ACUTE APPENDICITIS:

COMPLICATIONS & TREATMENT

PATHOLOGY AND PATHOGENESIS

- Appendix lumen obstruction leads to congestion within the appendix
- Inflammatory exudate and mucous increases luminal pressure
- Initial stage might resolve in some patients
- Appendix may distend with mucus- mucocele

APPENDICITIS COMPLICATIONS

- **Gangrenous Appendicitis:**
  - Thrombosis of the appendiceal artery and veins

- **Perforation:**
  - complication rates 58 %
  - perforation rate increased at both ends of the age spectrum

- **Peri-appendiceal abscess:**
  - most frequent complication
  - peri-appendiceal fibrinous adhesions

- **Peritonitis:**
  - Bacterial peritonitis in absence of fibrinous adhesions.
  - Escherichia coli

- **Bowel Obstruction**

- **Septic seeding of mesenteric vessels**
  - infection along the mesenteric–portal venous system
  - pylephlebitis, pylethrombosis, or hepatic abscess

OBSTRUCTION

- Mucus + Inflammatory exudation → Increases intraluminal Pressure
- Obstructing lymphatic drainage
- Edema+ M.Ulceration+ Bacterial Translocation to the submucosa
- Venous obstruction(cos of further distension)
- Ischemia → Bacterial Invasion → Acute Appendicitis.

PERFORATION

If Fever > 102*F & WBC> 18,000

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If Ischemia continue

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Necrosis of the appendicular wall

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Gangrenous appendicitis

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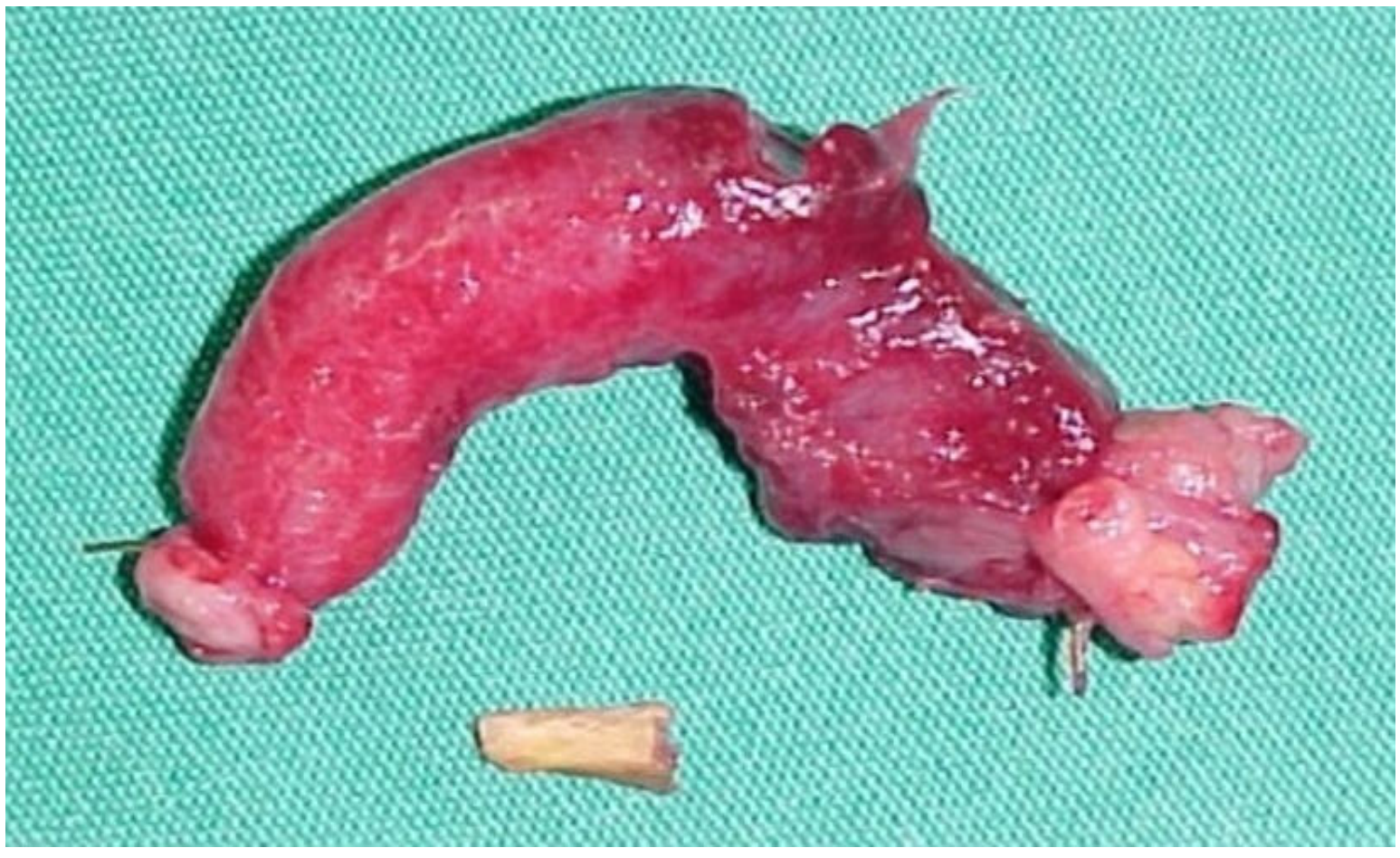
Perforation with free bacterial contamination of the peritoneal cavity

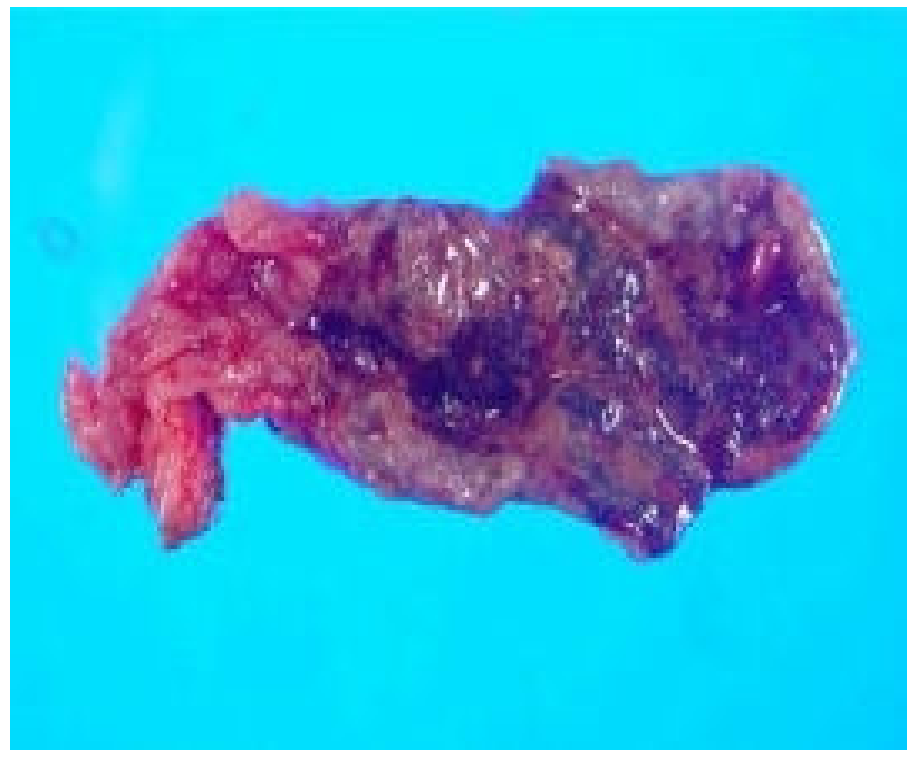
PERFORATED APPENDIX



GANGRENOUS APPENDIX

Thrombosis of Appendicular artery

(as it is an end artery)



PHLEGMONOUS MASS/ PARACAECAL ABSCESS

Greater omentum & loops of small bowel become adherent to the inflamed appendix

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Walling off the spread of peritoneal contamination

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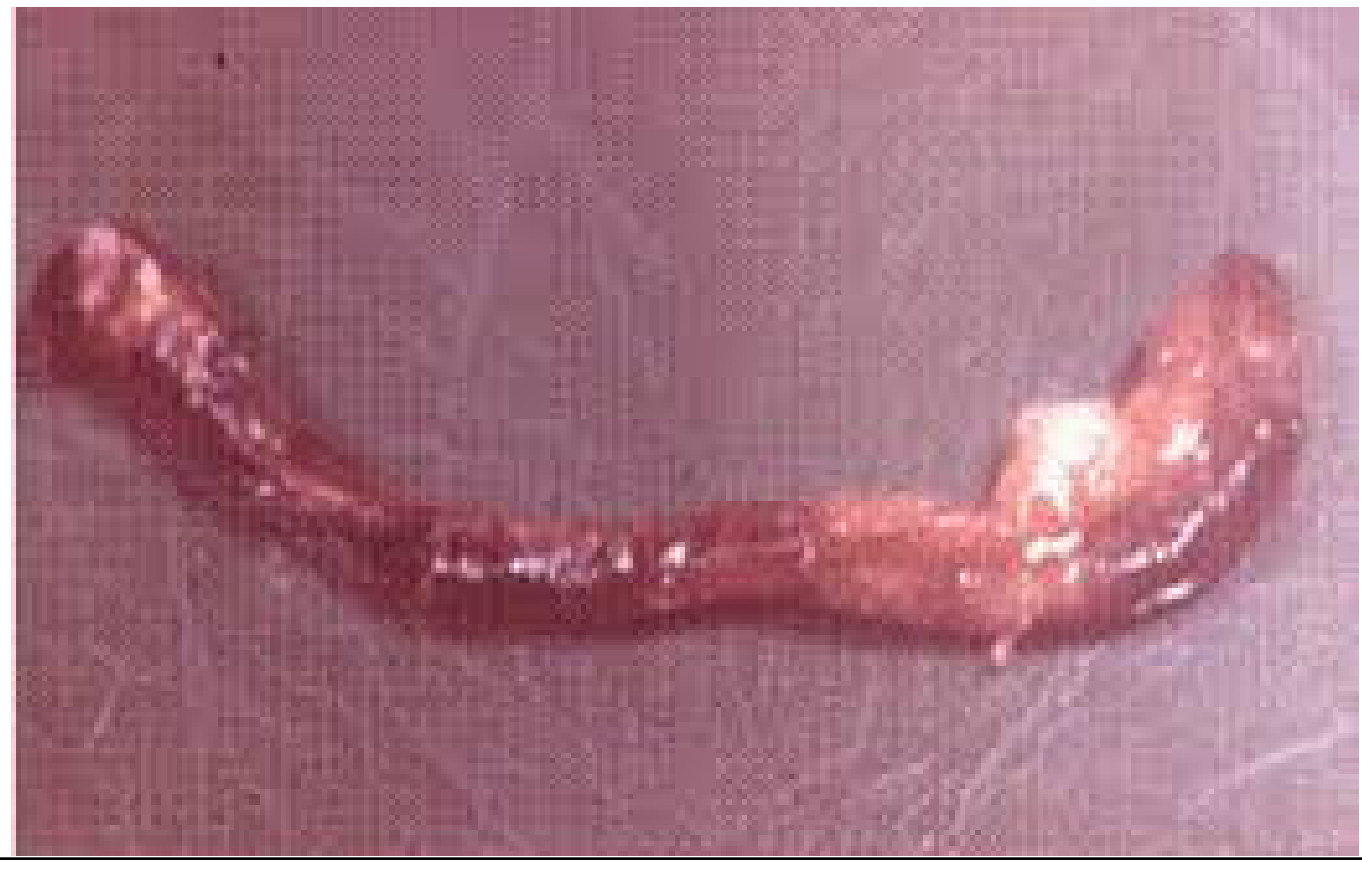
Phlegmonous Mass / Paracaecal abscess

DESTRUCTIVE PHLEGMONOUS APPENDICITIS



Appendicular inflammation resolves

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Distended mucus filled organ

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Mucocele of appendix

SYMPTOMS

Pain

- Initially periumbilical region
- Pain shift to right iliac fossa
- Parietal peritoneum irritated and inflamed

Anorexia

Nausea/ vomiting

CLINICAL SIGN

- Pyrexia: Low grade after 6 hours
- Tenderness (localized) in the RIF
- Muscle guarding
- Rebound Tenderness/ BLUMBERG'S Sign
- Tachycardia: Perforation, Gangrene & Peritonitis

SIGN TO ELICIT APPENDICITIS

- Rovsing's Sign
- Psoas Sign
- Obturator Sign
- Dunphy's Sign: Any movement (Coughing) causes Pain.
- Mc Burney's Point -Tenderness

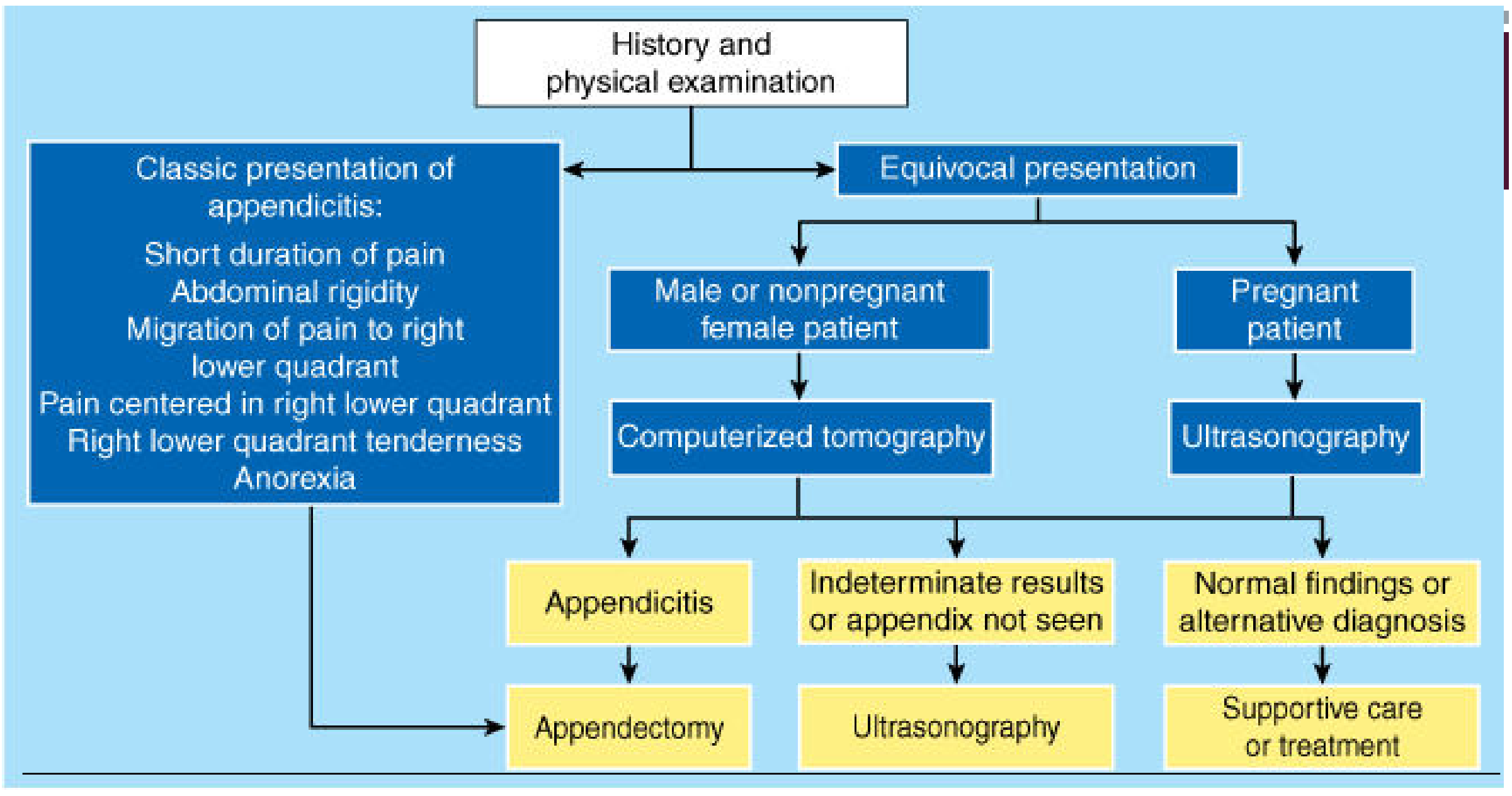
INVESTIGATION

- TLC- Raised: 10000 to 18000 (Neutrophils >75%).
- If TLC >18000 (suspect perforation)
- Abdominal X-Ray
- Abdominal Ultra sonography
- CT Scan

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



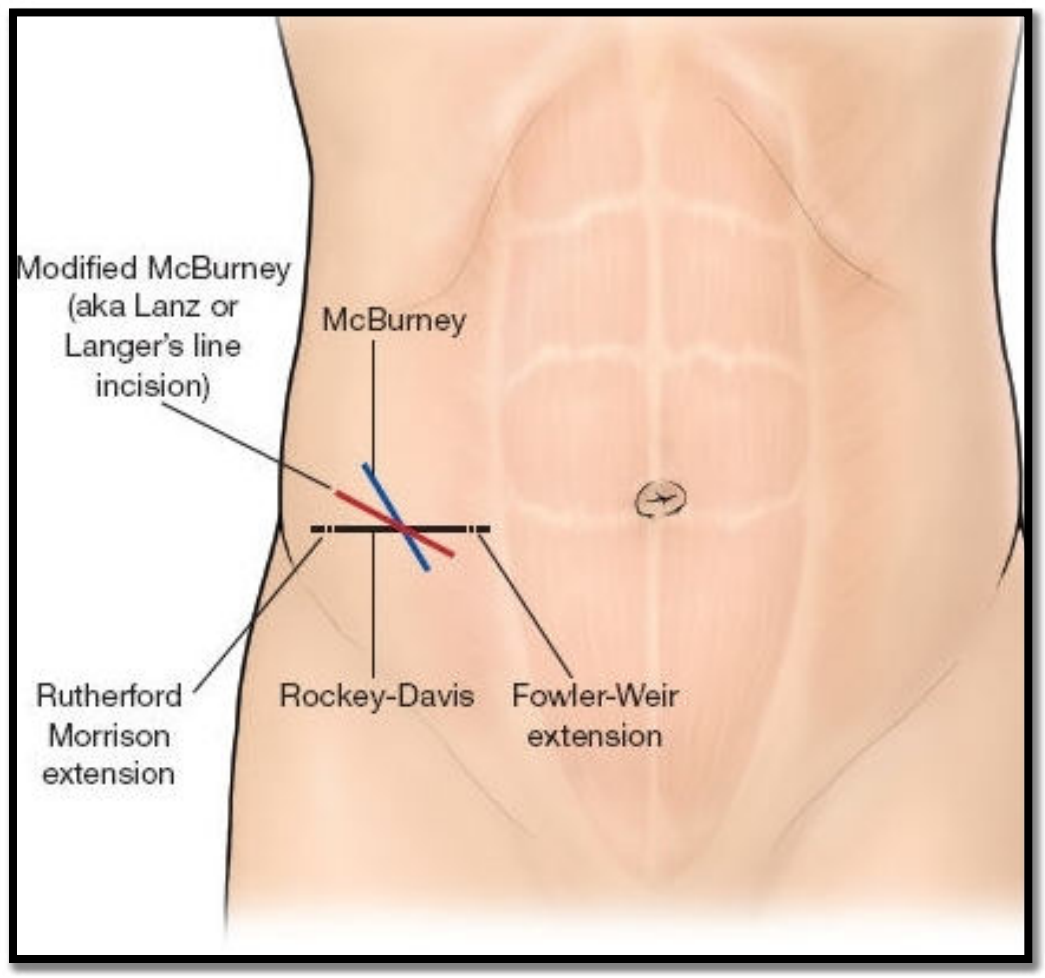
TREATMENT

- 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

INCISIONS IN APPENDECTOMY



COMPLICATION OF APPENDECTOMY

- Wound Infection
- Intra-abdominal abscess
- Ileus
- Respiratory complication like pneumonia
- Portal Pyaemia
- Adhesive Intestinal Obstruction
- Faecal Fistula
- Richter's Hernia
- DVT & Embolism

APPENDICULAR LUMP

Appendix → Edematous Caecum → Terminal Ileum

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Loop of Intestine ← Omentum (Greater Omentum)

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Adjacent Peritoneum ← Ascending Colon

PRESENTATION OF APPENDICULAR LUMP

- Usually on 3rd day of attack of appendicitis.
- Lump in Right iliac Fossa
- Guarding over the lump
- Tenderness
- Fever/ Increase pulse

Appendicular Lump- Don’t Operate (??)

- Severe adhesion/ Difficult to separate the part
- Bloody and dangerous to operate
- Risk of Faecal fistula
- Risk of iatrogenic injury

OCHSNER- SHERREN REGIMEN

- Ist mark the size of the swelling for further assessment
- NPO & IV Fluid supplements
- Antibiotics, Analgesics
- Temp, Pulse(4 hourly) & Fluid record charting
- Allow oral liquid on subsequent days.

_OCHSNER- SHERREN REGIMEN

- If more vomiting- antiemetic &/+ PPI
- If size of the lump decreases – continue the same.
- After 6-8 weeks = Interval Appendectomy (current literature does not support this view)
- Prognosis: 90% success rate for this regimen.
- Failure to this regimen: suspect Crohn's & or Carcinoma

CRITERIA FOR STOPPAGE OF CONSERVATIVE TREATMENT IN APPEDICULAR LUMP

- Rising pulse rate
- Rising temperature
- Increasing or spreading abdominal pain
- Increasing size of mass
- Vomiting or copious gastric aspirate