

Anatomy and Physiology

Exercise 1 – Classification of tissue microscopic images

Analyze 12 microscopic images of tissues from the folder provided by the instructor.
Describe each image in a table according to the example below:

Image number	015
Tissue	Transitional epithelium
Latin name	<i>Epithelium transitorium</i>
Tissue description	tissue consisting of multiple layers of epithelial cells which can contract and expand.
Localization	Lines the bladder, urethra and the ureters
Functions	Allows the urinary organs to expand and stretch

Analyze 3 microscopic images of organs from the folder provided by the instructor.
Describe each image in a table according to the example below:

Image number	129
Organ	Appendix
Latin name	<i>Appedix vermiformis</i>
Histology characteristics	The histology slide of the appendix shows plenty of diffuse lymphatic tissue. The histology of the appendix is very similar to the histology of the large intestine. There is a mucosa, submucosa, and muscularis externa. The inner circular layer and outer longitudinal layer of the muscularis externa are apparent on this histology slide.

During the exercise you May use the mini-atlas of microscopic tissue images included in the instruction (pages 2-14) and any Internet resources.

At the end of the laboratory class send a text document with complete 15 tables to the instructor.

Useful links / Przydatne linki:

<http://www.histology-world.com/>

<http://histologyguide.org/slidebox/slidebox.html>

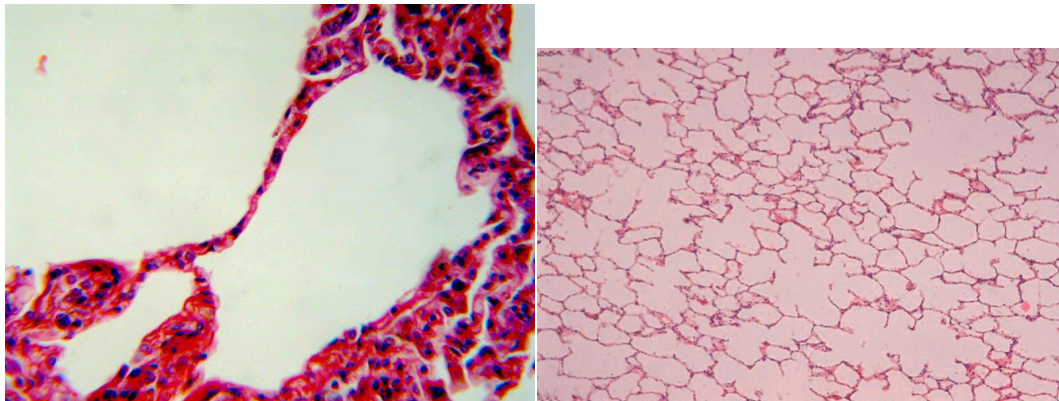
<https://histo.life.illinois.edu/histo/atlas/slides.php>

<http://histologyatlas.wisc.edu/archive/uw/histo.htm>

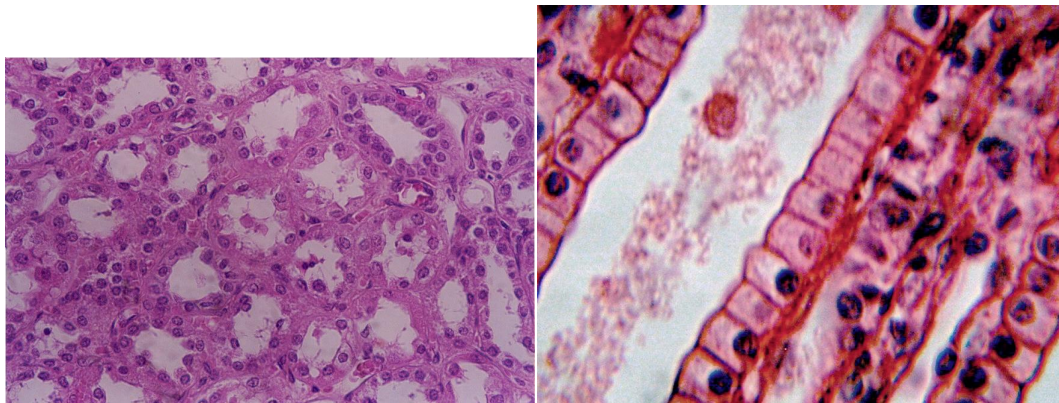
<https://www.ouhsc.edu/histology/>

I. Epithelium / Tkanka nabłonkowa

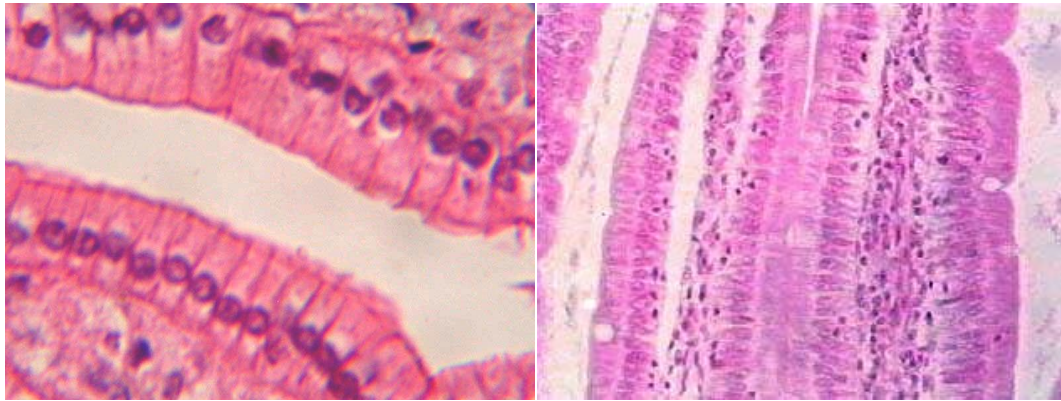
1. Simple squamous epithelium / Nabłonek jednowarstwowy płaski



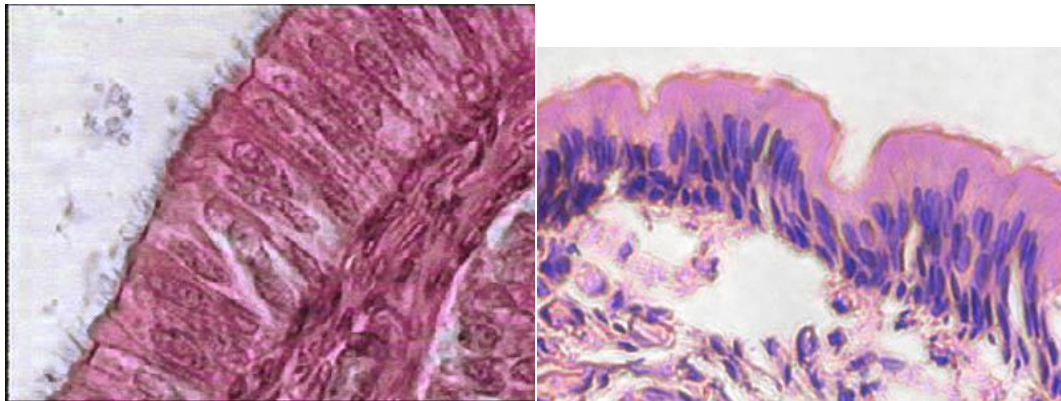
2. Simple cuboidal epithelium / Nabłonek jednowarstwowy sześcienny



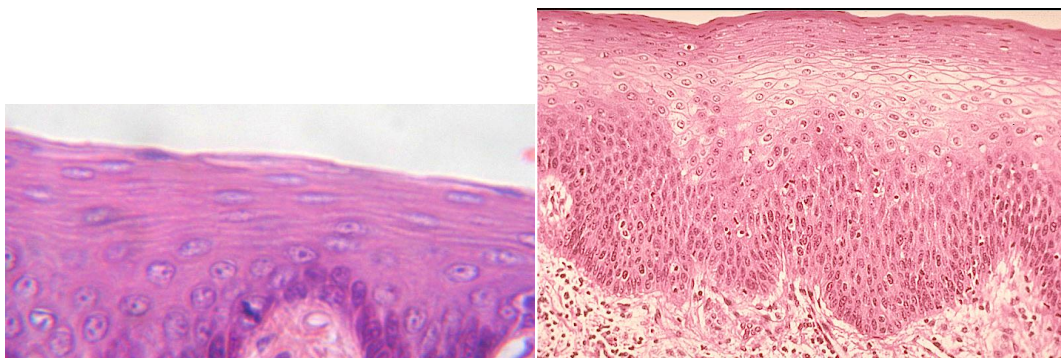
3. Simple columnar epithelium / Nabłonek jednowarstwowy walcowaty



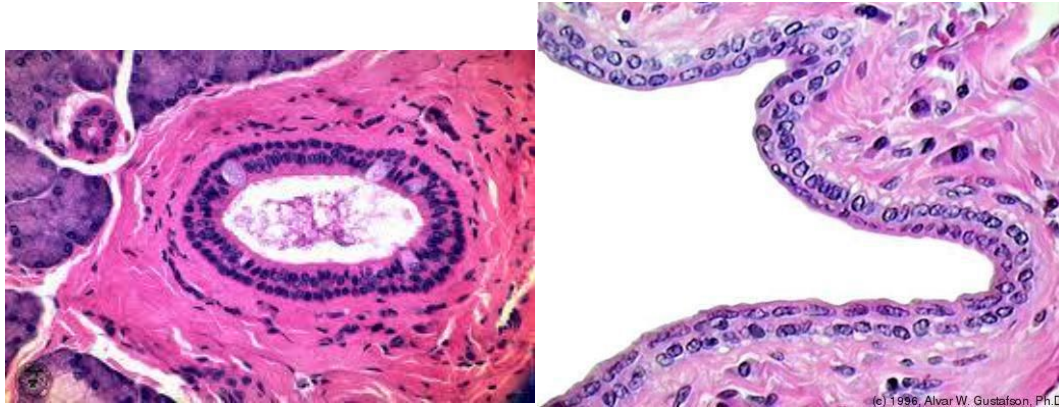
4. Pseudostratified columnar epithelium / nabłonek jednowarstwowy wielorzędowy



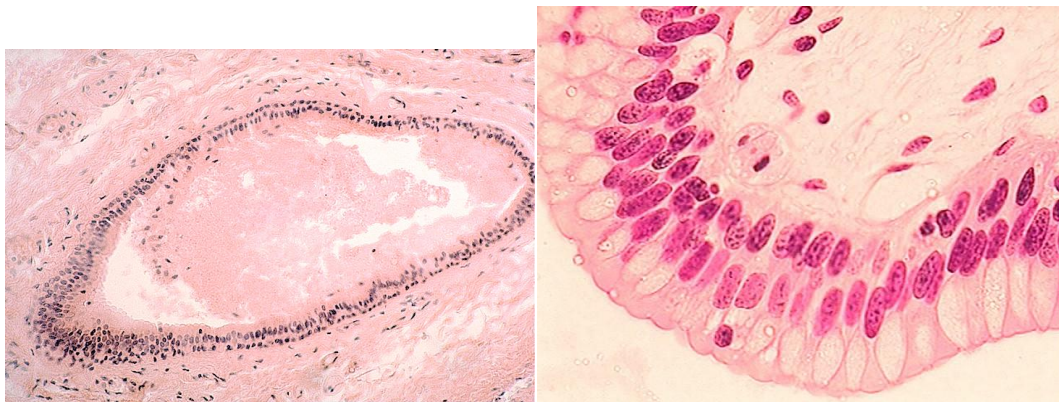
5. Stratified squamous epithelium / nabłonek wielowarstwowy płaski



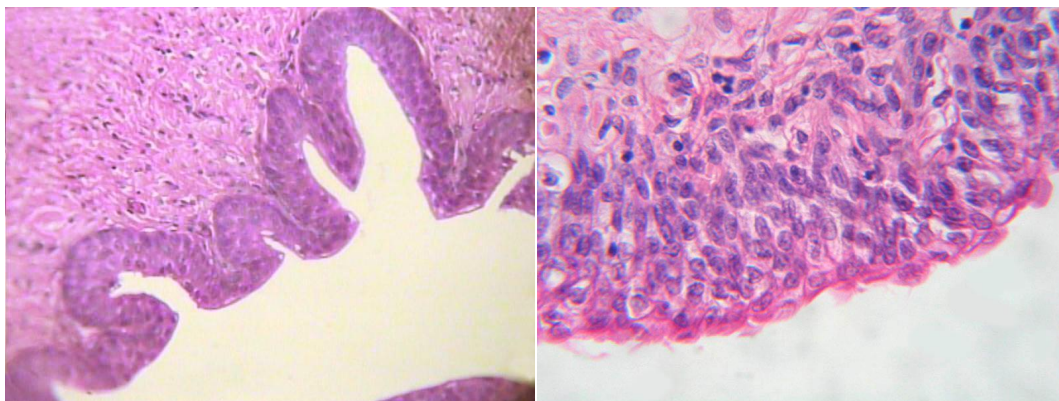
6. Stratified cuboidal epithelium / nabłonek wielowarstwowy sześcienny



7. Stratified columnar epithelium / nabłonek wielowarstwowy walcowaty



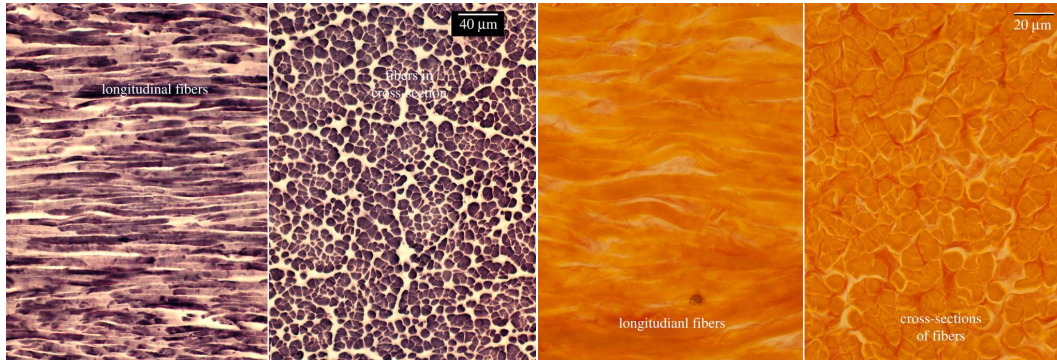
8. Transitional epithelium / Nabłonek przejściowy



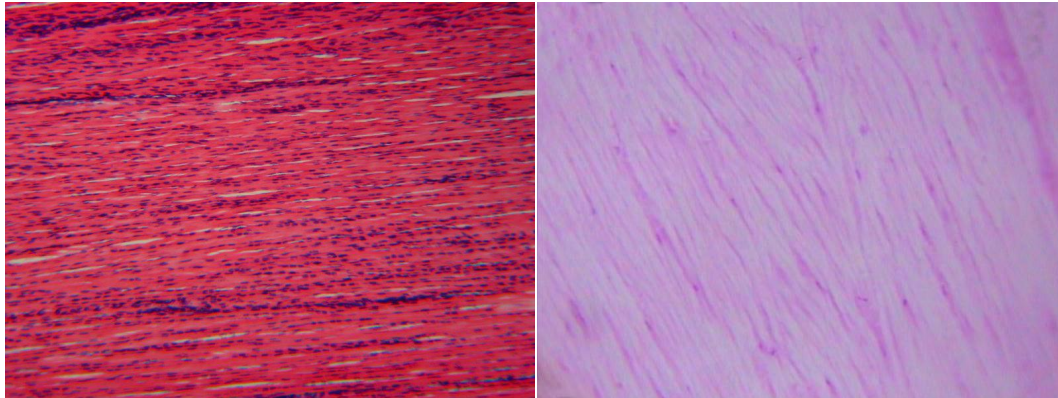
III. Connective tissue / Tkanka łączna

Proper connective tissue / tkanka łączna właściwa

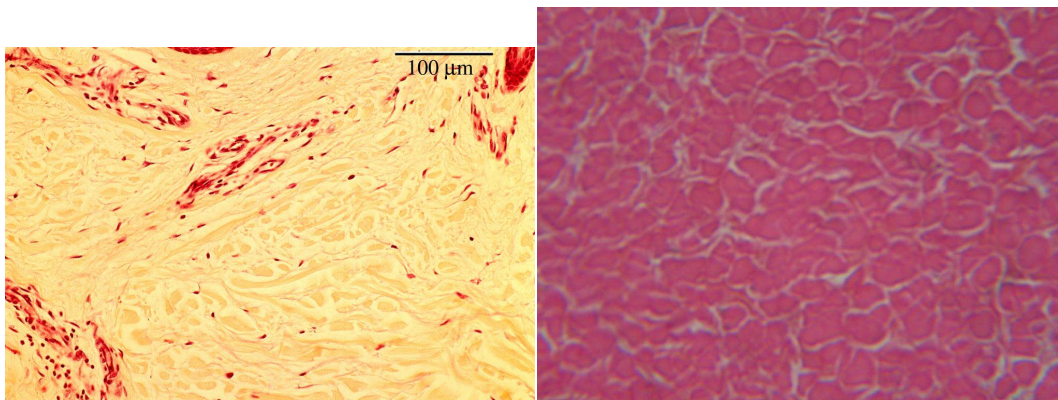
1. Loose (elastic) connective tissue / Tanka łączna wiotka



2. Dense connective tissue regular / Tkanka łączna zbita regularna

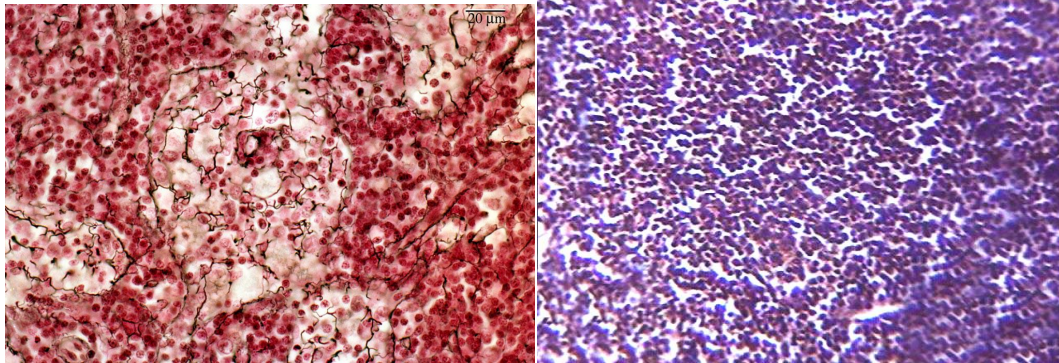


3. Dense connective tissue irregular / Tkanka łączna zbita nieregularna

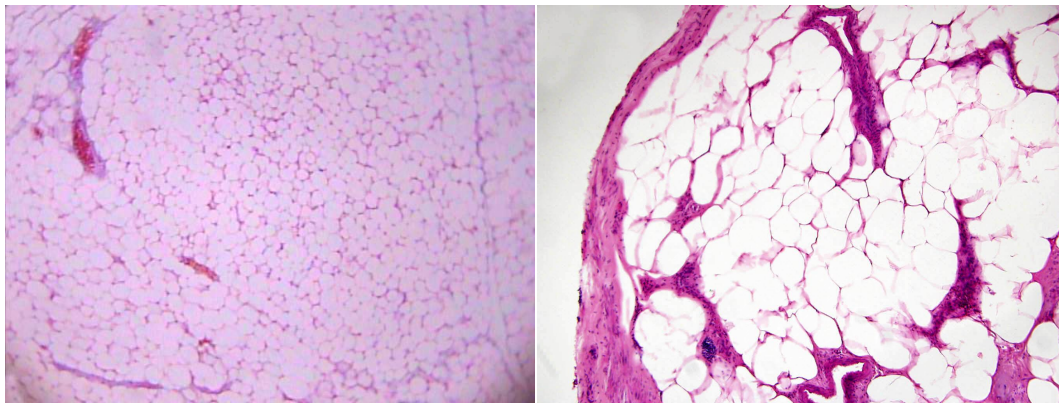


Special connective tissue / Pozostałe rodzaje tkanki łącznej

4. Reticular connective tissue / Tkanka łączna siateczkowata

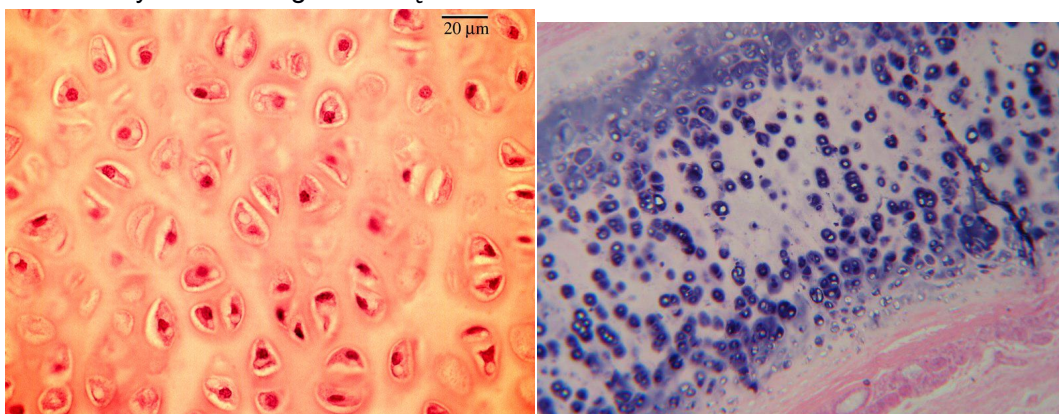


5. Adipose tissue / Tkanka tłuszczowa

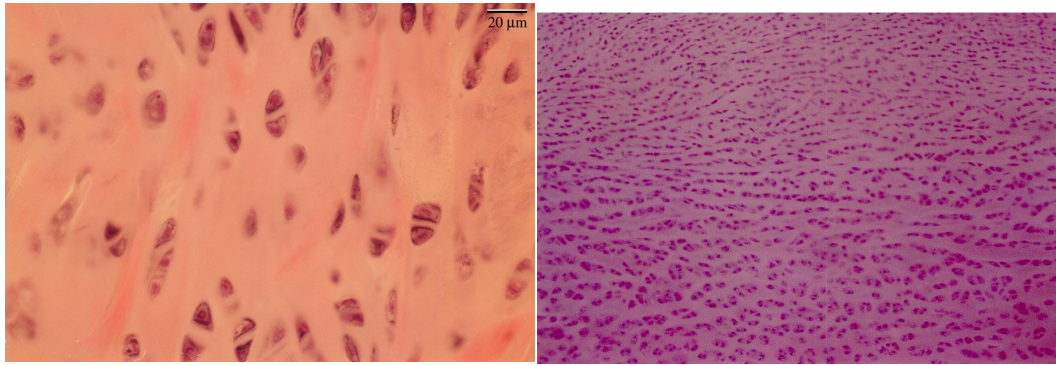


6. Cartilage / Tkanka chrzęstna

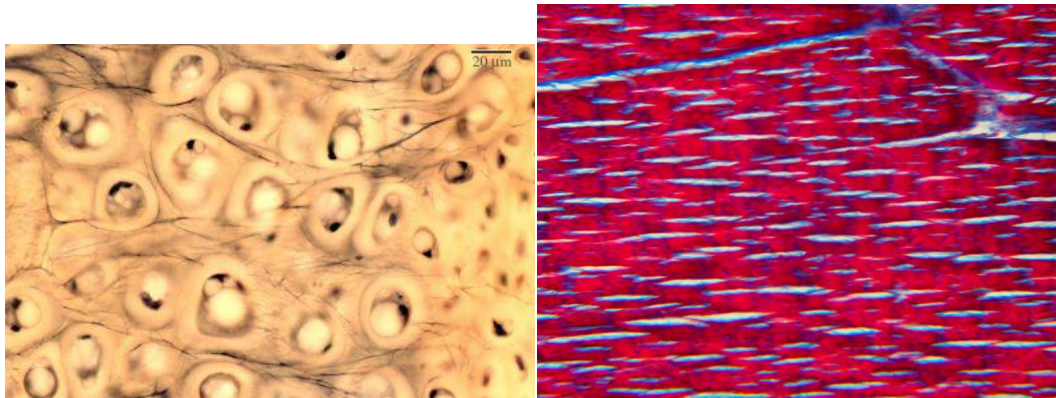
6.1. Hyaline cartilage / Chrzęstka szklista



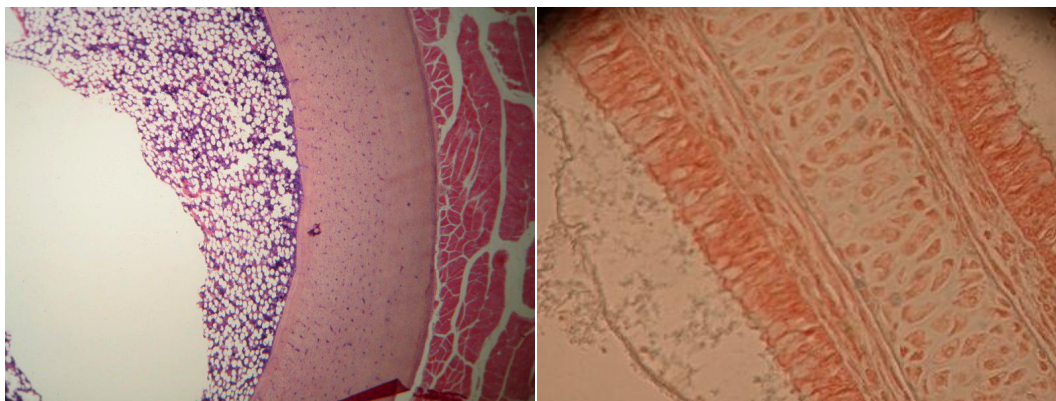
6.2. Fibrocartilage / Chrzążka włóknista



6.3. Elastic cartilage / Chrzążka sprężysta



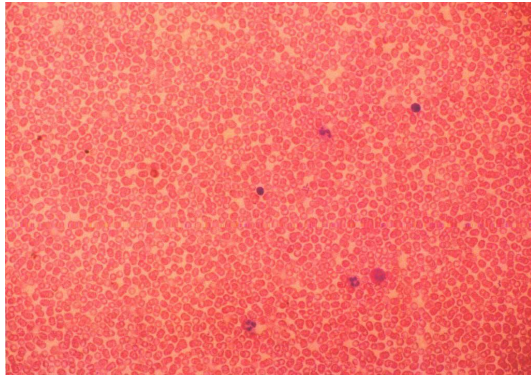
7. Bone tissue / Tkanka kostna



Spongy bone / Kość gąbczasta

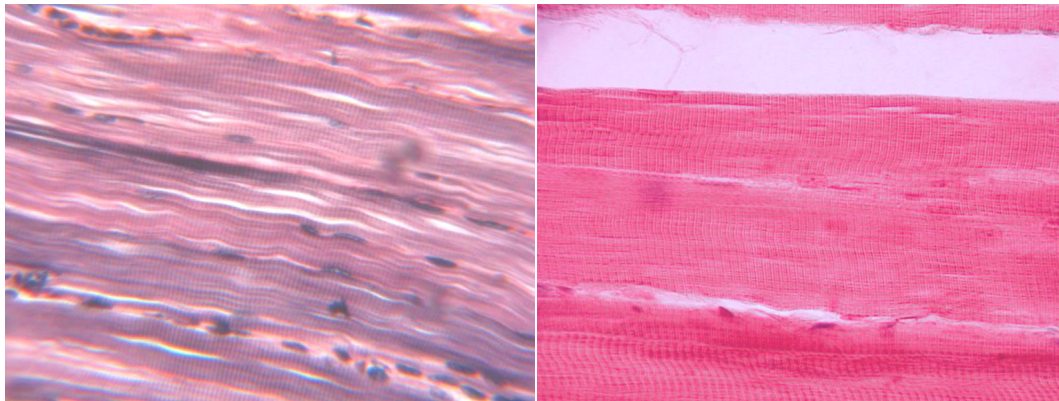
Membranous bone / Kość błoniasta

8. Peripheral blood smear / Rozmaz krwi obwodowej

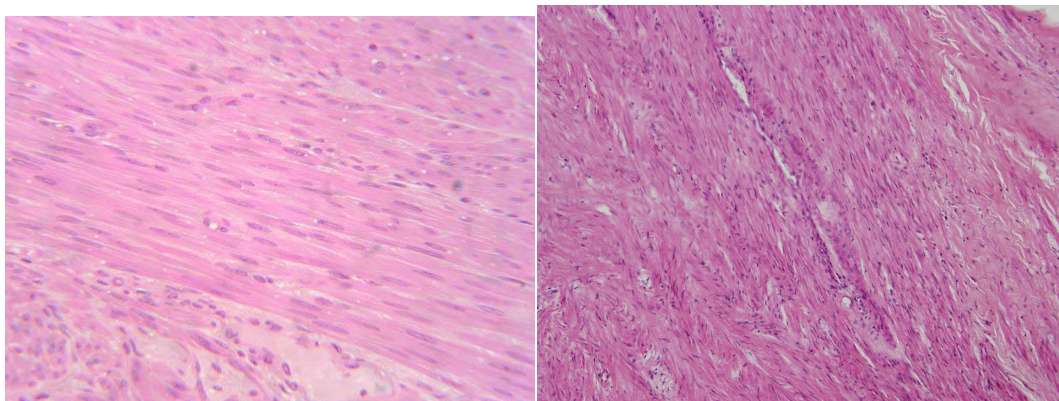


IV. Muscle tissue / Tkanka mięśniowa

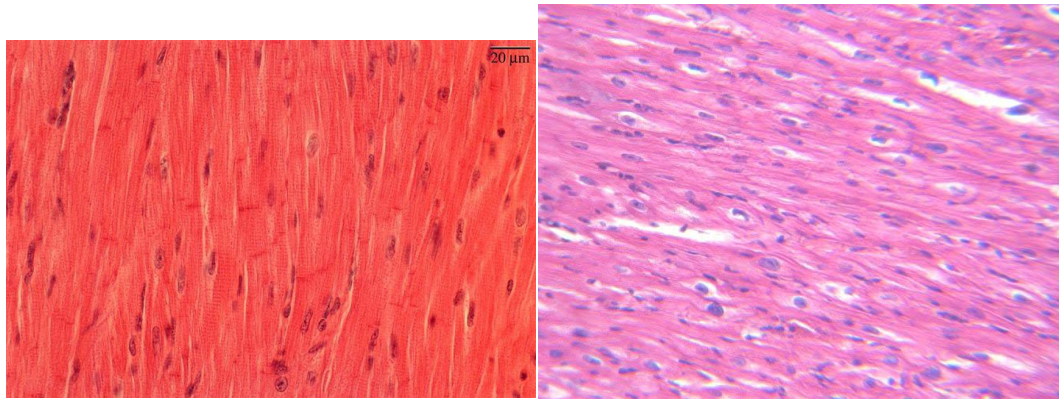
1. Skeletal muscle / Mięśnie szkieletowe



2. Smooth muscle / Mięśnie gładkie



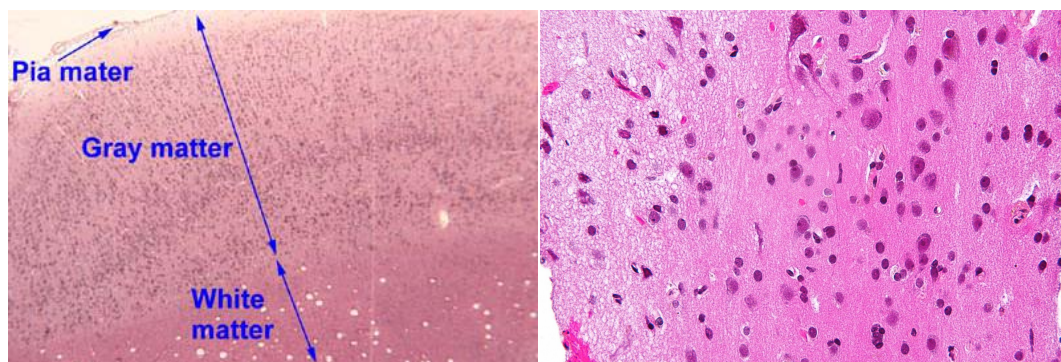
3. Cardiac muscle / Mięsień sercowy



V. Nervous tissue / Tkanka nerwowa

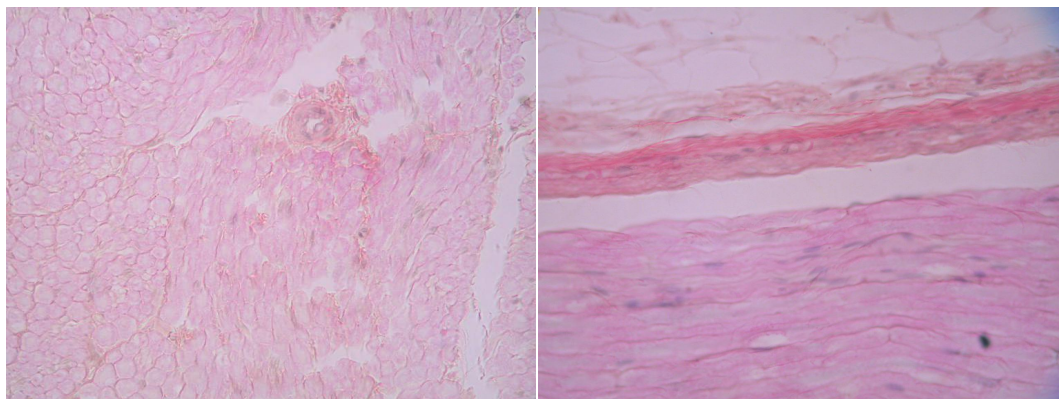
Central nervous system / Ośrodkowy układ nerwowy

1. Grey matter and white matter / Substancja szara i substancja biała

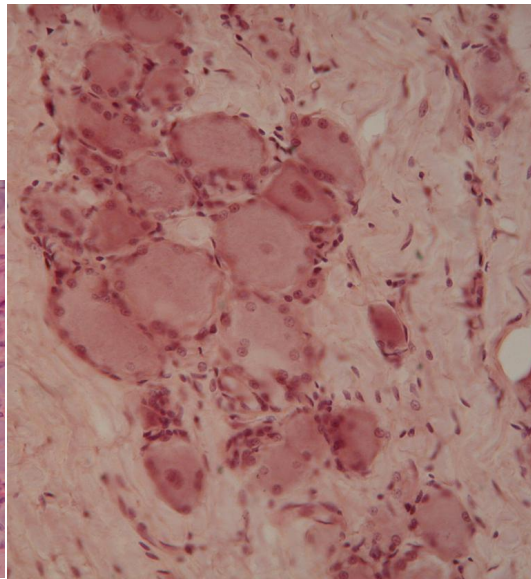
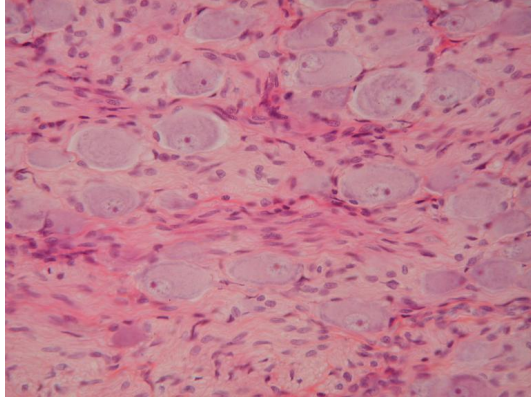


Peripheral nervous system / Obwodowy układ nerwowy

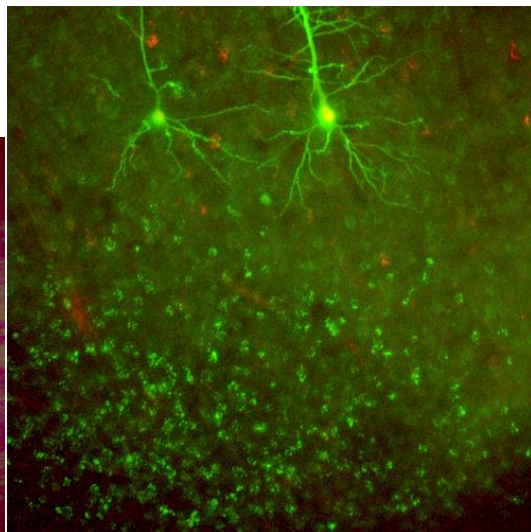
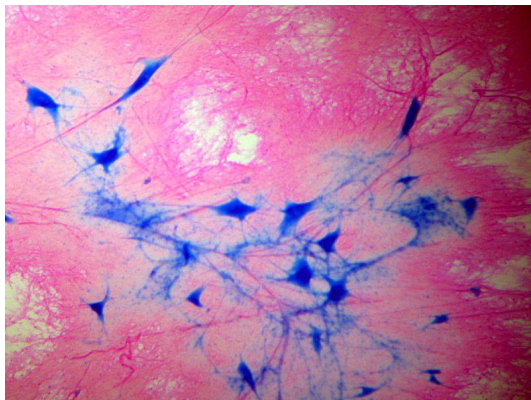
1. Nerves / Nerwy



2. Ganglion / zwój nerwowy



3. Neurons / Neurony

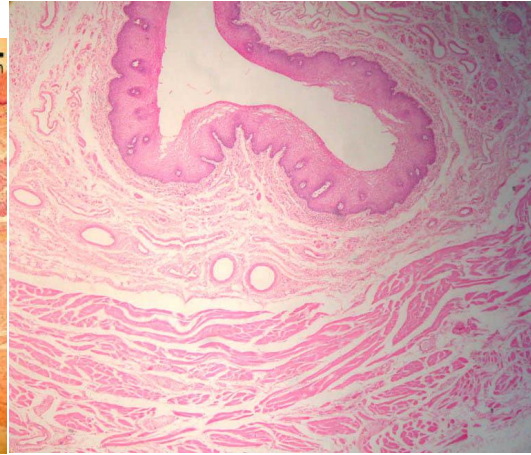
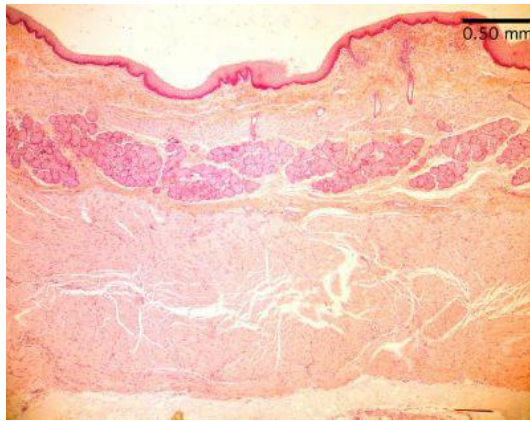


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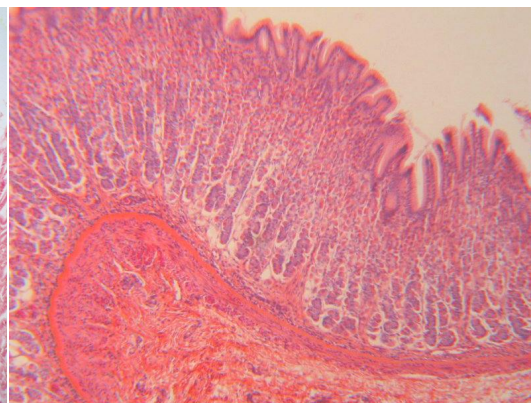
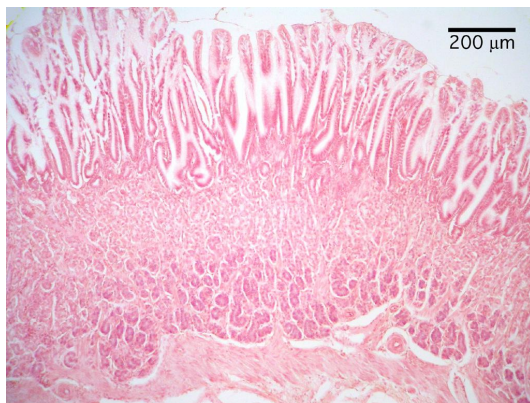
VI. Organs / Narządy

Gastrointestinal system/ Układ trawienny

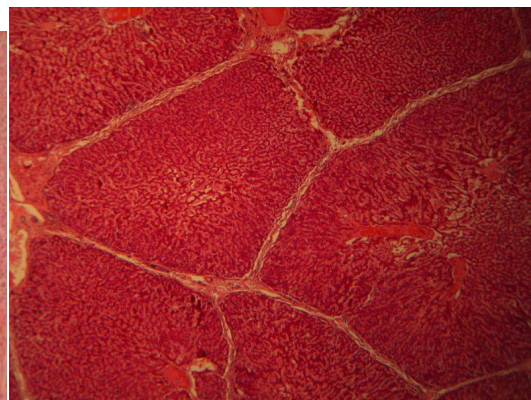
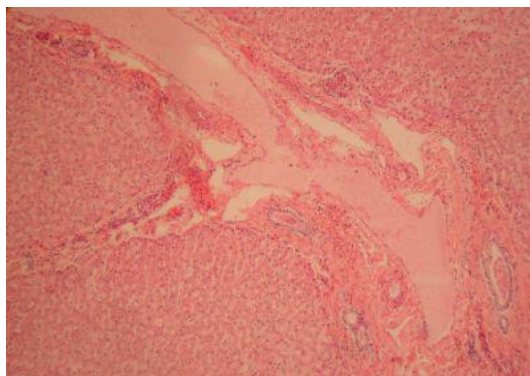
1. Esophagus / Przełyk



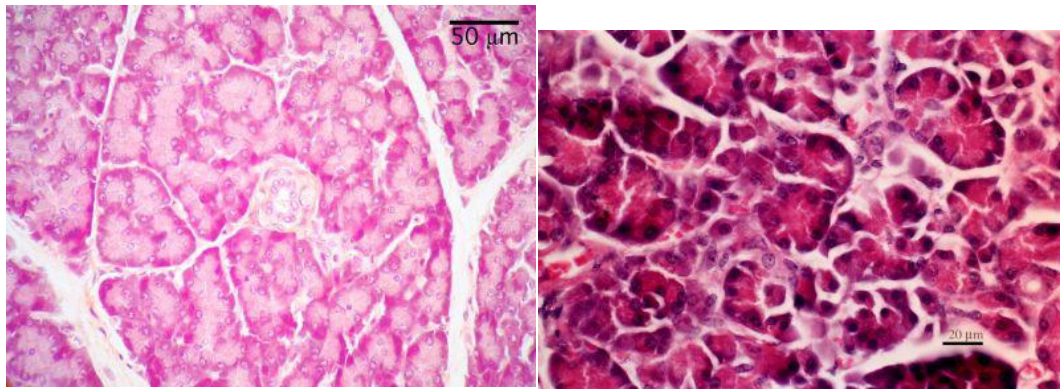
2. Stomach / Żołądek



3. Liver / Wątroba

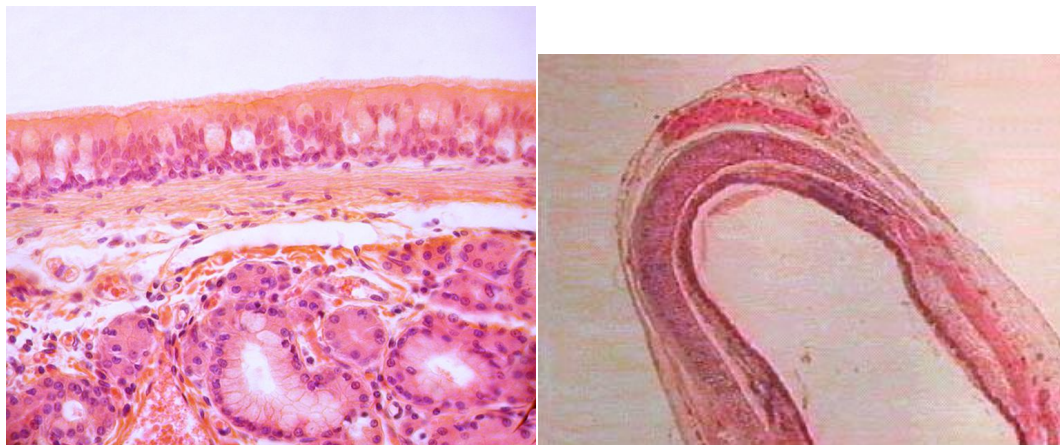


4. Pancreas / Trzustka

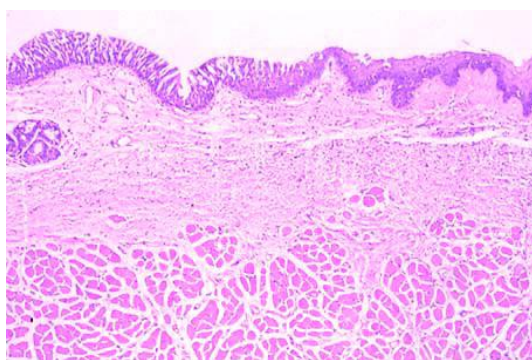


Respiratory system / Układ oddechowy

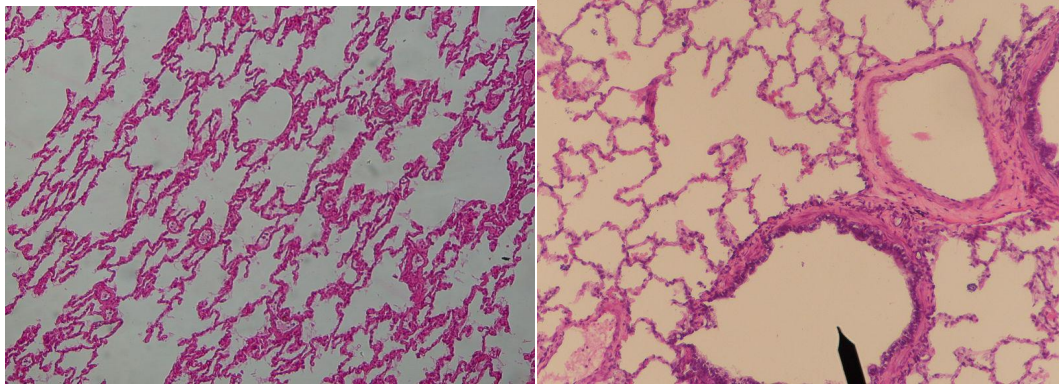
1. Trachea/ tchawica



2. Larynx / Krtąń

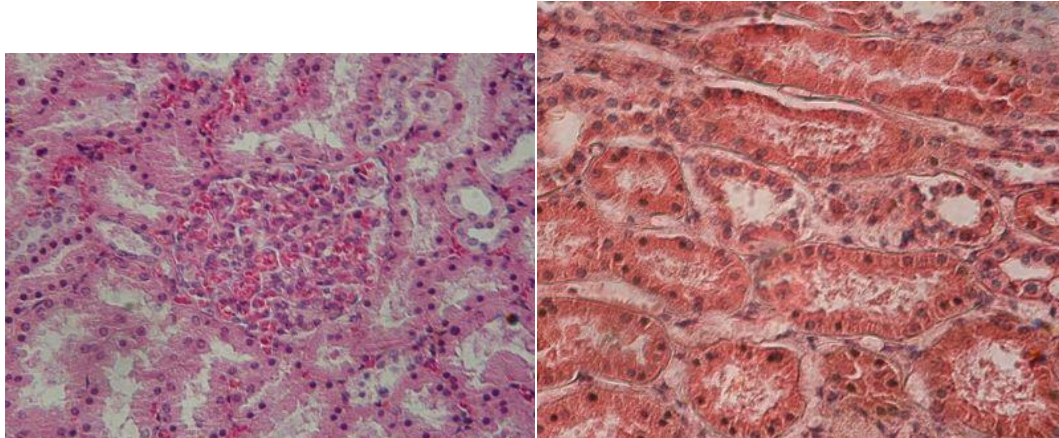


3. Lung / Płuco

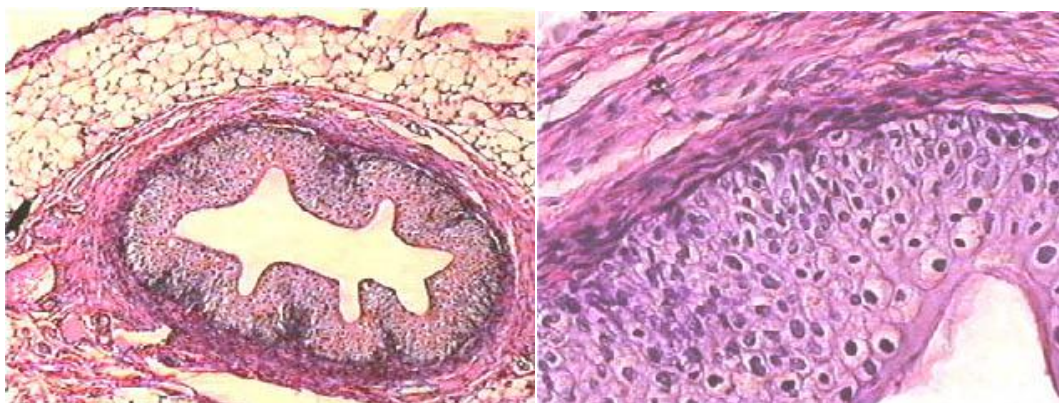


Urinary system / Układ moczowy

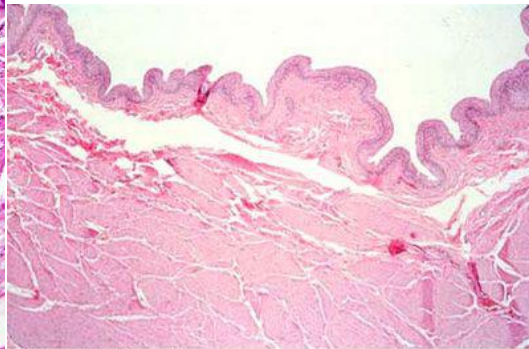
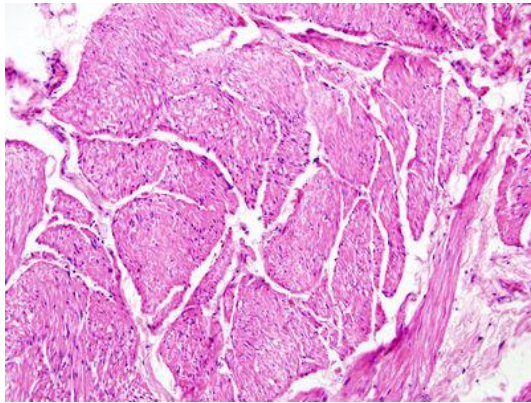
1. Kidney / Nerka



2. Ureter / Moczowód



3. Bladder / Pęcherz



Urinary bladder 40x