A/P 242 Unit 1 Lab 3:
Connective Tissue

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Review the following slides which contain the various types of connective tissue. Make sure you can identify each type of tissue and identify its component parts. Also learn locations in the body where each tissue can be found and the functions for each type of connective tissue.

True or Proper Connective Tissue:

Areolar Tissue:

Slide 4: *Areolar Tissue*	Found underlying most epithelial tissue, forms the papillary region of the dermis and a layer called the Lamina propria of the Digestive Tract found just underlying the epithelium. In this slide, the areolar tissue is part of one of the serous membrane. Make sure you can identify the three types of fibers (collagen, elastic, and reticular) and dominant cells (fibroblasts or fibrocytes)
Slide 13: *Scalp*	View the papillary region of the dermis just deep to the stratified squamous observed during the last lab. Tissue appears as a thin broken pink layer with upward folds.
Slide 64: *Small Intestine*	View the Lamina propria just deep to the simple Columnar epithelium tissue you observed during the last lab. The areolar tissue also extends upward into the villi or folds. Tissue appears as a thin broken pink layer.
Slide 57: *Esophagus*	Observe the 1st layer deep to the non-keratinized Squamous epithelium you observed in the last lab. This layer is called the Lamina propria. Appears as a thin dense layer of pink fibers.

Adipose tissue:

Slide 5	Cells consist mainly of a large vacuole for storing fat or triglycerides. Nuclei will be found near the edge of the cell. Cells appear very transparent with light pink plasma membranes. The fats have been removed from this slide giving you the very transparent appearance.
Slide 13: S*calp*	Example of hairy skin; observe the hypodermis, deepest layer of the tissue sample.

Slide 14: *Meissner's Corpuscle* — Example of non-hairy skin from a finger tip; again observe the hypodermis which is the deepest layer at the lower surface. May appear broken up at the bottom of the tissue on this slide

Slide 8: *Elastic Cartilage*
Slide 40: *Nerve/artery/vein* — Section through the Epiglottis; look for areas of adipocytes. Fat cells or adipocytes will be observed surrounding all three structures.

Reticular Tissue:

Slide 51: *Lymph node* — Observe the reticular fibers that create the structural framework. Seen as light pink fibers in the background between the nuclei of lymphocytes.

Slide 52: *Spleen* — Observe the reticular fibers that create the structural framework. Seen as light pink fibers in the background between cells.

Dense Regular CT:

Slide 6: *White Fibrous Tissue* — Tissue sample from a muscle tendon. Note that collagen fibers are all oriented in the same direction, which is why this tissue is called regular. You will also observe nuclei of fibrocytes between fibers. Fibers should appear as light pink thick fibers.

Dense Irregular CT:

Slide 13: *Scalp* — Observe the dermis of the skin, Look for the third layer just deep to the papillary layer you observed before. Note that collagen fibers are oriented in multiple directions. Nuclei of fibrocytes may not be very visible. Collagen will appear as dark pink or purple fibers.

Slide 57: *Esophagus* — Observe the third layer deep to the non-keratinized Squamous epithelium observed during last lab. This layer is called the submucosa. Fibers appear as light pink fibers and are somewhat broken up. Collagen will again be oriented on multiple planes.

Supportive Connective Tissue:

Hyaline Cartilage:

Slide 7: *Hyaline Cartilage* — Note dense matrix dominated by collagen fibers. Individual fibers are not observed because of the density of the matrix. Spaces in the matrix, called Lacuna, contain the cells which are called Chondroblasts or Chondrocytes, common of cartilage. Matrix can appear dark purple or dark pink depending on the stain used

Slide 68: *Trachea* (Same as above)

Fibrocartilage:

Slide 9: *White Fibro-Cartilage* Note the visible collagen fiber in the matrix, lacuna and "Chondroblasts" or "Chondrocytes." This is a slide through an intervertebral disc. Collagen fibers appear light pink. Tissue is usually stained darker near the edge of the tissue block on the slide.

Elastic cartilage:

Slide 8: *Elastic Cartilage* Observe the visible elastic fibers in the matrix, lacuna and "Chondroblasts" or "Chondrocytes." Tissue sample on this slide is from a section through the epiglottis. Collagen fibers will appear dark purple. Also note adipocytes embedded in tissue and the non-keratinized Squamous epithelium that covers the surface of the tissue block.