgical emergency during pregnancy.
  - Appendix is displaced cranially by the growing uterus, causing pain in the upper abdomen.
  - Physiological changes in pregnancy, like mild leukocytosis, can obscure lab findings.
  - Risk of fetal loss is 3–5% in uncomplicated cases and up to 20% if perforation occurs.
  - Open appendectomy is generally preferred
- **Children**
  - Tend to present later, with a higher risk of perforation and generalised peritonitis.
  - Omentum is less developed in young children, making containment of inflammation more difficult.
  - Most common cause is lymphoid hyperplasia.
- **Older Adults**
  - May have a blunted inflammatory response, leading to subtle clinical signs and delayed presentation.
  - Higher risk of perforation and mortality.
- **Immunocompromised Patients**
  - Typical signs of appendicitis may be absent due to a suppressed immune response.
  - A wider range of differential diagnoses may complicate and delay the diagnostic process.

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Variations

- **Obese Patients**
  - Diagnosis and surgical access can be challenging.
  - Laparoscopic appendectomy is preferred to minimise morbidity and provide better visualisation.

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Prognosis

- Appendectomy is generally a **safe procedure** with a low global mortality rate of around 0.28%, though rates can be higher (1–4%) in under-industrialised countries compared to 0.24% in industrialised ones.
- Increased mortality is associated with factors such as advanced age (over 80), immunosuppression, severe cardiovascular disease, existing comorbidities, prior episodes of suspected appendicitis.
- When acute appendicitis is diagnosed and treated early, recovery typically occurs within 24 to 48 hours. However, delayed presentation with complications like abscess, peritonitis, or sepsis can lead to prolonged recovery and may necessitate additional surgical interventions.
- Most patients can return to their normal activities within a few days to a week. However, strenuous activities and heavy lifting should be avoided for at least 4 to 6 weeks to ensure proper healing.

Lotfollahzadeh, S., Lopez, R. A., & Deppen, J. G. (2025). Appendicitis. In StatPearls. StatPearls Publishing. http://www.ncbi.nlm.nih.gov/books/NBK493193/

Quiz

- **What is the most common anatomical position of the appendix?**
  - A. Pelvic
  - B. Retrocaecal
  - C. Pre-ileal
  - D. Subhepatic

- **Answer:** B (Retrocaecal)
- **Explanation:** The retrocecal position is the most common (~64%), followed by the pelvic position (~32%).

- **Which of the following is NOT a component of the Alvarado scoring system?**
  - A. Anorexia
  - B. CRP concentration
  - C. Rebound tenderness
  - D. Leukocytosis

- **Answer:** B CRP concentration
- **Explanation:** CRP is part of the AIR score, not the Alvarado score.

Quiz

- **What is the first-line imaging modality for suspected appendicitis in children and pregnant women?**
  - A. MRI
  - B. X-ray
  - C. CT scan
  - D. Ultrasonography

- **Answer:** D (Ultrasonography)
- **Explanation:** USG is non-invasive, radiation-free, and preferred in children and pregnant women.

- **Which of the following bacteria is most commonly associated with appendicitis?**
  - A. Klebsiella pneumoniae
  - B. Escherichia coli
  - C. Pseudomonas aeruginosa
  - D. Streptococcus pyogenes

- **Answer:** B (Escherichia coli)
- **Explanation:** E. coli is the most frequently isolated organism in appendicitis cases, especially in developing countries.

Quiz

- **What is the most common cause of appendicitis in children?**
  - A. Faecolith
  - B. Carcinoid tumor
  - C. Lymphoid hyperplasia
  - D. Adhesions

- **Answer:** C (Lymphoid hyperplasia)
- **Explanation:** Often follows viral infections in children.


THANK YOU