The meibomian glands are embedded within the tarsal plate.
The meibomian glands are embedded within the tarsal plate.
Glands of the Orbit (but not that one)

Meibomian glands
The meibomian glands are embedded within the tarsal plate.

Are meibomian glands innervated? (Efferently that is; obviously they have associated sensory innervation, eg pain, temp.)
The meibomian glands are embedded within the tarsal plate.

Are meibomian glands innervated? (Efferently that is; obviously they have associated sensory innervation, eg pain, temp.)

Indeed they are, by fibers of the parasympathetic system.
- The **meibomian glands** are embedded within the **tarsal plate**.

*Are meibomian glands innervated? (Efferently that is; obviously they have associated sensory innervation, eg pain, temp.) Indeed they are, by fibers of the **parasympathetic** system*
The meibomian glands are embedded within the tarsal plate.

Are meibomian glands innervated? (Efferently that is; obviously they have associated sensory innervation, eg pain, temp.) Indeed they are, by fibers of the parasympathetic system.

What role does this innervation play in their function?
The meibomian glands are embedded within the tarsal plate.

Are meibomian glands innervated? (Efferently that is; obviously they have associated sensory innervation, eg pain, temp.) Indeed they are, by fibers of the parasympathetic system.

What role does this innervation play in their function? As of this writing, the role (if any) remains to be determined.
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called meibum.
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum.
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called **meibum**.

*In one word, what sort of biochemical is meibum?*
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called meibum.

In one word, what sort of biochemical is meibum?
A lipid
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum.

In one word, what sort of biochemical is meibum?
A lipid

The lipids comprising meibum come in two basic flavors—what are they?
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called **meibum**.

In one word, what sort of biochemical is meibum?
A lipid

The lipids comprising meibum come in two basic flavors—what are they?
A nonpolar version that is **hydrophobic** and a polar version that is **amphiphilic**.
The meibomian glands are embedded within the tarsal plate.

The product of a meibomian gland is called meibum.

In one word, what sort of biochemical is meibum?
A lipid

The lipids comprising meibum come in two basic flavors—what are they?
A nonpolar version that is hydrophobic, and a polar version that is amphiphilic.
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called meibum.

In one word, what sort of biochemical is meibum?
A lipid

The lipids comprising meibum come in two basic flavors—what are they?
A nonpolar version that is hydrophobic, and a polar version that is amphiphilic.

In this context, what does it mean to say a lipid is amphiphilic?
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum.

In one word, what sort of biochemical is meibum?
A lipid

The lipids comprising meibum come in two basic flavors—what are they?
A nonpolar version that is hydrophobic, and a polar version that is amphiphilic.

In this context, what does it mean to say a lipid is amphiphilic?
It means the lipid has one end (‘pole’) that can interact chemically with water (ie, is hydrophilic), whereas its other pole can’t (ie, is hydrophobic).
The meibomian glands are embedded within the tarsal plate.

The product of a meibomian gland is called **meibum**.

*In one word, what sort of biochemical is meibum?*
A lipid

*The lipids comprising meibum come in two basic flavors—what are they?*
A nonpolar version that is hydrophobic, and a polar version that is amphiphilic.

*The polar/amphiphilic type is an example of what specific subtype of lipid, common to all cellular life forms? (You know this word, promise.)*
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called meibum.

In one word, what sort of biochemical is meibum?
A lipid

The lipids comprising meibum come in two basic flavors—what are they?
A nonpolar version that is hydrophobic, and a polar version that is amphiphilic

The polar/amphiphilic type is an example of what specific subtype of lipid, common to all cellular life forms? (You know this word, promise.)
Phospholipid
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum.

In one word, what sort of biochemical is meibum? A lipid

The lipids comprising meibum come in two basic flavors—what are they? A nonpolar version that is hydrophobic, and a polar version that is amphiphilic.

The polar/amphiphilic type is an example of what specific subtype of lipid, common to all cellular life forms? (You know this word, promise.) Phospholipid

Can we infer the physical orientation these two species of meibum will assume in the tear film?
In one word, what sort of biochemical is meibum?
A lipid

The lipids comprising meibum come in two basic flavors—what are they?
A nonpolar version that is hydrophobic, and a polar version that is amphiphilic

The polar/amphiphilic type is an example of what specific subtype of lipid, common to all cellular life forms? (You know this word, promise.)
Phospholipid

Can we infer the physical orientation these two species of meibum will assume in the tear film?
We can indeed. The amphiphilic phospholipids will be adjacent to the two words
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called *meibum*.

*In one word, what sort of biochemical is meibum?*
A lipid

*The lipids comprising meibum come in two basic flavors—what are they?*
A *nonpolar* version that is hydrophobic, and a *polar* version that is amphiphilic

*The polar/amphiphilic type is an example of what specific subtype of lipid, common to all cellular life forms? (You know this word, promise.)*
Phospholipid

*Can we infer the physical orientation these two species of meibum will assume in the tear film?*
We can indeed. The amphiphilic phospholipids will be adjacent to the mucoaqueous gel
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called **meibum**.

*In one word, what sort of biochemical is meibum?*
A lipid

*The lipids comprising meibum come in two basic flavors—what are they?*
A nonpolar version that is hydrophobic, and a polar version that is amphiphilic

*The polar/amphiphilic type is an example of what specific subtype of lipid, common to all cellular life forms? (You know this word, promise.)*
Phospholipid

*Can we infer the physical orientation these two species of meibum will assume in the tear film?*
We can indeed. The amphiphilic phospholipids will be adjacent to the mucoaqueous gel, with their hydrophilic pole oriented toward the gel and their hydrophobic pole oriented away from it.
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called meibum.

In one word, what sort of biochemical is meibum?
A lipid

The lipids comprising meibum come in two basic flavors—what are they?
A nonpolar version that is hydrophobic, and a polar version that is amphiphilic

The polar/amphiphilic type is an example of what specific subtype of lipid, common to all cellular life forms? (You know this word, promise.)
Phospholipid

Can we infer the physical orientation these two species of meibum will assume in the tear film?
We can indeed. The amphiphilic phospholipids will be adjacent to the mucoaqueous gel, with their hydrophilic pole oriented toward the gel and their hydrophobic pole oriented away from it. The nonpolar/hydrophobic meibum will be found atop the hydrophobic tails of their polar cousins, as far from the hated water as their hydrophobic selves can get.
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called **meibum**. The product of a sebaceous gland is called **sebum**.
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called meibum.
The product of a sebaceous gland is called sebum.
How do these differ (other than in their gland of origin)?
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum. How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, one of them has a lower melting point (≤ to ocular surface temp).
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called *meibum*. The product of a sebaceous gland is called *sebum*.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).
The meibomian glands are embedded within the tarsal plate.

The product of a meibomian gland is called meibum.

The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids.
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called meibum.
The product of a sebaceous gland is called sebum.
How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).
There are up to twice as many meibomian glands in the upper lids.
• The meibomian glands are embedded within the tarsal plate.
• The product of a meibomian gland is called meibum.
• The product of a sebaceous gland is called sebum.
• How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).
• There are up to twice as many meibomian glands in the upper lids.

*How many MGs are we talking about for each lid?*
--Uppers: ? (looking for a range here)
--Lowers: ? (ditto)
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum. How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp). There are up to twice as many meibomian glands in the upper lids.

How many MGs are we talking about for each lid?--Uppers: 30-40--Lowers: 20-30
Glands of the Orbit (but not that one)

Meibomian glands: UL and LL
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting there.
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called **meibum**.
The product of a sebaceous gland is called **sebum**.
How do these differ (other than in their gland of origin)? **Meibum** has a much lower concentration of polar triglycerides and free fatty acids than does **sebum**. Also, **meibum** has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting **chalazia** there.
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

How does a chalazion present?
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

How does a chalazion present?
As focal swelling localizing to the tarsal plate
Glands of the Orbit (but not that one)

Chalazion
Glands of the Orbit (but not that one)

- The meibomian glands are embedded within the tarsal plate.
- The product of a meibomian gland is called meibum.
- The product of a sebaceous gland is called sebum.
- How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).
- There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

*How does a chalazion present?*
As focal swelling localizing to the tarsal plate

*Is it an inflammatory condition?*
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

How does a chalazion present?
As focal swelling localizing to the tarsal plate

Is it an inflammatory condition?
It is indeed
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

How does a chalazion present? As focal swelling localizing to the tarsal plate.

Is it an inflammatory condition? It is indeed.

What bug is most commonly implicated? None—it is a sterile condition.
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called meibum.
The product of a sebaceous gland is called sebum.
How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).
There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

How does a chalazion present?
As focal swelling localizing to the tarsal plate

Is it an inflammatory condition?
It is indeed

What bug is most commonly implicated?
None—it is a sterile condition
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

How does a chalazion present?
As focal swelling localizing to the tarsal plate

Is it an inflammatory condition?
It is indeed

What bug is most commonly implicated?
None—it is a sterile condition

But you said it was inflammatory—what’s the deal?
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum. How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

**How does a chalazion present?**
As focal swelling localizing to the tarsal plate

**Is it an inflammatory condition?**
It is indeed

**What bug is most commonly implicated?**
None—it is a sterile condition

**But you said it was inflammatory—what’s the deal?**
Bear in mind, not all inflammatory conditions are infectious in origin
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

How does a chalazion present?
As focal swelling localizing to the tarsal plate

Is it an inflammatory condition?
It is indeed

In broad terms, what is the pathophysiology causing chalazia?
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called **meibum**.
The product of a sebaceous gland is called **sebum**.
How do these differ (other than in their gland of origin)? **Meibum** has a much lower concentration of polar triglycerides and free fatty acids than does **sebum**. Also, **meibum** has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting **chalazia** there.

**How does a chalazion present?**
As focal swelling localizing to the tarsal plate

**Is it an inflammatory condition?**
It is indeed

**In broad terms, what is the pathophysiology causing chalazia?**
Obstruction of a meibomian gland prevents normal meibum expression. The backed-up meibum then leaks or breaks into the surrounding tissue, where it incites the inflammatory reaction.
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called **meibum**. The product of a sebaceous gland is called **sebum**. How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp). There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting **chalazia** there.

How does a chalazion present? As focal swelling localizing to the tarsal plate

Is it an inflammatory condition? It is indeed.

In broad terms, what is the pathophysiology causing chalazia? Compression. The backed-up meibum then leaks or breaks into the surrounding tissue, where it incites the inflammatory reaction.

Is the inflammatory reaction granulomatous, or nongranulomatous?
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called \textit{meibum}. The product of a sebaceous gland is called \textit{sebum}.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (\( \leq \) to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting \textit{chalazia} there.

\textit{How does a chalazion present?}
As focal swelling localizing to the tarsal plate

\textit{Is it an inflammatory condition?}
It is indeed

\textit{In broad terms, what is the pathophysiology causing chalazia?}
Obstruction of a meibomian gland prevents normal meibum expression. The backed-up meibum then leaks or breaks into the surrounding tissue, where it incites the \textit{inflammatory reaction}.

\textit{Is the inflammatory reaction granulomatous, or nongranulomatous?}
Granulomatous
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

How does a chalazion present?
As focal swelling localizing to the tarsal plate

Is it an inflammatory condition?
It is indeed

In broad terms, what is the pathophysiology causing chalazia?
Obstruction of a meibomian gland prevents normal meibum expression. The backed-up meibum then leaks or breaks into the surrounding tissue, where it incites the inflammatory reaction.

Is the inflammatory reaction granulomatous, or nongranulomatous?
Granulomatous—specifically, a something-granulomatous reaction
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum. How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

How does a chalazion present?
As focal swelling localizing to the tarsal plate

Is it an inflammatory condition?
It is indeed

In broad terms, what is the pathophysiology causing chalazia?
Obstruction of a meibomian gland prevents normal meibum expression. The backed-up meibum then leaks or breaks into the surrounding tissue, where it incites the inflammatory reaction.

Is the inflammatory reaction granulomatous, or nongranulomatous?
Granulomatous—specifically, a lipo granulomatous reaction
Glands of the Orbit *(but not that one)*

Chalazion. The empty space (large arrow) is where lipid was located (it got washed out during slide prep).
Chalazion. The empty space (large arrow) is where lipid was located (it got washed out during slide prep). The smaller arrow is pointing toward a \textbf{giant cell}, a defining feature of granulomatous inflammation.
Chalazion. The empty space (large arrow) is where lipid was located (it got washed out during slide prep). The smaller arrow is pointing toward a giant cell, a defining feature of granulomatous inflammation.
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum. How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp). There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there. What are the glands of Krause and Wolfring?
The meibomian glands are embedded within the tarsal plate.

The product of a meibomian gland is called meibum.

The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

What are the glands of Krause and Wolfring? The so-called accessory lacrimal glands.
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

What are the glands of Krause and Wolfring? The so-called accessory lacrimal glands.
The meibomian glands are embedded within the tarsal plate.
The product of a meibomian gland is called meibum.
The product of a sebaceous gland is called sebum.
How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).
There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.
What are the glands of Krause and Wolfring? The so-called accessory lacrimal glands.
Where are they located? The...
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called *meibum*. The product of a sebaceous gland is called *sebum*. How do these differ (other than in their gland of origin)? *Meibum* has a much lower concentration of polar triglycerides and free fatty acids than does *sebum*. Also, *meibum* has a lower melting point (≤ to ocular surface temp). There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there. What are the *glands of Krause and Wolfring*? The so-called accessory lacrimal glands. Where are they located? The *palpebral* and *forniceal* conjunctiva.
Glands of the Orbit (but not that one)

Glands of Krause and Wolfring
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called **meibum**. The product of a sebaceous gland is called **sebum**.

How do these differ (other than in their gland of origin)? **Meibum** has a much lower concentration of polar triglycerides and free fatty acids than does **sebum**. Also, **meibum** has a lower melting point (\( \leq \) to ocular surface temp).

There are up to twice as many meibomian glands in the **upper** lids, which probably accounts for the increased risk of getting **chalazia** there.

What are the **glands of Krause and Wolfring**? The so-called **accessory lacrimal** glands.

Where are they located? The **palpebral** and **forniceal** conjunctiva.

What are the **glands of Zeiss and Moll**? Glands of the...
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (\(\leq\) to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

What are the glands of Krause and Wolfring? The so-called accessory lacrimal glands.

Where are they located? The palpebral and forniceal conjunctiva.

What are the glands of Zeiss and Moll? Glands of the eyelash pilosebaceous unit.
Glands of the Orbit *(but not that one)*

Glands of Zeiss and Moll
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

What are the glands of Krause and Wolfring? The so-called accessory lacrimal glands.

Where are they located? The palpebral and forniceal conjunctiva

What are the glands of Zeiss and Moll? Glands of the eyelash pilosebaceous unit.

- Zeiss glands are sebaceous glands
- Moll glands are sweat glands
The meibomian glands are embedded within the tarsal plate. The product of a meibomian gland is called meibum. The product of a sebaceous gland is called sebum.

How do these differ (other than in their gland of origin)? Meibum has a much lower concentration of polar triglycerides and free fatty acids than does sebum. Also, meibum has a lower melting point (≤ to ocular surface temp).

There are up to twice as many meibomian glands in the upper lids, which probably accounts for the increased risk of getting chalazia there.

What are the glands of Krause and Wolfring? The so-called accessory lacrimal glands.

Where are they located? The palpebral and forniceal conjunctiva.

What are the glands of Zeiss and Moll? Glands of the eyelash pilosebaceous unit.

- Zeiss glands are sebaceous glands
- Moll glands are sweat glands