

Planning for Reopening Schools During the COVID-19 Pandemic

July 16, 2020



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Meet Our Panelists



Dr. Michael Berg

Technical Director

Eurofins EMLab P&K

Dr. Berg joined Eurofins EMLab P&K in 2005 and holds a Ph.D. in Biology from the Technical University of Darmstadt, Germany. Dr. Berg researched plant pathology and plant genetics as postdoctoral fellow at Oklahoma State University. He also worked in fungicide research for BASF in Germany. Dr. Berg engages in training and other educational events with focus on the topics of infection control, water risk management and molecular biology.

Meet Our Panelists



Dr. Kathy McFarland

Deputy Chief Executive
Ohio School Boards
Association

Dr. McFarland is a graduate of North Carolina State University with a Doctorate in Educational Leadership from Ohio University. She has 26 years of experience in education as a high school English teacher and both a middle and high school principal before joining the Ohio School Boards Association as Deputy Chief Executive.

Meet Our Panelists



Andrew N. Davis, Ph.D., Esq.

Partner

Shipman & Goodwin LLP

Andrew is Chair of the firm's Environmental Practice Group and counsels' clients in transactional, permitting, compliance and enforcement matters under federal and state health and safety, hazardous waste, air and water pollution, site development and property transfer laws. He assists industry, investors, public & private schools, colleges & universities, developers and property owners with site assessments, environmental auditing, reporting, record keeping and other compliance obligations and risk management strategies.

Meet Our Panelists



Heath leads TRC's Mobile Data Solutions program and functions as a technical lead in field operations and consulting efforts. He is a Certified Industrial Hygienist with a broad range of experience including microbiological and indoor air quality assessments. He has been with TRC since 2007.

Heath Howard, CIH, CSP

*Technical Lead Mobile Data
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TRC

Agenda

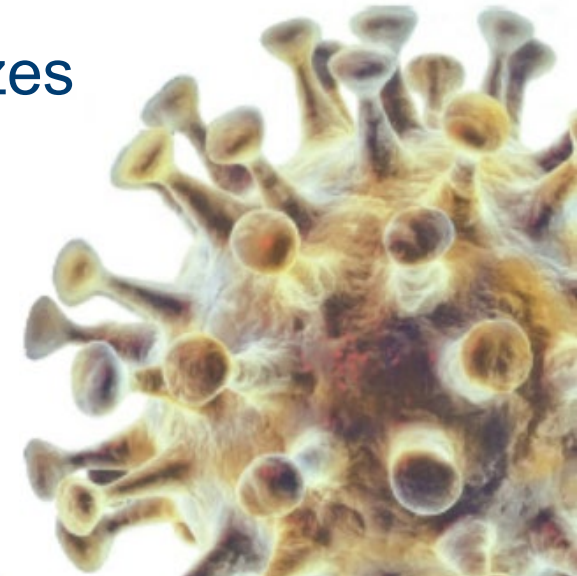


- COVID-19 and Routes of Transmission
- Back to School Plans
- Legal EHS Considerations for School Reopening
- Pros and Cons of Different Cleaning Methods
- High Touch Points and Testing

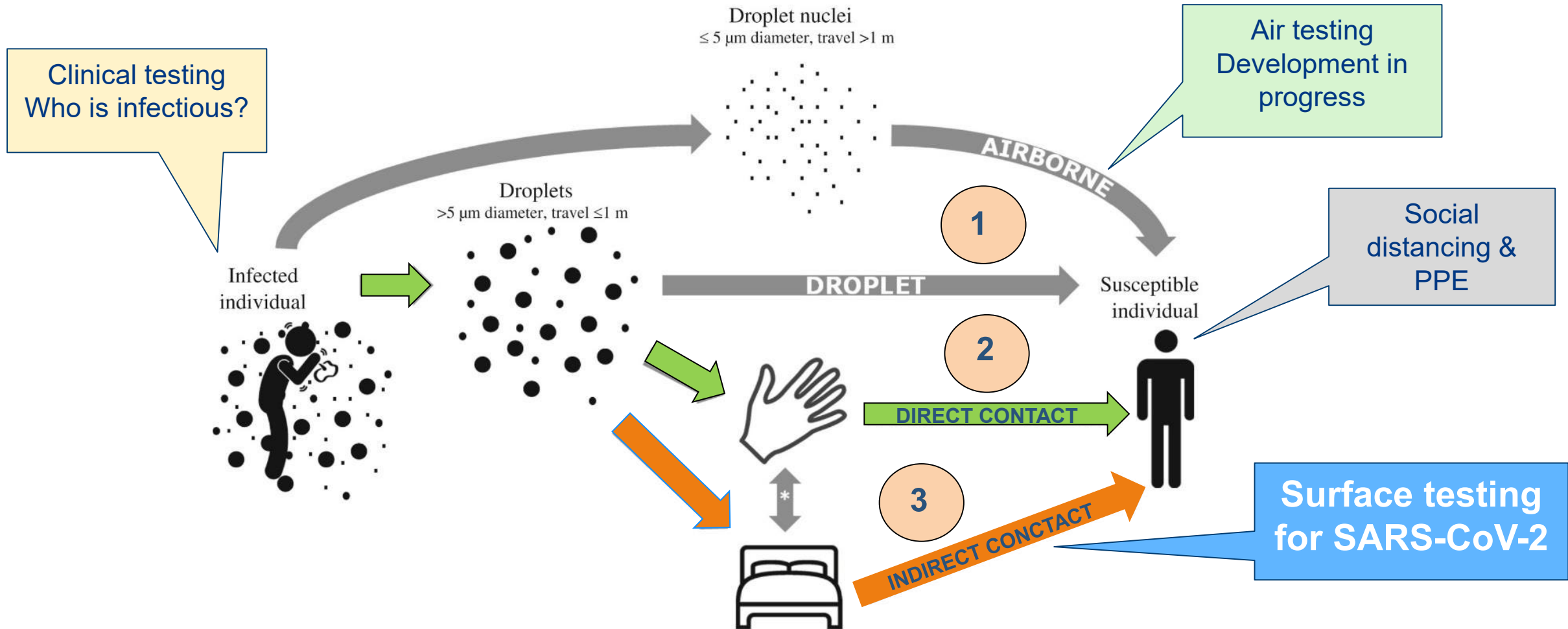
COVID-19 & Routes of Transmission

Coronavirus, SARS-CoV-2 and COVID-19

- **Coronavirus:** family of enveloped RNA viruses
- **SARS:** severe acute respiratory syndrome
- **SARS-CoV-2:** severe acute respiratory syndrome coronavirus 2
- **COVID-19:** coronavirus disease 2019 caused by SARS CoV-2
 - **First outbreak:** December 2019 in Wuhan, Hubei, China
- **Main route of transmission/infection:**
 - Person to person via respirator droplets from coughs and sneezes
 - Person to person air transmission with aerosols ($< 5 \mu\text{m}$) ?
 - Touching inanimate surfaces ?



SARS-CoV-2 Transmission



* Transmission routes involving a combination of hand & surface = indirect contact.

Source:
Otter et al., 2016, J. Hospital Infect.

Viral Load and Infectious Dose

Viral load (infected individuals)

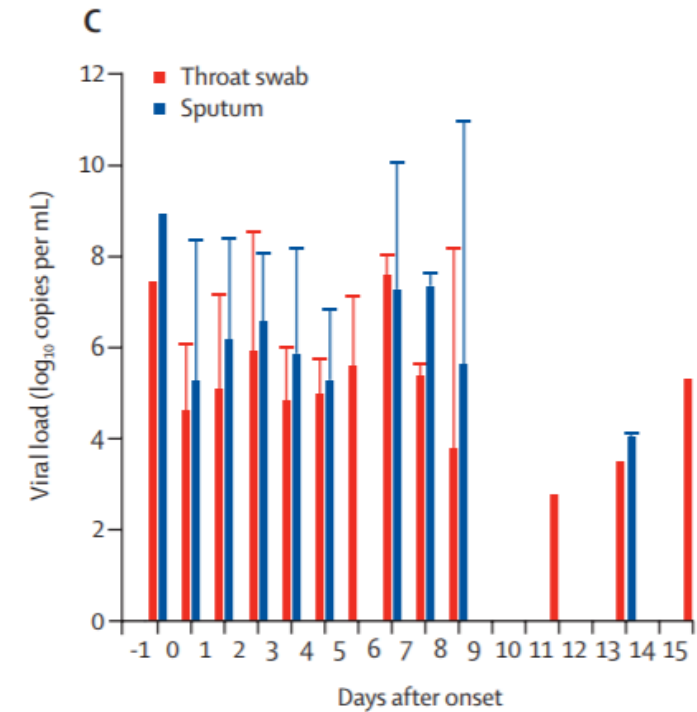
- Wide range of concentrations
(Throat: 640 to 1.3×10^{11} copies per ml)

Infectious dose

- Currently unknown but expected to be low

Viral shedding

- Coughing, sneezing, talking, breathing
- Fecal route? Sweating (no evidence)



Source: Pan et al. Viral load of SARS-CoV-2 in clinical samples. Lancet Infect Dis. 2020.

SARS Virus Surface Stability

In laboratory experiments – detection of infectious virus:

Aerosol: up to 4 hours

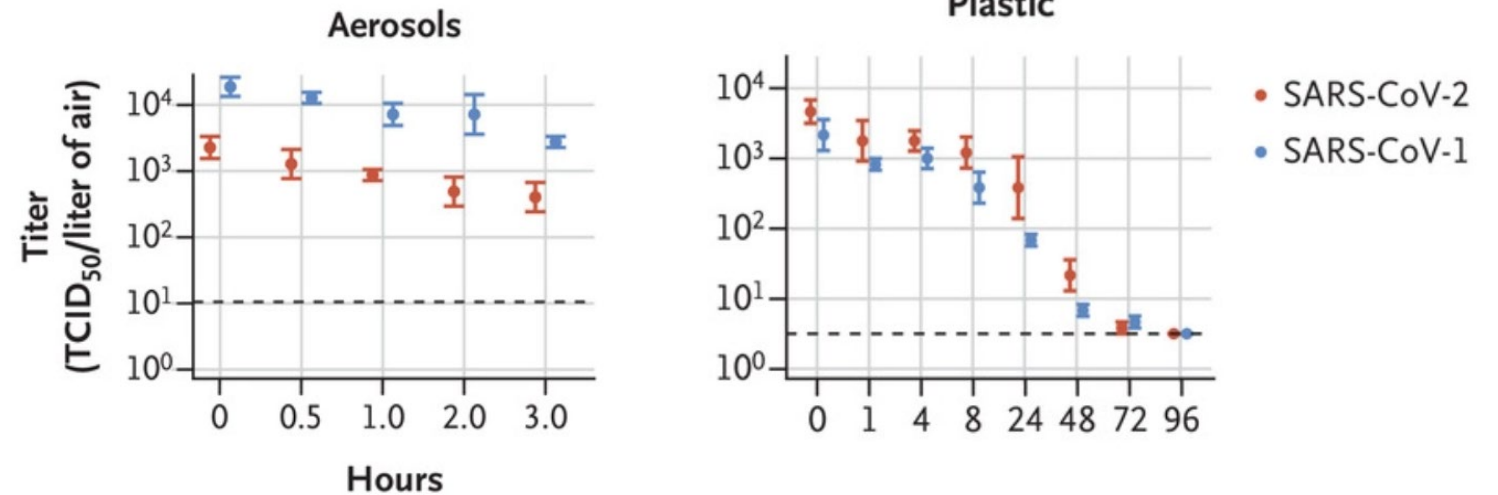
Surfaces:

Copper: 24 hours

Cardboard: 2 days

Plastic: 3 days

A Titers of Viable Virus



Source: Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1. N Engl J Med. 2020 Apr 16.



Back to School Plans – Preparing for All Scenarios

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Operating Assumptions

- Ohio's education system must be nimble, **flexible** and responsive to ensure the health and safety of all students and adults.
- Schools will need to have the capacity to operate in **various modes** at different times and, sometimes, with **minimum advance notice**.
- When schools are operating with **students in the building**, they will need to **adhere to health and safety guidelines** set forth by the Ohio Department of Health and local health departments. Guidelines may change as circumstances change, which most likely should lead to course corrections throughout the year.
- The **traditional school experience** as it was known prior to the onset of the pandemic will be **different**, as will many of the day-to-day practices of schools.



Options for School Experience

- District decides full return to the building
- District decides full remote
- Families choose full in or full remote (semester)
- Hybrid models (in-person and remote combination)
- Rotation models



Hybrid Models Examples

- **Half day:** A different group of students will receive in-person instruction in the morning than the afternoon
- **Alternating day:** Only one group of students will receive in-person instruction each day; alternating day remote
- **Weekly:** One group of students will receive in-person instruction for a week followed by one week of some form of remote/on-line instruction.
- **K-8 in-person; high school remote**



Hybrid Models Examples

- Four hours per day in-person; One and a half hours per day remote
- Two to three periods per week in-person; Two to three periods per week remote
- 40 minutes per subject per day (20 minutes for teacher-led instruction and small-group activities, each); remote to support additional needed time
- 20 minutes per subject per day remote; in-person as scheduled



In-person Rotation Models

- Groups of students assigned to a 2 days / 3 days rotation
- Half-day for half of group; Half-day for second group
- Groups by week

OHIO K-12 SCHOOLS



▶ Vigilantly Assess for Symptoms



▶ Wash and Sanitize Hands to Prevent Spread



▶ Thoroughly Clean and Sanitize School Environment to Limit Spread on Shared Surfaces



▶ Practice Social Distancing



▶ Implement Face Coverings Policy



Vigilantly Assess for Symptoms

Conduct daily health checks before going to school.

Include taking temperature and assess symptoms.

If symptoms are present, person should stay home.

“Schools should take temperatures of students and staff as they enter the building.”



Diagnosis or Exposure

- Provide notice to school/bd of health
- 14-day self-quarantine required
- Must meet ODH and health dept. conditions before returning to school
- Remote learning should be considered for long absences/large numbers of students absent



Referrals for Positive and Suspected Cases

- School personnel must refer those displaying symptoms of COVID-19 to an appropriate health care professional or testing sites.
- Local health departments should be contacted in the case of positive or suspected COVID-19 cases in a school building.



Wash and Sanitize Hands

- Frequent hand washing (20 seconds)
- Hand sanitizer in high traffic areas
- Avoid touching face
- Use signs
- Impress upon staff the importance of influencing and instructing students



Clean and Sanitize Schools

- Frequent thorough cleaning
- Close attention to high touch areas and shared materials
- Wipes/disinfectants available in each room
- Guidelines for custodial staff, food service, transportation and shared spaces
- Inspect, monitor and clean HVAC systems



Practice Social Distancing

- Keep a distance between staff and students of six feet or more
- Greater distances when speaking loudly, singing or playing an instrument
- Think about all shared spaces
- Reduce mixing, limit visitors



Implement Face Mask Policy

- District must adopt policies on face coverings that “consider all the available science.”
- All staff and volunteers must wear masks*
- Face masks for students 3-12 are “strongly recommended”
- Minimum: cloth or fabric
- Cover nose, mouth and chin
- Face shields an option in some cases



Face Mask Exceptions for Staff

In Ohio face masks are required for staff

- Facial coverings in the school setting are prohibited by law or regulation
- Facial coverings are in violation of documented industry standards
- Facial coverings are not advisable for health reasons
- Facial coverings are in violation of the school's documented safety policies
- Facial coverings are not required when the staff works alone in an assigned work area
- There is a functional (practical) reason for a staff member or volunteer to not to wear a facial covering in the workplace



Strengthening Outcomes

- Teaching health and safety practices to students
- Training all employees how to use equipment and reinforce concepts with students and parents
- Limiting visitors and treat routine school visitors as school personnel



Safety Considerations: Facility Use

- Cafeteria
- Recess
- Changing classes
- Lockers
- Physical Education
- Athletics
- Sanitizing facility; high touch points
- Access to building
- Hand sanitizing stations
- Transportation
- Social distancing



Safety Considerations: Staff

- Wear masks (requirement)
- High-risk staff returning
- Childcare for staff members who have school-aged children
- Coverage for those that get sick
- Cleaning responsibility



Safety Considerations: Students

Prioritizing younger student in-person instruction

- Masks (Is it realistic that students wear them?)
- Mandatory temperature (Who is responsible for this?)
- Notifications of positive COVID
- Consequences for students who do not follow protocol



Absences due to COVID

- Schools must **monitor daily absences** of students and staff for trends.
- Importantly, sick leave and absence policies **should not penalize** staff or students for staying home when symptomatic or in quarantine or isolation.



Challenges

- Hybrid and rotation schedules = hardship on families
- Transportation
- Teacher contractual concerns
- Delivery of remote instruction for younger students
- Cost to district (masks, hand sanitizer, appropriate markings, cleaning supplies, etc.)
- Teachers and students with an increased risk of severe illness



All states continue to work on their return plans

Legal EHS Considerations for School Reopening

The “Fig Leaf” Speech

Why the Fig Leaf?



Because we only have time
to cover the essentials!

Legal EHS Considerations

- Cleaning/disinfectant requirements (or best practices)
- Testing requirements (or best practices)
- Employee health and safety
- Student health and safety
- “Regular” facility operations
- Insurance
- Contingency plan

Planning to Re-open

- No one-size-fits-all approach
 - “Must consider the dynamics of the outbreak in each community...” – Dr. Fauci (June 30, 2020)
- Innovative solutions require technical AND legal expertise
 - Lawyers AND consultants need to advise clients with one coordinated message
- Reevaluate risk management plan to include pandemic response
- Develop contingency Plan B and Plan C in the event of the inevitable complications



Pre-opening Cleaning/Testing

- Work with a trusted lawyer AND skilled consultant to implement cleaning and testing protocols that comply with CDC and EPA regulations and guidelines, addressing:
 - Air and Surface Testing
 - High Touch Points
 - Frequency/Maintenance
 - Green Cleaning
 - Safety Data Sheets
 - Interior, Exterior and Transportation
 - Mask Policy
 - Onsite Quarantine
 - Responsibilities of Staff and Students
- Accommodation – Testing & Masks
 - Employee testing can be required but be aware of treating people differently or potential discrimination claims.
 - Wearing a mask can be mandated but need to accommodate those with a disability so have those conversations where necessary.

How am I doing?
Well, I just wiped
down a container of
Lysol wipes with
Lysol wipes, so I'm fine.
Everything's fine.

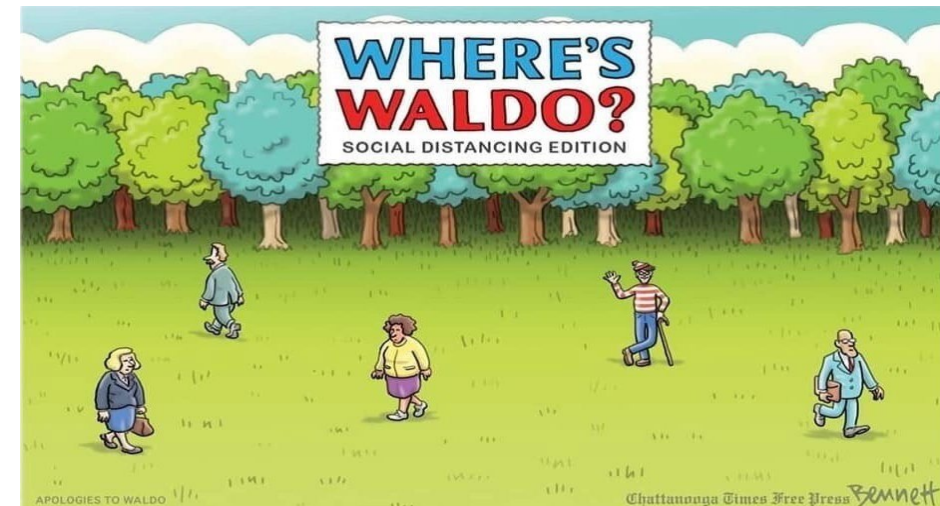
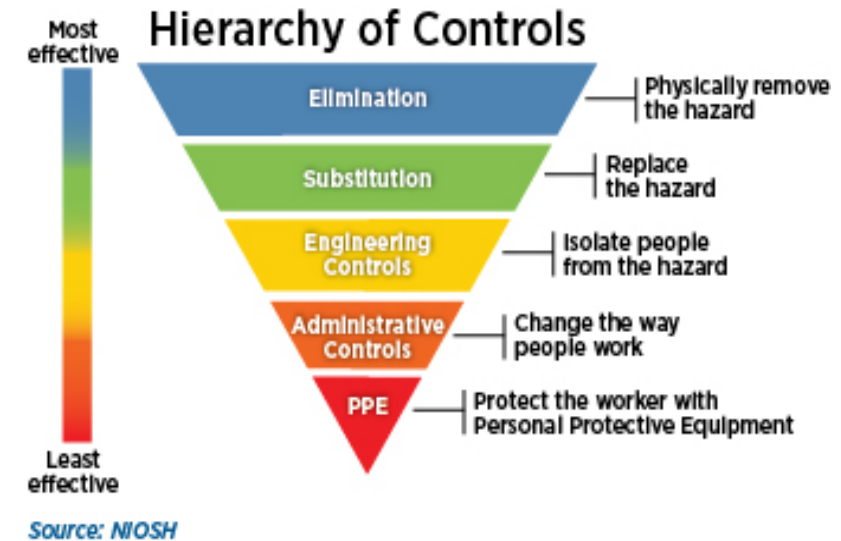
Watch This Space

- Students' favorite class(es) — extra outdoor learning and recess
- Layouts — reconfigure spaces (e.g., gyms, cafeterias) to repurpose as classrooms
 - Where age appropriate, consider “cohorting” students to limit transitions
- Ramp Up/Down — brace for full remote learning in the event of infection



NIOSH's Hierarchy of Controls

- To prevent employee exposures to respiratory hazards, OSHA and NIOSH recommend that employers:
 - make efforts to eliminate/mitigate workplace hazards;
 - use engineering controls (e.g., ventilation), administrative controls (e.g., task modification), and safe work practices (e.g., social distancing); and
 - rely on PPE as a measure of last resort.



OSHA's General Duty Clause

- OSHA's General Duty Clause requires that employers furnish a place of employment free from recognized hazards that are likely to cause death or serious physical harm.
- School leadership, as employers, have a duty to keep employees reasonably safe (though that doesn't mean every illness or injury experienced by an employee is unlawful).
- Although OSHA is limited to employees, the general principles [can] translate to student wellbeing.

Additional Legal Considerations

- **Public Schools – Sovereign Immunity**
 - As government entities, public schools are generally protected by a doctrine called sovereign immunity, although it is not an impenetrable shield.
- **Private/Independent Schools – Standards of Care**
 - While not immunity *per se*, meeting applicable standards of care, such as those established by public health and other guidance (e.g., CDC and CT's Independent School Reopening Report guidelines), mitigates risk of claims.
- **Liability Protection**
 - No federal Covid-specific Liability Protection for schools...yet. Senate considering including some protection for businesses and/or schools in future relief package.
 - Some states (e.g., North Carolina, Oklahoma, Utah) have expanded certain liability protection for businesses and schools via executive orders and legislation.
- **FFCRA: may affect FMLA and sick leave (check with employment lawyer)**
- **Insurance: time for a look at policies?**

Don't Forget the “Regular” Facility Stuff

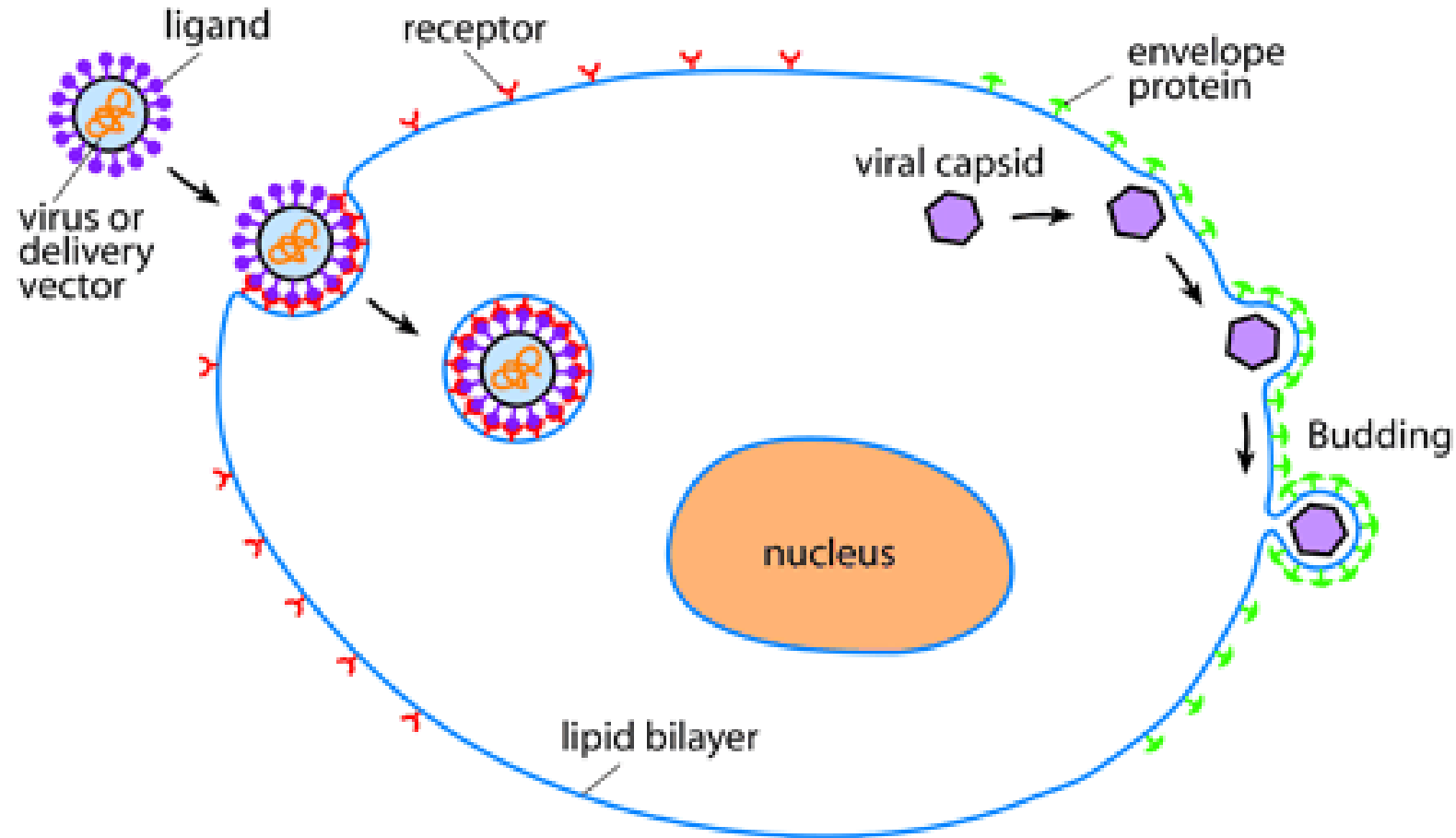
- HVAC filter inspection, replacement and system restart/cleaning
 - As needed, increase air ventilation/flow, e.g., portable air units
- Mold and mildew inspections
- Water system flushing (to clear lead, etc. (if any) in the pipes)
 - Especially drinking fountains and classroom sinks
- Add opportunities/reminders for hygiene
 - E.g., hand sanitizer stations
- Implement others controls including:
 - Engineering controls — e.g., plexiglass barriers, floor markings
 - Administrative controls — e.g., scheduling, employee screening
 - Personnel and student controls — e.g., ground rules and discipline



Pros and Cons of Different Cleaning Methods

SARS-CoV-2

- Enveloped Virus – RNA is surrounded by a lipid bilayer, easiest to deactivate (and why soap and warm water is so effective)
- Non-Enveloped Virus – Can survive outside the body for extended periods



Cleaning and Disinfection – A “Two-Step” Process



Cleaning

- Cleaning a surface removes dirt and impurities from a surface.
- Thorough cleaning with soap and water / detergent solution can increase effectiveness of applied disinfectants.
- Products should be non-toxic and environmentally safe.

Disinfection

- Disinfection refers to using chemical or physical agent to inactivate, or “kill”, pathogenic organisms on a surface.
- Chemical or Physical – Application Methods

Frequency

- Should be consistent and ongoing.
- Most recommendations reference once a day – but varies by locality.

Cleaning and Disinfection Recommendations



- Cleaning using soap and water of high touch surfaces emphasized
- Cleaning must be routine and ongoing – especially on high-touch surfaces
- Application of disinfectant (if used) should only be after thorough cleaning activities – especially on high touch surfaces
- Consider using area assignments where possible to minimize surface contact exposure (example desk assignment).



**CENTERS FOR DISEASE
CONTROL AND PREVENTION**



Fogging Disinfectant

- Use of foggers for broad application of disinfectants is generally discouraged.
 - Difficult to calculate sufficient disinfectant concentrations.
 - Not recommended by US EPA.
 - Could violate manufacturer recommended application methods.
 - Risks of Exposure to Both Applicator and Occupants
 - Penetration of HVAC systems can be harmful to occupants.
- Direct application to surfaces is preferred.

HVAC Systems and Ventilation

- Growing concern on aerosol exposure to SARS-CoV-2.
- Ensure adequate HVAC filtration – MERV 13 or greater.
- Increase outdoor air ventilation wherever possible.
- Continuous exhaust systems in bathrooms where possible.
- Portable air cleaners with HEPA filtration where appropriate.

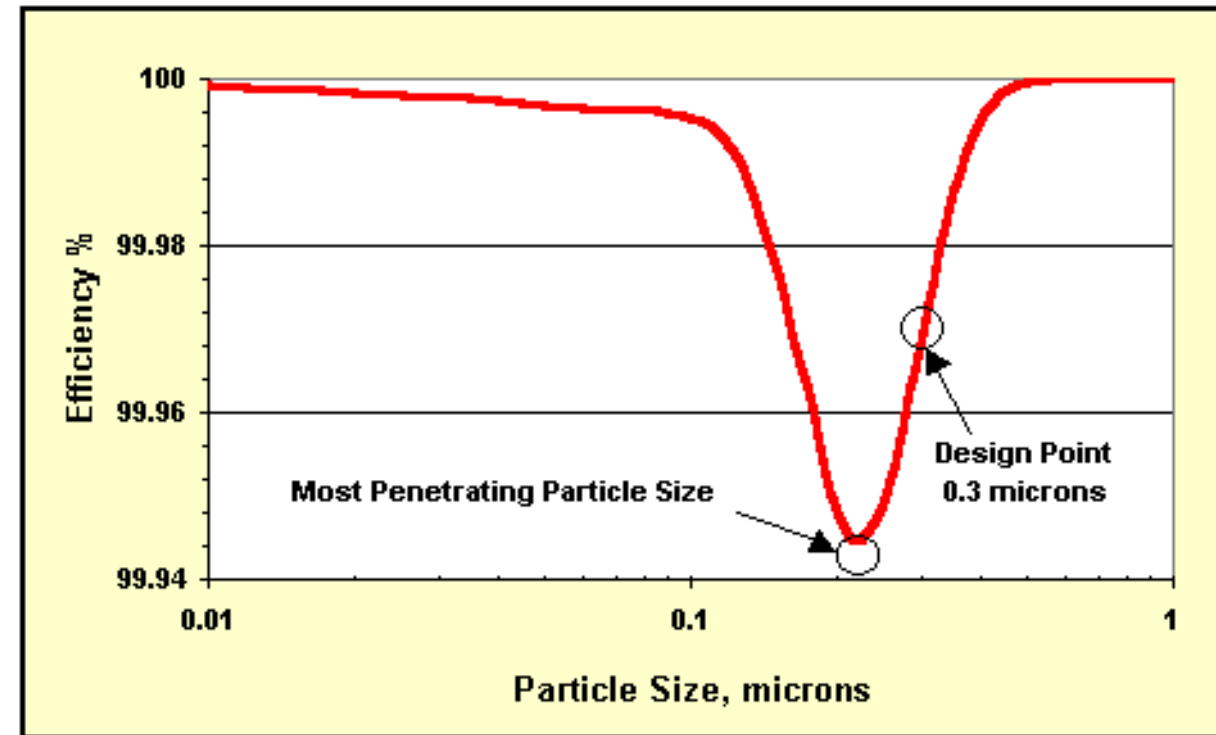


Figure 1: Typical Performance of a HEPA 99.97% Filter.

High Touch Points and Testing

Why test environmental surfaces?

- Cleaning & Disinfection
 - Proactive monitoring and identification of critical touch points
 - Disinfection efficacy verification
 - Reduce liability, create confidence in safety of the workplace
- Epidemiology (control spread of disease)
 - Identify groups with carriers
 - Verify that occupants are not shedding virus

High Risk Touch Points

- Floors, chairs, tables
- Door handles, knobs, railings
- Copier, appliances
- Sinks, toilets, trash bins
- Soap, sanitizer, & towel dispensers
- PPE storage bins
- Control panels, keyboards, log books



There are no guidelines or specific requirements for testing. Ask...

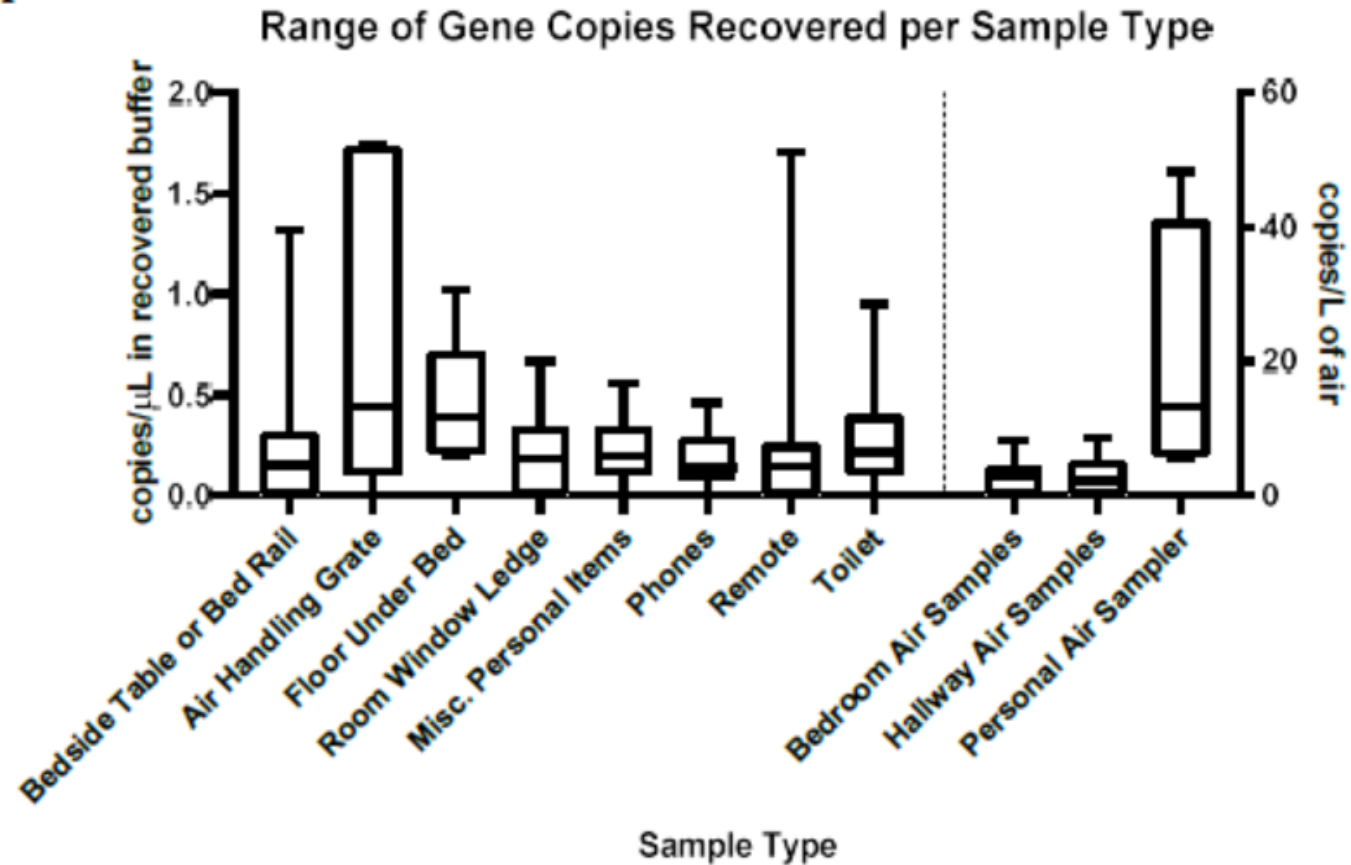
- ✓ What is the goal of the surface testing?
- ✓ Does the sampling plan adequately address the questions?
- Surface sampling is a spot-check only (risk assessment)

Guidance on reopening businesses after COVID-19:

<https://www.cdc.gov/coronavirus/>

Sampling Results (Surface and Air)

A



Santarpia *et al.*: Aerosol and Surface Transmission Potential of SARS-CoV-2 (<https://doi.org/10.1101/2020.03.23.20039446>)

Cleaning and Disinfection Oversight and Verification



- Visual inspection of work practices and cleaned surfaces is important
- Remember primary means of infection is through micro-droplets, not surface contact (currently)
- ATP Testing for Cleanliness – Surrogate Testing
 - Not testing for virus
 - Testing for biological material on a surface
 - Helpful in not only confirming cleanliness but also in helping C&D staff to understand level of effort
 - Threshold values are not standardized and vary widely

TRC is Hosting a Webinar the First Week of August

FEMA has developed a COVID-19 streamlined project application to simplify the process to apply for public assistance under pandemic declarations.

Topics will include:

- Funding of eligible applicants
- Discussion of eligible reimbursement activities
- Overview of financial assistance process - Federal & State cost reimbursement model

➔ Specific details will be available soon ➔



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Thank You