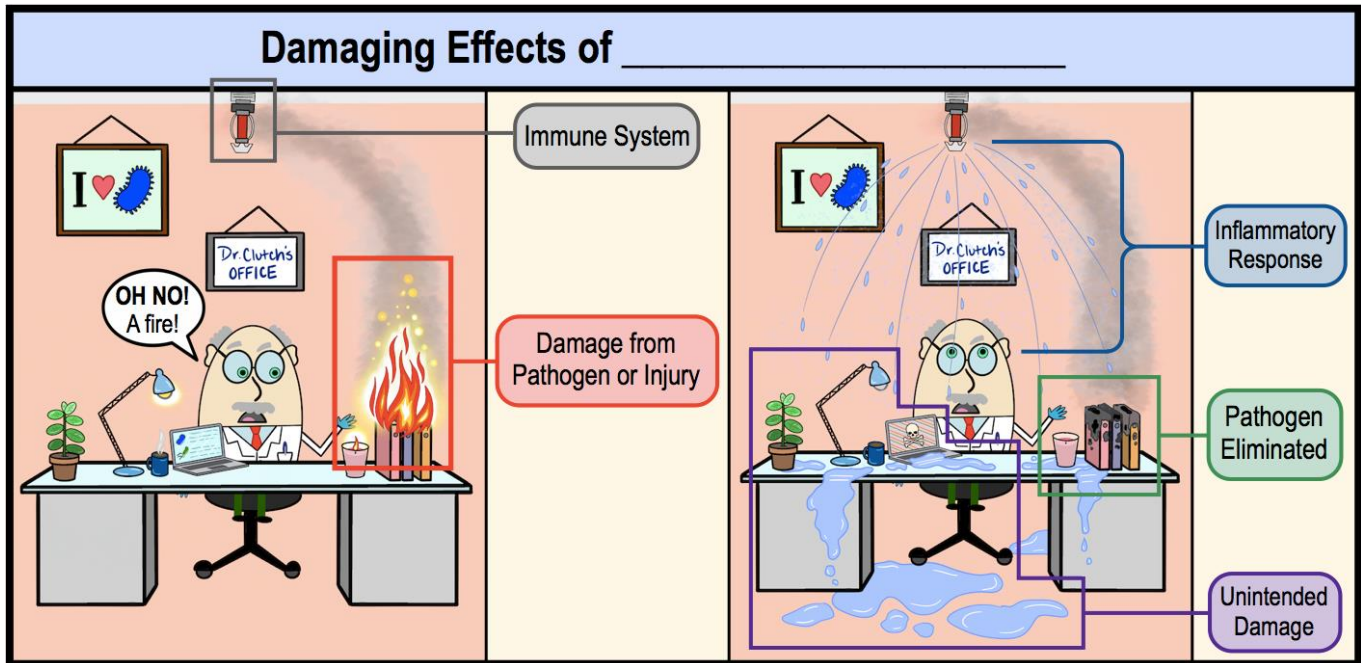


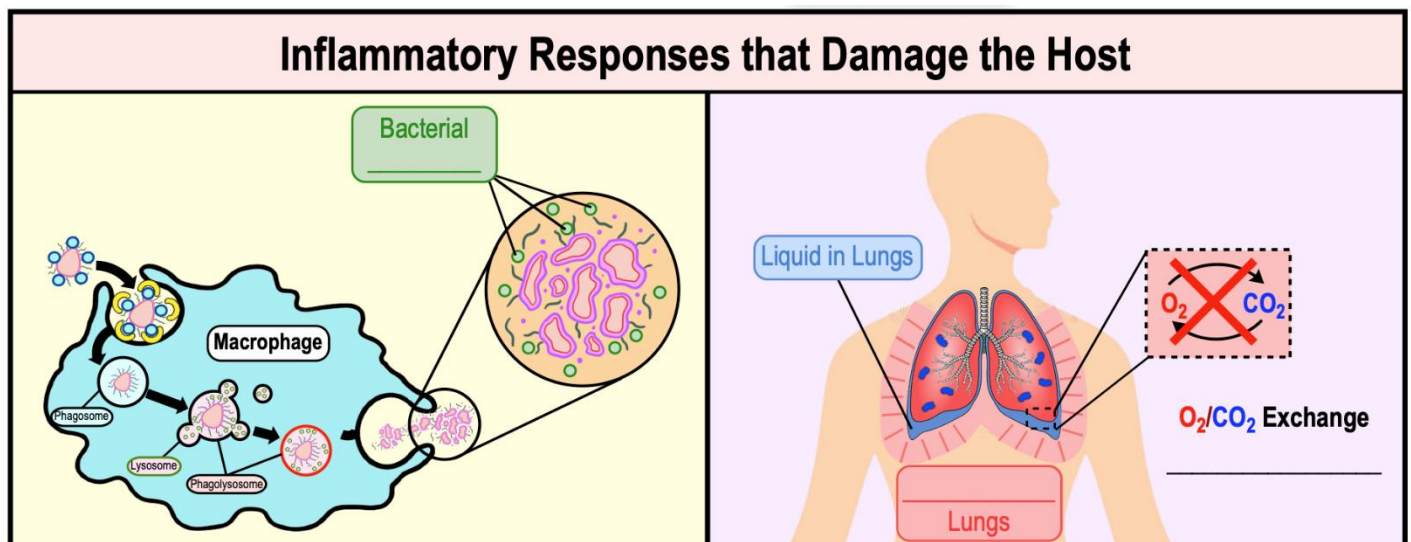
CONCEPT: IMMUNE RESPONSE DAMAGE TO THE HOST

- An immediate & overwhelming immune response can have “*unintended*” or “*accidental*” damaging effects to host tissues.
 - The immune response in our body can be compared to a _____ system in a building.



Inflammatory Response Can Damage the Host

- An inflammatory response can cause unintended, accidental damage to a host in multiple ways:
 - *Recall:* during inflammation, neutrophils & other phagocytic cells are recruited to the site of infection.
 - Chemicals, bacterial enzymes & toxins can be released, causing damage to surrounding tissues.
 - Inflammation in _____ can cause capillaries to leak fluids that collect & interfere with O_2/CO_2 exchange.



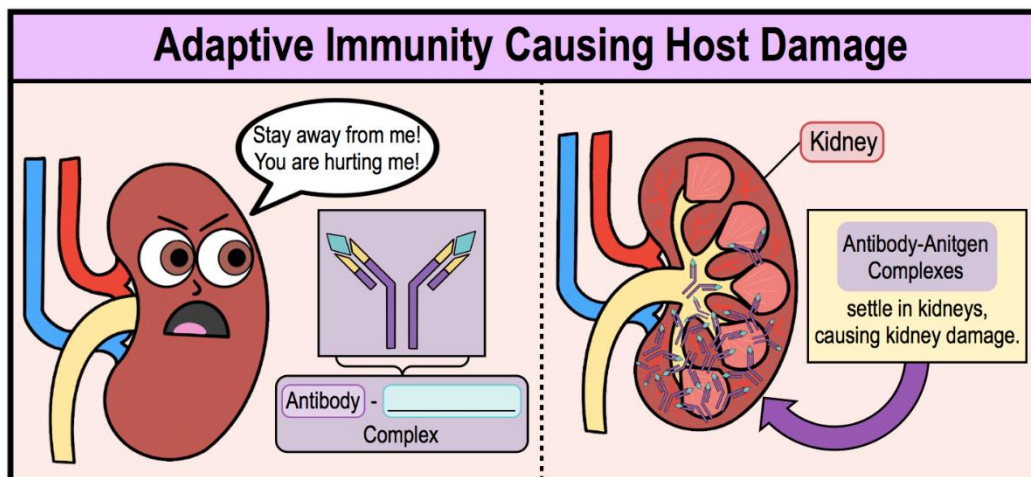
CONCEPT: IMMUNE RESPONSE DAMAGE TO THE HOST

PRACTICE: Why might pathogenic “remains” released from a phagocytic cell be dangerous to the surrounding cells?

- a) Many pathogens produce toxins which may damage neighbor cells when released.
- b) Many pathogens have destructive enzymes which may damage neighbor cells when released.
- c) If the pathogenic DNA is still intact upon release from the phagocyte it can infect surrounding cells.
- d) Antibodies will bind to the phagocytic cell and trigger apoptosis.
- e) A and B.
- f) A and D.
- g) A, B and C.

Adaptive Immunity Can Damage the Host

- In addition to innate immune responses, adaptive immune responses may also be “*accidentally*” damaging to the host.
 - _____-antigen complexes that form during an immune response can collect in the kidneys or joints.
 - Damages capillaries in the kidneys called **glomeruli** resulting in kidney _____.
 - Certain types of infections result in production of antibodies that bind to surface proteins of self-cells.
 - *Recall:* Antibodies that bind to _____-cells can cause *autoimmune disease*.



PRACTICE: Overall our immune system protects us from foreign invaders and pathogens. Which of the following are ways in which our immune system inadvertently damages our body?

- a) Severe allergic reactions to allergens that results in anaphylactic shock.
- b) Phagocytic immune cells engulfing pathogens and releasing the dangerous pathogenic “remains” into the body.
- c) Antibody-antigen complexes settling in the kidneys and the joints resulting in damaging inflammation.
- d) Damaging fevers, inflammation, and shock caused by excessive cytokine production in response to antigens.
- e) All of the above.