

Histology Mnemonics

Compiled by→ Ussama Maqbool

Vascular endothelium: simplified cross-section LIMA:

Lumen
Intima
Media
Adventitia

Organ of corti: location The organ of COrti is inside the COchlea.

Extracellular matrix components "HELP Form

Collagen":
Hyaluronic acid
Elastin
Laminin
Proteoglycan
Fibronectin
Collagen

Epiphyseal plate: zones "Real People Have

Career Opportunities":
Resting zone
Proliferative zone
Hypertrophic zone
Calcified cartilage zone
Ossification zone

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Collagen: location of types Type One: **bONE**

Type Two: **CarTwolage**

Type Four: "**Four** on the **Floor**" [automotive transmission term]
basement membrane (the "floor") is mostly Type IV collagen

From cartilage to bone "Real People Have

Calcified Osses":

Resting zone (reserves)

Proliferation

Hypertrophy

Calcification

Ossification

Epipheseal plates "Rosa Parks Helped

Coloured Out":

Resting zone

Proliferative zonene

Hypertrophic zone

Calcificied cartilage

Osstification zone

MS
By: Ussama Maqbool(N61)

Autonomic Nervous System: Hypothalamic Control APPS:

Anterior hypothalamic area controls **Parasympathetic** nervous system

Posterior hypothalamic area controls the **Sympathetic**.

White blood cell relative concentrations "Never Let

Monkeys Eat Bananas":

From greatest to least:

Neutrophils (65%)

Lymphocytes (25%)

Monocytes (6%)

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Eosinophils (3%)

Basophils (1%)

- Alternatively: "Nine Little Monkeys Eating Bananas".
- Alternatively: "Noone Likes My Educational Background".
- Alternatively: "Never Let Mamma Eat Beans".
- Can remember that Eosinophils is 3%, by the mirror image of E is 3.

Epidermis layers "Come, Let's Get Sun Burned":

- From superficial to deep:

Corneum

Lucidum

Granulosum

Spinosum

Basale [Germinativum]

- Alternatively: "Can Lori Get Some Gas?"
- Alternatively: "Can Little Girls Speak German?"
- Alternatively: "Can Larry Get Some Beer?"

Adrenal cortex layers [for Florida Gator fans] "Gator Football Rocks!":

- From outside inwards:

Glomerulosa

Fasciculata

Reticularis

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Epidermis layers "Bad Skin Gets Little Calluses":

- From deep to superficial:

Basale

Spinosum

Granulosum

Lucidum

Corneum

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Leukocytes: granulated and agranulated "BEN Loves Money":

· Granulocytes:

Basophil

Eosinophil

Neutrophil

· Agranulocytes:

Lymphocytes

Monocytes

· Alternatively: **Granpa BEN...**" to keep the granulated group straight.

Schwann cell only myelinates 1 axon SchWANN = sounds like **ONE**.

A single **Schwann** cell only myelinates **one**PNS axon.

Pituitary: anterior pituitary products: acidophilic vs basophilic

· Acidophilic:

GPA:

Growth hormone

Prolactin

Acidophilic

· Basophilic:

B-FLAT

Basophilic

FSH

LH

ACTH

TSH

Erythropoiesis stages "Powerful Businesses

Pollute Our Reeling Environment":

Proerythroblast

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Basophilic erythroblast
Polychromatic erythroblast
Orthochromatophilic erythroblast
Reticulocyte
Erythrocyte

Basophil vs. eosinophils: effect for allergic persons

Basophils are "**Bad-o-phils**" because they contribute to our allergic reactions.

Eosinophils are "**Easy-on-me-phils**" because they counteract our allergic reactions.

Muscle fiber: types · Type 1:

"**1 slow fat red ox**":

- slow** twitch
- lipid** accumulation
- red** fibers
- oxidative**

· Type 2:

"**2 fast skinny white breasts**":

- fast** twitch
- low lipid**
- white** fibers, like chicken **breasts**

MSO
By: Ussama Maqbool(N61)

Muscle sarcomere: A vs. I as light or dark There is only one vowel in "dark" and one vowel in "light".

These one vowels match up to their one letter names:

DArk band is the **A** band.

LIght band is the **I**band.

Cochlea chambers: ones with perilymph vs. endolymph Per**I**-ones also end with '**I**': vestibul**I** and tympan**I**.

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Therefore, perilymph is in scala vestibuli and scala tympani, and the endolymph is in the scala media.

Basophil morphology Basophil has **Big Blue Balls** (granules).

Muscle sarcomere: H line vs. Z disc location HAZI

(Hazy):

H line is in **A**-band.

Z disc is in the **I**band.

Neutrophil's 2 distinctive physical features 1: There's up to **5 lobes** of the nucleus joined by thin appendages. Tie this to it being a neutrophil nucleus by arranging the **5 lobes** into a **capital N for Neutrophil**.

2: the **chicken** leg (Barr Body) sticking out. Say it out loud: **chick-N**. The chick-N leg is for Neutrophil.

Taste buds: vallate vs. fungiform distribution Cross sectional shape of the top of the bud tells their distribution.

Vallate: has a shallow '**V**' at the top, so has a '**V**' distribution at the back of the tongue.

Fungiform: top is **round** so it is towards the **round** end of the tongue.

· See diagram.

· Note vallate is also sometimes called circumvallate.

Pancreatic exocrine cells: nuclei A cells are indented around the capital **A**.

B cells have a round nucleus like a **B** lymphocyte.

· See diagram.

D cells have **D**ifferent shapes and sizes.

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Epidermis layers [for Star Trek fans] "Brent Spiner

Gained Lieutenant Commander":

· From deep to superficial:

Basale

Spinosum

Granulosum

Lucidum

Corneum

Muscle cells: cardiac vs. skeletal's nuclei location/number

Nuclei location mirrors where the muscle is located in human body.

Heart muscle is in the **middle** of body, so heart muscle has nucleus in **middle**.

Skeletal muscles are at **periphery** of body, so nuclei are at **periphery**.

Also, you have 1 heart, so usually only 1 nucleus per heart muscle cell, but have many skeletal muscles, so have many nuclei per long fibre.

Muscle sarcomere bands "Zee Intelligent Animal

Has Muscle":

· From the Z disk, working inward, remembering symmetry:

Z I A H M H A I Z.

· Alternatively: "Zoe Is A Horny Momma".

By: Ussama Maqbool(N61)

Neutrophil

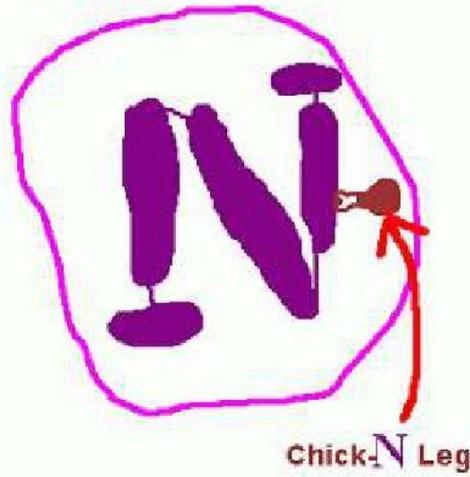


FIG1

Tongue distribution:

Cross section:

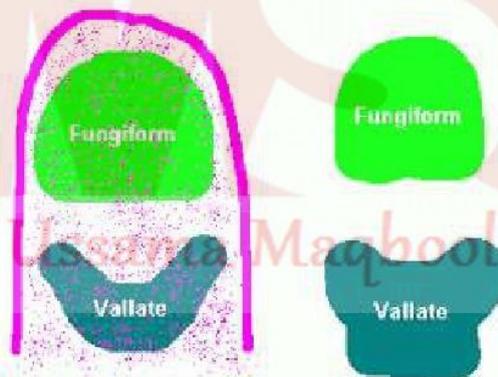
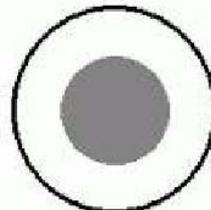


FIG2



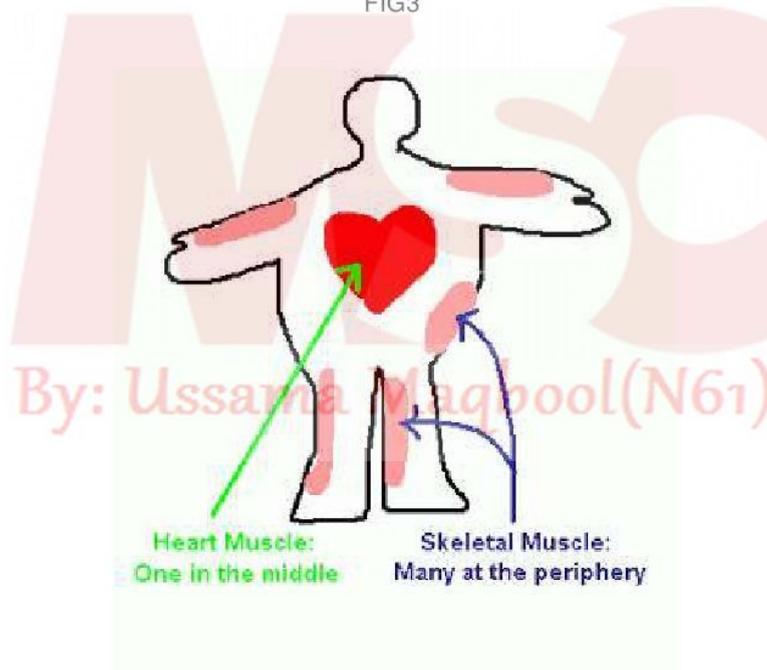
A cell:
Nucleus indented
around the 'A'



B cell:
Nucleus round
like a 'B' lymphocyte

D cell: Nucleus varies in size/shape

FIG3



Heart Muscle:
One in the middle

Skeletal Muscle:
Many at the periphery

FIG4

Muscle sarcomere: A vs. I as light or dark

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SEE FIG1

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- Note vallate is also sometimes called circumvallate.

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- See diagram.

D cells have **D**ifferent shapes and sizes.

SEE FIG3

Epidermis layers [for Star Trek fans]

"**B**rent **S**piner **G**ained **L**ieutenant **C**ommander":

- From deep to superficial:

Basale

Spinosum

Granulosum

Lucidum

Corneum

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Also, you have 1 heart, so usually only 1 nucleus per heart muscle cell, but have many skeletal muscles, so have many nuclei per long fibre.

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- See diagram. FIG4

Muscle sarcomere bands

"**Z**ee **I**ntelligent **A**nimal **H**as **M**uscle":

- From the Z disk, working inward, remembering symmetry:

Z I A H M H A I Z.

- Alternatively: "**Z**oe **I**s **A** **H**orny **M**omma".

White blood cell relative concentrations

"**N**ever **L**et **M**onkeys **E**at **B**ananas":

From greatest to least:

Neutrophils (65%)

Lymphocytes (25%)

Monocytes (6%)

Eosinophils (3%)

Basophils (1%)

- Alternatively: "**N**ine **L**ittle **M**onkeys **E**ating **B**ananas".
- Alternatively: "**N**oone **L**ikes **M**y **E**ducational **B**ackground".
- Alternatively: "**N**ever **L**et **M**amma **E**at **B**eans".
- Can remember that **E**osinophils is **3%**, by the mirror image of **E** is **3**.

Epidermis layers

"**C**ome, **L**et's **G**et **S**un **B**urned":

- From superficial to deep:

Corneum

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Basale [Germinativum]

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Eosinophil

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Monocytes

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Sch**WANN** = sounds like **ONE**.

A single **Schwann** cell only myelinates **one** PNS axon.

Pituitary: anterior pituitary products: acidophilic vs basophilic

· Acidophilic:

GPA:

Growth hormone

Prolactin

Acidophilic

· Basophilic:

B-FLAT

Basophilic

FSH

LH

ACTH

TSH



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Erythropoiesis stages

"**P**owerful **B**usinesses **P**ollute **O**ur **R**eeling **E**nvironment":

Proerythroblast

Basophilic erythroblast

Polychromatic erythroblast

Orthochromatophilic erythroblast

Reticulocyte

Erythrocyte

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Basophil vs. eosinophils: effect for allergic persons

Basophils are "**Bad-o-phils**" because they contribute to our allergic reactions.

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Muscle fiber: types

· Type 1:

"**1 slow fat red ox**":

-**slow** twitch

-**lipid** accumulation

-**red** fibers

-**oxidative**

· Type 2:

"**2 fast skinny white breasts**":

-**fast** twitch

-**low lipid**

-**white** fibers, like chicken **breasts**

Vascular endothelium: simplified cross-section

LIMA:

Lumen

Intima

Media

Adventitia

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Organ of corti: location

The organ of **CO**rti
is inside the **CO**chlea.

Extracellular matrix components

"**HELP Form Collagen**":

Hyaluronic acid

Elastin

Laminin

Proteoglycan

Fibronectin

Collagen

Epiphyseal plate: zones

"**R**eal **P**eople **H**ave **C**areer **O**pportunities":

Resting zone
Proliferative zone
Hypertrophic zone
Calcified cartilage zone
Ossification zone

Collagen: location of types

Type One: **bONE**

Type Two: **CarTwolage**

Type Four: "**F**our on the **F**loor" [automotive transmission term] basement membrane (the "floor") is mostly Type IV collagen

From cartilage to bone

"**R**eal **P**eople **H**ave **C**alcified **O**sses":

Resting zone (reserves)
Proliferation
Hypertrophy
Calcification
Ossification

Epipheseal plates

"**R**osa **P**arks **H**elped **C**oloured **O**ut":

Resting zone
Proliferative zone
Hypertrophic zone
Calcified cartilage
Ossification zone

Autonomic Nervous System: Hypothalamic Control

APPS:

Anterior hypothalamic area controls **P**arasymphetic nervous system
Posterior hypothalamic area controls the **S**ymphetic.

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