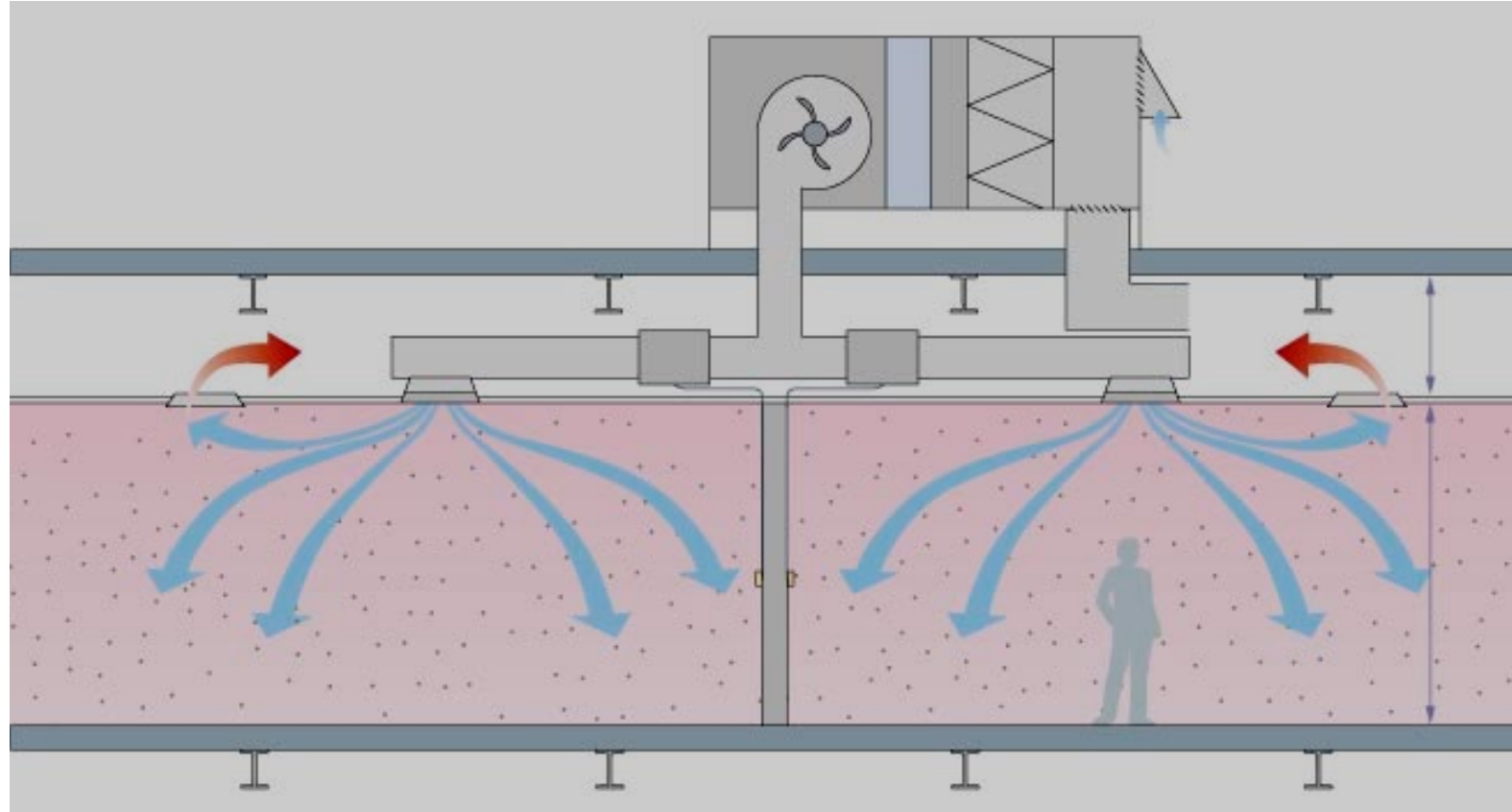


Conventional Air Conditioning

Mixing System



What is the Value of Human Health in Office Buildings?



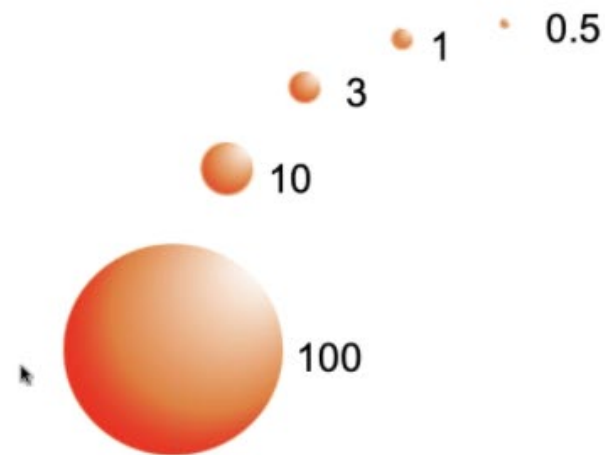
Overhead systems fully mix *all the air in the room from all the occupants in the room*. It begs the question: Why would we want to mix and dilute the very air we spent effort to clean with the airborne particles that are most dirty?

These small droplets can travel far and wide!

Infectious droplets shrink, travel far and evade surface cleaning when the air is dry

Droplet diameter in microns (um)

Float time



41 hours – 21 days

1.5 hours

6 seconds

Distance travelled:



The vulnerability is LESS when the RH is 40-60

These small droplets can travel far and wide!

Conversely, humans suffer in low RH

Sitting in room air with 20% RH, the average person becomes clinically dehydrated in 8 hours

Brain

- decreased function
- fatigue
- anxiety, depression

Respiratory tract

- infections
- allergies
- asthma



Eyes

- dry eyes
- blurry vision
- corneal inflammation

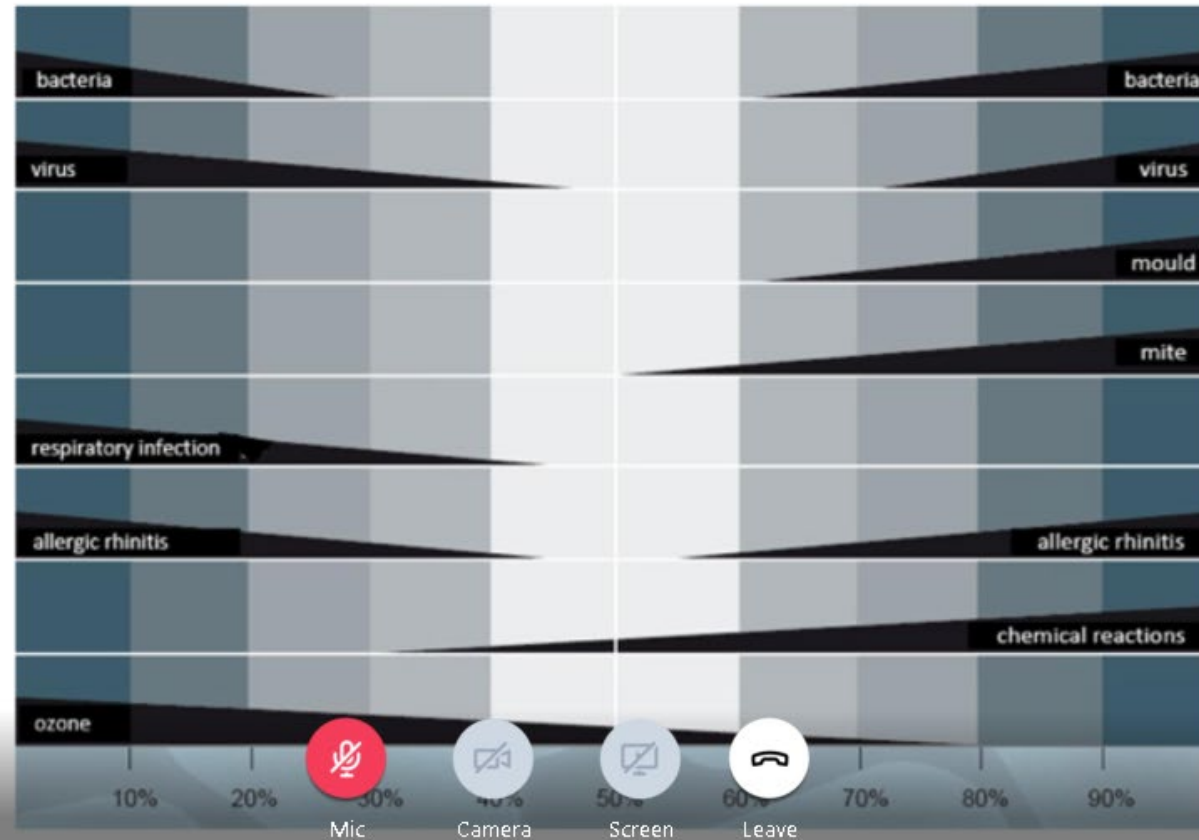
Skin

- dryness, cracking
- dermatitis
- auto-immune disease

The vulnerability is LESS when the RH is 40-60

Not New information!

ASHRAE 1985: "Optimal RH Level For Health" = 40%–60%

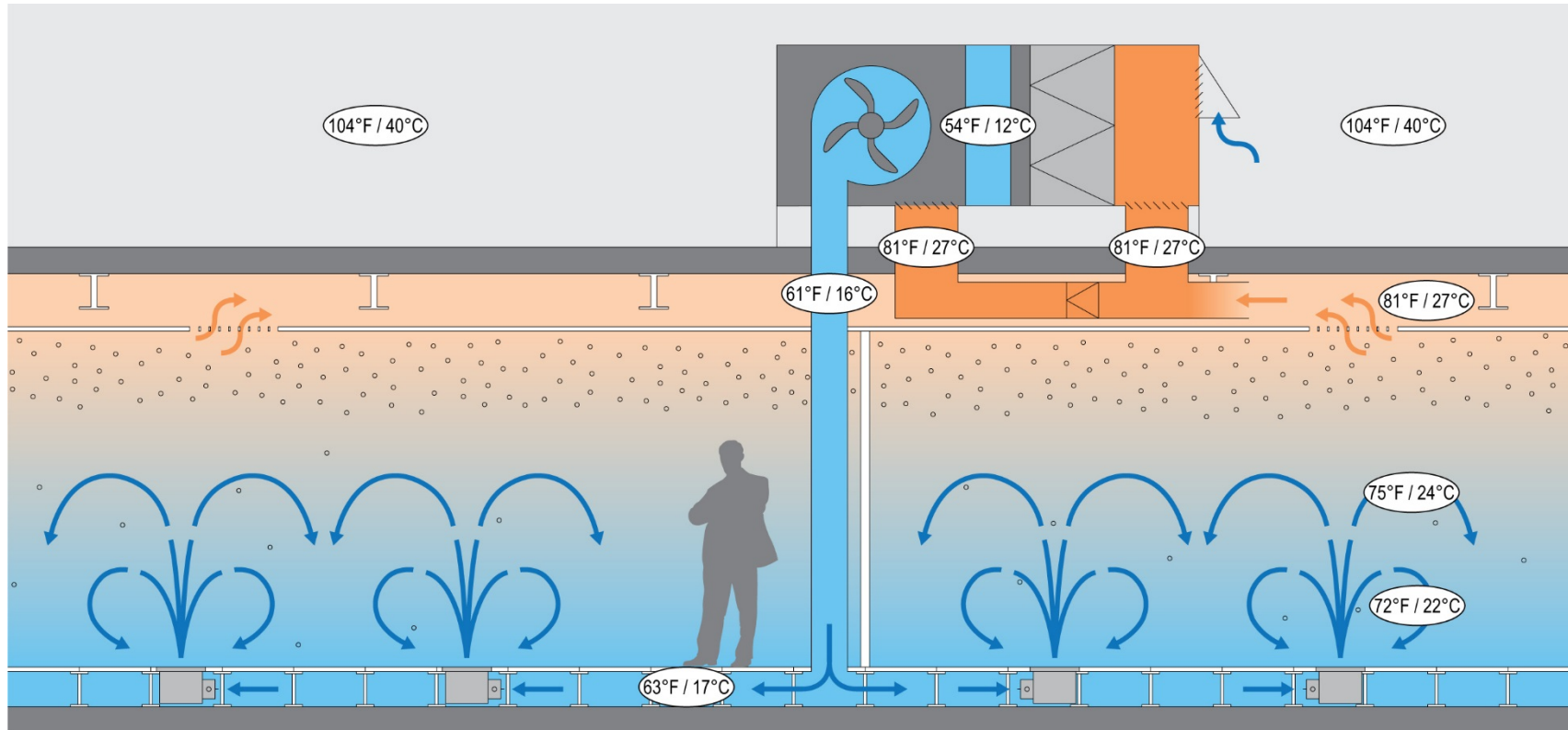


The vulnerability is LESS when the RH is 40-60

In a cold climate, you could get condensation – well improve the insulation in the buildings

Under Floor Air Distribution

A More Natural System



Under Floor Air Distribution

Dilution vs. Floor Supply

