Particulate Matter and Chronic Rhinosinusitis (CRS)

The M-LEEaD Center's Community Engagement Core (CEC) increases awareness and understanding of environmental health research.

Stakeholder Advocacy Board members include:

- Community Health and Social Services
- The Detroit Health Department
- Detroit Hispanic Development Corporation
- Detroiters Working for Environmental Justice
- Eastside Community Network
- Ecology Center
- Green Door Initiative
- MDHHS
- Sierra Club
- We the People of Detroit

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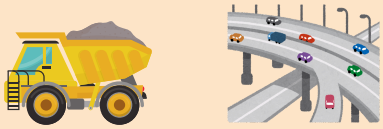
What is Particulate Matter (PM) and how does it affect health?

PM is a group of very small particles in the air that we can breathe in. It is divided into two types:

(PM_{10})

Larger forms of PM include dust from roads, farms, and construction sites.



($PM_{2.5}$)

Smaller forms of PM come from vehicle exhaust and burning wood and coal.

Exposure to $PM_{2.5}$ is linked to:

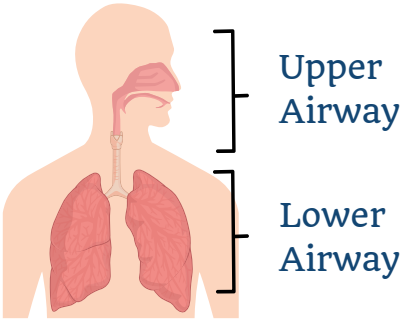
- Diseases in the lower airway
- Heart disease
- Poor cognitive function

What is Chronic Rhinosinusitis (CRS)?

CRS is a long term inflammation of the upper airway (nose, throat, sinuses, and mouth).

People with CRS experience:

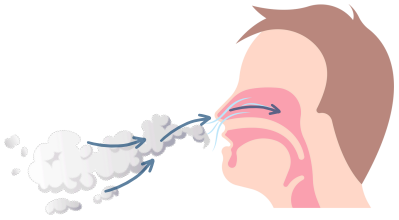
- Nasal congestion
- Smell loss
- Headaches
- Infections (eg. sinus infections)
- Fatigue
- Depression and anxiety



Severe forms of CRS can worsen lower airway diseases such as asthma, chronic obstructive pulmonary disease (COPD), and cystic fibrosis. CRS has the potential to affect quality of life just as much as heart and kidney disease.

How is PM linked to CRS?

CRS happens when people inhale particles at work or in their community over long periods of time and the lining the nose becomes inflamed. New research suggests that exposure to smaller forms of PM ($PM_{2.5}$) may play a bigger role in the development of CRS than we previously thought.



What do researchers know?

- Smaller forms of PM increase the risk of developing CRS
- Smaller forms of PM increase the severity of CRS more than larger forms of PM
- Increases in smaller forms of PM in the air lead people to visit upper respiratory doctors more frequently

What don't researchers know?

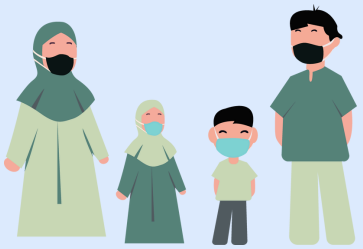
- Why smaller and larger forms of PM affect CRS differently
- Who is most vulnerable to CRS related to PM exposure
- What medical interventions best help CRS related to PM exposure

What does this mean for me and my community?

You should know:

- Your chances of developing CRS may increase with higher $PM_{2.5}$ levels from vehicle emission and more frequent wildfires.

- While scientists are still studying how to best prevent CRS and upper airway diseases related to exposure to $PM_{2.5}$, there are several ways to protect yourself from inhaling $PM_{2.5}$:



1. Check the air quality index regularly on airnow.gov
2. On days with high PM levels:
   - Stay indoors and keep doors and windows shut
   - Use an N95 face mask
   - Turn on HVAC (furnace or air conditioner)
   - Change air filters (HEPA filters are recommended)
   - Use an air purifier
3. Check out resources at https://linktr.ee/airpollutionresources or scan the QR code for more information related to PM, air pollution, and how to prevent exposure

Please see http://mleead.umich.edu/Coec_Fact_Sheets.php for the citations included in this factsheet.

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