Panelists

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REALM PROJECT
REopening Archives, Libraries, and Museums

oc.lc/realm-project
#REALMproject
What is REALM?

REALM project research is providing data that helps us better understand the virus. You can use that data to inform your practices and policies.

REALM is NOT making recommendations. Every institution is different and will need to develop policies that work for them and their community.
Five simple rules for managing uncertainty in a pandemic

Most data will be flawed or incomplete.

We may never have a “final answer” for many questions. Do you wait for certainty or act on the evidence you have?

Acknowledge the complexity, admit ignorance, and be open to exploring paradoxes.

Different people interpret data differently. Seek out outside perspectives for solutions.

Observing real-world interventions can complement the findings of controlled trials and other forms of evidence.

“Managing uncertainty in the covid-19 era”
Rutter, Wolpert, and Greenhalgh in the British Medical Journal
The “known unknowns”

- How many virus cells an infected person will leave on an object.
- How many virus cells you can pick up from an object.
- How many virus cells are needed to cause infection.
RESULTS
How long the virus survives on commonly used library, archive, and museum materials

- Item tested in a **stacked** configuration.
- Item tested in an **unstacked** configuration.
- Item showed **trace amount** of virus after testing.
- Item was **above LOQ** after testing.

*For more information about the items and materials tested, please visit [oclc/realm-project](http://oclc/realm-project).

<table>
<thead>
<tr>
<th>ITEM / MATERIAL*</th>
<th>DAYS OF VIRUS SURVIVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVD case</td>
<td>6</td>
</tr>
<tr>
<td>Softback book cover</td>
<td>6</td>
</tr>
<tr>
<td>Hardback book cover</td>
<td>6</td>
</tr>
<tr>
<td>Archival folder</td>
<td>2</td>
</tr>
<tr>
<td>Plain paper pages</td>
<td>3</td>
</tr>
<tr>
<td>Plastic protective cover</td>
<td>6</td>
</tr>
<tr>
<td>Braille paper</td>
<td>4</td>
</tr>
<tr>
<td>Glossy pages</td>
<td>4</td>
</tr>
<tr>
<td>Children’s board book</td>
<td>4</td>
</tr>
<tr>
<td>Magazine pages</td>
<td>4</td>
</tr>
<tr>
<td>DVD disc</td>
<td>5</td>
</tr>
<tr>
<td>Storage bag</td>
<td>5</td>
</tr>
<tr>
<td>Storage container</td>
<td>5</td>
</tr>
<tr>
<td>Plexiglass</td>
<td>5</td>
</tr>
<tr>
<td>USB cassette</td>
<td>5</td>
</tr>
<tr>
<td>Storage foam</td>
<td>6</td>
</tr>
</tbody>
</table>
HOW CAN I USE THESE RESULTS?
When making decisions about policies...

- Stay informed of federal, state, and local guidelines
- Check CDC guidelines on PPE and hygiene practices
- Consider if your collection/resources can be sanitized without damage
- If quarantining, consider REALM results for the lifespan of the virus on relevant materials
- Ask your peer institutions for their policies
- Inform internal and external stakeholders of your policies
Disinfecting Books and Other Collections

Bexx Caswell-Olson, Director of Book Conservation

NEDCC
NORTHEAST DOCUMENT CONSERVATION CENTER

100 Brickstone Square, Andover, MA 01810-1494
ph 978-470-1010 • fax 978-475-6021 • www.nedcc.org
Founded in 1973, NEDCC was the first independent conservation laboratory in the nation to specialize exclusively in treating collections made of paper or parchment, such as works of art, photographs, books, documents, maps, and manuscripts. Today, the Center offers conservation treatment, digital imaging, and audio preservation services, as well as preservation training, assessments and consultations, and disaster advice on collections. NEDCC is a trusted resource worldwide for information on the preservation of paper-based collections.
3.5 Disinfecting Books and Other Collections 2020 UPDATED HTML PDF
What Causes Damage to Collections Materials?

1) Physical Damage (*i.e.* improper handling)
2) Theft & Vandalism
3) Fire
4) Water
5) Pests
6) Pollutants (*i.e.* chemical exposure, air quality)
7) Light
8) Temperature (extreme highs or lows)
9) Humidity (extreme highs or lows)
10) Improper Storage

Liquid Cleaning Products

- EPA’s **List N: Disinfectants for Coronavirus** provides the contact time necessary for disinfection. Times range from 30 seconds – 10 minutes.
- Products on this list are only recommended for use on hard, non-porous surfaces (i.e. tables, door handles).
- Many liquid cleaning products contain harsh chemicals including bleach, hydrogen peroxide, chlorine, ammonia, etc.
- These chemicals can:
  - cause moisture damage to covers and pages
  - accelerate aging and embrittlement of materials
  - weaken paper or cloth
  - cause staining, discoloration, or bleaching; may remove color from leather, cloth, and paper

<table>
<thead>
<tr>
<th>EPA Registration Number</th>
<th>Active Ingredient(s)</th>
<th>Product Name</th>
<th>Company</th>
<th>Contact Time (in minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>90836-4</td>
<td>Quaternary ammonium</td>
<td>MonoFoil D</td>
<td>Apply Guard LLC</td>
<td>3</td>
</tr>
<tr>
<td>9804-5</td>
<td>Chlorine dioxide</td>
<td>Purogene Deodorizer and Sanitizer</td>
<td>Bio-Cide International Inc</td>
<td>10</td>
</tr>
<tr>
<td>90276-2</td>
<td>Sodium hypochlorite</td>
<td>Biosenta Antimicrobial 0.5%</td>
<td>Biosenta Inc</td>
<td>10</td>
</tr>
<tr>
<td>9480-4</td>
<td>Quaternary ammonium; Isopropanol (isopropyl alcohol)</td>
<td>Super Sani-Cloth Germicidal Disposable Wipe</td>
<td>Professional Disposables International Inc</td>
<td>1</td>
</tr>
<tr>
<td>67619-30</td>
<td>Sodium hypochlorite</td>
<td>GNR</td>
<td>Clorox Professional Products Company</td>
<td>1</td>
</tr>
<tr>
<td>1677-129</td>
<td>Hydrogen peroxide; Peroxyacetic acid (Peracetic acid)</td>
<td>Oxonia Active</td>
<td>Ecolab Inc</td>
<td>10</td>
</tr>
</tbody>
</table>

• The bookcloths shown above meet the requirements of **ANSI/NISO/LBC Z39.78-2000 (R2018): Library Binding**, which dictates that covering material must be colorfast and water resistant.

• While a scrubbing with a wet paper towel did not remove color, the bleach-free disinfecting wipe (active ingredient ammonium chloride) and 70% isopropyl alcohol removed color from all 3 samples.
Fogging

• Fogging of disinfectant to control the spread of COVID-19 is not currently approved by the EPA because its efficacy has not been verified. [https://www.epa.gov/coronavirus/can-i-use-fogging-fumigation-or-electrostatic-spraying-or-drones-help-control-covid-19](https://www.epa.gov/coronavirus/can-i-use-fogging-fumigation-or-electrostatic-spraying-or-drones-help-control-covid-19)

• Fogging of disinfectant is only recommended for use on hard, non-porous surfaces (i.e. it should not be used on cloth, paper, upholstery, carpeting).

• Fogging will only apply disinfectant to exposed surfaces – closed books or books in a stack would not be adequately sanitized.
Ultraviolet Light (UV)

• There are 3 types of UV: UVA, UVB, UVC
  • **UVC** - Most effective for disinfection, but direct exposure can burn your skin or eyes. UVC lamps may generate ozone; ozone is damaging to the respiratory, cardiovascular and central nervous system.
  • **UVB** – B=Burning. Penetrates deep into skin/eyes and exposure increases your risk of developing skin cancer and cataracts.
  • **UVA** – A=Aging. Exposure increases your risk of skin cancer, advanced aging. *1,000x less effective for disinfection.*

• The dose of UV needed to inactive SARS-CoV-2 unknown. Lamps sold for home use may not be effective.

• While UV *can be* an effective sanitation method, only surfaces in direct contact with light will be disinfected; a closed book or books in a stack will not be adequately sanitized.

• UV is known to cause damage to collections materials.
Ultraviolet Light (UV)

- All light is damaging, but UV is the most damaging; light damage is **cumulative and irreversible**.

- Light damage causes fading, discoloration, advanced aging, and embrittlement of paper, fabrics, plastics, etc.

- Best practices for collections care include **eliminating or minimizing as much UV light as possible** in areas where collections are present. [https://www.nedcc.org/free-resources/preservation-leaflets/2.-the-environment/2.4-protection-from-light-damage](https://www.nedcc.org/free-resources/preservation-leaflets/2.-the-environment/2.4-protection-from-light-damage)
Heat


• The chemical reactions that lead to deterioration accelerate twice as fast with each 10°F temperature increase.

• Exposure to heat causes advanced aging, discoloration, distortion, and embrittlement of paper.

• Adhesives used in the binding process may soften, melt, or shrink as temperature fluctuates.

Photo: Bexx Caswell-Ols on
Quarantining Materials

• NEDCC recommends quarantining materials over other disinfection methods.

• Quarantining materials is a safe, effective, and low-cost way of mitigating risk for both staff and patrons.

• Practice good personal hygiene; always wash your hands before and after handling collections materials.
COVID-19 Modifications and Procedures

Chris Carron
Director of Collections

All photos provided courtesy of The Children’s Museum of Indianapolis
• Phased re-opening in June - July
• Open full hours with advance tickets and capacity restrictions
• Floor staff at Museum; professional staff working from home if they can
• Medical panel working with Board COVID-19 Task Force to make decisions based on latest science
Health and Safety Tactics

- Limit Crowd Numbers
- Social Distancing
- Surface Cleaning
- Ventilation
- Masks / PPE
- Hand Washing & Sanitizing
- Employee Screening
Overall Experience Strategy

• Keep interactives that can be sanitized regularly
• Remove interactives & touchable objects that cannot withstand frequent cleaning
• Provide a Mission: Discovery guide to highlight hands-off / eyes- and minds-on experiences
• Highlight and add dynamic interpretation activities
• Provide tools for visitors to manage their own health and safety
Scheduled Closures for Deep Cleaning

Closure times for cleaning this gallery:

12:30
2:30

Check out these awesome experiences:

10:30 2:00
A TASTE OF INDIA
11:30 3:30

IMPORTANT SAFETY MESSAGE

Questions about safety? Just ask a museum staff member.

Gallery Cleaning Times
Galleries take approximately 30 minutes to clean. Cleaning times are subject to change.

Riley Children's Health Sports Legends Experience® Indoor
World of Sport/National Art Museum of Sport
Sunday: Noon and 2 p.m.
Treasures of the Earth: 12:30 and 2:30 p.m.

Riley Children's Health Sports Legends Experience® Outdoor
Beckham: 1 p.m.

Riley Children's Health Sports Legends Experience® Outdoor

Report: "You Can Be Anything: The Experience"
Treasures of the Earth: Noon and 2 p.m.

Museum Lower Level
Museum Lower Level
Skysphere: Noon and 2 p.m.

Museum Lower Level
World's Greatest: Noon and 2 p.m.

Museum Level 2
Museum Level 2
Power of Children: Noon and 2 p.m.

Museum Level 3
Museum Level 3
Museum Level 3

Questions about safety? Just ask a museum staff member.
Shared Responsibility for Surface Cleaning
Outdoor Experiences in Fresh Air
Limit Time Spent Indoors
One-Way Traffic Flow
Closing of Confined Pretend-Play Spaces

The Children’s Museum of Indianapolis
Promote Social Distancing & Close Spaces that Don’t Allow Social Distancing
Allow/Remind Visitors to Sanitize and Wash Hands
Add Plexiglas Between Adjoining Interactive Stations
Add Object Cases to Replace Hands-on Interactivity
Internal Quarantine of Artifacts and Specimens

The Children’s Museum of Indianapolis

Extraordinary. Always.
Clearly Communicate Expectations to Visitors

Advance tickets required for all visitors

CLOSED: Playscape®

The Children’s Museum of Indianapolis

Extraordinary. Always.
Even Our Dinosaurs Wear Masks!

Welcome Back!
Museum at Home

- New virtual content and interactivity daily
- More than 200 videos
- More than 1.1 million views
Replace In-person Field Trips with Virtual Experiences

Virtual School Programs

- Virtual Field Trips
- Humanities and STEM Classroom Programs with Kits provided
- Chats with Collections
- Homeschool Programs
Things are changing rapidly, and scientists can’t produce all the answers this fast

We adapt quickly when new data becomes available

We’re planning for different scenarios of when there will be a vaccine, and when people feel comfortable to visit

We remain focused on providing extraordinary quality in everything we do
Questions?

This project was made possible in part by the Institute of Museum and Library Services, project number ODIS-246644-ODIS