Big L and the LFU

In which quadrant of the orbit is the main lacrimal gland located?

Big L and the LFU

In which quadrant of the orbit is the main lacrimal gland located?
Superotemporal

Big L and the LFU

*In which quadrant of the orbit is <u>the **main** lacrimal gland</u> located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

Big L and the LFU

*In which quadrant of the orbit is <u>the **main** lacrimal gland</u> located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The [redacted] lacrimal glands

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The accessory lacrimal glands

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The accessory lacrimal glands

How many accessory lacrimal glands are there?

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The accessory lacrimal glands

How many accessory lacrimal glands are there?
Two

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The accessory lacrimal glands

Ho
Tw

The accessory glands have eponymous names—what are they?

--Glands of
--Glands of

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The accessory lacrimal glands

Ho
Tw

The accessory glands have eponymous names—what are they?

--Glands of Krauss
--Glands of Wolfring

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The accessory lacrimal glands

Ho
Tw

The accessory glands have eponymous names—what are they? What is the primary location for each?
--Glands of Krauss, found
--Glands of Wolfring, found near

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The accessory lacrimal glands

Ho
Tw

The accessory glands have eponymous names—what are they? What is the primary location for each?
--Glands of Krauss, found in the fornices
--Glands of Wolfring, found near the tarsal plates

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The accessory lacrimal glands

Ho
Tw

The accessory glands have eponymous names—what are they? What is the primary location for each?
--Glands of Krauss, found in the fornices
--Glands of Wolfring, found near the tarsal plates

Are these large, singular structures a la the main lac gland?

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The accessory lacrimal glands

Ho
Tw

The accessory glands have eponymous names—what are they? What is the primary location for each?
--Glands of Krauss, found in the fornices
--Glands of Wolfring, found near the tarsal plates

Are these large, singular structures a la the main lac gland?
No, they are two *sets* of (much smaller) glands distributed throughout the orbit

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?

The accessory lacrimal glands

Ho
Tw

The accessory glands have eponymous names—what are they? What is the primary location for each?
--Glands of Krauss, found in the fornices
--Glands of Wolfring, found near the tarsal plates

Are these large, singular structures a la the main lac gland?
No, they are two *sets* of (much smaller) glands distributed throughout the orbit

Which is more numerous—glands of Krauss, or of Wolfring?

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?
The accessory lacrimal glands

Ho
Tw

The accessory glands have eponymous names—what are they? What is the primary location for each?
--Glands of Krauss, found in the fornices
--Glands of Wolfring, found near the tarsal plates

Are these large, singular structures a la the main lac gland?
No, they are two *sets* of (much smaller) glands distributed throughout the orbit

Which is more numerous—glands of Krauss, or of Wolfring?
There are about twice as many glands of [redacted] as there are glands of [redacted]

Big L and the LFU

*In which quadrant of the orbit is **the main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

By what general term are the non-main lacrimal glands known?

The accessory lacrimal glands

How
Two

The accessory glands have eponymous names—what are they? What is the primary location for each?
--Glands of Krauss, found in the fornices
--Glands of Wolfring, found near the tarsal plates

Are these large, singular structures a la the main lac gland?
No, they are two *sets* of (much smaller) glands distributed throughout the orbit

Which is more numerous—glands of Krauss, or of Wolfring?
There are about twice as many glands of Krauss as there are glands of Wolfring

Big L and the LFU

*In which quadrant of the orbit is the **main** lacrimal gland located?*
Superotemporal

*The fact that the main lacrimal gland is called the **main** lacrimal gland suggests the existence of other, non-main lacrimal glands. Do such glands actually exist?*
Indeed they do

For the remainder of the slide-set the term** lacrimal gland **should be understood as referring to the main lacrimal gland

Ho
Tw

The accessory glands have eponymous names—what are they? What is the primary location for each?
--Glands of Krauss, found in the fornices
--Glands of Wolfring, found near the tarsal plates

Are these large, singular structures a la the main lac gland?
No, they are two *sets* of (much smaller) glands distributed throughout the orbit

Which is more numerous—glands of Krauss, or of Wolfring?
There are about twice as many glands of Krauss as there are glands of Wolfring

Big L and the LFU

In which quadrant of the orbit is the main lacrimal gland located?
Superotemporal

The gland resides in a fossa located in which orbital bone?

Big L and the LFU

In which quadrant of the orbit is the main lacrimal gland located?
Superotemporal

The gland resides in a fossa located in which orbital bone?
The frontal

Big L and the LFU

In which quadrant of the orbit is the main lacrimal gland located?
Superotemporal

Speaking of

The gland resides in a fossa located in which ***orbital bones...***
The frontal

Big L and the LFU

What bones comprise the orbit?

Roof:

Lateral wall:

Floor:

Medial wall:

Mnemonic:
(forthcoming, starting on the next slide)

Big L and the LFU

What bones comprise the orbit?

(2) Roof:

(2) Lateral wall:

(3) Floor:

(4) Medial wall:

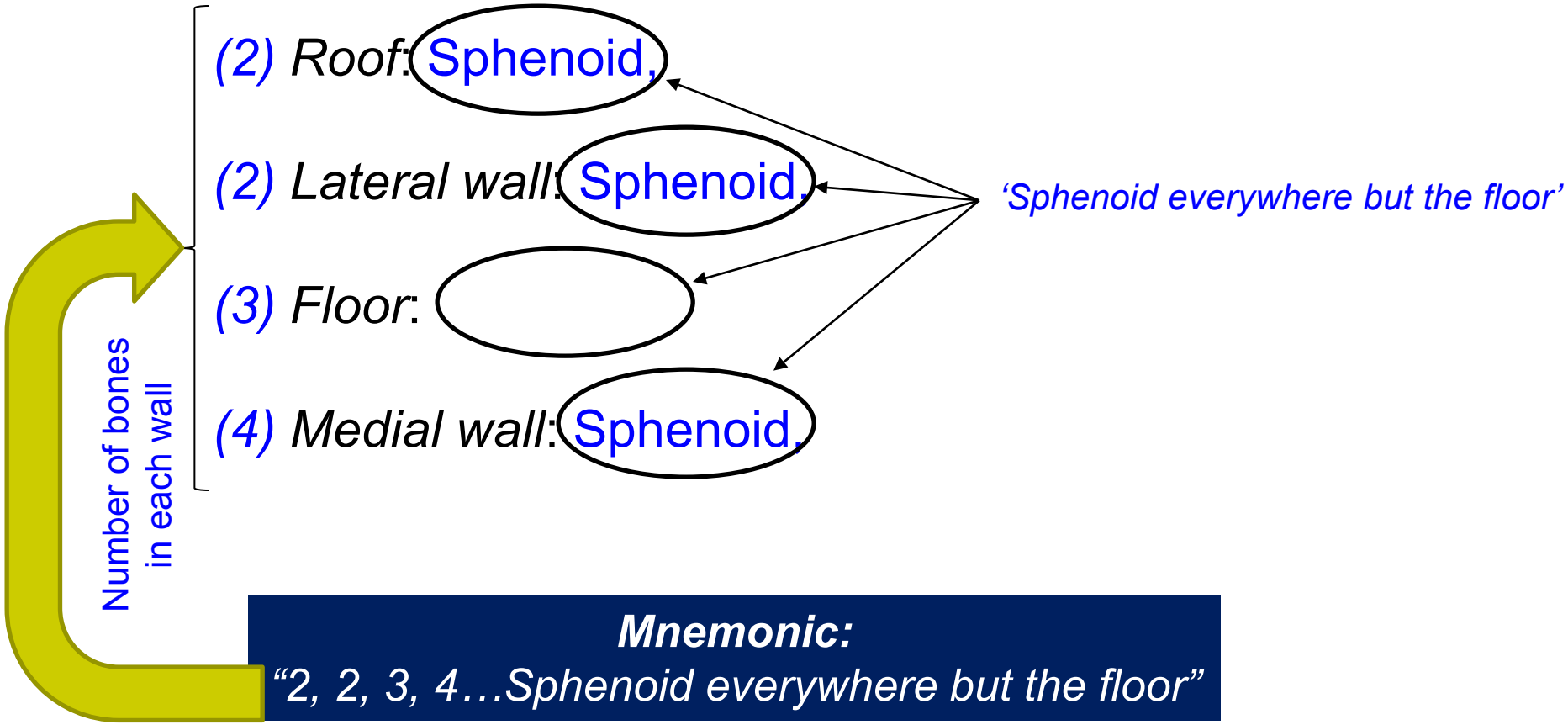
Number of bones in each wall

Mnemonic:

"2, 2, 3, 4…

Big L and the LFU

What bones comprise the orbit?



Mnemonic:

"2, 2, 3, 4…Sphenoid everywhere but the floor"

Big L and the LFU

What bones comprise the orbit?

(2) Roof*: Sphenoid, *? ← *(start here, work down the list)*

(2) Lateral wall: Sphenoid,

(3) Floor:

(4) Medial wall: Sphenoid,

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"

Big L and the LFU

What bones comprise the orbit?

***(2) Roof*: Sphenoid, frontal**

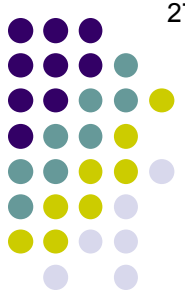
(2) Lateral wall: Sphenoid,

(3) Floor:

(4) Medial wall: Sphenoid,

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"



Big L and the LFU

What bones comprise the orbit?

(2) Roof: Sphenoid, frontal

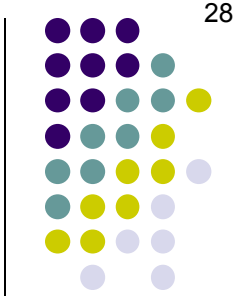
(2) Lateral wall*: Sphenoid, *?

(3) Floor:

(4) Medial wall: Sphenoid,

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"



Big L and the LFU

What bones comprise the orbit?

(2) Roof: Sphenoid, frontal

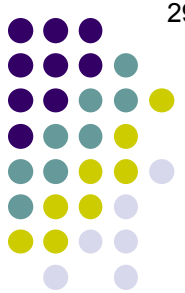
***(2) Lateral wall*: Sphenoid, zygoma**

(3) Floor:

(4) Medial wall: Sphenoid,

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"



Big L and the LFU

What bones comprise the orbit?

(2) Roof: Sphenoid, frontal

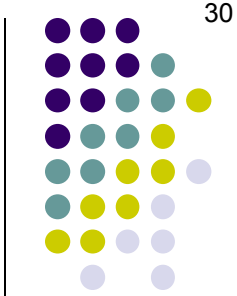
(2) Lateral wall: Sphenoid, zygoma

(3) Floor*: *?, ?, ?

(4) Medial wall: Sphenoid,

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"



Big L and the LFU

What bones comprise the orbit?

(2) Roof: Sphenoid, frontal

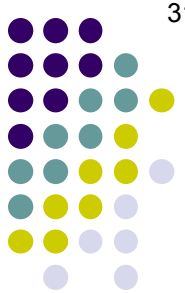
(2) Lateral wall: Sphenoid, zygoma

***(3) Floor*: Palatine, maxillary, zygoma**

(4) Medial wall: Sphenoid,

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"



Big L and the LFU

What bones comprise the orbit?

(2) Roof: Sphenoid, frontal

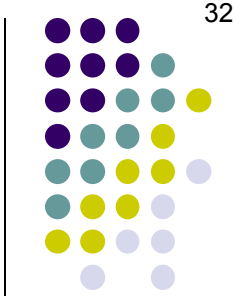
(2) Lateral wall: Sphenoid, zygoma

(3) Floor: Palatine, maxillary, zygoma

(4) Medial wall*: Sphenoid, *?, ?, ?

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"



Big L and the LFU

What bones comprise the orbit?

(2) Roof: Sphenoid, frontal

(2) Lateral wall: Sphenoid, zygoma

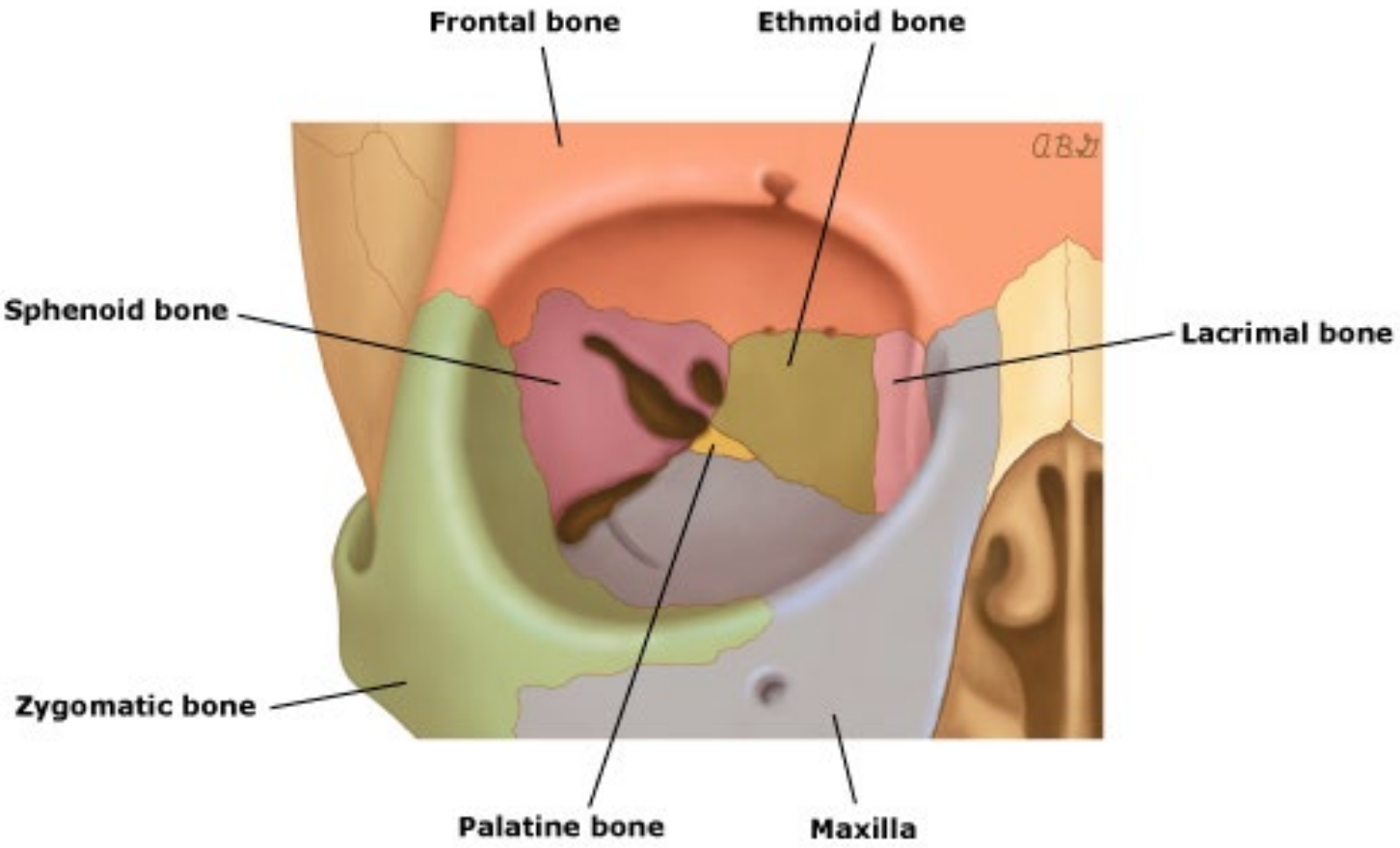
(3) Floor: Palatine, maxillary, zygoma

***(4) Medial wall*: Sphenoid, maxillary, ethmoid, lacrimal**

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"

Big L and the LFU



Bones of the orbit

Big L and the LFU

What bones comprise the orbit?

Another memory aid:

Note that each wall shares a bone with the next wall:
Roof→lateral:
Lateral→floor:
Floor→medial:
Medial→roof:

(2) Roof: Sphenoid, frontal

(2) Lateral wall: Sphenoid, zygoma

(3) Floor: Palatine, maxillary, zygoma

(4) Medial wall: Sphenoid, maxillary, ethmoid, lacrimal

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"

Big L and the LFU

What bones comprise the orbit?

(2) Roof: **Sphenoid**, frontal

(2) Lateral wall: **Sphenoid**, zygoma

(3) Floor: Palatine, maxillary, zygoma

(4) Medial wall: Sphenoid, maxillary, ethmoid, lacrimal

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"

Another memory aid:

Note that each wall shares a bone with the next wall:
Roof→lateral: ***sphenoid***
Lateral→floor:
Floor→medial:
Medial→roof:

Big L and the LFU

What bones comprise the orbit?

(2) Roof: Sphenoid, frontal

(2) Lateral wall: Sphenoid, **zygoma**

(3) Floor: Palatine, maxillary, **zygoma**

(4) Medial wall: Sphenoid, maxillary, ethmoid, lacrimal

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"

Another memory aid:

Note that each wall shares a bone with the next wall:
Roof→lateral: ***sphenoid***
Lateral→floor: ***zygoma***
Floor→medial:
Medial→roof:

Big L and the LFU

What bones comprise the orbit?

(2) Roof: Sphenoid, frontal

(2) Lateral wall: Sphenoid, zygoma

(3) Floor: Palatine, **maxillary**, zygoma

(4) Medial wall: Sphenoid, **maxillary**, ethmoid, lacrimal

Number of bones in each wall

Another memory aid:

Note that each wall shares a bone with the next wall:
Roof→lateral: ***sphenoid***
Lateral→floor: ***zygoma***
Floor→medial: ***maxillary***
Medial→roof:

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"

Big L and the LFU

What bones comprise the orbit?

(2) *Roof*: **Sphenoid**, frontal

(2) *Lateral wall*: Sphenoid, zygoma

(3) *Floor*: Palatine, maxillary, zygoma

(4) *Medial wall*: **Sphenoid**, maxillary, ethmoid, lacrimal

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"

Another memory aid:

Note that each wall shares a bone with the next wall:
Roof→lateral: ***sphenoid***
Lateral→floor: ***zygoma***
Floor→medial: ***maxillary***
Medial→roof: ***sphenoid***

Big L and the LFU

What bones comprise the orbit?

Number of bones in each wall

(2) ***Roof?***: Sphen

(2) ***Lateral wall?***:

(3) ***Floor?***: Palatin

(4) ***Medial wall?***: **Sphenoid**, maxillary, ethmoid, lacrimal

Another memory aid:

Note that each wall shares

Only one orbital wall does not extend all the way to the orbital apex—which one?

Mnemonic:

"2, 2, 3, 4…Sphenoid everywhere but the floor"

Big L and the LFU

What bones comprise the orbit?

Another memory aid:

Note that each wall shares

(2) ***Roof?***: **Sphen**

(2) ***Lateral wall?***:

(3) ***Floor!***: Palatin

(4) ***Medial wall?***: **Sphenoid**, maxillary, ethmoid, lacrimal

Number of bones in each wall

Only one orbital wall does not extend all the way to the orbital apex—which one?

The floor. For this reason, the floor is the shortest of the four orbital walls.

Mnemonic:

"2, 2, 3, 4…Sphenoid everywhere but the floor"

Big L and the LFU

What bones comprise the orbit?

(2) ***Roof?***: **Sphen**

(2) ***Lateral wall?***:

(3) ***Floor!***: Palatin

(4) ***Medial wall?***: **Sphenoid**, maxillary, ethmoid, lacrimal

Number of bones in each wall

Another memory aid:

Note that each wall shares

Only one orbital wall does not extend all the way to the orbital apex—which one?

The floor. For this reason, the floor is the shortest of the four orbital walls.

Since the floor doesn't extend all the way to the apex, what comprises the posterior aspect of the inferior orbit?

Mnemonic:

"2, 2, 3, 4…Sphenoid everywhere but the floor"

Big L and the LFU

What bones comprise the orbit?

Number of bones in each wall

(2) ***Roof?***: **Sphen**

(2) ***Lateral wall?***:

(3) ***Floor!***: Palatin

(4) ***Medial wall?***: **Sphenoid**, maxillary, ethmoid, lacrimal

Another memory aid:

Note that each wall shares

Only one orbital wall does not extend all the way to the orbital apex—which one?
The floor. For this reason, the floor is the shortest of the four orbital walls.

Since the floor doesn't extend all the way to the apex, what comprises the posterior aspect of the inferior orbit?
An opening into the [two words]

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"

Big L and the LFU

What bones comprise the orbit?

(2) ***Roof?***: **Sphen**

(2) ***Lateral wall?***:

(3) ***Floor!***: Palatin

(4) ***Medial wall?***: **Sphenoid**, maxillary, ethmoid, lacrimal

Number of bones in each wall

Mnemonic:
"2, 2, 3, 4…Sphenoid everywhere but the floor"

Another memory aid:

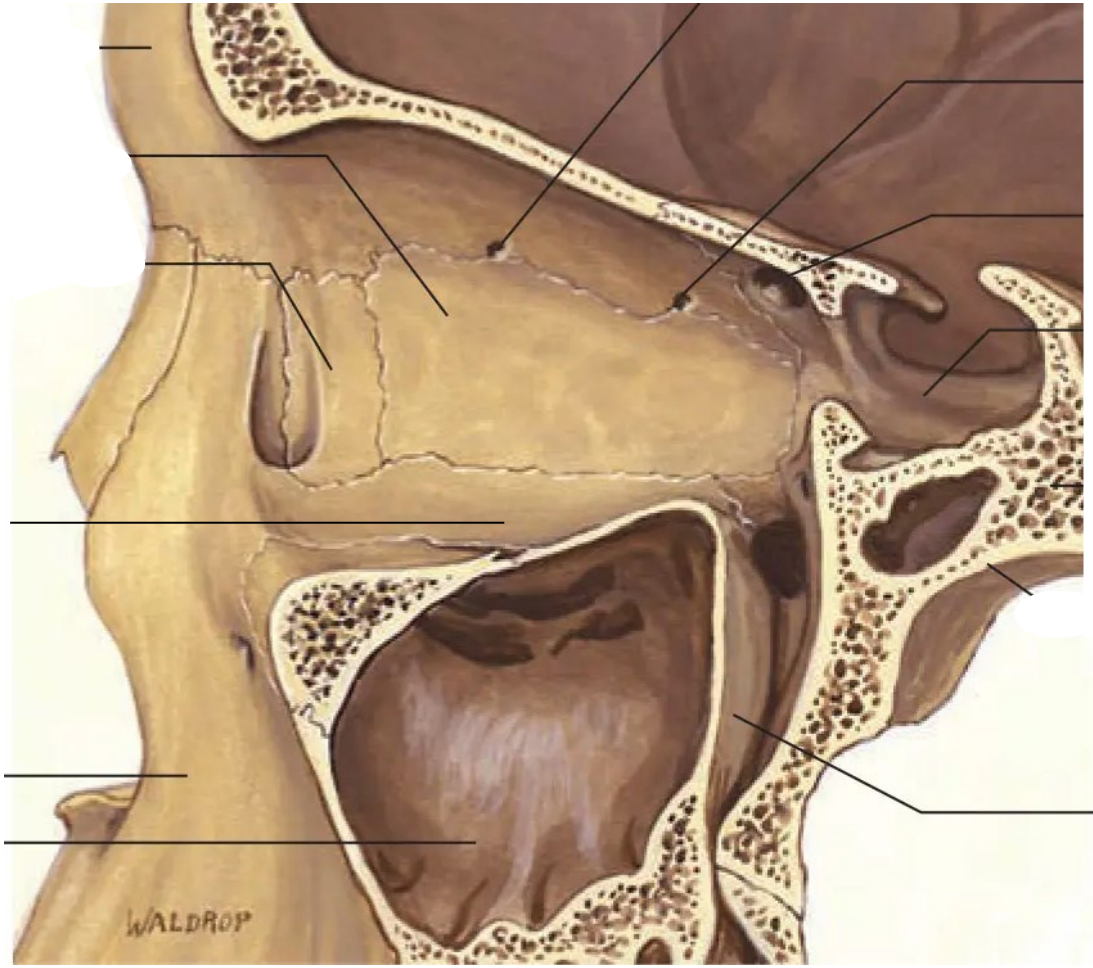
Note that each wall shares

Only one orbital wall does not extend all the way to the orbital apex—which one?
The floor. For this reason, the floor is the shortest of the four orbital walls.

Since the floor doesn't extend all the way to the apex, what comprises the posterior aspect of the inferior orbit?
An opening into the pterygopalatine fossa*

*Sometimes the *BCSC* refers to this space as the **spheno**palatine fossa

Big L and the LFU



Sagittal view of the medial wall of the left orbit. Note how the orbital floor does not extend to the orbital apex, but rather ends at the pterygopalatine fossa.

Big L and the LFU

What bones comprise the orbit?

Number of bones in each wall

(2) ***Roof?***: **Sphen**

(2) ***La***

(3) ***Floor!***: Palatin

(4) ***Medial wall?***: **Sphenoid**, maxillary, ethmoid, lacrimal

Foreshadowing alert! The pterygopalatine fossa will make another appearance later in the slide-set

Another memory aid:

Note that each wall shares

Only one orbital wall does not extend all the way to the orbital apex—which one?

The floor. For this reason, the floor is the shortest of the

Since the floor doesn't extend all the way to the apex, what comprises the posterior aspect of the inferior orbit?

An opening into the **pterygopalatine fossa***

Mnemonic:

"2, 2, 3, 4…Sphenoid everywhere but the floor"

*Sometimes the *BCSC* refers to this space as the **spheno**palatine fossa

Big L and the LFU

In which quadrant of the orbit is the main lacrimal gland located?
Superotemporal

The gland resides in a fossa located in which orbital bone?
The frontal

The lacrimal gland is divided into two lobes—what are they called?

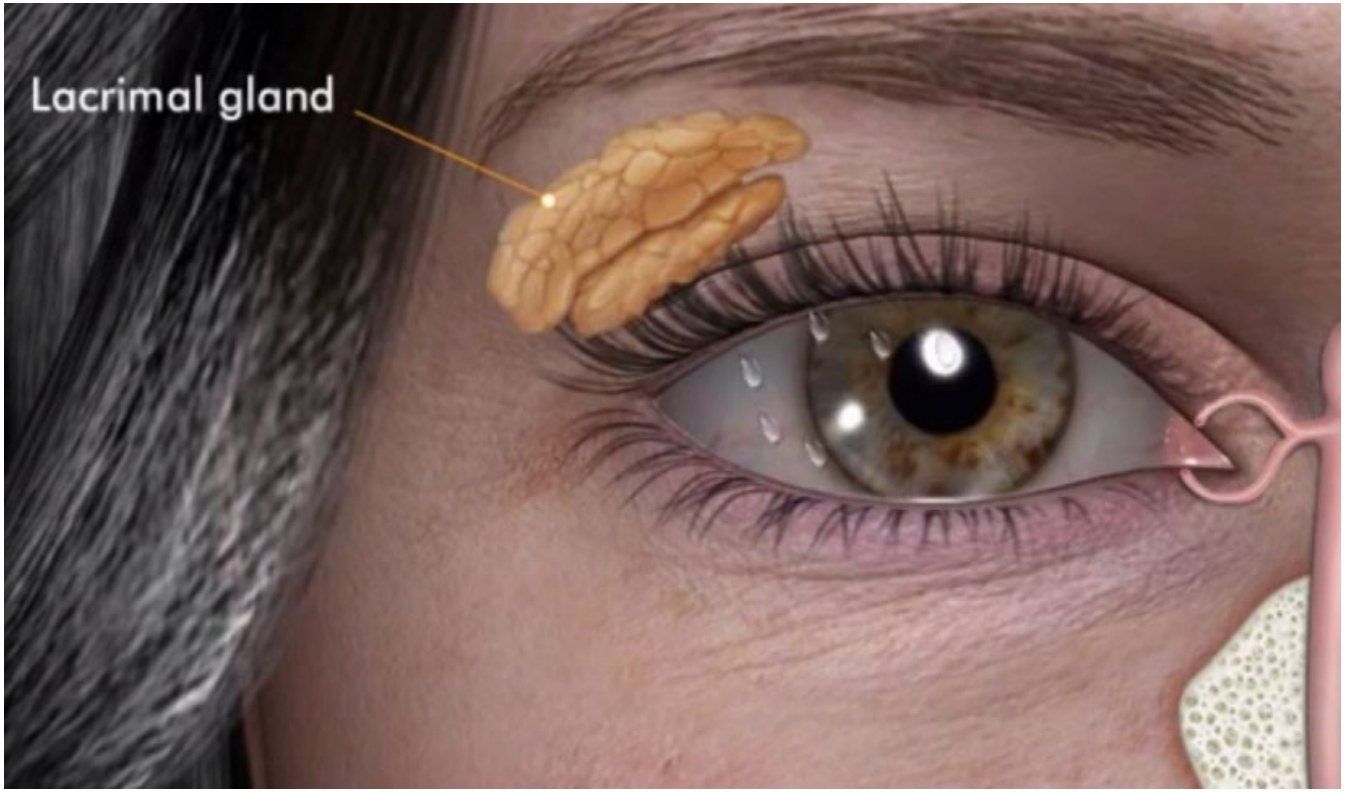
Big L and the LFU

In which quadrant of the orbit is the main lacrimal gland located?
Superotemporal

The gland resides in a fossa located in which orbital bone?
The frontal

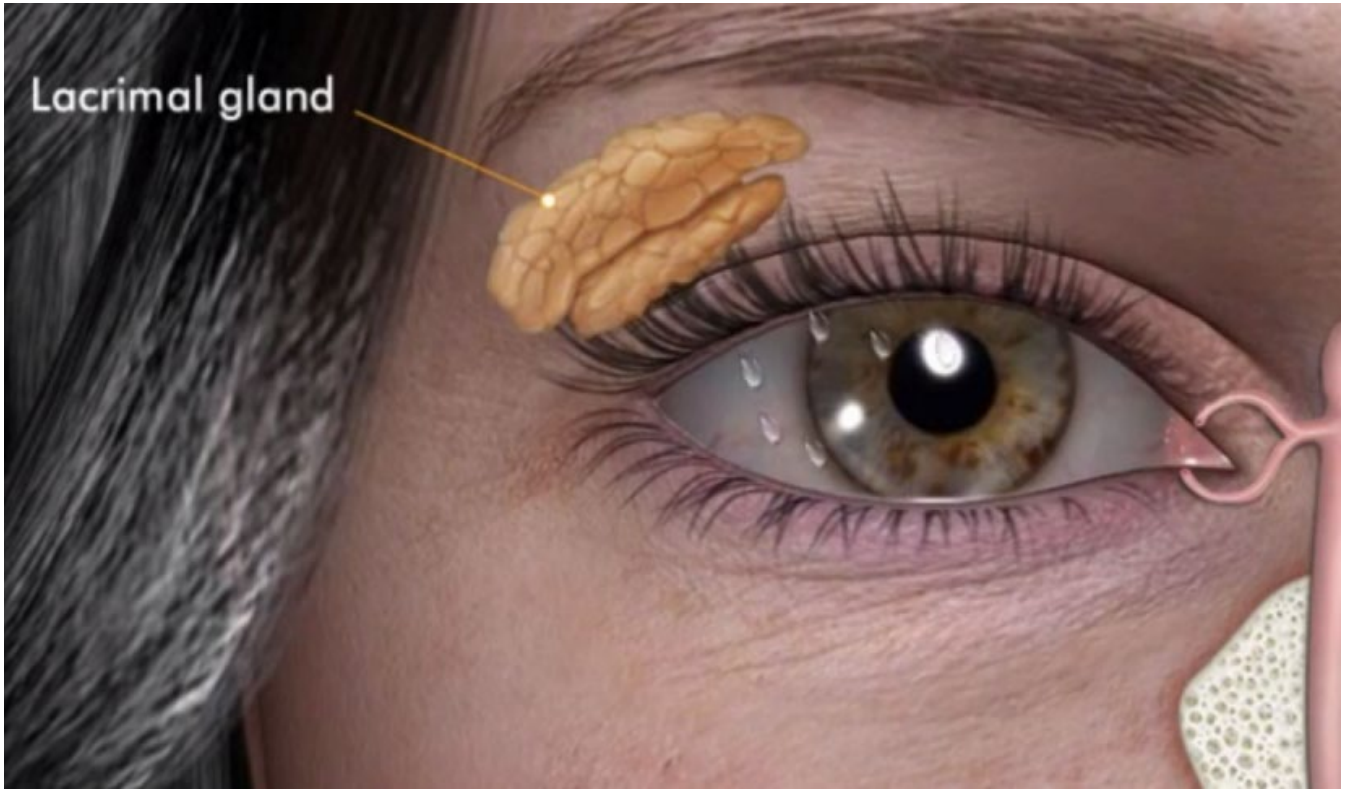
The lacrimal gland is divided into two lobes—what are they called?
The orbital and palpebral lobes

Big L and the LFU



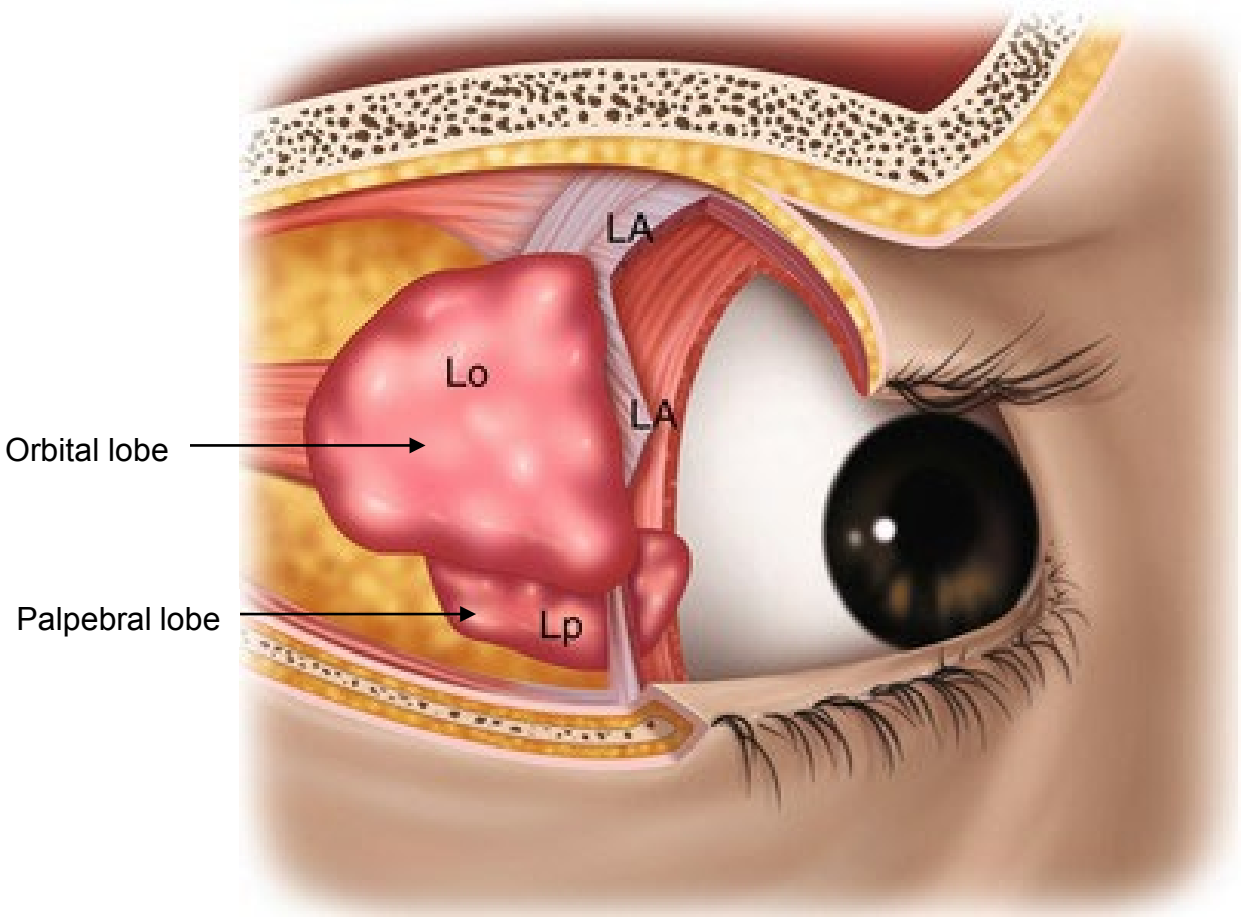
Lacrimal gland. The orbital lobe is the larger *vs* smaller section; the palpebral lobe is the larger *vs* smaller one.

Big L and the LFU



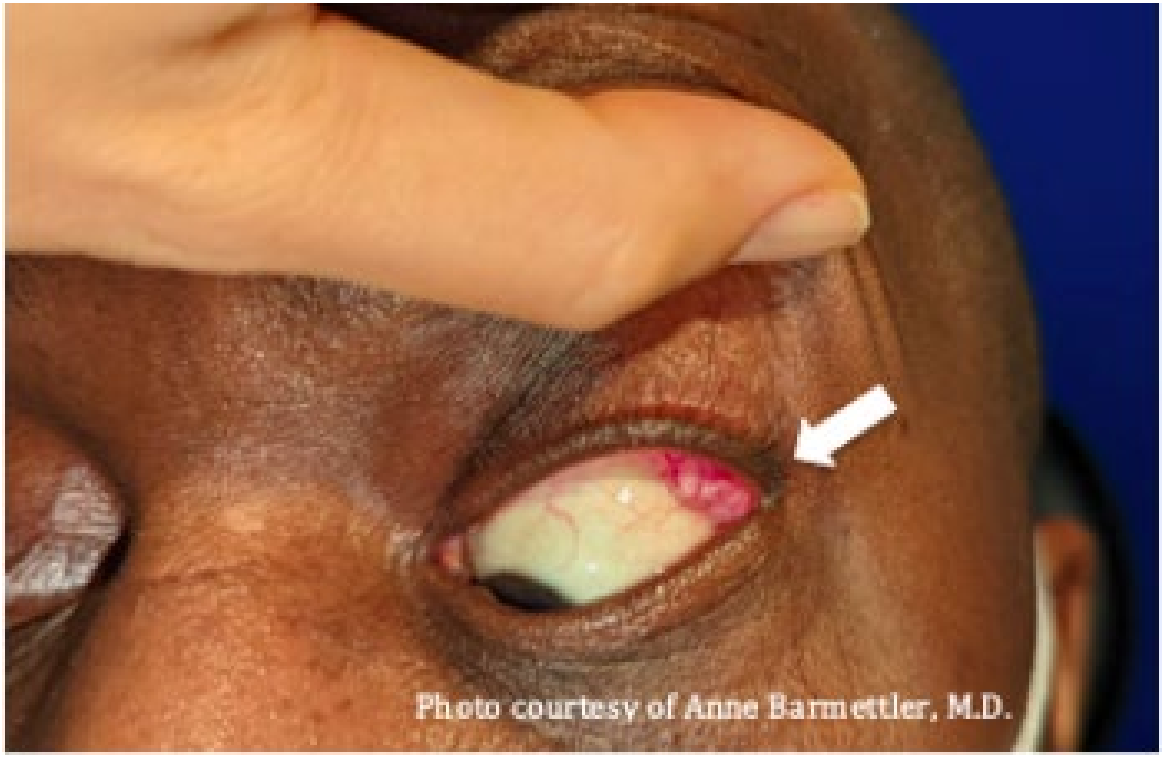
Lacrimal gland. The orbital lobe is the larger section; the palpebral lobe is the smaller one.

Big L and the LFU



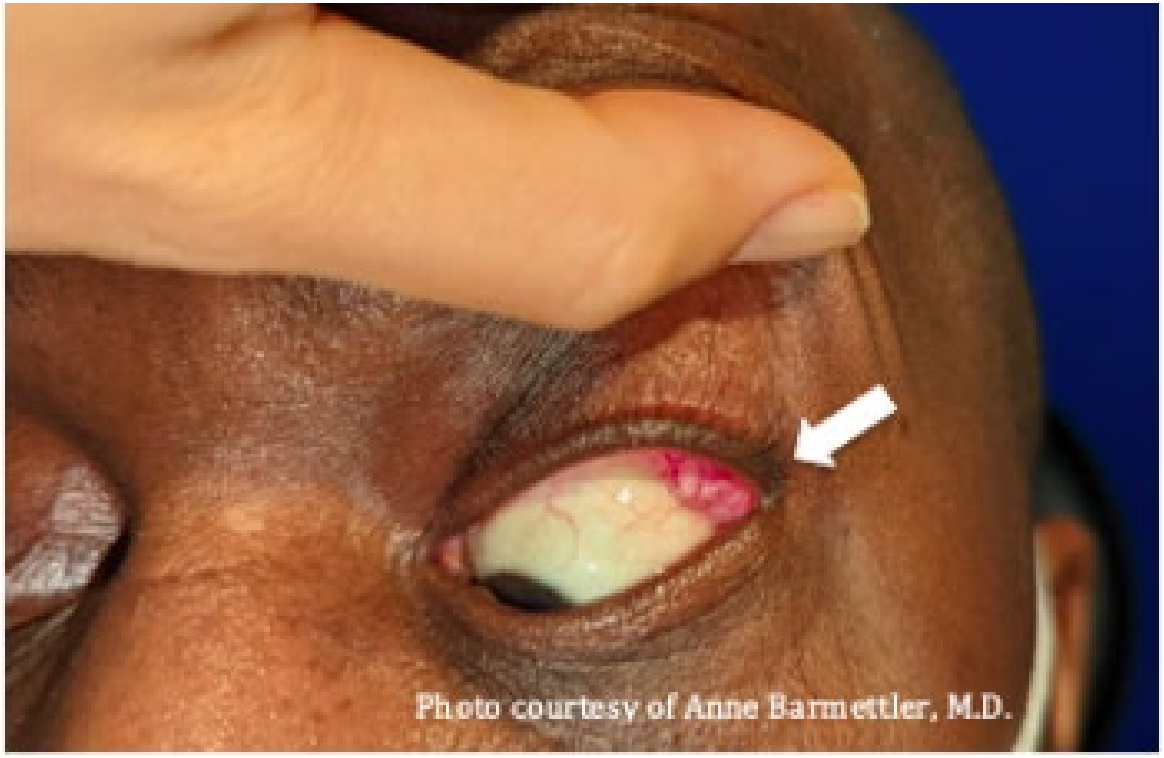
Lacrimal gland. Note that the palpebral lobe is located relatively inferior and anterior to the orbital lobe.

Big L and the LFU



Lacrimal gland. When the upper lid is everted or distracted as above, it is always the palpebral *vs* orbital lobe that is visible.

Big L and the LFU



Lacrimal gland. When the upper lid is everted or distracted as above, it is always the palpebral lobe that is visible.

Big L and the LFU

In which quadrant of the orbit is the main lacrimal gland located?
Superotemporal

The gland resides in a fossa located in which orbital bone?
The frontal

The lacrimal gland is divided into two lobes—what are they called?
The orbital and palpebral lobes

What structure does the dividing?

Big L and the LFU

In which quadrant of the orbit is the main lacrimal gland located?
Superotemporal

The gland resides in a fossa located in which orbital bone?
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What structure does the dividing?
The [redacted] horn of the levator [redacted]

Big L and the LFU

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The lateral horn of the levator aponeurosis

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The lateral horn of the **levator aponeurosis**

What is the levator aponeurosis*?*

Big L and the LFU

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The lateral horn of the **levator aponeurosis**

What is the levator aponeurosis*?*
It is the tendon of the three words muscle

Big L and the LFU

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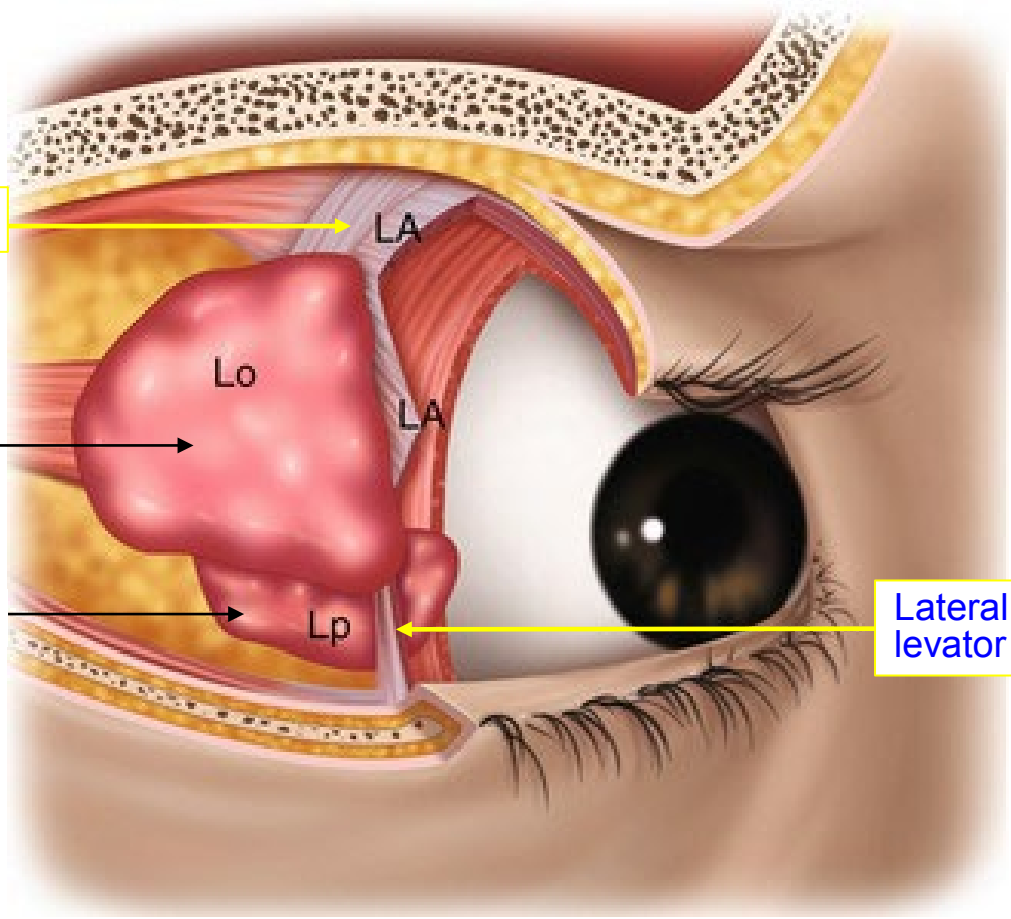
What structure does the dividing?
The lateral horn of the **levator aponeurosis**

What is the levator aponeurosis*?*
It is the tendon of the levator palpebrae superioris muscle

Big L and the LFU



The lacrimal gland and the lateral horn of the levator aponeurosis

Big L and the LFU

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What is the chief function of the levator muscle?

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What is the chief function of the levator muscle?
Retraction (ie, elevation) of the upper lid

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Retraction (ie, elevation) of the upper lid

While it is the primary upper-lid retractor, the levator is not the only *one.*
What other muscle also retracts the upper lid?

Big L and the LFU

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Müller's muscle

Big L and the LFU

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What is the chief function of the levator muscle?
Retraction (ie, elevation) of the upper lid

After passing through (and divvying up) the lacrimal gland, to what structure on the lateral orbital wall does the lateral horn of the levator aponeurosis attach?

Big L and the LFU

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Whitnall's tubercle

Big L and the LFU

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I assume Whitnall's tubercle is also where Whitnall's ligament *attaches—is that correct?*

l gland, to what structure on the lateral orbital wall does the lateral horn of the levator aponeurosis attach?

Whitnall's tubercle

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What structure does the dividing?
The lateral horn of the **levator aponeurosis**

What is the levator aponeurosis*?*
It is the tendon of the levator palpebrae superioris muscle

I assume Whitnall's tubercle is also where Whitnall's ligament *attaches—is that correct?*
You'd think so, but no. (For more on the complex anatomy of this aspect of the orbit, see slide-set *O8*.)

…l gland, to what structure on the lateral orbital wall does the lateral horn of the levator aponeurosis attach?

Whitnall's tubercle

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How many ducts does the lac gland have?

Big L and the LFU

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Big L and the LFU

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How many ducts does the lac gland have? Where do they let out?
About 12

Big L and the LFU

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How many ducts does the lac gland have? Where do they let out?
About 12. Into the conj fornix superior to the upper tarsus.

Big L and the LFU

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What is the lacrimal functional unit *(LFU)?*

Big L and the LFU

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What structure does the dividing?
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How many ducts does the lac gland have? Where do they let out?
About 12. Into the conj fornix superior to the upper tarsus.

What is the lacrimal functional unit *(LFU)?*
The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film

Big L and the LFU

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The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film. If the LFU is disrupted, abb. will result.

Big L and the LFU

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What is the lacrimal functional unit *(LFU)?*
The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film. If the LFU is disrupted, DES will result.

Big L and the LFU

This is pretty vague. Can you flesh it out for me?

The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film. If the LFU is disrupted, DES will result.

Big L and the LFU

The Reflex Arc

two words

Sensory receptors

Afferent nerves

This is pretty vague. Can you flesh it out for me?

The LFU is closely analogous to a **reflex arc**. Recall that a reflex arc has three components: A

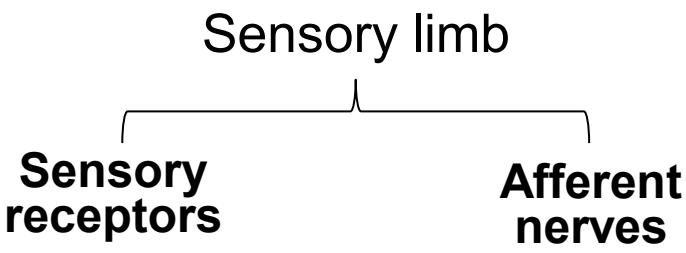
two words

consisting of sensory receptors and afferent nerves

The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film. If the LFU is disrupted, DES will result.

Big L and the LFU

The Reflex Arc



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The LFU is closely analogous to a **reflex arc**. Recall that a reflex arc has three components: A *sensory limb* consisting of sensory receptors and afferent nerves

The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film. If the LFU is disrupted, DES will result.

Big L and the LFU

The Reflex Arc

This is pretty vague. Can you flesh it out for me?

The LFU is closely analogous to a **reflex arc**. Recall that a reflex arc has three components: A *sensory limb* consisting of sensory receptors and afferent nerves, a two words consisting of efferent nerves and the effector end-organ

<u>The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film</u>. If the LFU is disrupted, DES will result.

Big L and the LFU

The Reflex Arc

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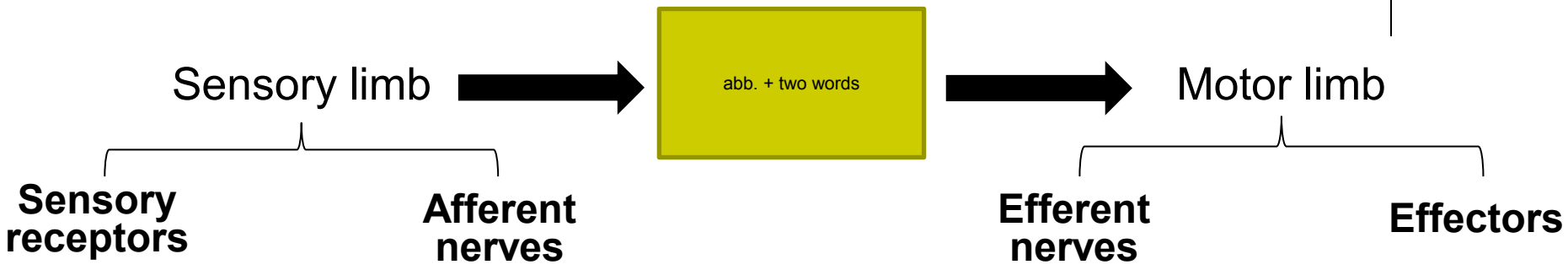
Big L and the LFU

The Reflex Arc



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The LFU is closely analogous to a **reflex arc**. Recall that a reflex arc has three components: A *sensory limb* consisting of sensory receptors and afferent nerves, a *motor limb* consisting of efferent nerves and the effector end-organ, and a abb. + two words that connects the afferent and efferent limbs.

The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film. If the LFU is disrupted, DES will result.

Big L and the LFU

The Reflex Arc

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The LFU is closely analogous to a **reflex arc**. Recall that a reflex arc has three components: A *sensory limb* consisting of sensory receptors and afferent nerves, a *motor limb* consisting of efferent nerves and the effector end-organ, and a *CNS integration center* that connects the afferent and efferent limbs.

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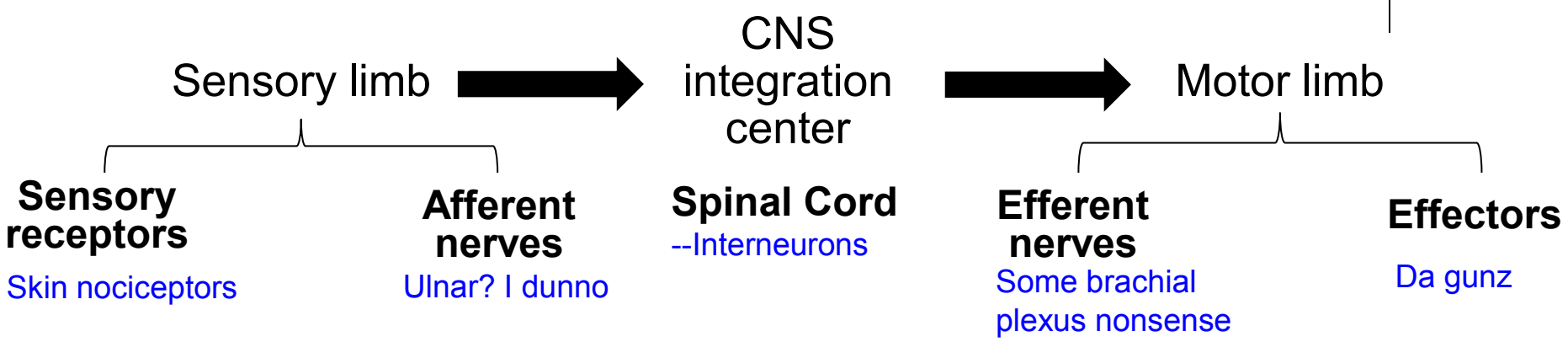
Big L and the LFU

The Reflex Arc



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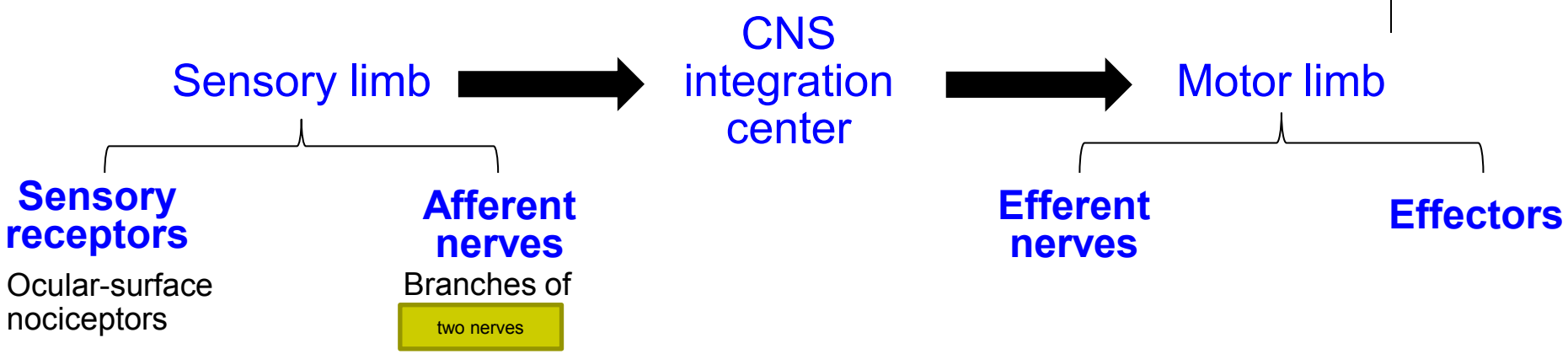
The LFU is closely analogous to a **reflex arc**. Recall that a reflex arc has three components: A *sensory limb* consisting of sensory receptors and afferent nerves, a *motor limb* consisting of efferent nerves and the effector end-organ, and a *CNS integration center* that connects the afferent and efferent limbs. So when you put your hand on a hot stove, nociceptors in your skin are activated, in turn causing the sensory nerves to which they're attached to fire. The signal is carried to the spinal cord, where it stimulates interneurons that subsequently cause motor nerves to fire. These nerves synapse with motor units in the muscles that cause you to drop an *F* bomb. (They also synapse with the muscles that withdraw your hand from the stove.)

The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film. If the LFU is disrupted, DES will result.

Big L and the LFU

The LFU

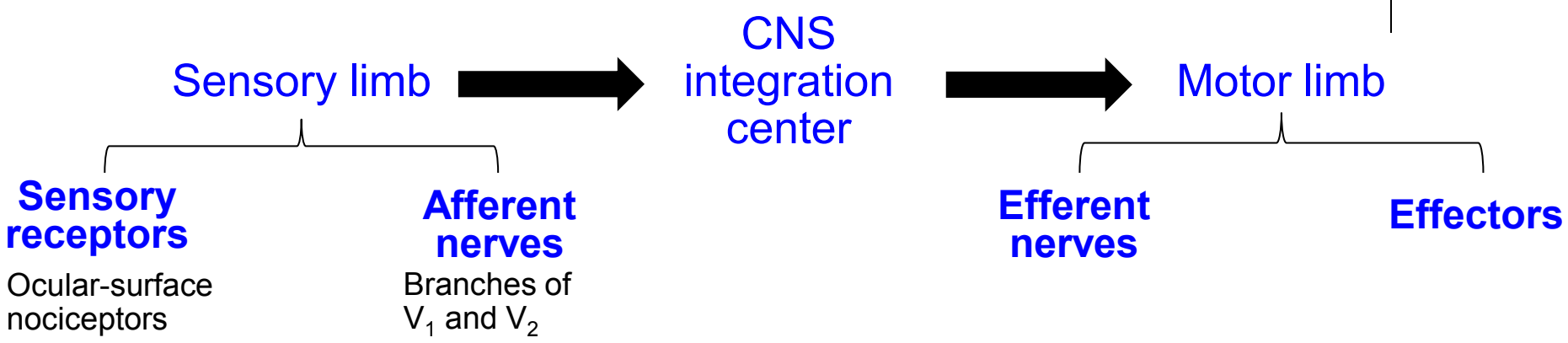


In the LFU, the sensory limb consists of ocular-surface nociceptors connected to branches of two nerves

<u>The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film</u>.

Big L and the LFU

The LFU

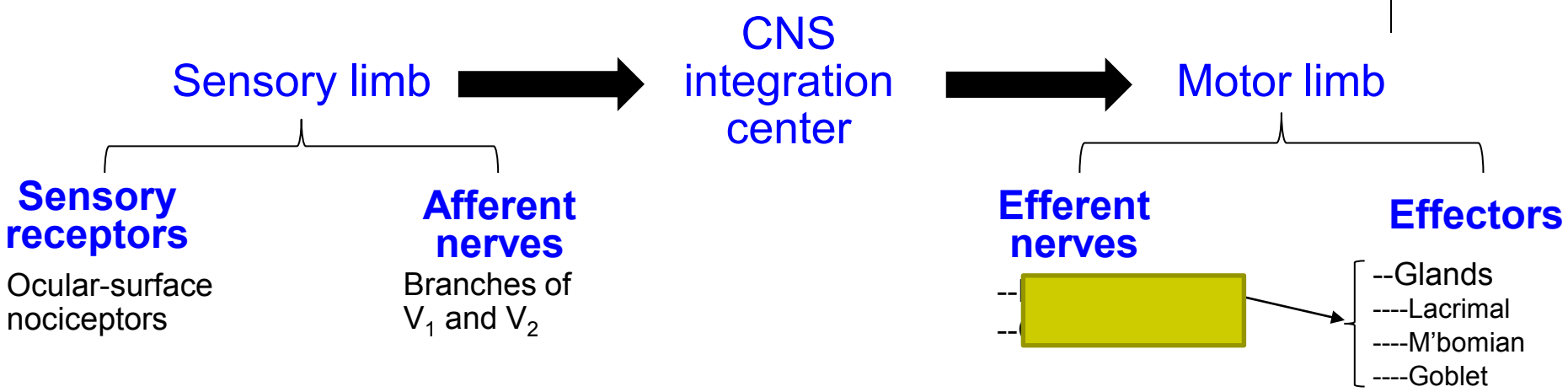


In the LFU, the sensory limb consists of ocular-surface nociceptors connected to branches of V1 and V2.

The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film.

Big L and the LFU

The LFU

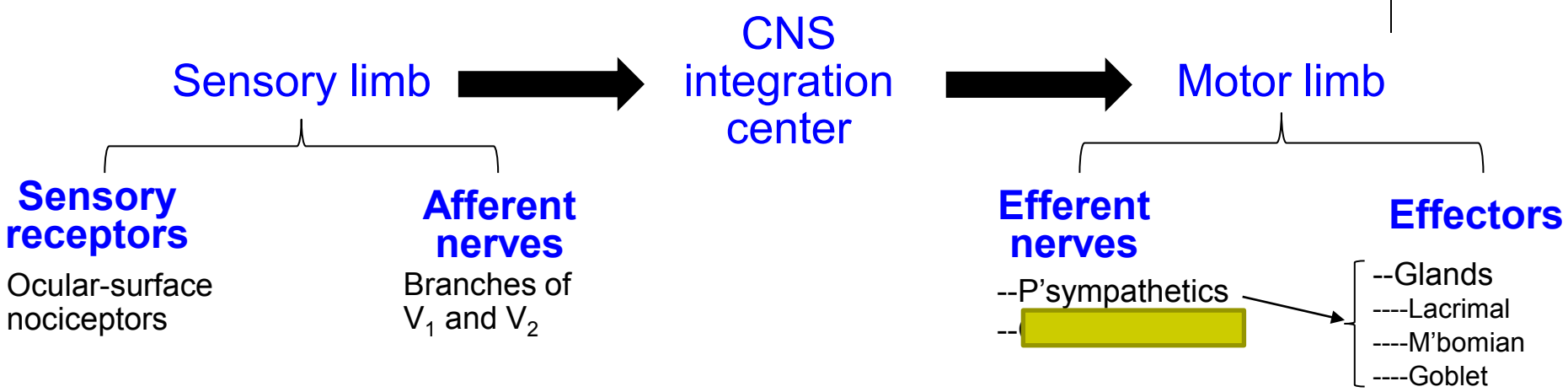


In the LFU, the sensory limb consists of ocular-surface nociceptors connected to branches of V1 and V2. The motor limb consisting of the lacrimal, meibomian, and goblet glands/cells (innervated by *)

<u>The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film</u>.

Big L and the LFU

The LFU



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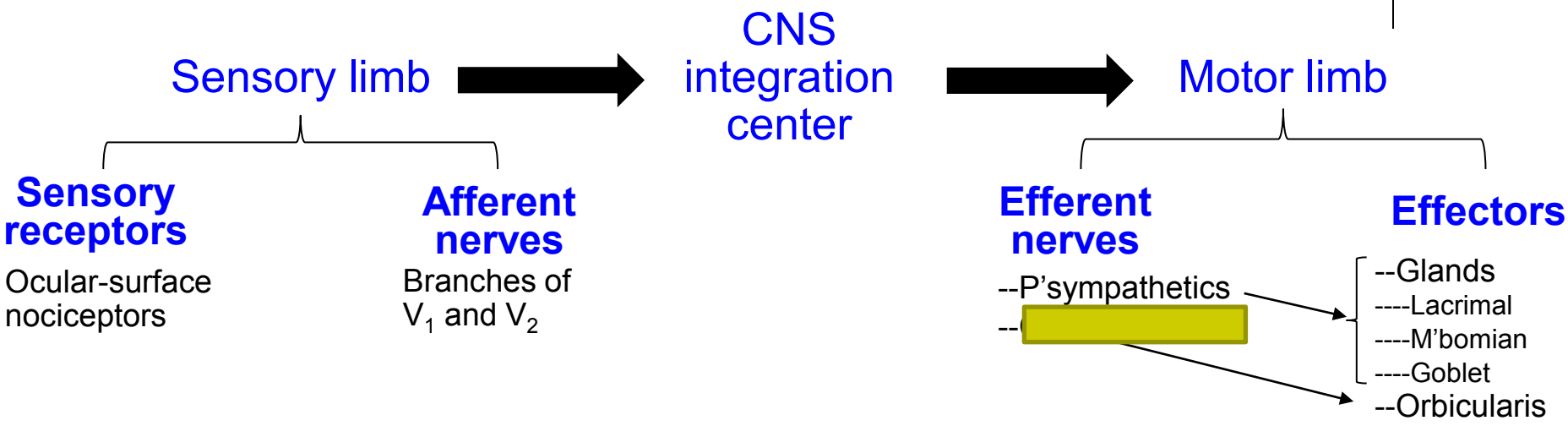
*It must be noted that the precise role of parasympathetic input vis a vis LFU function has yet to be folly elucidated

Big L and the LFU

The LFU

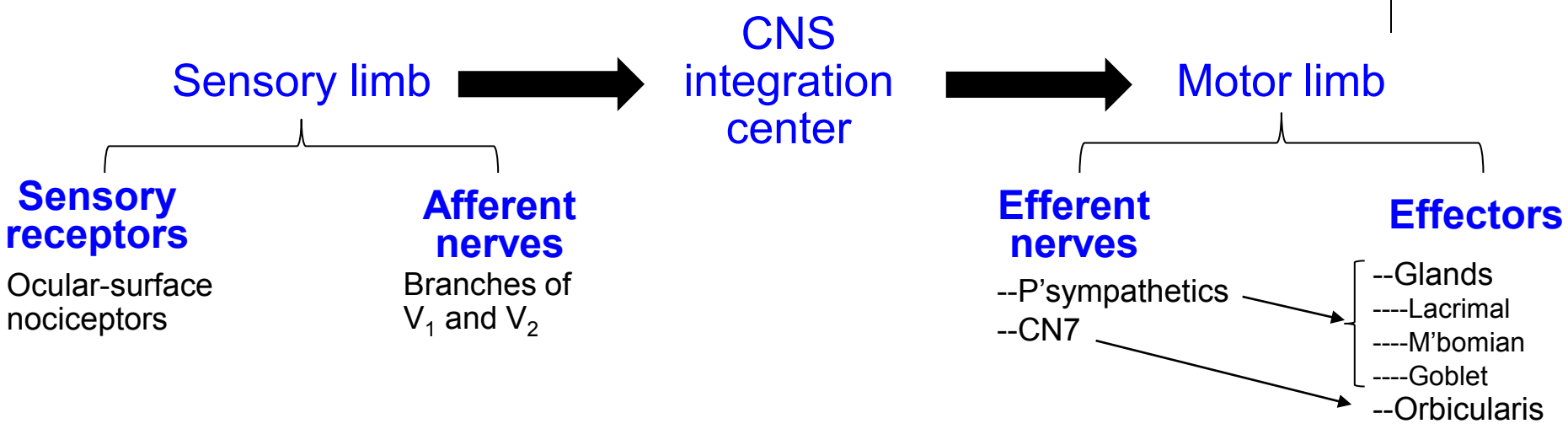


In the LFU, the sensory limb consists of ocular-surface nociceptors connected to branches of V1 and V2. The motor limb consisting of the lacrimal, meibomian, and goblet glands/cells (innervated by parasympathetics*) as well as the orbicularis oculi muscle (innervated by CN#).

The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film.

Big L and the LFU

The LFU



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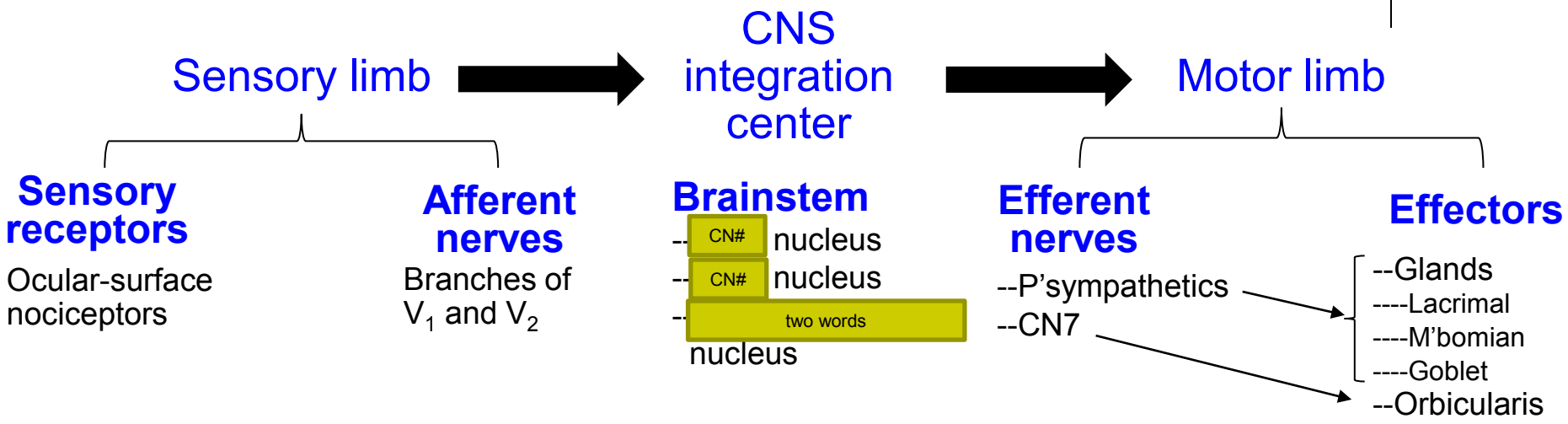
Big L and the LFU

The LFU

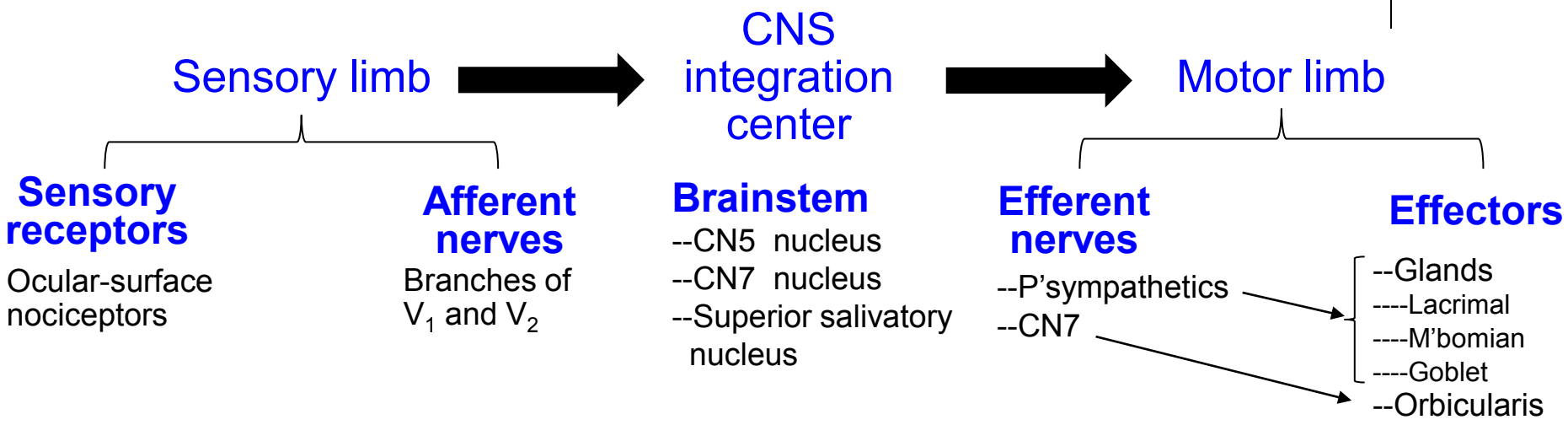


In the LFU, the sensory limb consists of ocular-surface nociceptors connected to branches of V1 and V2. The motor limb consisting of the lacrimal, meibomian, and goblet glands/cells (innervated by parasympathetics) as well as the orbicularis oculi muscle (innervated by CN7). CNS integration takes place in the brainstem and involves the CN# nucleus, the CN# nucleus, and the two words nucleus (which is motor to the glands).

The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film.

Big L and the LFU

The LFU



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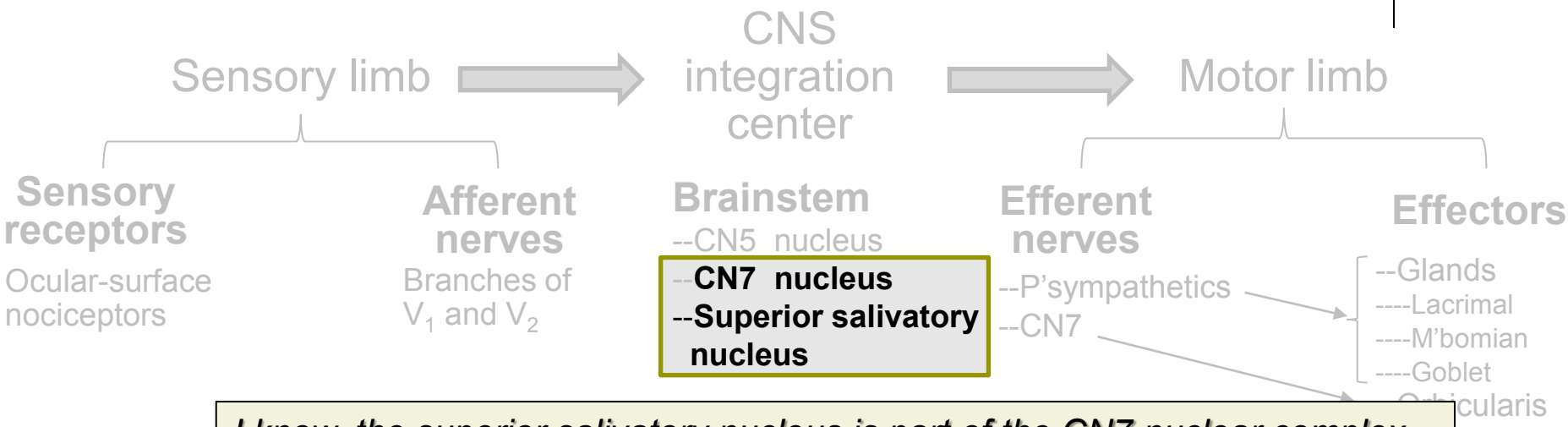
The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film.

Big L and the LFU

★ The LFU ★



I know, the superior salivatory nucleus is part of the CN7 nuclear complex, and therefore it's redundant to list it separately. (I did it like this so the text would match the verbiage in the Figure on the next slide.)

In the LFU, …d V2. The motor limb consisting of the lacrimal, meibomian, and goblet glands/cells (innervated by parasympathetics) as well as the orbicularis oculi muscle (innervated by CN7). CNS integration takes place in the brainstem and involves the CN5 nucleus, the CN7 nucleus, and the superior salivatory nucleus (which is motor to the glands).

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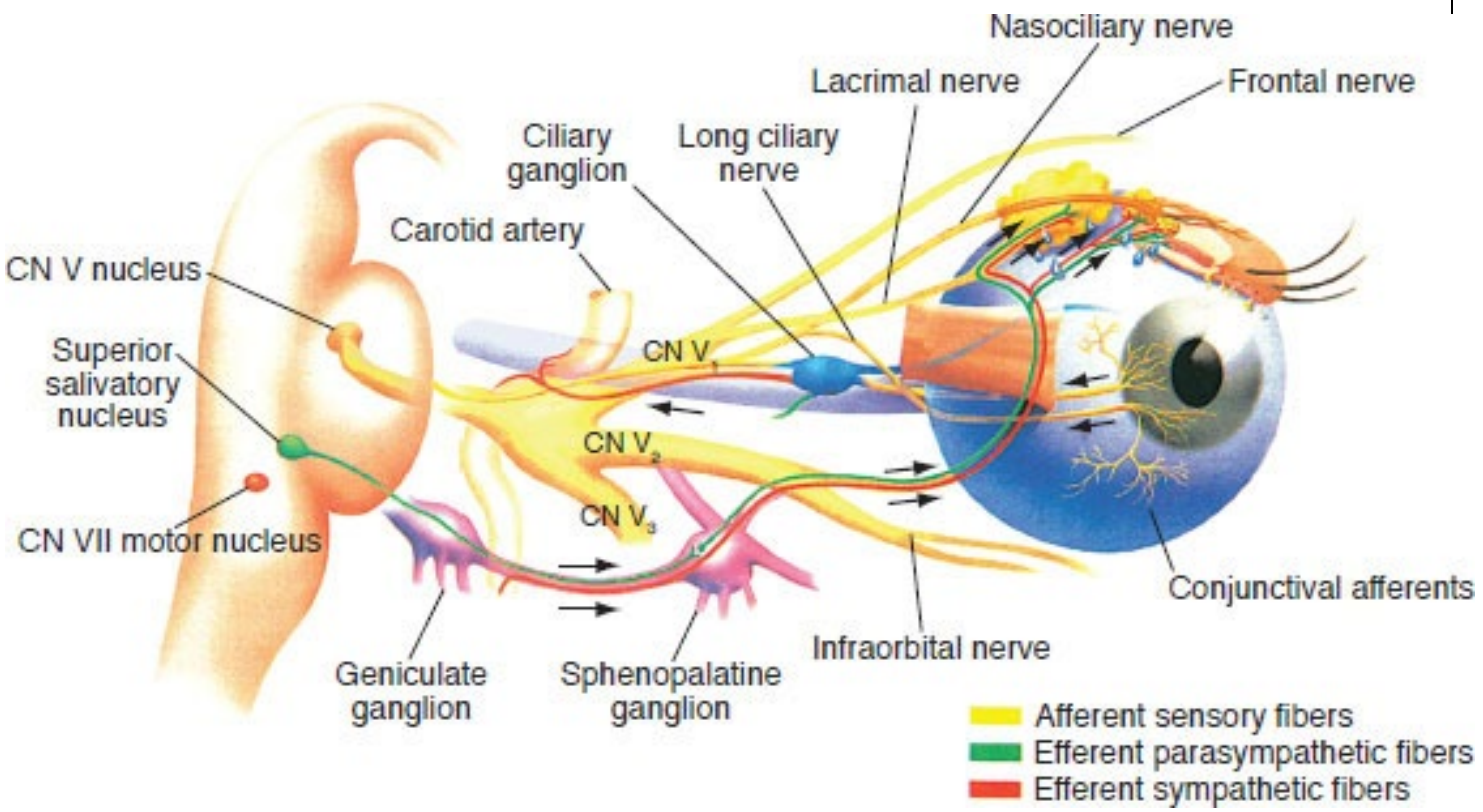
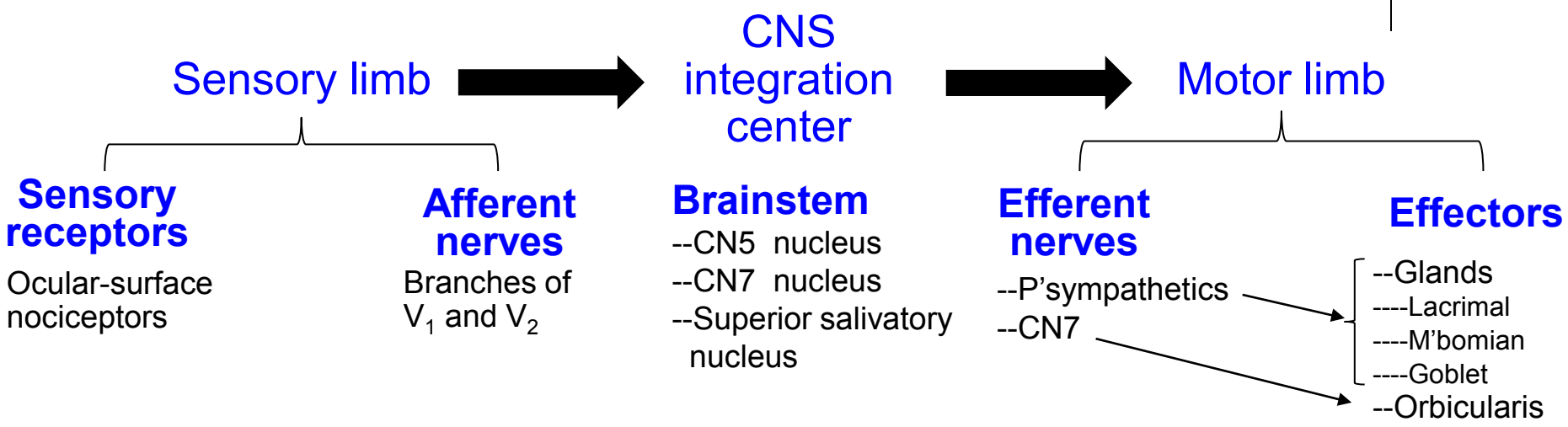
Big L and the LFU



The sensory and motor nerves connecting the components of the LFU

Big L and the LFU

The LFU



Note that the in addition to events at the ocular surface, the LFU responds also to endocrinologic influences, as well as to cortical inputs

The LFU is the complex, integrated system responsible for the regulation, production, and health of the tear film.

Big L and the LFU

The LFU

CNS integration

Sensory limb → integration → Motor limb

Let's sidebar on the parasympathetics for a moment.

Se… rec…

Ocu… noc…

…rent …ves

Effectors

P'sympathetics

--Glands
----Lacrimal
----M'bomian
----Goblet
--Orbicularis

…sible for the regulation,

Big L and the LFU

The LFU

CNS integration

Sensory limb → Motor limb

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We conceptualize the peripheral parasympathetic pathway as consisting of two portions—what are they?

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The preganglionic portion (fibers) and the postganglionic portion (fibers)

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With its central, preganglionic *and* postganglionic *fibers, the* **sympathetic** *pathway is conceptualized in a similar manner. That said, in one sense the sympathetics and parasympathetics are organized in diametrically opposing fashions. What sense is that?*

Effectors

P'sympathetics

--Glands
----Lacrimal
----M'bomian
----Goblet
--Orbicularis

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Big L and the LFU

The LFU

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With its central, preganglionic *and* postganglionic *fibers, the* **sympathetic** *pathway is conceptualized in a similar manner. That said, in one sense the sympathetics and parasympathetics are organized in diametrically opposing fashions. What sense is that?*

In the sympathetic system, the **pre**ganglionic fibers are relatively short vs long

Effectors

P'sympathetics

--Glands
----Lacrimal
----M'bomian
----Goblet
--Orbicularis

sible for the regulation,

Big L and the LFU

The LFU

CNS integration

Sensory limb → integration → Motor limb

Let's sidebar on the parasympathetics for a moment.

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In the sympathetic system, the **pre**ganglionic fibers are relatively short, having to extend only from the [two words] to the sympathetic [ ] located in the sympathetic [ ] just outside the [two diff words]

P'sympathetics

Effectors

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----Lacrimal
----M'bomian
----Goblet
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Effectors

P'sympathetics

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----Lacrimal
----M'bomian
----Goblet
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In contrast, **post**ganglionic sympathetic fibers are long, as they have to run all the way from the sympathetic chain to their distant effector organ.

Effectors

P'sympathetics

--Glands
----Lacrimal
----M'bomian
----Goblet
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CNS integration

Sensory limb → Motor limb

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P'sympathetics

Effectors

- --Glands
  - ----Lacrimal
  - ----M'bomian
  - ----Goblet
- --Orbicularis

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The LFU

CNS integration

Sensory limb → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?

P'sympathetics

Effectors
- --Glands
  - ----Lacrimal
  - ----M'bomian
  - ----Goblet
- --Orbicularis

parasympathetic ganglia

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The LFU

CNS integration

Sensory limb → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five*

Effectors

P'sympathetics

- --Glands
  - ----Lacrimal
  - ----M'bomian
  - ----Goblet
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parasympathetic ganglia

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(*You don't need to know this fact for the OKAP—I'm just laying some groundwork here)

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The LFU

CNS integration

Sensory limb → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five

Of the five, how many are of direct concern to us eye dentists?

P'sympathetics

Effectors
--Glands
----Lacrimal
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parasympathetic ganglia

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CNS

Sensory limb → integration → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?

Five

Of the five, how many are of direct concern to us eye dentists?

Two

P'sympathetics

Effectors

--Glands
----Lacrimal
----M'bomian
----Goblet
--Orbicularis

parasympathetic ganglia

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The LFU

CNS integration

Sensory limb → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five

Of the five, how many are of direct concern to us eye dentists?
What are their names?

Two:
--The [redacted] ganglion

--The [redacted] ganglion

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian
----Goblet
--Orbicularis

parasympathetic ganglia

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The LFU

CNS integration

Sensory limb → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five

Of the five, how many are of direct concern to us eye dentists?
What are their names?

Two:
--The ciliary ganglion

--The pterygopalatine ganglion

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian
----Goblet
--Orbicularis

parasympathetic ganglia

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The LFU

CNS integration

Sensory limb → integration → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five

Of the five, how many are of direct concern to us eye dentists? What are their names? Where is each located?

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian
----Goblet
--Orbicularis

Two:
--The ciliary ganglion is located near the [two words]

--The pterygopalatine ganglion

parasympathetic ganglia

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The LFU

CNS integration

Sensory limb → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five

Of the five, how many are of direct concern to us eye dentists? What are their names? Where is each located?

Two:
--The ciliary ganglion is located near the orbital apex

--The pterygopalatine ganglion

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian
----Goblet
--Orbicularis

parasympathetic ganglia

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CNS

Sensory limb → integration → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five

Of the five, how many are of direct concern to us eye dentists? What are their names? Where is each located?

Two:
--The ciliary ganglion is located near the orbital apex

--The pterygopalatine ganglion is located in the fossa

parasympathetic ganglia

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian
----Goblet
--Orbicularis

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CNS

Sensory limb → integration → Motor limb

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Five

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Two:
--The ciliary ganglion is located near the orbital apex

--The pterygopalatine ganglion is located in the pterygopalatine fossa

parasympathetic ganglia

P'sympathetics

Effectors
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Big L and the LFU

The LFU

CNS integration

Sensory limb → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five

Of the five, how many are of direct concern to us eye dentists? What are their names? Where is each located? Each ganglia 'belongs' to specific cranial nerves. To which nerve do the ciliary and pterygopalatine ganglia belong?
Two:
--The ciliary ganglion is located near the orbital apex . It belongs to cranial nerve #
--The pterygopalatine ganglion is located in the pterygopalatine fossa.

parasympathetic ganglia

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian
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Big L and the LFU

The LFU

CNS

Sensory limb → integration → Motor limb

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Five

Of the five, how many are of direct concern to us eye dentists? What are their names? Where is each located? Each ganglia 'belongs' to specific cranial nerves. To which nerve do the ciliary and pterygopalatine ganglia belong?
Two:
--The ciliary ganglion is located near the orbital apex . It belongs to cranial nerve 5
--The pterygopalatine ganglion is located in the pterygopalatine fossa.

parasympathetic ganglia

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian
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Big L and the LFU

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CNS

Sensory limb → integration → Motor limb

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Five

Of the five, how many are of direct concern to us eye dentists? What are their names? Where is each located? Each ganglia 'belongs' to specific cranial nerves. To which nerve do the ciliary and pterygopalatine ganglia belong?
Two:
--The ciliary ganglion is located near the orbital apex . It belongs to cranial nerve 5 (specifically CN5 division
--The pterygopalatine ganglion is located in the pterygopalatine fossa.

parasympathetic ganglia

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian
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Big L and the LFU

The LFU

CNS

Sensory limb → integration → Motor limb

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Five

Of the five, how many are of direct concern to us eye dentists? What are their names? Where is each located? Each ganglia 'belongs' to specific cranial nerves. To which nerve do the ciliary and pterygopalatine ganglia belong?
Two:
--The ciliary ganglion is located near the orbital apex . It belongs to cranial nerve 5 (specifically V1
--The pterygopalatine ganglion is located in the pterygopalatine fossa.

parasympathetic ganglia

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian
----Goblet
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Big L and the LFU

The LFU

CNS integration

Sensory limb → integration → Motor limb

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Five

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Two:
--The ciliary ganglion is located near the orbital apex . It belongs to cranial nerve 5 (specifically V1 , aka the [redacted] *nerve*).
--The pterygopalatine ganglion is located in the pterygopalatine fossa.

parasympathetic ganglia

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian
----Goblet
--Orbicularis

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CNS

Sensory limb → integration → Motor limb

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Two:
--The ciliary ganglion is located near the orbital apex . It belongs to cranial nerve 5 (specifically V1 , aka the *oculomotor nerve*).
--The pterygopalatine ganglion is located in the pterygopalatine fossa.

parasympathetic ganglia

P'sympathetics

Effectors
--Glands
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Big L and the LFU

The LFU

CNS integration

Sensory limb → Motor limb

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--The pterygopalatine ganglion is located in the pterygopalatine fossa. It belongs to cranial nerve #

parasympathetic ganglia

P'sympathetics

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----Lacrimal
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Big L and the LFU

The LFU

CNS

Sensory limb → integration → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five

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--The ciliary ganglion is located near the orbital apex . It belongs to cranial nerve 5 (specifically V1 , aka the *oculomotor nerve*).
--The pterygopalatine ganglion is located in the pterygopalatine fossa. It belongs to cranial nerve 7 .

parasympathetic ganglia

P'sympathetics

Effectors
--Glands
----Lacrimal
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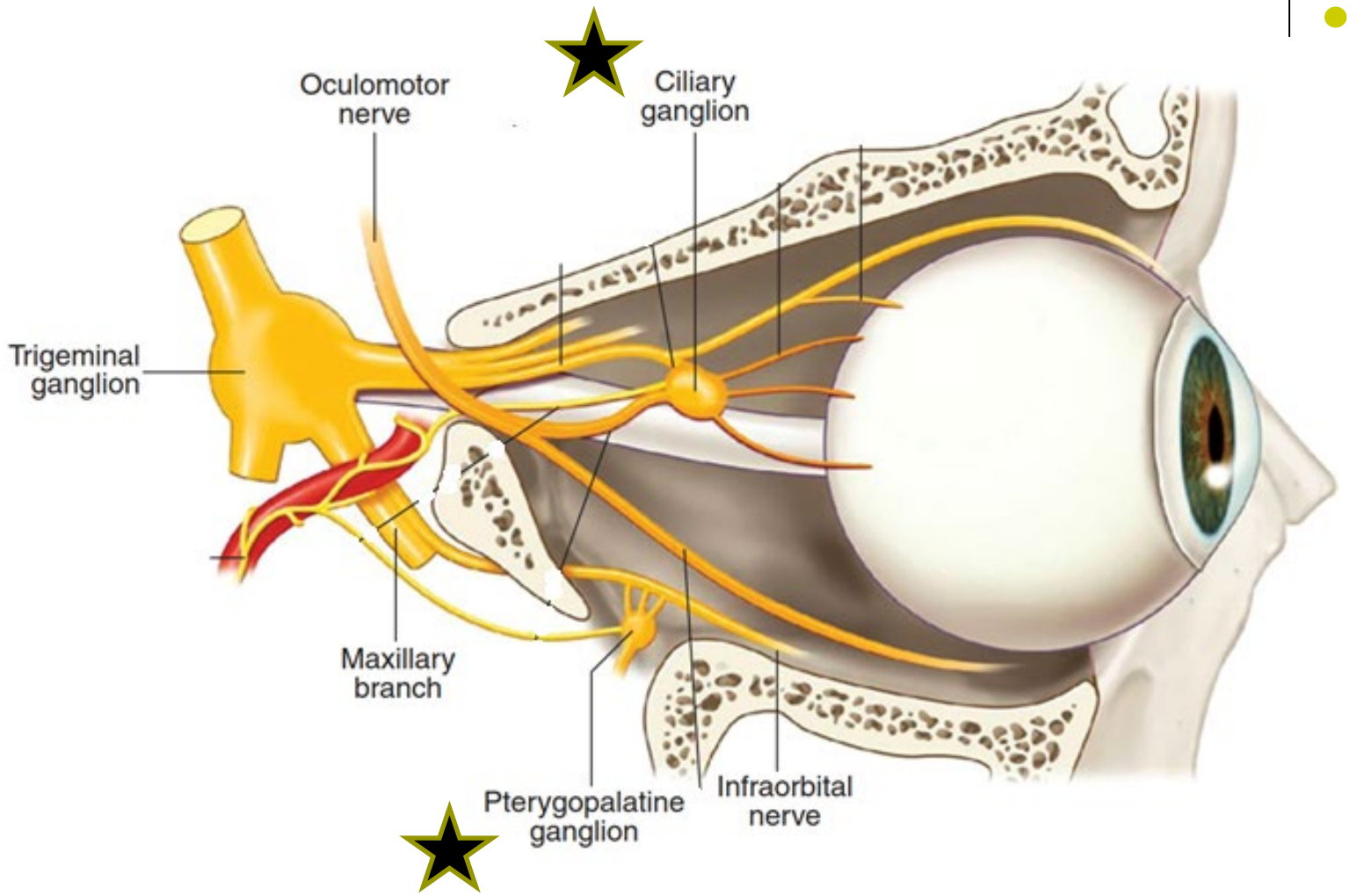
sible for the regulation,

Big L and the LFU



Big L and the LFU

★ The LFU ★

CNS integration

Sensory limb → Motor limb

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five

Of the five, how many are of direct concern to us eye dentists? What are their names? Where is each located? Each ganglia 'belongs' to specific cranial nerves. To which nerve do the ciliary and pterygopalatine gangl
Two:
--The **ciliary ganglion** s
to cranial nerve 5 (specif
--The pterygopalatine ga
fossa. It belongs to cranial nerve 7 .

P'sympathetics

Effectors
--Glands
----Lacrimal
----M'bomian

You know (because we just covered it) that parasympathetics heading to the pterygopalatine ganglion originate in the [two words] *nucleus.*

run all the way from the sympathetic CNS to their distant effector organ. Because **parasympathetic ganglia** are located near the effector organ, not the CNS, in the parasympathetic system these relative lengths are reversed: The **pre**ganglionic fibers are long, having to extend from their CNS origin all the way out to the peripherally-located ganglia; from the ganglia, it's a relatively short hop for the postganglionic fibers to get to their effector organ.

sible for the regulation,

Big L and the LFU

★ The LFU ★

CNS integration

Sensory limb → Motor limb

Effectors

--Glands
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P'sympathetics

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You know (because we just covered it) that parasympathetics heading to the pterygopalatine ganglion originate in the superior salivatory nucleus.

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Big L and the LFU

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CNS integration

Sensory limb → Motor limb

Effectors

--Glands
----Lacrimal
----M'bomian

P'sympathetics

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--The **ciliary ganglion** s
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--The pterygopalatine ga
fossa. It belongs to cranial nerve 7 .

You know (because we just covered it) that parasympathetics heading to the pterygopalatine ganglion originate in the superior salivatory nucleus. From what nucleus do the parasympathetics heading to the ciliary ganglion originate?

parasympathetic ganglia

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sible for the regulation,

Big L and the LFU

The LFU

CNS integration

Sensory limb → Motor limb

Effectors

--Glands
----Lacrimal
----M'bomian

P'sympathetics

Speaking of parasympathetic ganglia…How many are associated with the cranial nerves in general?
Five

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The eponym-eponym nucleus

parasympathetic ganglia

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sible for the regulation,

Big L and the LFU

The LFU

CNS integration

Sensory limb → Motor limb

Effectors

--Glands
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P'sympathetics

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You know (because we just covered it) that parasympathetics heading to the pterygopalatine ganglion originate in the superior salivatory nucleus. From what nucleus do the parasympathetics heading to the ciliary ganglion originate?
The Edinger-Westphal nucleus

run all the way from the sympathetic CNS to their distant effector organ. Because **parasympathetic ganglia** are located near the effector organ, not the CNS, in the parasympathetic system these relative lengths are reversed: The **pre**ganglionic fibers are long, having to extend from their CNS origin all the way out to the peripherally-located ganglia; from the ganglia, it's a relatively short hop for the postganglionic fibers to get to their effector organ.

sible for the regulation,

Big L and the LFU

★ The LFU ★

Speaking of the preganglionic parasympathetics heading to the pterygopalatine ganglion: After leaving the superior salivatory nucleus, they form a named nerve. What is its name?

CNS

Motor limb

Effectors

P'sympathetics

--Glands
----Lacrimal
----M'bomian

parasympathetics heading to the pterygopalatine ganglion *originate in the superior salivatory nucleus. From what nucleus do the parasympathetics heading to the ciliary ganglion originate?*

The Edinger-Westphal nucleus

Two:
--The **ciliary ganglion** is
to cranial nerve 5 (specif
--The pterygopalatine ga
fossa. It belongs to cranial nerve 7 .

organ. Because **parasympathetic ganglia** are located near the effector organ, not the CNS, in the parasympathetic system these relative lengths are reversed: The **pre**ganglionic fibers are long, having to extend from their CNS origin all the way out to the peripherally-located ganglia; from the ganglia, it's a relatively short hop for the postganglionic fibers to get to their effector organ.

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CNS

Motor limb

Effectors

--Glands
----Lacrimal
----M'bomian

P'sympathetics

Speaking of the preganglionic parasympathetics heading to the pterygopalatine ganglion: After leaving the superior salivatory nucleus, they form a named nerve. What is its name?

The greater? lesser? deep? petrosal nerve

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CNS

Motor limb

Effectors

--Glands
----Lacrimal
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P'sympathetics

Speaking of the preganglionic parasympathetics heading to the pterygopalatine ganglion: After leaving the superior salivatory nucleus, they form a named nerve. What is its name?
The greater petrosal nerve

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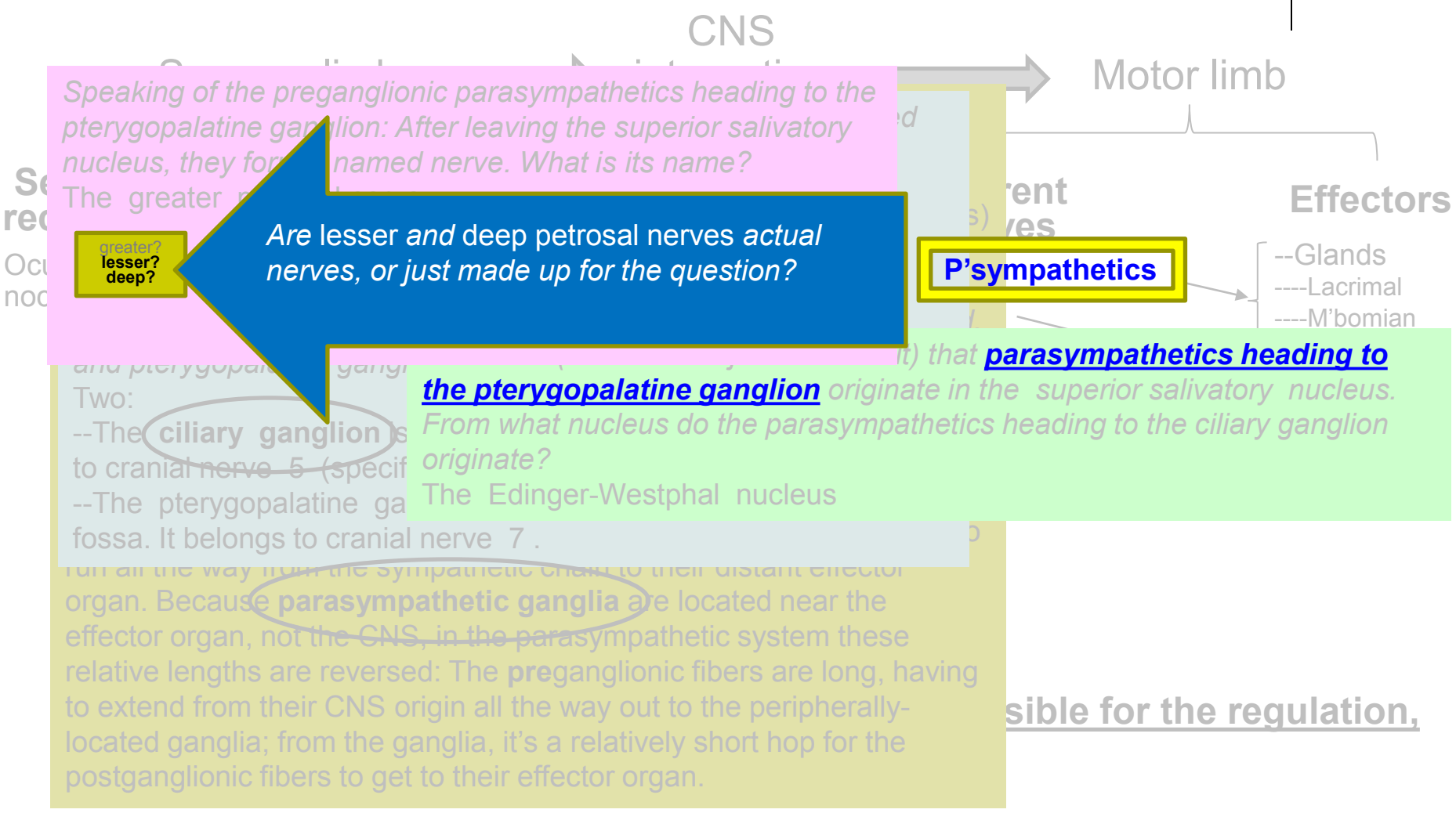

Big L and the LFU

★ The LFU ★

CNS

Motor limb

Effectors

--Glands
----Lacrimal
----M'bomian

P'sympathetics

Speaking of the preganglionic parasympathetics heading to the pterygopalatine ganglion: After leaving the superior salivatory nucleus, they form a named nerve. What is its name?
The greater [illegible]

greater?
lesser?
deep?

Are lesser *and* deep petrosal nerves *actual nerves, or just made up for the question?*
They're real nerves; we'll return to them shortly

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CNS

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P'sympathetics

Speaking of the preganglionic parasympathetics heading to the pterygopalatine ganglion: After leaving the superior salivatory nucleus, they form a named nerve. What is its name?
The greater petrosal nerve

The greater petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?

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The pterygoid canal

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The pterygoid canal (aka eponym canal)

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Motor limb

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Two:

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*Returning as promised: What comprises the **deep** petrosal nerve?*

located ganglia; from the ganglia, it's a relatively short hop for the postganglionic fibers to get to their effector organ.

Big L and the LFU

★ The LFU ★

CNS

Motor limb

Effectors

--Glands
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*Returning as promised: What comprises the **deep** petrosal nerve?*
Postganglionic **symp**athetics heading to the lacrimal gland

for the regulation,

located ganglia; from the ganglia, it's a relatively short hop for the postganglionic fibers to get to their effector organ.

Big L and the LFU

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CNS

Motor limb

Effectors

--Glands
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for the regulation,

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Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?

for the regulation,

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CNS

Motor limb

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The pterygoid canal (aka Vidian's canal)

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Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?
The pterygoid canal (aka Vidian's canal)

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Big L and the LFU

★ The LFU ★

CNS

Motor limb

Speaking of the preganglionic parasympathetics heading to the pterygopalatine ganglion: After leaving the superior salivatory nucleus, they form a named nerve. What is it?

The greater petrosal nerve

The greater petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?

The pterygoid canal (aka Vidian's canal)

*So the **pre**ganglionic **para**sympathetics headed to the pterygopalatine ganglion and the **post**ganglionic **symp**athetics heading to the pterygopalatine ganglion travel together through the pterygoid (aka Vidian's) canal.*

(No question yet—keep going)

*Returning as promised: What comprises **the deep petrosal nerve**?*

Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?

The pterygoid canal (aka Vidian's canal)

located ganglia; from the ganglia, it's a relatively short hop for the postganglionic fibers to get to their effector organ.

Big L and the LFU

★ The LFU ★

CNS

Motor limb

Speaking of the preganglionic parasympathetics heading to the pterygopalatine ganglion: After leaving the superior salivatory nucleus, they form a named nerve. What is it?

The greater petrosal nerve

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The pterygoid canal (aka Vidian's canal)

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*Returning as promised: What comprises **the deep petrosal nerve**?*

Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?

The pterygoid canal (aka Vidian's canal)

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CNS

Motor limb

Speaking of the preganglionic parasympathetics heading to the pterygopalatine ganglion: After leaving the superior salivatory nucleus, they form a named nerve. What is it?
The greater petrosal nerve

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The nerve of the pterygoid canal

*Returning as promised: What comprises **the deep petrosal nerve**?*
Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?
The pterygoid canal (aka Vidian's canal)

Two:

located ganglia; from the ganglia, it's a relatively short hop for the postganglionic fibers to get to their effector organ.

Big L and the LFU

★ The LFU ★

CNS

Motor limb

Speaking of the preganglionic parasympathetics heading to the pterygopalatine ganglion: After leaving the superior salivatory nucleus, they form a named nerve. What is it?
The greater petrosal nerve

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The nerve of the pterygoid canal (aka eponym nerve)

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Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?
The pterygoid canal (aka Vidian's canal)

Two:

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Big L and the LFU

★ The LFU ★

CNS

Motor limb

Speaking of the preganglionic parasympathetics heading to the pterygopalatine ganglion: After leaving the superior salivatory nucleus, they form a named nerve. What is it?
The greater petrosal nerve

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The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?
The pterygoid canal (aka Vidian's canal)

Two:

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Big L and the LFU

☆ The LFU ☆

CNS

Motor limb

Speaking of the preganglionic parasympathetics heading to the

How will the postganglionic sympathetics and (now) postganglionic parasympathetics get to the lacrimal gland after exiting the pterygopalatine ganglion?

They will pass through the inferior orbital fissure to join the lacrimal nerve on its way to the gland

The greater petrosal nerve exits the skull (an

The pterygoid canal (aka Vidian's canal)

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The nerve of the pterygoid canal (aka Vidian's nerve)

Two:

*Returning as promised: What comprises **the deep petrosal nerve**?*

Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?

The pterygoid canal (aka Vidian's canal)

for the regulation,

located ganglia; from the ganglia, it's a relatively short hop for the postganglionic fibers to get to their effector organ.

Big L and the LFU

☆ The LFU ☆

CNS

Motor limb

Speaking of the preganglionic parasympathetics heading to the

How will the postganglionic sympathetics and (now) postganglionic parasympathetics get to the lacrimal gland after exiting the pterygopalatine ganglion?
They will pass through the [redacted] orbital fissure to join the [redacted] nerve on its way to the gland

The greater petrosal nerve exits the skull (an
pterygopalatine fossa) via a named canal. W
The pterygoid canal (aka Vidian's canal)

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Big L and the LFU

☆ The LFU ☆

CNS

Motor limb

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Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?
The pterygoid canal (aka Vidian's canal)

Two:

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Big L and the LFU

★ The LFU ★

CNS

Motor limb

Speaking of the preganglionic parasympathetics heading to the ptery… nucle…
The …

How will the postganglionic sympathetics and (now) postganglionic parasympathetics get to the lacrimal gland after exiting the pterygopalatine ganglion?
They will pass through the inferior orbital fissure to join the lacrimal nerve on its way to the gland

The greater petrosal nerve exits the skull (an… pterygopalatine fossa) via a named canal. W…
The pterygo…

together through the pterygoid (aka Vidian's) canal. As they traverse this canal, the two nerves are considered to be

*Finally, for completeness' sake: What comprises the aforementioned **lesser** petrosal nerve?*

Two:

*Returning as promised: What comprises **the deep petrosal nerve**?*
Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?
The pterygoid canal (aka Vidian's canal)

…for the regulation,

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Big L and the LFU

★ The LFU ★

CNS

Motor limb

Speaking of the preganglionic parasympathetics heading to the

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*Finally, for completeness' sake: What comprises the aforementioned **lesser** petrosal nerve?*
Preganglionic parasympathetics belonging to cranial nerve # (the nerve).

Two:

*Returning as promised: What comprises **the deep petrosal nerve**?*
Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

The deep petrosal nerve exits the skull (and enters the pterygopalatine fossa) via a named canal. What is its name?
The pterygoid canal (aka Vidian's canal)

for the regulation,

located ganglia; from the ganglia, it's a relatively short hop for the postganglionic fibers to get to their effector organ.

Big L and the LFU

★ The LFU ★

CNS

Motor limb

Speaking of the preganglionic parasympathetics heading to the ptery… nucle…
The …

The greater petrosal nerve exits the skull (an… pterygopalatine fossa) via a named canal. W…
The pterygo…

Two:

How will the postganglionic sympathetics and (now) postganglionic parasympathetics get to the lacrimal gland after exiting the pterygopalatine ganglion?
They will pass through the inferior orbital fissure to join the lacrimal nerve on its way to the gland

…sympathetics heading to the pterygopalatine ganglion travel together through the pterygoid (aka Vidian's) canal. As they traverse this canal, the two nerves are considered to be

*Finally, for completeness' sake: What comprises the aforementioned **lesser** petrosal nerve?*
Preganglionic parasympathetics belonging to cranial nerve 9 (the glossopharyngeal nerve)

*Returning as promised: What comprises **the deep petrosal nerve**?*
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*Finally, for completeness' sake: What comprises the aforementioned **lesser** petrosal nerve?*
Preganglionic parasympathetics belonging to cranial nerve 9 (the glossopharyngeal nerve). Its postganglionic fibers innervate the [redacted] gland.

*Returning as promised: What comprises **the deep petrosal nerve**?*
Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

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They will pass through the inferior orbital fissure to join the lacrimal nerve on its way to the gland

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*Finally, for completeness' sake: What comprises the aforementioned **lesser** petrosal nerve?*
Preganglionic parasympathetics belonging to cranial nerve 9 (the glossopharyngeal nerve). Its postganglionic fibers innervate the parotid gland.

*Returning as promised: What comprises **the deep petrosal nerve**?*
Postganglionic **symp**athetics heading to the lacrimal gland. The fibers will pass through the pterygopalatine ganglion but will **not** synapse there (as stated, they're **post**-ganglionic).

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