returning to work in research environments





ASSOCIATION OF UNIVERSITY RESEARCH PARKS



LARRY BARTON AIA, LEED AP ID+C, WELL AP President | CEO <u>Ibarton@strang-inc.com</u> 608-276-9200 x 129



ERICA OSTENDORF MULLINS ASID, WRID Senior Vice President Director of Interior Design eostendorfmullins@strang-inc.com 608-276-9200 x 135

a little bit about us









research parks

MG&E Innovation Center, Madison, WI



University Research Park Madison, WI

"One Of Ten Technology Incubators Changing The World."

-Forbes Magazine



Innovation Campus, Rapid City, SD



South Dakota School of Mines



workplace safety **agenda**

- 1. REMOVING THE HAZARD
- 2. ENGINEERED CONTROLS
- 3. ADMINISTRATIVE CONTROLS
- 4. SAFE WORK PRACTICES
- 5. PPE







"workplace safety "hierarchy of controls"

REMOVE THE HAZARD Staying Home / Phased Return

ENGINEERED CONTROLS HVAC and Ventilation

ADMINISTRATIVE CONTROLS Social Distancing

SAFE WORK PRACTICES Hand Washing

PPE Masks

MOST EFFECTIVE

LEAST EFFECTIVE

https://www.osha.gov/Publications/OSHA3990.pdf



The Center of Disease Control (CDC) statement: The virus that causes COVID-19 is thought to spread mainly from person to person, mainly through respiratory droplets produced when an infected person coughs, sneezes, or talks. These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.



REMOVING THE HAZARD

removing the hazard risk factors to consider

PERSONAL:

- Over 65 years of age
- Underlying medical conditions
- Higher risk household members

TYPE OF WORK:

- High (healthcare, public safety, some labs)
- Medium (schools, retail, hospitality)
- Low (remote workers, office, manufacturing)

HIGH RISK ENVIRONMENTS:

- Sports
- Entertainment
- Conference centers
- Religion



REMOVING THE HAZARD

VOLUNTARY RETURN VERSUS MANDATORY

STAGGERED DAYS IN OFFICE

- Alternate Days in the Office
 - M-W-F one week, T-TH the next
 - M-T-W one week, TH-F the next
- 10-4 Cycle
 - 2-week cycle, work at office 4 days, work from home during next 10 days

SHIFT WORK

- Create shifts morning and afternoon
- 24/7 Operations



Every organization must consider the appropriate quantity and worker selection to bring back into the work environment as well as the pace at which to do so.

ENGINEERED CONTROLS

ENGINEERED CONTROLS



ASHRAE leadership has approved the following two statements regarding transmission of SARS-CoV-2 and the operation of HVAC systems during the COVID-19 pandemic.

Transmission of SARS-CoV-2 **through the air** is sufficiently likely that airborne exposure to the virus should be controlled.

Ventilation and filtration provided by heating, ventilating, and air-conditioning systems can reduce the airborne concentration of SARS-CoV-2 and thus the risk of transmission through the air.



ENGINEERED CONTROLS



STRATEGIES:

Commission existing systems

Introduce higher percentage of outside air

Increase ventilation



ENGINEERED CONTROLS







ENGINEERED CONTROL HVAC humidity control



(Adapted from Sterling et al. 1985)



STRATEGIES:

45% to 60% optimum for viruses

Human comfort and health zone is 30% to 60%



ENGINEERED CONTROL UVGI disinfection

STRATEGIES:

Disinfects air passing through duct

Line of sight dependent

When placed in ductwork, should not impact on lab experiments





ENGINEERED CONTROL





ENGINEERED CONTROL HVAC lab environments



Certain trade-offs may be necessary to optimize building systems for added protection against virus spread. Although this may increase the amount of energy used, and the associated energy bill, these temporary measures can protect your staff until the threat of virus diminishes.

ADMINISTRATIVE CONTROLS

ADMINISTRATIVE CONTROLS Social distancing within the lab







administrative controls social distancing at the workstation









ADMINISTRATIVE CONTROLS Shift work options

FULL OFFICE EVALUATION

Partial Occupancy:

- consider brining people back to the office on a volunteer basis to partially occupy the office.
- meeting room and collaboration spaces can be temporarily converted to assigned workspaces

Alternating Occupancy

- consider creating groups with assigned days in the office to increase in office capacity
 - group a = Monday, Wednesday, Friday
 - group b = Tuesday, Thursday

Shifts

- consider creating a non-overlapping shift schedule
 - Shift a = morning-afternoon
 - Shift b = afternoon-evening





ADMINISTRATIVE CONTROLS





Establish check in procedures for staff and guests



Consider temporary shields at locations where employees must be within 6' of others



ADMINISTRATIVE CONTROLS **eating spaces**







Collaboration and teamwork has long since been the engine for creativity and innovation in organizations worldwide. Social distancing will change the way collaboration occurs but not prevent it from happening.

administrative control **collaboration spaces**





SAFE WORK PRACTICE

safe work practices safety procedures and protocol

SAFE WORK PRACTICES

- Hand washing
- covered sneezes
- avoid touching face
- Staying home when sick
- Self monitoring of temperature



ADMINISTRATIVE CONTROLS

safety procedures and protocol







wear your mask



Certain lessons learned during the pandemic will have led to greater understanding and new possibilities within the workplace and research environments. Many will result in positive change. We should embrace the positive and move forward. post pandemic whats next?



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REACH OUT WITH ANY QUESTIONS & thank you





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