

Cards & Staff Introduction

Lab time

Last Name, First, Pronouns, Nickname, Phone, e-mail

Major, Undeclared or Area of Interest?

Academic Status: Fr, So, Jr, Sr, PB, MS, CEP

Professional Objective

Hometown, Birthplace

Why enrolled? Required? Interest?...



Prior related coursework? A&P in high school, EMT,...

Prior Universities/Community Colleges?

Family/Special interests/Hobbies

Something unique about yourself/Secret we won't reveal!

Thanks for printing your name & lab time on Lab notebook.

BI 121 Lab 1, Histology = Microscopic Study of Tissues

I. Lab Roster Cards & Staff Introduction

II. Requirements Attendance, Participation, Worksheets

III. Histology for Beginners In Memory of Harry Howard

IV. Microscope Familiarity

A. Objectives/nosepieces – power up!

B. Focus – coarse and fine

C. Movement – mechanical stage

D. How do I put a slide on the stage?

E. Adjusting for eye width



...My what fun it is to see –
hooray, hooray, his-tol-o-gy!!

V. View & Have Fun! See also photos @ front & scopes in back. Please ask questions & come see us!

1. Put the e & i slide upright on the microscope tray so you can read it & see how looking through the scope changes what you see.



2. Use the remaining time simply to explore nerve, muscle, epithelial & connective tissues – really anything you want – just be sure to keep the slides in the tray in order! Thanks!

Histology for Beginners

In Memory of Harrison Howard
Former Director, Bio-optical Lab

Nerve conducts!

Input
Dendrites \equiv
Antennae

Controller
Soma \equiv
NCB

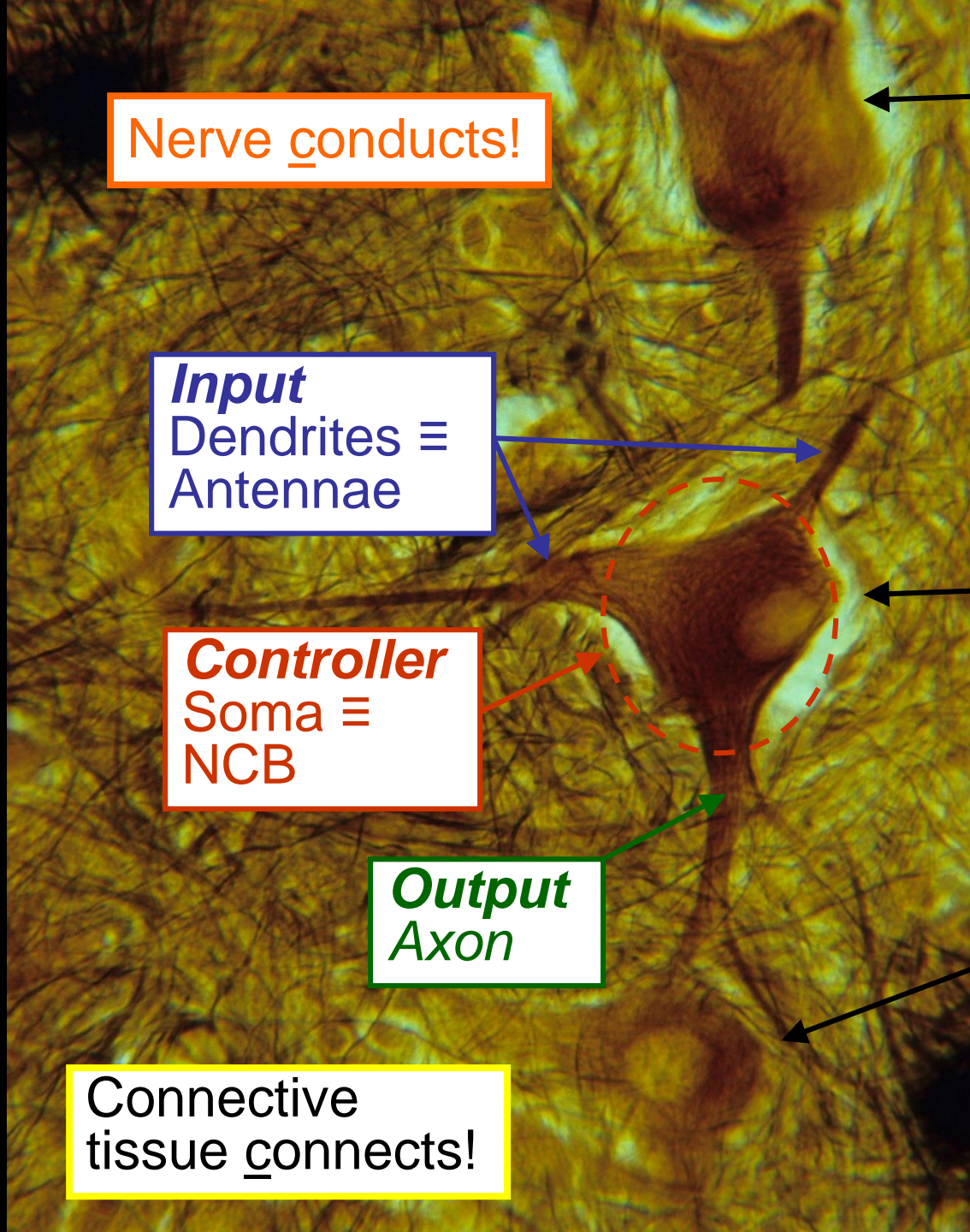
Output
Axon

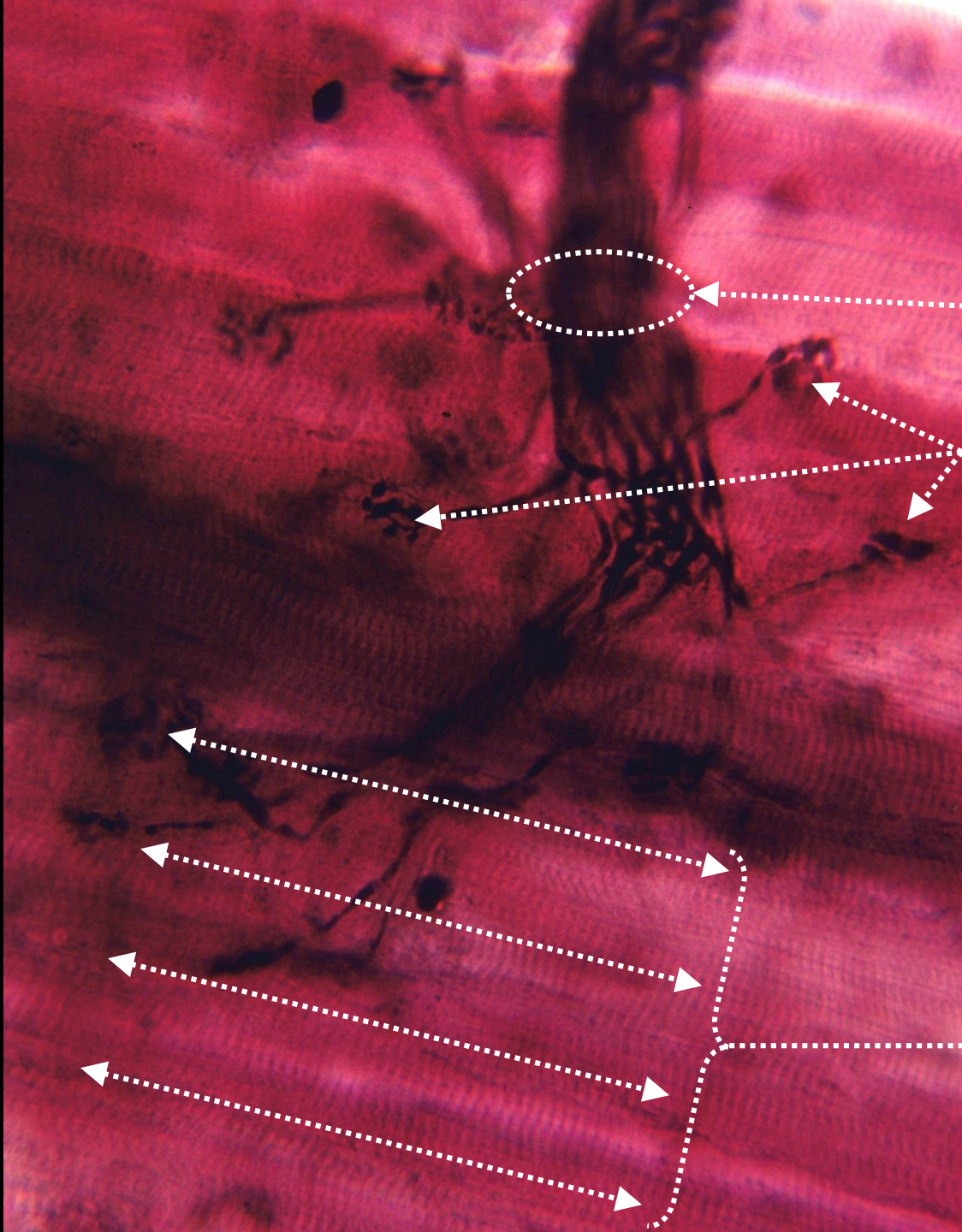
Connective
tissue connects!

Neuron 1

Neuron 2

Neuron 3



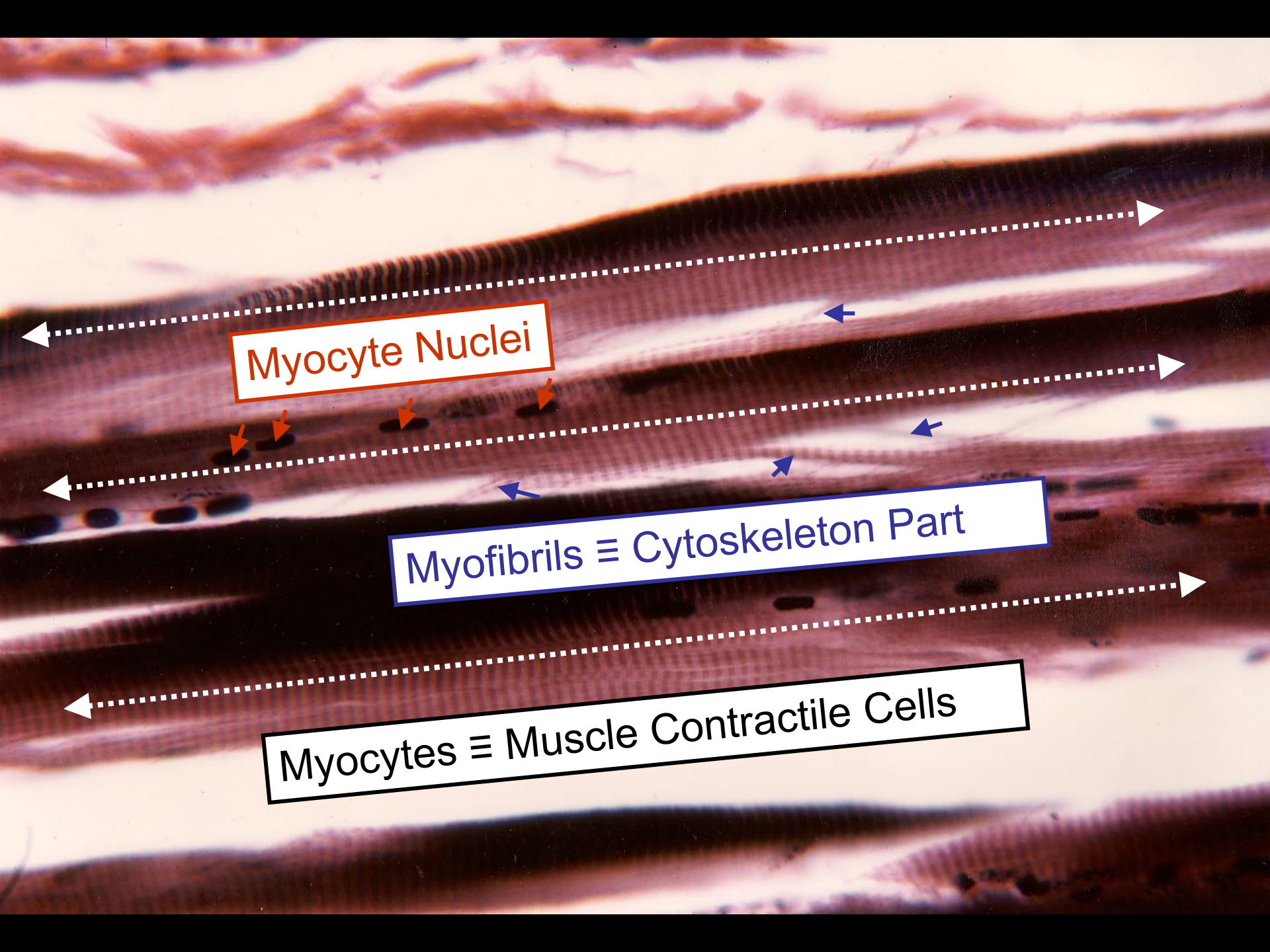


Controllers ≡
NCBs/somas
not pictured →
in spinal cord

Output ≡ Axons

Bouton with
Neurotransmitter
Vesicles

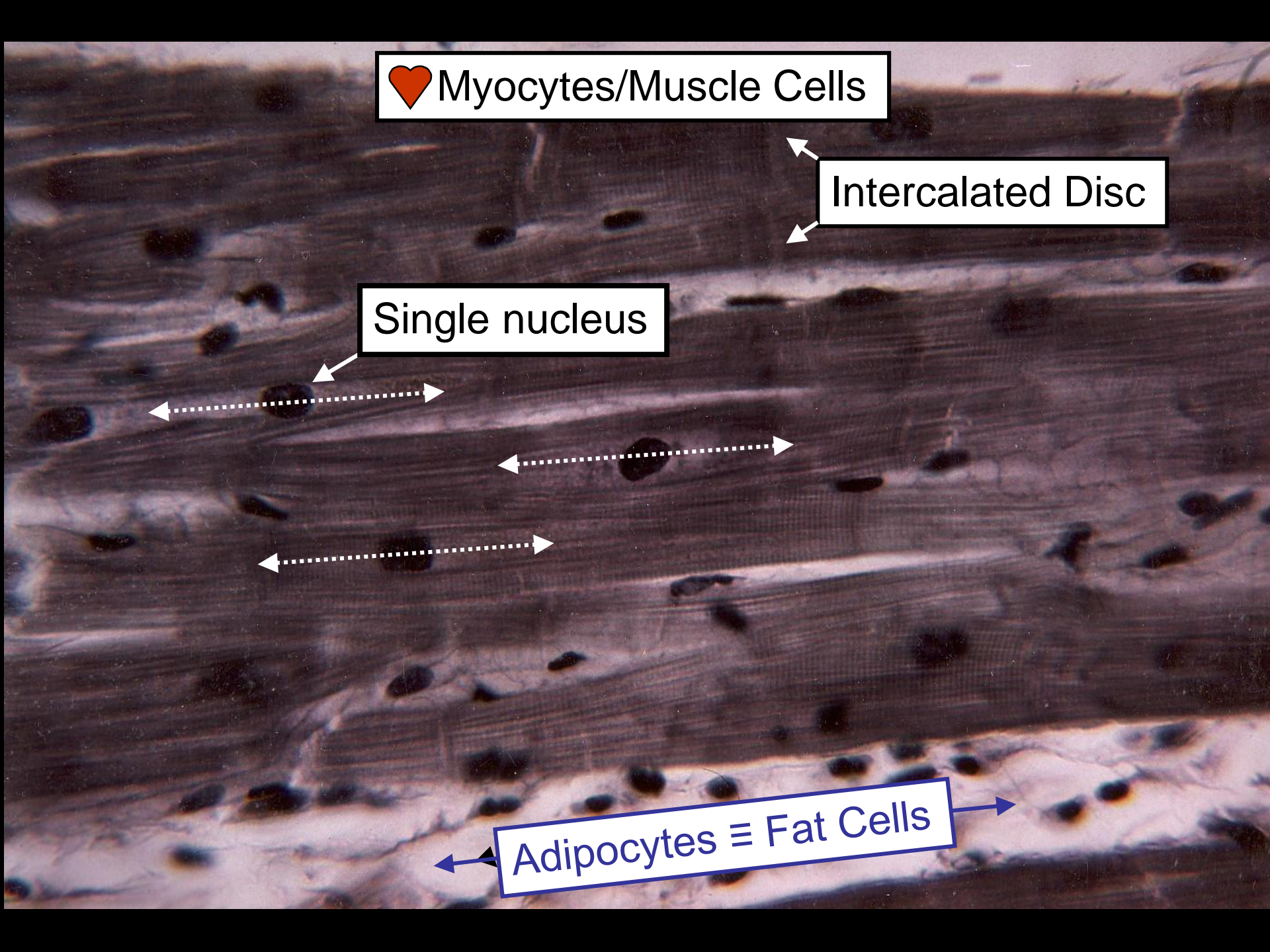
Effectors ≡
Target Organs
Voluntary
Skeletal Muscle
Fibers



Myocyte Nuclei

Myofibrils ≡ Cytoskeleton Part

Myocytes ≡ Muscle Contractile Cells



♥ Myocytes/Muscle Cells

Intercalated Disc

Single nucleus

Adipocytes ≡ Fat Cells

Frog Skin

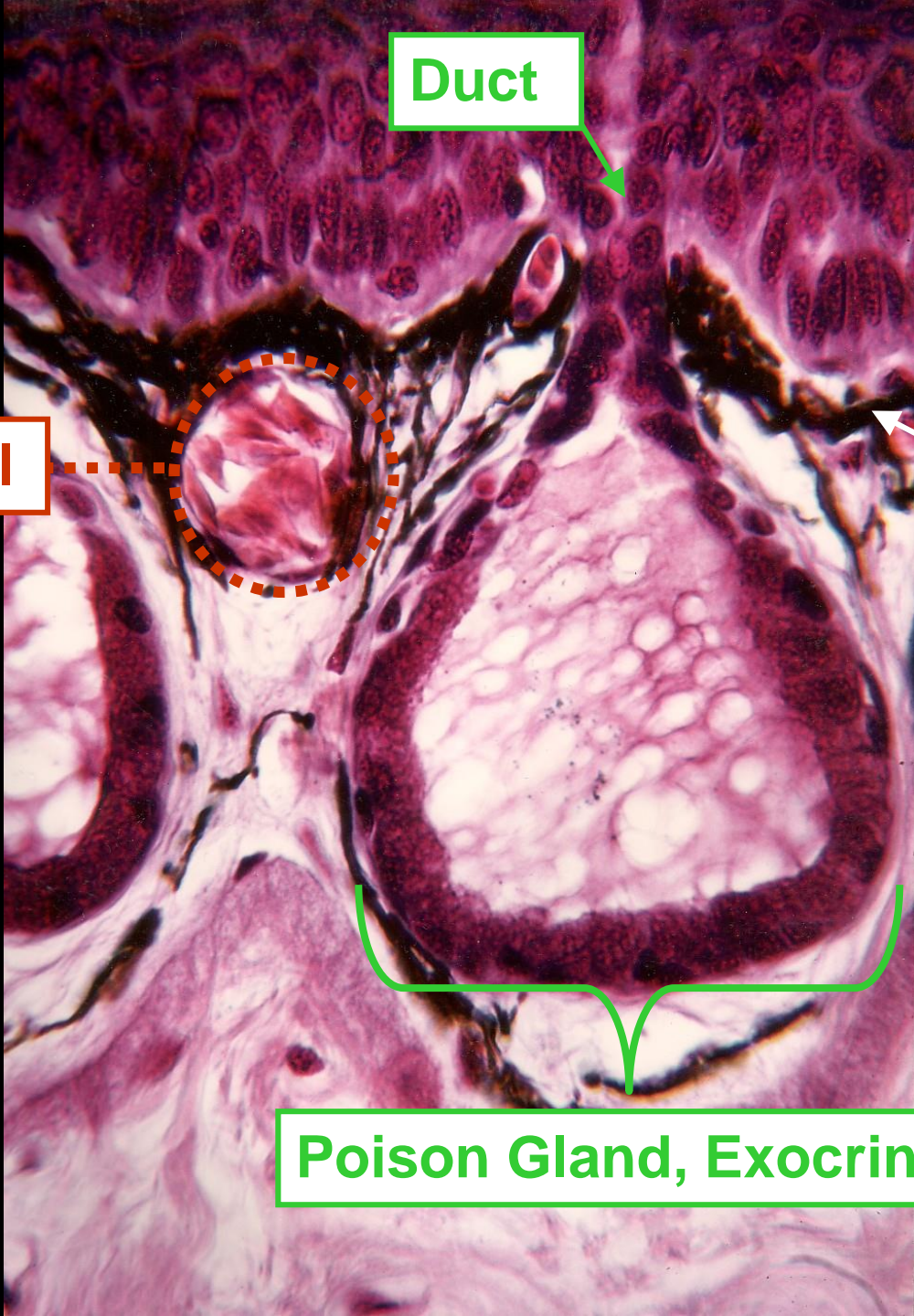
Duct

Columnar Epithelium

Blood Vessel

Melanin Pigment layer

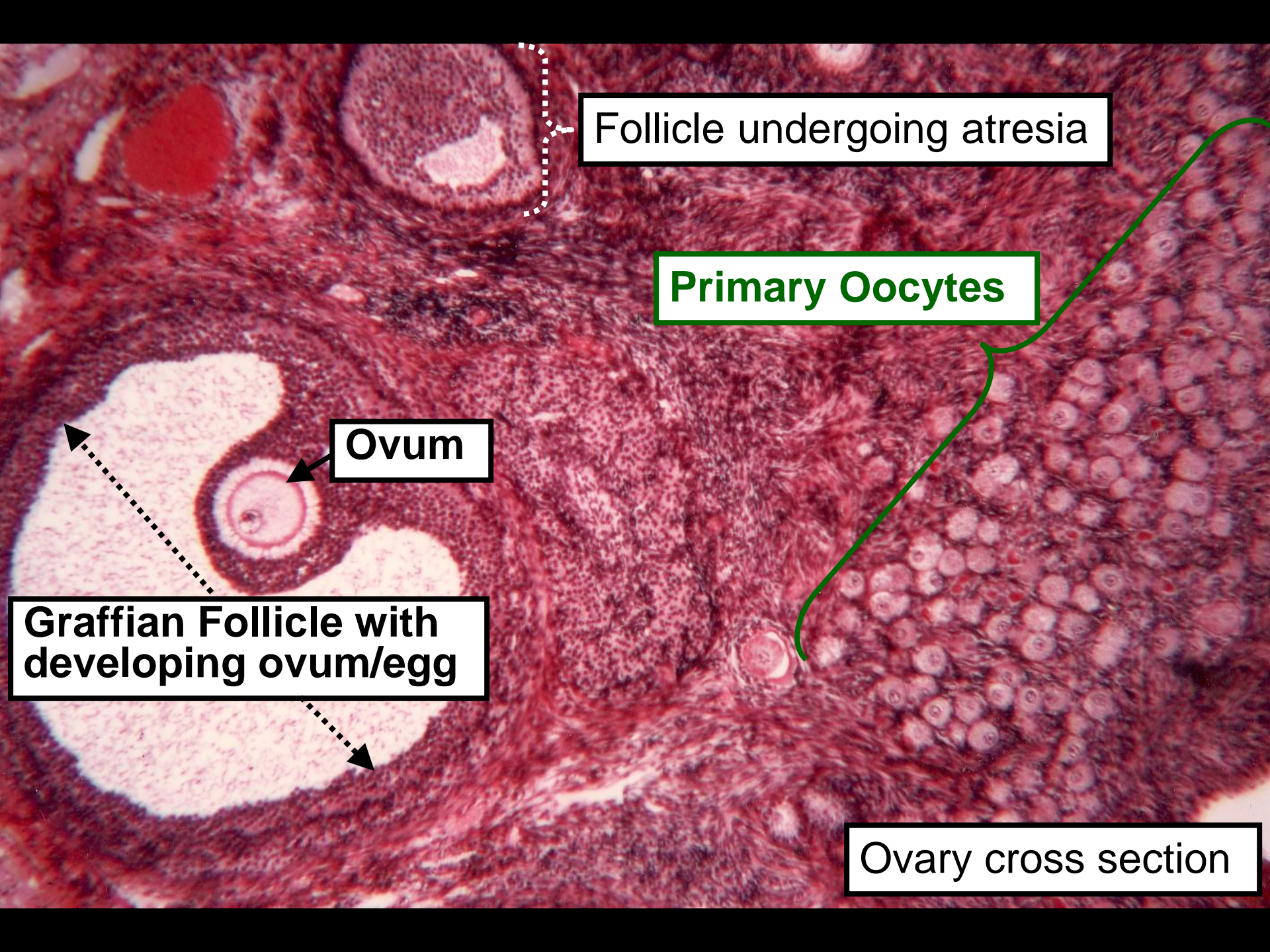
Poison Gland, Exocrine



Columnar Epithelium, Gall Bladder



Epithelial tissue covers & is specialized for transport!



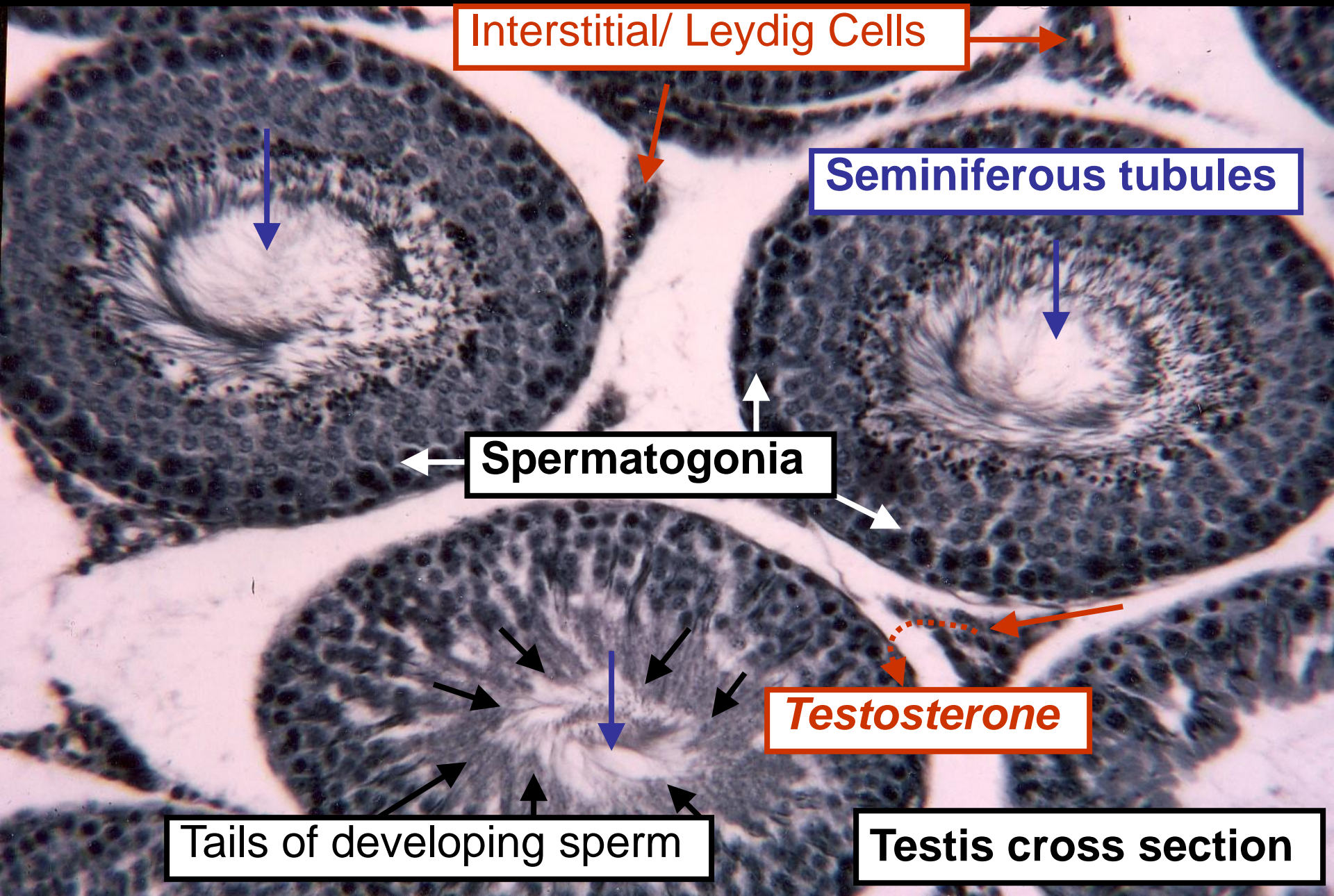
Follicle undergoing atresia

Primary Oocytes

Ovum

Graffian Follicle with developing ovum/egg

Ovary cross section



Interstitial/ Leydig Cells

Seminiferous tubules

Spermatogonia

Testosterone

Tails of developing sperm

Testis cross section

Nuclei of fibroblasts

This micrograph shows a network of fibers and cells. The background is a light pinkish-purple color. Dark, spindle-shaped nuclei are scattered throughout. A dense network of fibers is visible, with some thicker, wavy bundles and some thinner, more linear structures. Labels with arrows point to specific features: white arrows point to dark nuclei, blue arrows point to thin fibers, orange arrows point to thick bundles, and a dashed orange circle highlights a specific area.

Elastin

Collagen

**Connective tissue...
connects!!**

Connective tissue

A low-magnification histological section of the testis, stained with hematoxylin and eosin (H&E). The image displays several seminiferous tubules in cross-section, arranged in a roughly circular pattern. Each tubule is filled with developing sperm cells at various stages of maturation, appearing as a dense population of small, dark-staining nuclei. The tubules are separated by interstitial tissue, which contains larger, pale-staining cells, likely Sertoli cells, and some larger, darker-staining cells, possibly Leydig cells. The overall structure is organized into a regular, repeating pattern characteristic of the testis.

Now, try to identify anatomical site & tissues!