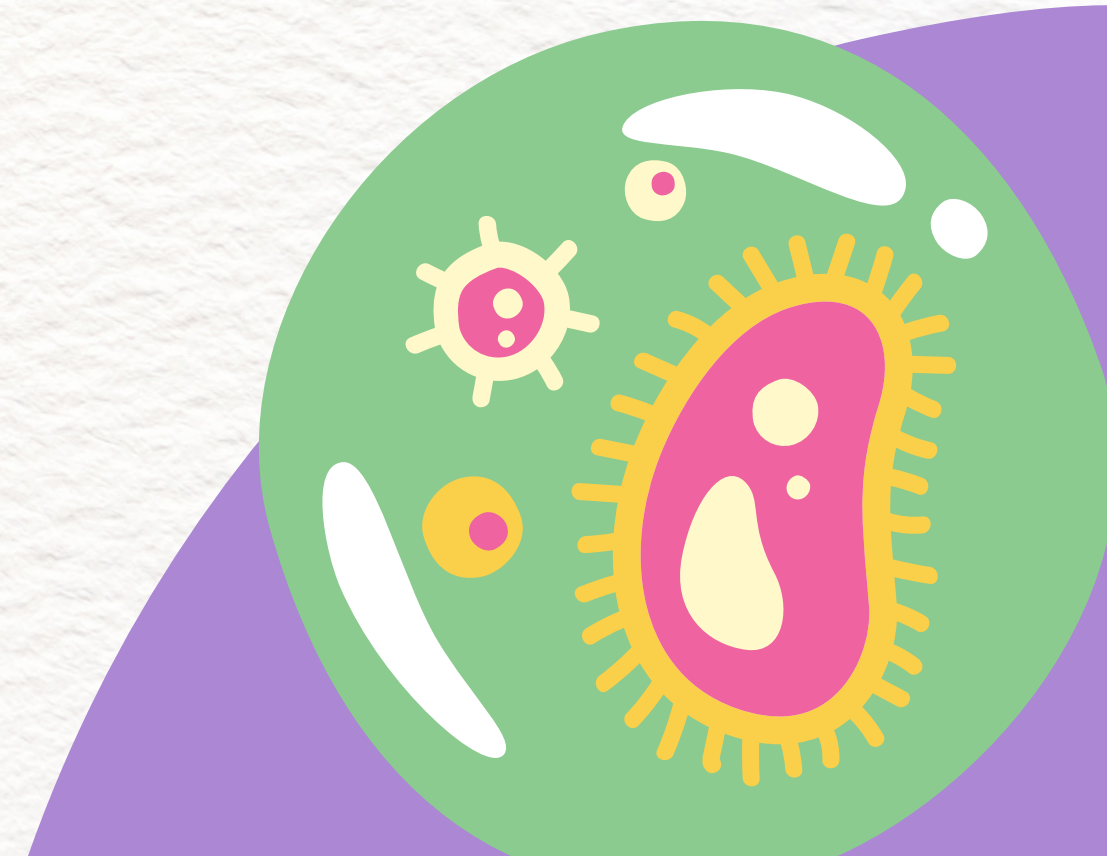


Systemic Therapies



Module 4 Questions

1. All biologic medications are approved for the same ages

- a) True**
- b) False**

2. Which of the following can you inject at home?

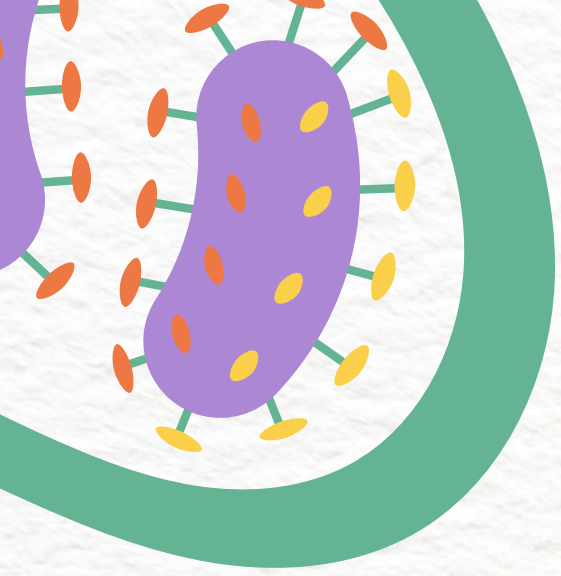
- a) Omalizumab**
- b) Dupixent**
- c) All of the above**

3. Biologic medications are more precise than corticosteroid therapies

- a) True**
- b) False**

4. Biologic medications can be taken as a liquid, but oral corticosteroids can only be injected

- a) True**
- b) False**



Systemic Therapies

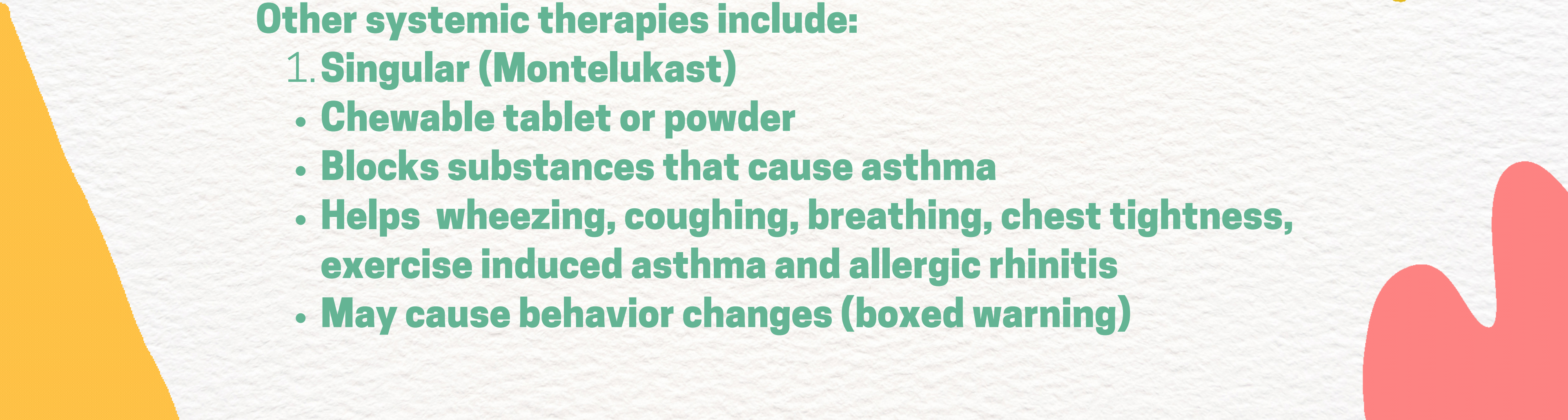


There are many forms of systemic therapies:

The main systemic therapies are:

- 1. Oral Corticosteroids**
- 2. Biologic Medications**

Other systemic therapies include:

- 1. Singular (Montelukast)**
 - Chewable tablet or powder**
 - Blocks substances that cause asthma**
 - Helps wheezing, coughing, breathing, chest tightness, exercise induced asthma and allergic rhinitis**
 - May cause behavior changes (boxed warning)**
- 

Oral Corticosteroids



Oral Corticosteroids are taken either in pill or liquid format.



They are prescribed to treat asthma attacks that do not respond to other asthma medicines and treatments.



In cases of severe asthma, oral corticosteroids are prescribed as a long-term treatment/therapy.



These steroids are not the same as anabolic steroids that are taken by some athletes and banned in many athletic events.

Oral Corticosteroids (cont.)

Oral corticosteroids work by reducing inflammation and swelling in the lungs. Common examples are:

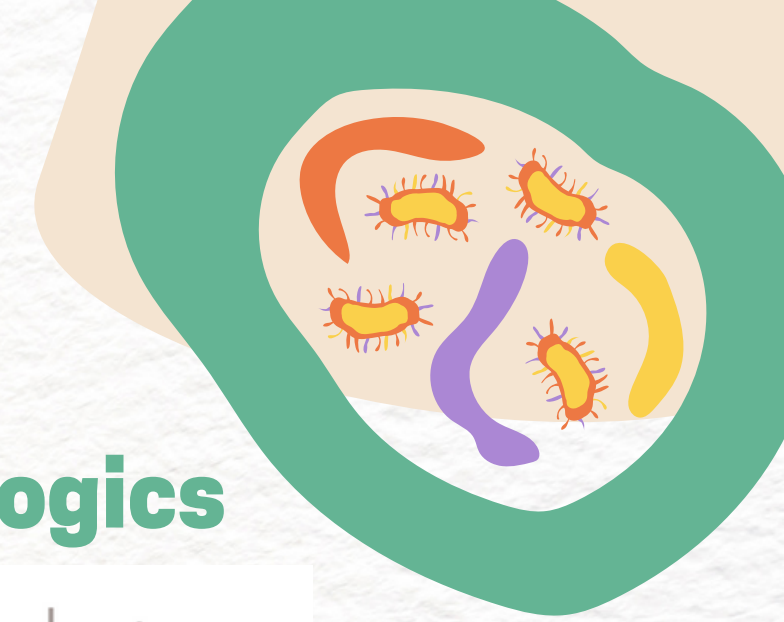
Dexamethasone (Decadron)

PredniSONE

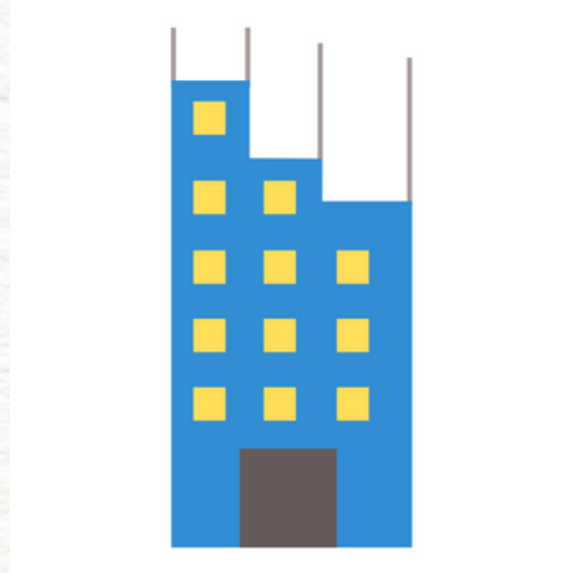
PrednisoLONE

They are taken by mouth for up to a week and prevent the release of substances in the body that cause inflammation. They suppress the immune system and have many side effects. These can include weight gain, skin/bone thinning, metabolic issues and behavioral changes.

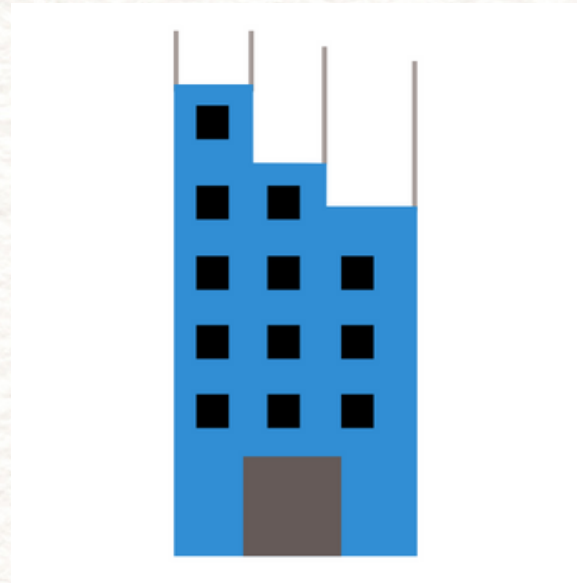
Biologic Medicines



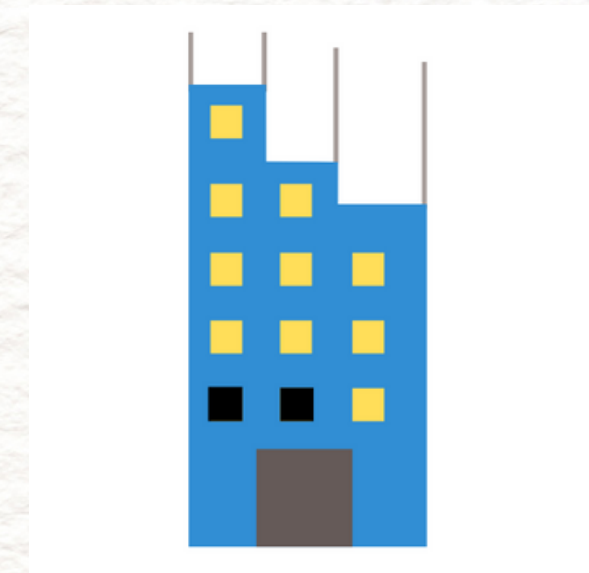
Immune System



Oral Corticosteroids



Biologics



- Biologic medications are shots or infusions given once every few weeks.
- They work by targeting specific cells or proteins in the body and prevent airway inflammation.
- These drugs are made by living cells and are targeted precision medicines (do not suppress immune system).
- Corticosteroids are very broad treatments, while biologics are very specific.

Delivery Methods



Syringe and Vial (in-clinic)



Omalizumab
Mepolizumab

Needle Safety Device (prefilled syringe)



Omalizumab
Benralizumab
Dupilumab
Tezepelumab

Autoinjector

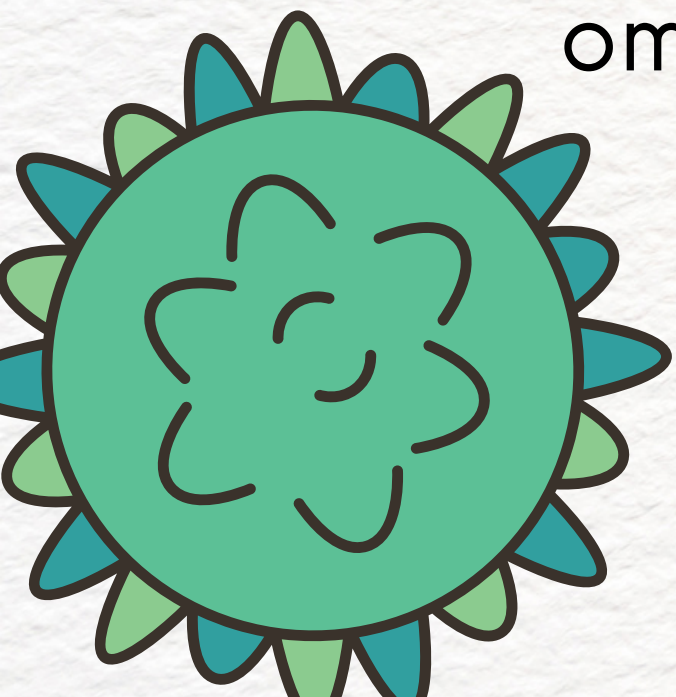
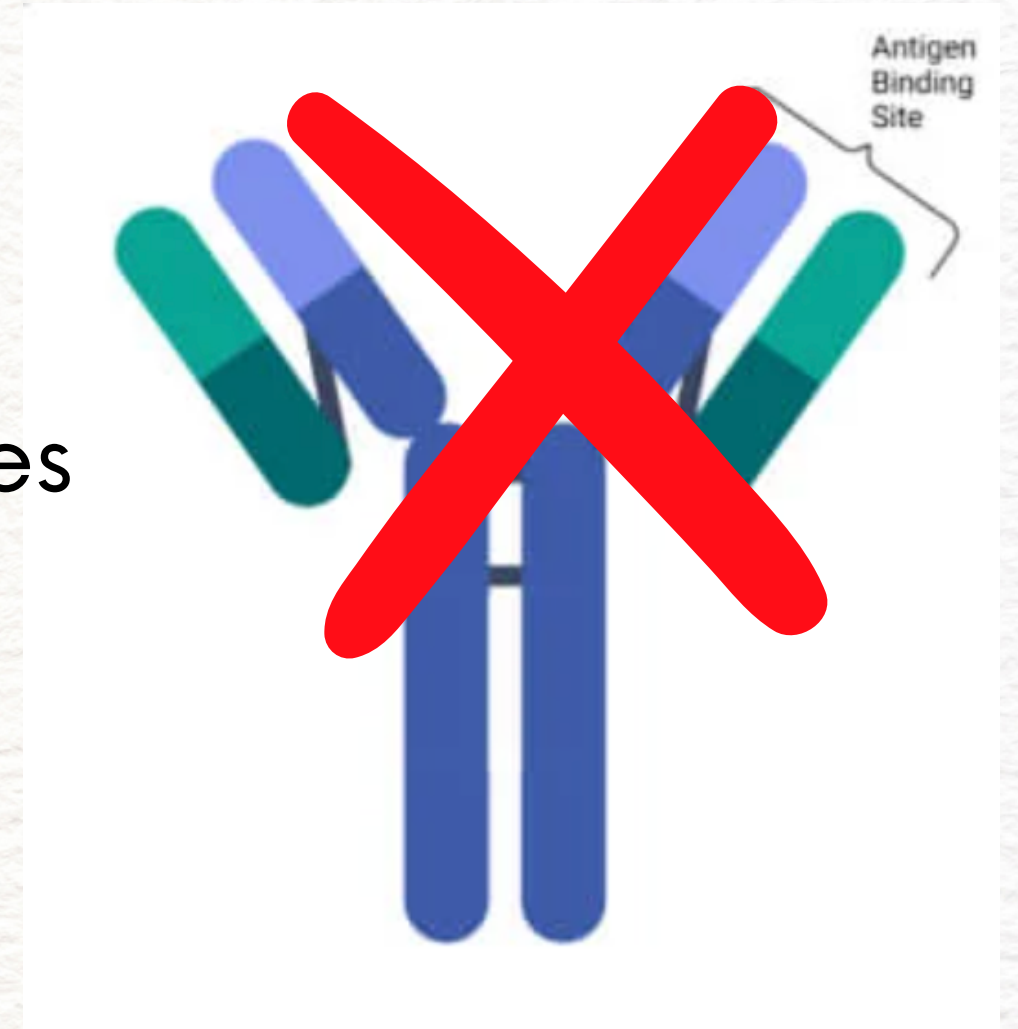


Mepolizumab
Benralizumab
Dupilumab
Tezepelumab

*Caregivers can administer at-home options or patients can inject themselves

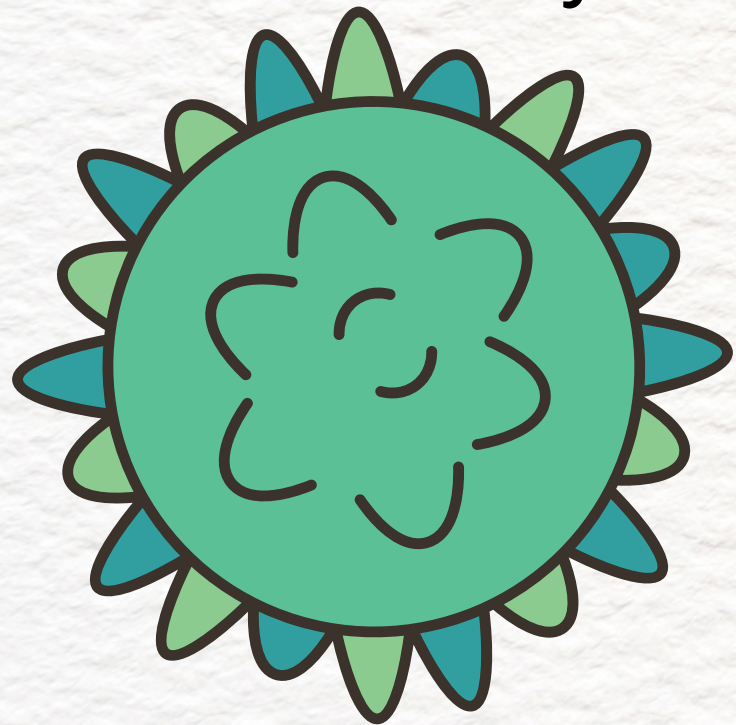
Omalizumab (Xolair)

- For uncontrolled asthma and year-round allergies
- Blocks the antibody (IgE) which causes an allergic/asthmatic response
- Total IgE level must be considered to start
- Given as an injection every 2 to 4 weeks
- Epinephrine autoinjectors are prescribed alongside omalizumab



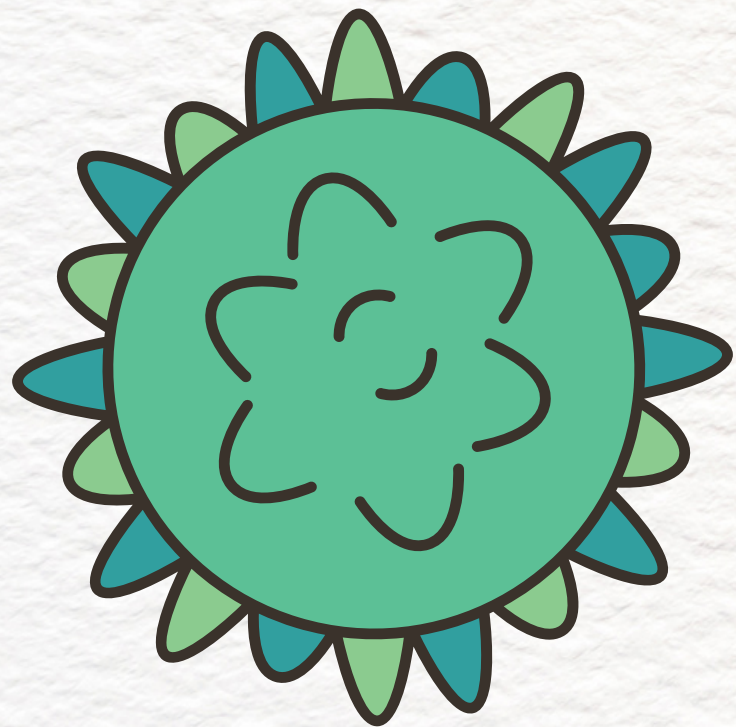
Mepolizumab (Nucala)

- For eosinophilic asthma
- Reduces the number of blood eosinophils (white blood cells that cause inflammation in the lungs)
- Blocks signal
- Before treatment, blood work is needed to check eosinophil count
- Injection is given every 4 weeks



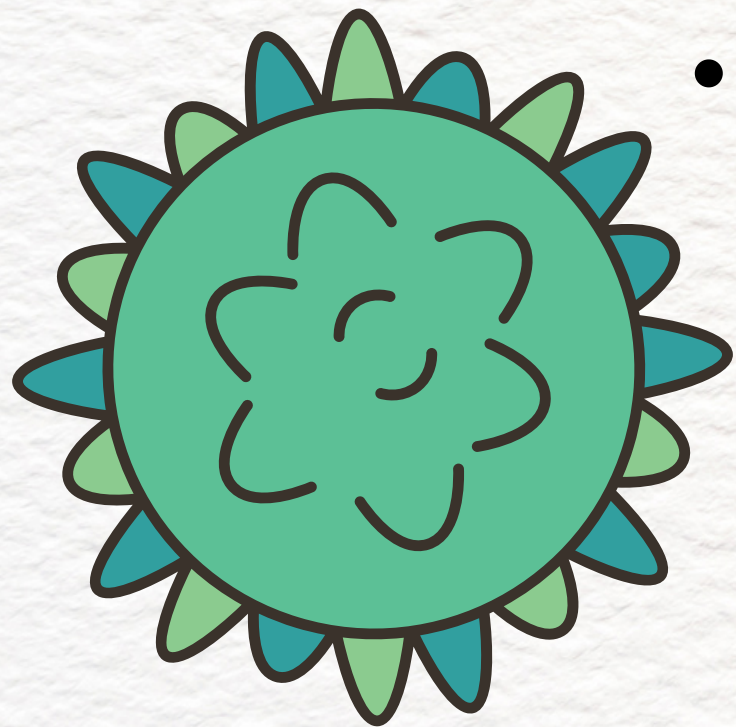
Benralizumab (Fasenra)

- For eosinophilic asthma
- First three injections are 4 weeks apart, then it is given every 8 weeks
- Blocks the receptor of a key asthma inflammatory signal (removes "satellite")
- Can either be given in the clinic or at home



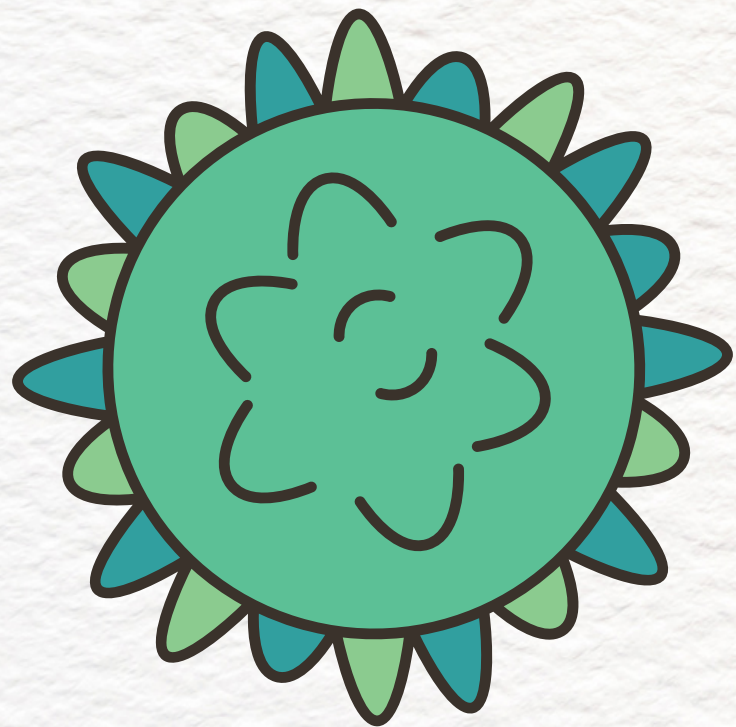
Dupilumab (Dupixent)

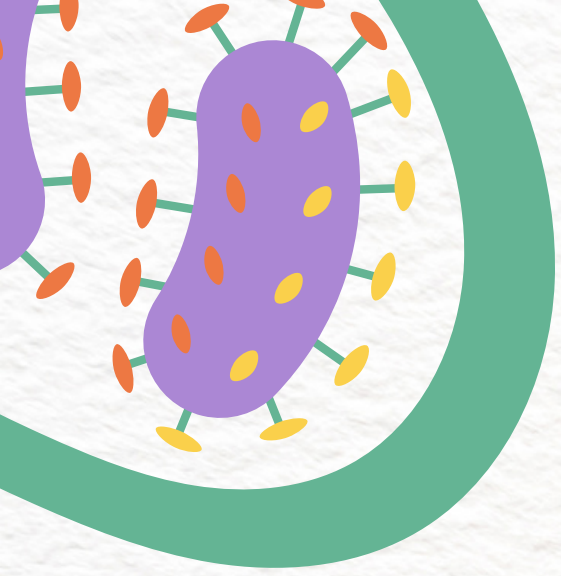
- For moderate-to-severe poorly controlled eosinophilic asthma (also used for eczema, EoE and nasal polyps)
- Blocks several inflammatory signals which cause asthma symptoms
- Given as a shot every 2-4 weeks
- Available for at-home injections
- The first dose (loading-dose) is double the amount of later injections



Tezepelumab (Tezspire)

- For severe asthma only
- No labs needed for prescription
- Blocks a key molecule that causes inflammation in asthma and many other inflammatory signals
- One dose every 4 weeks
- Available in clinic and for at-home injections





Module 4 Questions (Revisited)

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- a) True**
- b) False**

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- a) Omalizumab**
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- c) All of the above**

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