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THE COURSE OF FACULTY (ANALYTICAL) SURGERY

IN PICTURES, TABLES AND SCHEMES

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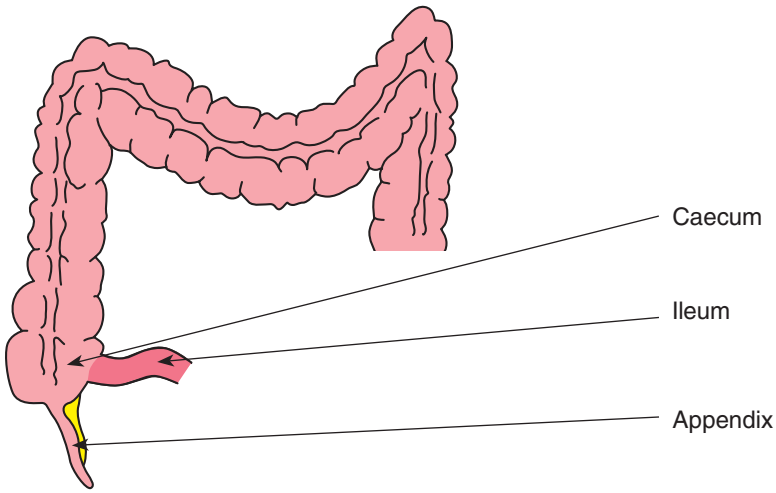

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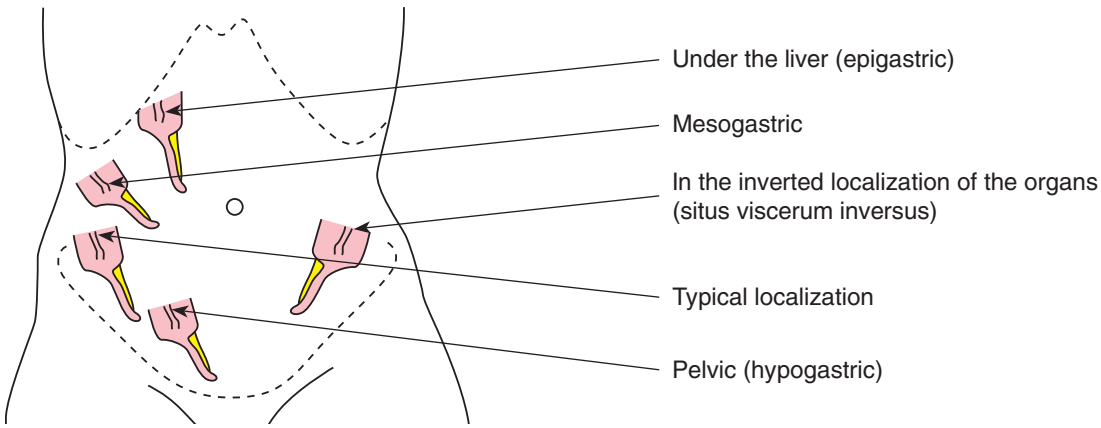
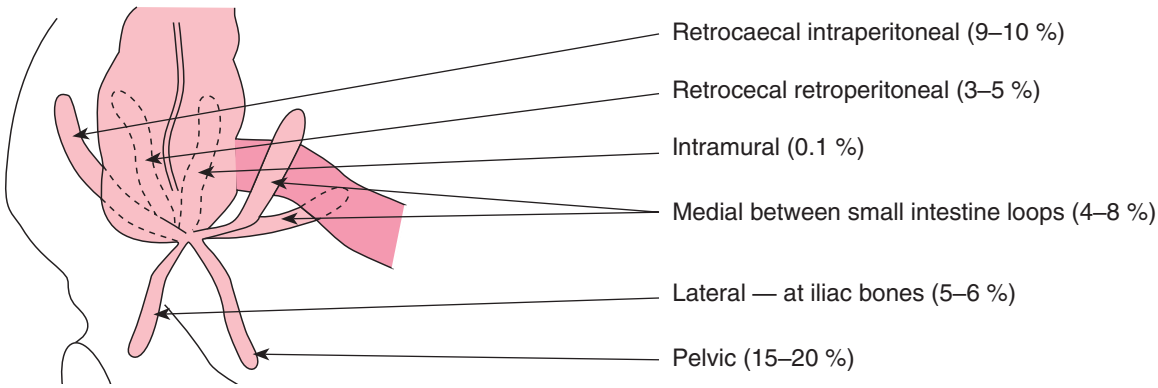


Variants of appendix localization



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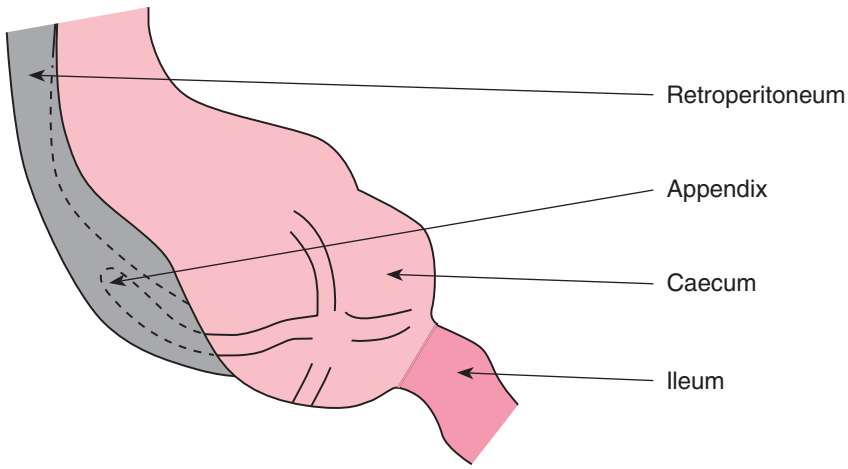
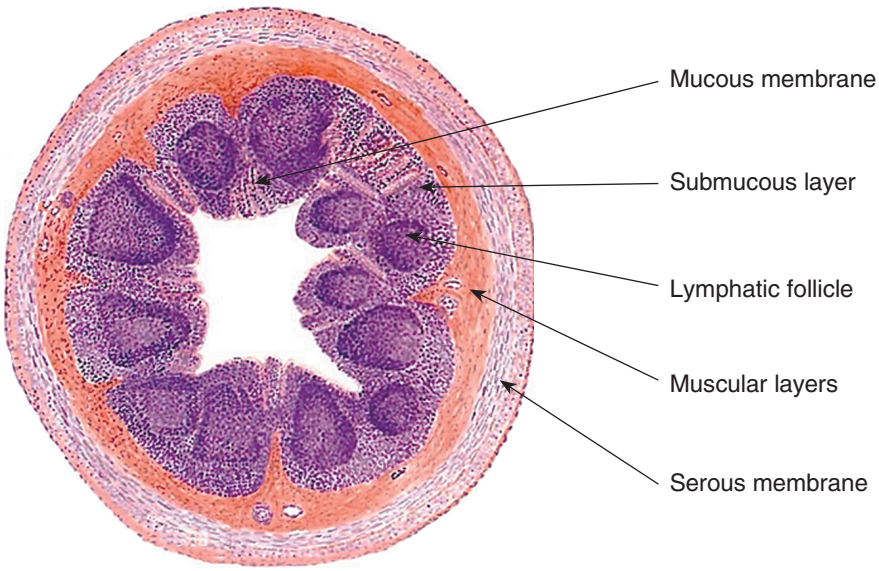
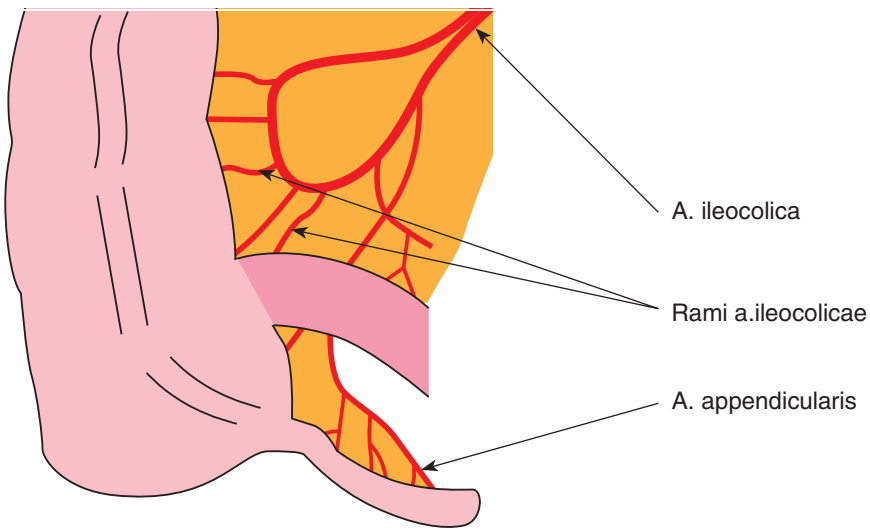


Appendix wall structure



Caecum and appendix blood supply



APPENDIX PHYSIOLOGY

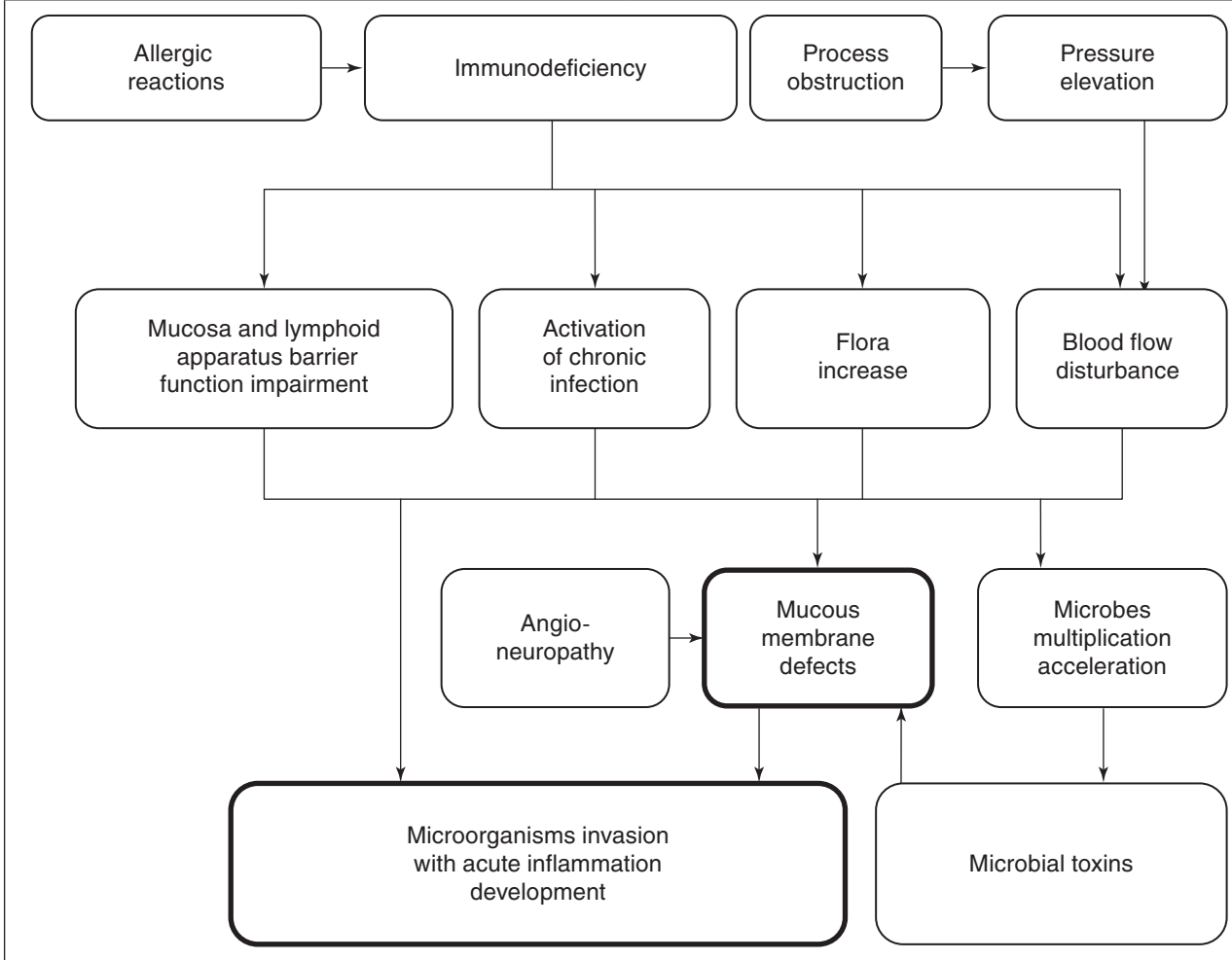
Appendix functions	
Motoric function	Appendix performs peristaltic movements, regulates functioning of ileocaecal valve. The impairment of this function may cause ileocaecal valve spasm and dyskinetic disturbances in ileocaecal segment of the intestine resulting in caeco-iliac reflux.
Secretory and hormonal functions	Appendix releases amylase and the peristaltic hormone.
Stabilizing function	Appendix stabilizes microflora of the large intestine "incubating" E.coli in a sort of reservoir, from which microflora enters the large intestine.
Immune function	Appendix is the "intestinal tonsil" providing natural resistance of the organism, local immunity, immunologic memory, immunologic tolerance and reactions in specific pathological processes.
After appendectomy all functions of appendix, generally, are compensated by other organs.	

ACUTE APPENDICITIS

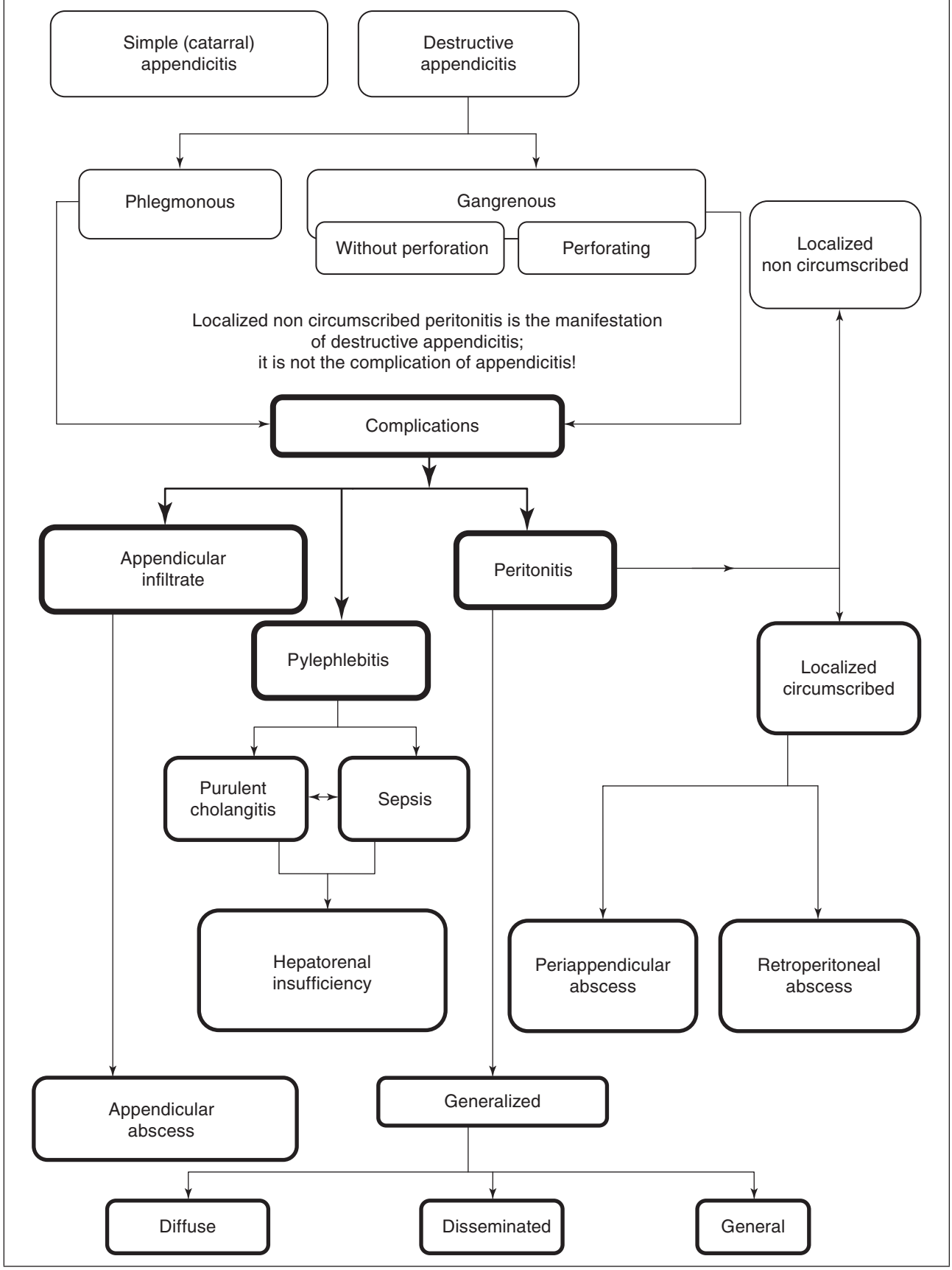
Definition and statistical data	
Acute appendicitis is an acute inflammation of the caecum appendix caused by the invasion of microflora in its wall, with a particular clinical picture.	The incidence of acute appendicitis is 7–12% of the population (M.I. Kuzin, 2014, A.F. Chernousov, 2012) and varies in different age groups. In children the morbidity consists 15%, and in 50-year-old people — 2%. Acute appendicitis occurs more frequently between the ages of 20 and 40. In women it occurs twice as frequent as in men. In recent years the tendency to incidence reduction is noted. In Asian and African countries acute appendicitis occurs less often, which may be associated with the dietary peculiarities (prevalence of vegetables in the diet). Acute appendicitis ranks first in the number of urgent surgery interventions (60-80%) and second place after acute cholecystitis according to the number of hospitalized patients in the Emergency surgical department (up to 30% of patients) (M.I. Kuzin, 2014, A.F. Chernousov, 2012).

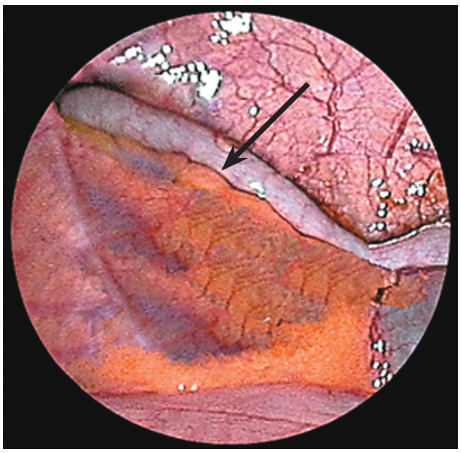
Etiology and pathogenesis of acute appendicitis	
Etiology of acute appendicitis	
Etiological factors	Effect
Angioneuropathy: Disorders of vascular and nervous systems (atherosclerosis, systemic vasculites, diabetes mellitus, thrombophilias)	Contributes to the damage of appendix trophism.
Autoallergy	Contributes to the mucosa necrosis development.
Process occlusion (hyperplasia of lymphoid follicles, fecal stones, fecalomas, foreign bodies, helminthes)	Causes the elevation of intracavitary pressure and blood flow disturbance.
Acquired and congenital immunodeficiency	Causes mucosa and lymphoid apparatus barrier function impairment, stimulates microbes multiplication, increases flora virulence and activates chronic infection.
Infectious factors: – nonspecific flora (streptococcus, staphylococcus, colibacillus, anaerobic non clostridial flora); – specific flora (tuberculosis, pseudotuberculosis, bacillar dysentery, typhoid, protozoa, balantidia)	Cause damage of appendix tissues.

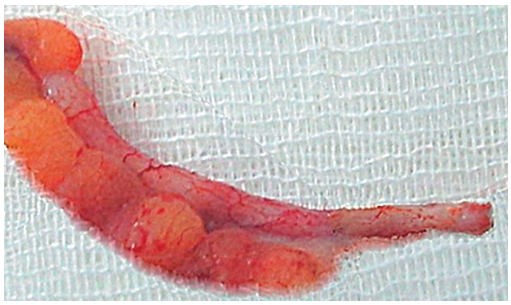
Classification of acute appendicitis and its complications

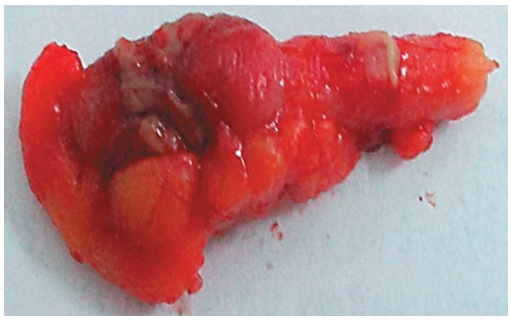


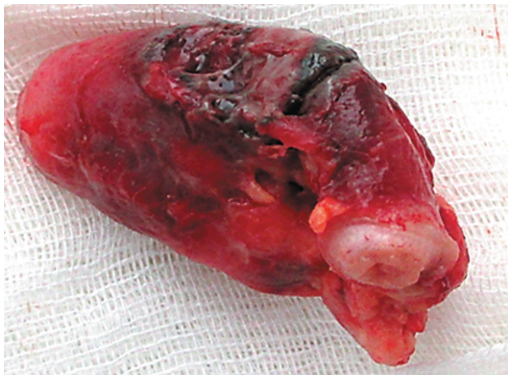
Classification of acute appendicitis and its complications



Non-deformed appendix	
	The appendix diameter is 0.6–0.8 cm. Serous membrane is shining, of gray-blue color. The consistency is soft and elastic.

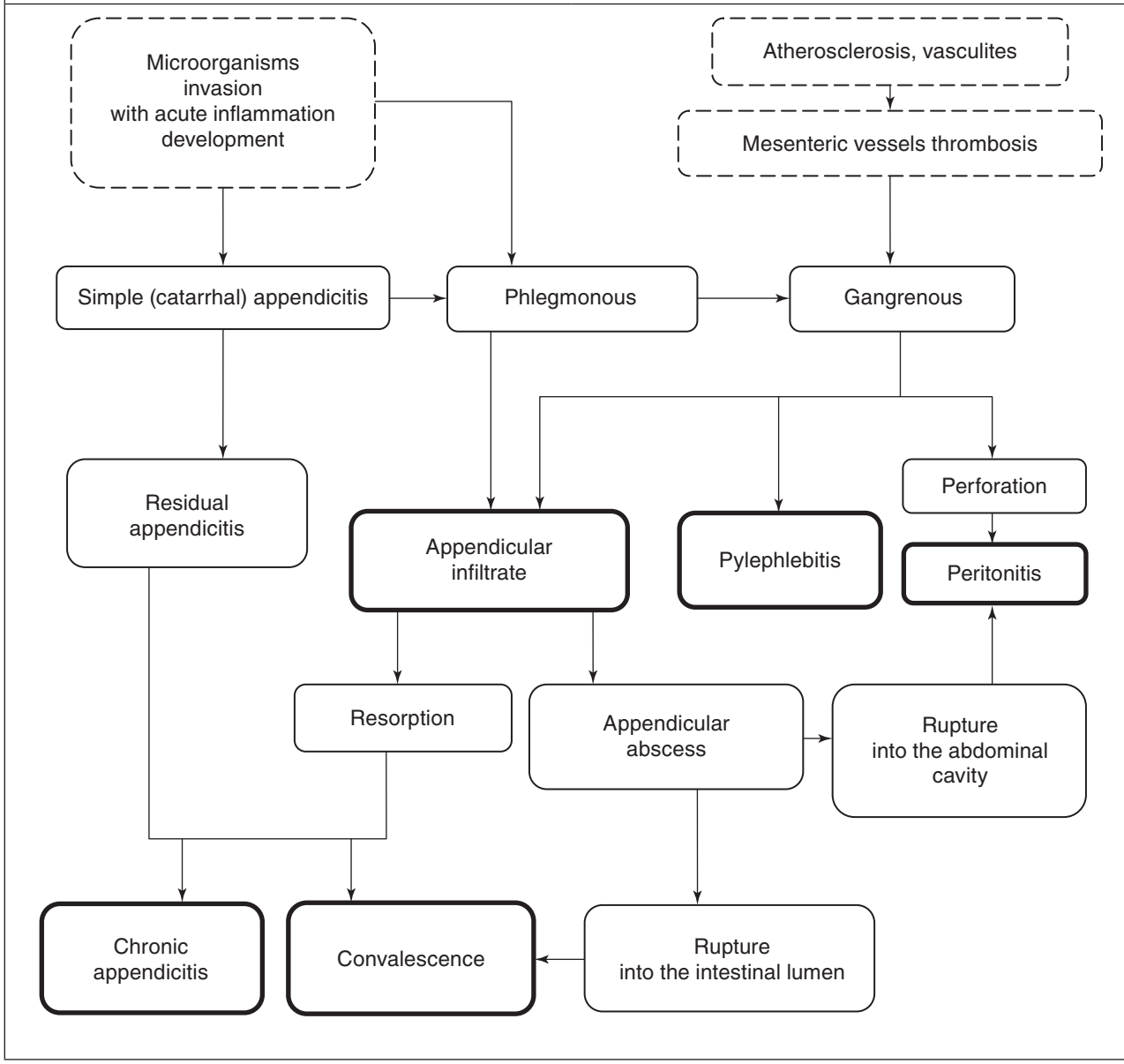
Appendix deformation in acute catarrhal appendicitis	
	The appendix is slightly enlarged in volume, edematous. Serous membrane is dim, hyperemic. The lumen is frequently filled with liquid feces and mucous, rarely with foreign bodies (fecal stones).

Appendix deformation in acute phlegmonous appendicitis	
	Appendix is considerably enlarged in volume, serous membrane is of dark-brown color with hemorrhages and spots covered by fibrin membranes. The wall is thickened. The appendix is tense. The lumen is filled with purulent contents.

Appendix deformation in acute gangrenous appendicitis	
	Appendix is considerably enlarged in volume, tense. The wall is thin, flabby, with spots of necrosis of black-green color. The lumen is filled with pus, the layers are not differentiated. Mucous membrane at significant extent is also necrotized.

The course of the disease and its clinical pattern

Variants of the course of acute appendicitis



Phases of acute appendicitis development