For each of the following, state whether it is associated with *Seasonal Allergic Conjunctivitis (SAC)*, *Perennial Allergic Conjunctivitis (PAC)*, *Neither* or *Both*.

- Also known as *hay-fever conjunctivitis*
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both.

- Also known as *hay-fever conjunctivitis* SAC
Also known as *hay-fever conjunctivitis* SAC

Occurs year-round
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both.
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching*
For each of the following, state whether it is associated with *Seasonal Allergic Conjunctivitis (SAC)*, *Perennial Allergic Conjunctivitis (PAC)*, *Neither* or *Both*

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both

- Also known as hay-fever conjunctivitis  **SAC**
- Occurs year-round  **PAC**
- **Chief symptom is itching  Both**

*Rule of thumb:*
- If the pt reports itching >> burning, think SAC/PAC
- If the pt reports burning >> itching, think something else entirely
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as hay-fever conjunctivitis  SAC
- Occurs year-round  PAC
- **Chief symptom is itching**  Both

*Rule of thumb:*
--If the pt reports itching >> burning, think SAC/PAC
--If the pt reports burning >> itching, think dry eye syndrome
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both

- Also known as *hay-fever conjunctivitis*  **SAC**
- Occurs year-round  **PAC**
- Chief symptom is *itching*  **Both**
- Is an IgE-mediated hypersensitivity reaction
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
For each of the following, state whether it is associated with **Seasonal Allergic Conjunctivitis (SAC)**, **Perennial Allergic Conjunctivitis (PAC)**, **Neither** or **Both**.

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
- Is an IgE-mediated **hypersensitivity reaction** **Both**

*Let’s drill down on hypersensitivity reactions*
Firstly: What is a Hypersensitivity Reaction?
Firstly: What is a Hypersensitivity Reaction?
An exaggerated version of a normal immune response—ie, too much of a good thing
How many Hypersensitivity Reactions of the Ocular Surface are there?
How many Hypersensitivity Reactions of the Ocular Surface are there?

Type I  Type II  Type III  Type IV
Note: The conceptualization of distinct and separable hypersensitivity reactions is considered outdated by modern immunologists in that most clinical hypersensitivity presentations involve a blend of the purportedly distinct mechanisms.
Note: The conceptualization of distinct and separable hypersensitivity reactions is considered outdated by modern immunologists in that most clinical hypersensitivity presentations involve a blend of the purportedly distinct mechanisms. That said, this framework for categorizing hypersensitivity reactions persists in the literature, and thus familiarity with it remains an obligation of ophthalmos-in-training.

No question—proceed when ready
Hypersensitivity Reactions of the Ocular Surface

Type I reactions involve...

Type I reactions involve...

[One word that captures the nature of this rxn]

Next Q
Hypersensitivity Reactions of the Ocular Surface

**Type I**

Anaphylaxis

**Type II**

**Type III**

Type III reactions involve... Immune-complex reactions

**Type IV**

Type IV reactions involve... Cell-mediated reactions

**Type I reactions involve...** Anaphylaxis

**Type II reactions involve...**

**Type III reactions involve...**

**Type IV reactions involve...**
Hypersensitivity Reactions of the Ocular Surface

Type I reactions involve... Anaphylaxis
Type II reactions involve... [Two words capturing this rxn]
Type III reactions involve...
Type IV reactions involve...
Type I reactions involve Anaphylaxis
Type II reactions involve Cytotoxic antibodies
Type III reactions involve Immune-complex reactions
Type IV reactions involve Cell-mediated reactions

Hypersensitivity Reactions of the Ocular Surface
Type I reactions involve... Anaphylaxis
Type II reactions involve... Cytotoxic antibodies
Type III reactions involve... [Three words for this one]
Type IV reactions involve...
<table>
<thead>
<tr>
<th>Type</th>
<th>Reactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type I</td>
<td>Anaphylaxis</td>
</tr>
<tr>
<td>Type II</td>
<td>Cytotoxic antibodies</td>
</tr>
<tr>
<td>Type III</td>
<td>Immune-complex reactions</td>
</tr>
<tr>
<td>Type IV</td>
<td>Cell-mediated reactions</td>
</tr>
</tbody>
</table>
Type I reactions involve… Anaphylaxis
Type II reactions involve… Cytotoxic antibodies
Type III reactions involve… Immune-complex reactions
Type IV reactions involve… [Three words again]
Hypersensitivity Reactions of the Ocular Surface

Type I reactions involve…Anaphylaxis
Type II reactions involve…Cytotoxic antibodies
Type III reactions involve…Immune-complex reactions
Type IV reactions involve…Cell-mediated reactions
Type I reactions involve...Anaphylaxis
Type II reactions involve...Cytotoxic antibodies
Type III reactions involve...Immune-complex reactions
Type IV reactions involve...Cell-mediated reactions

Which type of hypersensitivity reaction (ie, I-IV) are SAC and PAC?
Which type of hypersensitivity reaction (ie, I-IV) are SAC and PAC?

Type I
Hypersensitivity Reactions of the Ocular Surface

Anaphylaxis
Type I

Cytotoxic Ab
Type II

Immune-complex reactions
Type III

Cell-mediated reactions
Type IV

Type I reactions involve...Anaphylaxis
Type II reactions involve...Cytotoxic antibodies
Type III reactions involve...Immune-complex reactions
Type IV reactions involve...Cell-mediated reactions

Which type of hypersensitivity reaction (ie, I-IV) are SAC and PAC?
Type I

Let’s drill down on Type I hypersensitivity reactions
Type I reactions involve...Anaphylaxis
Type II reactions involve...Cytotoxic antibodies
Type III reactions involve...Immune-complex reactions
Type IV reactions involve...Cell-mediated reactions

Briefly, how does an anaphylactic reaction proceed?
Type I reactions involve...Anaphylaxis
Type II reactions involve...Cytotoxic antibodies
Type III reactions involve...Immune-complex reactions
Type IV reactions involve...Cell-mediated reactions

Briefly, how does an anaphylactic reaction proceed?
The binding of antigen (Ag) to IgE receptors on mast cells causes the cells to [one word] + its abb. [Ig... cell type]
**Hypersensitivity Reactions of the Ocular Surface**

**Type I reactions involve...**Anaphylaxis

**Type II reactions involve...**Cytotoxic antibodies

**Type III reactions involve...**Immune-complex reactions

**Type IV reactions involve...**Cell-mediated reactions

Briefly, how does an anaphylactic reaction proceed?
The binding of antigen (Ag) to IgE receptors on mast cells causes the cells to degranulate.
<table>
<thead>
<tr>
<th>Type I</th>
<th>Type II</th>
<th>Type III</th>
<th>Type IV</th>
</tr>
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<tr>
<td>Anaphylaxis</td>
<td>Cytotoxic Ab</td>
<td>Immune-complex reactions</td>
<td>Cell-mediated reactions</td>
</tr>
</tbody>
</table>

**Type I reactions involve...Anaphylaxis**

**Type II reactions involve...Cytotoxic antibodies**

**Type III reactions involve...Immune-complex reactions**

**Type IV reactions involve...Cell-mediated reactions**

**Briefly, how does an anaphylactic reaction proceed?**

The binding of antigen (Ag) to IgE receptors on mast cells causes the cells to **degranulate**, with the subsequent release of one word and other pre-formed inflammatory mediators.
**Hypersensitivity Reactions of the Ocular Surface**

Anaphylaxis

**Type I reactions involve...** Anaphylaxis

Type II reactions involve... Cytotoxic antibodies

Type III reactions involve... Immune-complex reactions

Type IV reactions involve... Cell-mediated reactions

*Briefly, how does an anaphylactic reaction proceed?*

The binding of antigen (Ag) to IgE receptors on mast cells causes the cells to degranulate, with the subsequent release of histamine and other pre-formed inflammatory mediators.
**Hypersensitivity Reactions of the Ocular Surface**

Type I reactions involve...Anaphylaxis
Type II reactions involve...Cytotoxic antibodies
Type III reactions involve...Immune-complex reactions
Type IV reactions involve...Cell-mediated reactions

**Briefly, how does an anaphylactic reaction proceed?**

The binding of antigen (Ag) to IgE receptors on mast cells causes the cells to degranulate, with the subsequent release of histamine and other pre-formed inflammatory mediators.

Sounds fast. How long does it take to become clinically apparent?
Briefly, how does an anaphylactic reaction proceed?
The binding of antigen (Ag) to IgE receptors on mast cells causes the cells to degranulate, with the subsequent release of histamine and other pre-formed inflammatory mediators.

Sounds fast. How long does it take to become clinically apparent?
Only minutes (which is why this reaction is often referred to as immediate hypersensitivity)
Briefly, how does an anaphylactic reaction proceed? The binding of antigen (Ag) to IgE receptors on mast cells causes the cells to degranulate, with the subsequent release of histamine and other pre-formed inflammatory mediators.

Sounds fast. How long does it take to become clinically apparent? Only minutes (which is why this reaction is often referred to as immediate hypersensitivity).

For more on hypersensitivity reactions of the ocular surface, see slide-set K21.
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both.

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
- Is an IgE-mediated hypersensitivity reaction **Both**
- The allergen is usually airborne
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
- The allergen is usually airborne Both
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
- Is an IgE-mediated hypersensitivity reaction **Both**
- The allergen is usually airborne **Both**
- Tree, grass and weed pollen are typical allergens
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
- The allergen is usually airborne Both
- Tree, grass and weed pollen are typical allergens SAC
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
- Is an IgE-mediated hypersensitivity reaction **Both**
- The allergen is usually airborne **Both**
- Tree, grass and weed pollen are typical allergens **SAC**
- Animal dander, dust mites, mold are typical allergens
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
- Is an IgE-mediated hypersensitivity reaction **Both**
- The allergen is usually airborne **Both**
- Tree, grass and weed pollen are typical allergens **SAC**
- Animal dander, dust mites, mold are typical allergens **PAC**
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
- The allergen is usually airborne Both
- Tree, grass and weed pollen are typical allergens SAC
- Animal dander, dust mites, mold are typical allergens PAC
- Is often sight-threatening in its sequelae
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both.

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
- Is an IgE-mediated hypersensitivity reaction **Both**
- The allergen is usually airborne **Both**
- Tree, grass and weed pollen are typical allergens **SAC**
- Animal dander, dust mites, mold are typical allergens **PAC**
- Is often sight-threatening in its sequelae **Neither**
Also known as hay-fever conjunctivitis \textbf{SAC}

Occurs year-round \textbf{PAC}

Chief symptom is \textit{itching} \textbf{Both}

Is an IgE-mediated hypersensitivity reaction \textbf{Both}

The allergen is usually airborne \textbf{Both}

Tree, grass and weed pollen are typical allergens \textbf{SAC}

Animal dander, dust mites, mold are typical allergens \textbf{PAC}

Is often sight-threatening in its sequelae? \textbf{Neither}

\textit{Which form of allergic surface disease is notorious for its sight-threatening sequelae?}
Also known as *hay-fever conjunctivitis* **SAC**

- Occurs year-round **PAC**

- Chief symptom is *itching* **Both**

- Is an IgE-mediated hypersensitivity reaction **Both**

- The allergen is usually airborne **Both**

- Tree, grass and weed pollen are typical allergens **SAC**

- Animal dander, dust mites, mold are typical allergens **PAC**

- Is often sight-threatening in its sequelae **AKC**

Which form of allergic surface disease is notorious for its sight-threatening sequelae?

Atopic keratoconjunctivitis (AKC)
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
- Is an IgE-mediated hypersensitivity reaction **Both**
- The allergen is usually airborne **Both**
- Tree, grass and weed pollen are typical allergens **SAC**
- Animal dander, dust mites, mold are typical allergens **PAC**
- Is often sight-threatening in its sequelae **Neither**
- Mast-cell degranulation → itch, edema and hyperemia
Also known as *hay-fever conjunctivitis* **SAC**

Occurs year-round **PAC**

Chief symptom is *itching* **Both**

Is an IgE-mediated hypersensitivity reaction **Both**

The allergen is usually airborne **Both**

Tree, grass and weed pollen are typical allergens **SAC**

Animal dander, dust mites, mold are typical allergens **PAC**

Is often sight-threatening in its sequelae **Neither**

Mast-cell degranulation→itch, edema and hyperemia **Both**
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
- Is an IgE-mediated hypersensitivity reaction **Both**
- The allergen is usually airborne **Both**
- Tree, grass and weed pollen are typical allergens **SAC**
- Animal dander, dust mites, mold are typical allergens **PAC**
- Is often sight-threatening in its sequelae **Neither**
- **Mast-cell degranulation** \(\rightarrow\) *itch, edema and hyperemia* **Both**

What is the chief inflammatory mediator released by the degranulating mast cells?
Also known as *hay-fever conjunctivitis*  **SAC**

- Occurs year-round  **PAC**
- Chief symptom is *itching*  **Both**
- Is an IgE-mediated hypersensitivity reaction  **Both**
- The allergen is usually airborne  **Both**
- Tree, grass and weed pollen are typical allergens  **SAC**
- Animal dander, dust mites, mold are typical allergens  **PAC**
- Is often sight-threatening in its sequelae  **Neither**
- **Mast-cell degranulation**→*itch, edema and hyperemia*  **Both**

*What is the chief inflammatory mediator released by the degranulating mast cells?*

Histamine
For each of the following, state whether it is associated with **Seasonal Allergic Conjunctivitis (SAC)**, **Perennial Allergic Conjunctivitis (PAC)**, **Neither** or **Both**

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
- Is an IgE-mediated hypersensitivity reaction **Both**
- The allergen is usually airborne **Both**
- Tree, grass and weed pollen are typical allergens **SAC**
- Animal dander, dust mites, mold are typical allergens **PAC**
- Is often sight-threatening in its sequelae **Neither**
- Mast-cell degranulation → itch, edema and hyperemia **Both**
- Topical steroids are the mainstay of treatment
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both.

- Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
- The allergen is usually airborne Both
- Tree, grass and weed pollen are typical allergens SAC
- Animal dander, dust mites, mold are typical allergens PAC
- Is often sight-threatening in its sequelae Neither
- Mast-cell degranulation→itch, edema and hyperemia Both
- Topical steroids are the mainstay of treatment Neither
For each of the following, state whether it is associated with *Seasonal Allergic Conjunctivitis (SAC)*, *Perennial Allergic Conjunctivitis (PAC)*, *Neither* or *Both*.

- Also known as *hay-fever conjunctivitis*  **SAC**
- Occurs year-round  **PAC**
- Chief symptom is *itching*  **Both**
- Is an IgE-mediated hypersensitivity reaction  **Both**
- The allergen is usually airborne  **Both**
- Tree, grass and weed pollen are typical allergens  **SAC**
- Animal dander, dust mites, mold are typical allergens  **PAC**
- Is often sight-threatening in its sequelae  **Neither**
- Mast-cell degranulation $\rightarrow$ itch, edema and hyperemia  **Both**
- **Topical steroids are the mainstay of treatment**  **Neither**

*Why are steroids not the mainstay of treatment?*
For each of the following, state whether it is associated with *Seasonal Allergic Conjunctivitis (SAC)*, *Perennial Allergic Conjunctivitis (PAC)*, *Neither* or *Both*:

- Also known as *hay-fever conjunctivitis*  **SAC**
- Occurs year-round  **PAC**
- Chief symptom is *itching*  **Both**
- Is an IgE-mediated hypersensitivity reaction  **Both**
- The allergen is usually airborne  **Both**
- Tree, grass and weed pollen are typical allergens  **SAC**
- Animal dander, dust mites, mold are typical allergens  **PAC**
- Is often sight-threatening in its sequelae  **Neither**
- Mast-cell degranulation $\rightarrow$ itch, edema and hyperemia  **Both**
- **Topical steroids are the mainstay of treatment**  **Neither**

*Why are steroids not the mainstay of treatment?*
Because of their side effects (cataracts, elevated IOP, etc)
For each of the following, state whether it is associated with **Seasonal Allergic Conjunctivitis (SAC)**, **Perennial Allergic Conjunctivitis (PAC)**, **Neither** or **Both**:

- Also known as *hay-fever conjunctivitis* **SAC**
- Occurs year-round **PAC**
- Chief symptom is *itching* **Both**
- Is an IgE-mediated hypersensitivity reaction **Both**
- The allergen is usually airborne **Both**
- Tree, grass and weed pollen are typical allergens **SAC**
- Animal dander, dust mites, mold are typical allergens **PAC**
- Is often sight-threatening in its sequelae **Neither**
- Mast-cell degranulation→itch, edema and hyperemia **Both**
- Topical steroids are the mainstay of treatment **Neither**
- T-cells play an important role in pathogenesis
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both.

- Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
- The allergen is usually airborne Both
- Tree, grass and weed pollen are typical allergens SAC
- Animal dander, dust mites, mold are typical allergens PAC
- Is often sight-threatening in its sequelae Neither
- Mast-cell degranulation → itch, edema and hyperemia Both
- Topical steroids are the mainstay of treatment Neither
- T-cells play an important role in pathogenesis Neither
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as *hay-fever conjunctivitis*  **SAC**
- Occurs year-round  **PAC**
- Chief symptom is *itching*  **Both**
- Is an IgE-mediated hypersensitivity reaction  **Both**
- The allergen is usually airborne  **Both**
- Tree, grass and weed pollen are typical allergens  **SAC**
- Animal dander, dust mites, mold are typical allergens  **PAC**
- Is often sight-threatening in its sequelae  **Neither**
- Mast-cell degranulation→itch, edema and hyperemia  **Both**
- Topical steroids are the mainstay of treatment  **Neither**
- T-cells play an important role in pathogenesis  **Neither**
- Asthma is a common co-morbidity
Also known as *hay-fever conjunctivitis* SAC

Occurs year-round PAC

Chief symptom is *itching* Both

Is an IgE-mediated hypersensitivity reaction Both

The allergen is usually airborne Both

Tree, grass and weed pollen are typical allergens SAC

Animal dander, dust mites, mold are typical allergens PAC

Is often sight-threatening in its sequelae Neither

Mast-cell degranulation→itch, edema and hyperemia Both

Topical steroids are the mainstay of treatment Neither

T-cells play an important role in pathogenesis Neither

Asthma is a common co-morbidity SAC
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
- The allergen is usually airborne Both
- Tree, grass and weed pollen are typical allergens SAC
- Animal dander, dust mites, mold are typical allergens PAC
- Is often sight-threatening in its sequelae Neither
- Mast-cell degranulation → itch, edema and hyperemia Both
- Topical steroids are the mainstay of treatment Neither
- T-cells play an important role in pathogenesis Neither
- Asthma is a common co-morbidity SAC
- Allergic rhinitis is a common co-morbidity
Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
- The allergen is usually airborne Both
- Tree, grass and weed pollen are typical allergens SAC
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- Topical steroids are the mainstay of treatment Neither
- T-cells play an important role in pathogenesis Neither
- Asthma is a common co-morbidity SAC
- Allergic rhinitis is a common co-morbidity SAC
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both.

- Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
- The allergen is usually airborne Both
- Tree, grass and weed pollen are typical allergens SAC
- Animal dander, dust mites, mold are typical allergens PAC
- Is often sight-threatening in its sequelae Neither
- Mast-cell degranulation → itch, edema and hyperemia Both
- Topical steroids are the mainstay of treatment Neither
- T-cells play an important role in pathogenesis Neither
- Asthma is a common co-morbidity SAC
- Allergic rhinitis is a common co-morbidity SAC
- Artificial tears can help reduce symptoms
Also known as *hay-fever conjunctivitis* SAC

Occurs year-round PAC

Chief symptom is *itching* Both

Is an IgE-mediated hypersensitivity reaction Both

The allergen is usually airborne Both

Tree, grass and weed pollen are typical allergens SAC

Animal dander, dust mites, mold are typical allergens PAC

Is often sight-threatening in its sequelae Neither

Mast-cell degranulation → itch, edema and hyperemia Both

Topical steroids are the mainstay of treatment Neither

T-cells play an important role in pathogenesis Neither

Asthma is a common co-morbidity SAC

Allergic rhinitis is a common co-morbidity SAC

Artificial tears can help reduce symptoms Both
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both

- Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
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- Tree, grass and weed pollen are typical allergens SAC
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- Is often sight-threatening in its sequelae Neither
- Mast-cell degranulation → itch, edema and hyperemia Both
- Topical steroids are the mainstay of treatment Neither
- T-cells play an important role in pathogenesis Neither
- Asthma is a common co-morbidity SAC
- Allergic rhinitis is a common co-morbidity SAC
- **Artificial tears can help reduce symptoms** Both

*How do ATs help control symptoms?*
For each of the following, state whether it is associated with Seasonal Allergic Conjunctivitis (SAC), Perennial Allergic Conjunctivitis (PAC), Neither or Both:

- Also known as *hay-fever conjunctivitis* SAC
- Occurs year-round PAC
- Chief symptom is *itching* Both
- Is an IgE-mediated hypersensitivity reaction Both
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- Tree, grass and weed pollen are typical allergens SAC
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- Is often sight-threatening in its sequelae Neither
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- Topical steroids are the mainstay of treatment Neither
- T-cells play an important role in pathogenesis Neither
- Asthma is a common co-morbidity SAC
- Allergic rhinitis is a common co-morbidity SAC
- Artificial tears can help reduce symptoms Both

*How do ATs help control symptoms?*
*By washing allergens off of the ocular surface*