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COVID-19 & DENTISTRY

Clinical Update & Working Effectively and Safely with Your Dental Laboratory

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COVID-19: What's The Latest?

Moderna mRNA-1273

At least 90 potential COVID-19 vaccines are under study, and 6 of those are already being tested on humans in clinical trials to determine if they're safe.

One vaccine in the Coronavirus race has shown promising results. Moderna reported that its vaccine triggered blood levels of virus-fighting antibodies that were similar to or greater than those found in patients who recovered.

Although **it does not prove that the vaccine would trigger immunity**, it's a promising suggestion that the company is headed in the right direction.

COVID-19: What's The Latest?

Moderna mRNA-1273

3 different dosage levels — 25, 100, and 250 micrograms — were given to 45 participants, and all of them developed detectable antibodies.

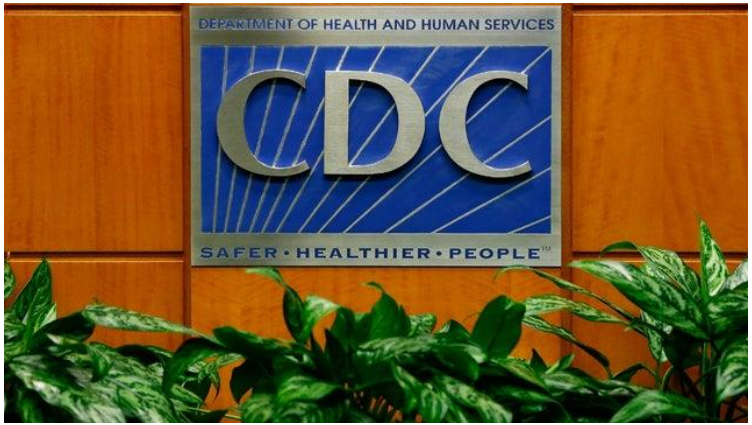
The eight people who received doses of 25 and 100 micrograms in March 2020 responded best, developing antibodies that were just as high or higher than the antibodies found in people who'd gotten the Coronavirus and then recovered.

The vaccine uses something called the messenger RNA approach. It does not require a virus to make the vaccine.

- *First COVID-19 Vaccine Tested on Humans Shows Early Promise - Medscape - May 18, 2020*

COVID-19: CDC – Tracking Antibodies

- CDC is planning to launch a nationwide study in 25 metropolitan areas testing blood from donors to examine the spread of Coronavirus around the U.S.
- The study slated to begin in June or July, will tests tens of thousands of blood samples from donors around the country
- The study's aim is to locate antibodies created by the body in response to the presence of the COVID-19 virus



COVID-19: Reopening Practices

Steps To Take

Implement recent recommendations:

- Screening patients for symptoms including fever > 100.4 F
- Whole office social distancing
- Limited use of waiting rooms
- Alternative places for patients to wait (car)
- Implementation of temporary “sneeze” barriers at non-clinical interaction points
- Elimination of paper documentation
- Sensible PPE precautions non-clinical staff
- Communication with patients

Steps to maintaining a safe environment in the dental setting for all as we restart.

Clean and disinfect frequently touched objects and surfaces such as doorknobs, light switches, cabinet handles and front desk areas frequently!

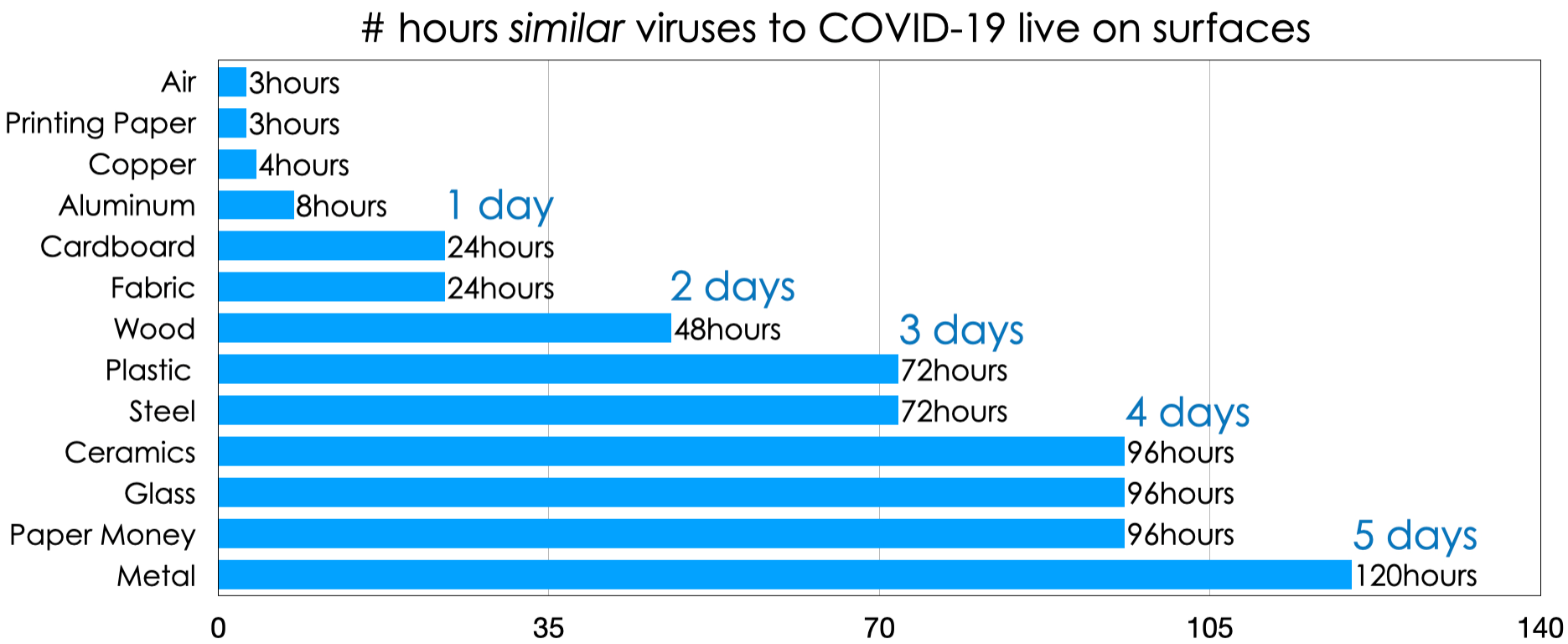
Toss waiting room magazines – eliminate as much paper as possible

Wipe down all hard surfaces in the waiting area regularly.

Offer hand sanitizer to patients at the front desk.

Screen patients for fever, cough, and shortness of breath upon entry into the facility.

Viruses' "life" on surfaces



Dallas Morning News, May 17, 2020. How long can the coronavirus lurk on surfaces? Referencing **Lancet** and **The New England Journal of Medicine**.

COVID-19: Problem Solving Approaches to Aerosols

Surface disinfection is, and will remain, a critical component in all aspects of infection control in the dental setting.

Greater focus must be paid to mitigating the impacts of aerosols while suspended, and when possible, at their source.

COVID-19: How Will Dentistry Look?

Dental offices will need to be able to institute a form of transmission-based precautions, which potentially include:

- Airborne infection isolation room(s) or single-patient room(s)
- A respiratory protection program (air transfer rate/hour; negative pressure room)
- Routinely stocking N95 respirators - reprocessing
- Waiting room and operatory chairs that can be wiped down (e.g. no seams or cloth)
- High speed evacuation for hygiene operatories that involve an aerosol generating procedure (i.e. ultrasonic scaler)

COVID-19: Risk of Transmission via AGP

Aerosol Generating Procedures (AGP) Must Be Addressed!

<u>Air Purification Systems:</u>

- Chairside aerosol extraction devices
- Standalone recirculation air purifiers
- Overhead air purification (UV-C)
- Air exchange rates: Guidelines for Environmental Infection Control in Health-Care Facilities
  - https://www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.html#tableb1

COVID-19: Mask Makers Approval

FDA Pulls Approval for Dozens of Mask Makers in China – May 2020

Federal officials withdrew approval for more than 60 manufacturers in China to export N95-style masks to the U.S. after finding what they said were a large number of low-quality products from those companies.

FDA had previously authorized the use of those respirators manufactured in China that have been tested by a recognized independent laboratory, even if they hadn't been tested by U.S. authorities (April 3, 2020).

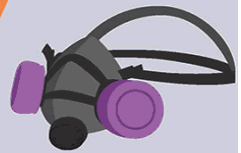
Air-purifying respirators (APRs) work by removing gases, vapors, aerosols (droplets and solid particles), or a combination of contaminants from the air through the use of filters, cartridges, or canisters. These respirators do not supply oxygen and therefore cannot be used in an atmosphere that is oxygen-deficient or immediately dangerous to life or health. The appropriate respirator for a particular situation will depend on the environmental contaminant(s).

Filtering Facepiece Respirator (FFR)

- Disposable
- Covers the nose and mouth
- Filters out particles such as dust, mist, and fumes
- Select from N, R, P series and 95, 99, 100 efficiency level
- Does NOT provide protection against gases and vapors
- Fit testing required

Elastomeric Half Facepiece Respirator

- Reusable facepiece and replaceable cartridges or filters
- Can be used to protect against gases, vapors, or particles, if equipped with the appropriate cartridge or filter
- Covers the nose and mouth
- Fit testing required

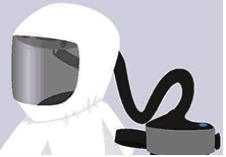


Elastomeric Full Facepiece Respirator

- Reusable facepiece and replaceable canisters, cartridges, or filters
- Can be used to protect against gases, vapors, or particles, if equipped with the appropriate cartridge, canister, or filter
- Provides eye protection
- More effective face seal than FFRs or elastomeric half-facepiece respirators
- Fit testing required

Powered Air-Purifying Respirator (PAPR)

- Reusable components and replaceable filters or cartridges
- Can be used to protect against gases, vapors, or particles, if equipped with the appropriate cartridge, canister, or filter
- Battery-powered with blower that pulls air through attached filters or cartridges
- Provides eye protection
- Low breathing resistance



COVID-19: Steps To Make Sure Our Staff is Protected

What steps do we need to take to ensure our staff is protected and in compliance with OSHA?

U.S. DEPARTMENT OF LABOR ISSUES GUIDANCE FOR RESPIRATORY PROTECTION DURING N95 SHORTAGE DUE TO COVID-19 PANDEMIC

- If respiratory protection must be used, employers may consider use of alternative classes of respirators that provide equal or greater protection compared to an N95 FFR, such as National Institute for Occupational Safety and Health (NIOSH)-approved, non-disposable, elastomeric respirators or powered, air-purifying respirators

COVID-19: Immediate Capture

- Efficient use of high-volume evacuation has the capability to cut pathogen release from the oral cavity by approximately 90%
  - ❖ Use of rubber dams during procedures will decrease the amount of pathogen in the aerosol

- Proper HVE use is considered fundamental and essential to all aerosol generating dental procedure

- What about the other 10%?

COVID-19: History of Extraoral Vacuum Systems

- In the 1960s and1970s, numerous vacuum systems were developed in dentistry primarily to rectify problems with many of the then emergent Dental Air Abrasion systems

- Later, these extraoral vacuum units were redeployed for the purpose of “safe amalgam removal”

- Now they are being repurposed and developed to address aerosols

COVID-19: Extraoral Vacuum Systems

- Protection effectiveness is significantly influenced by the proper placement of the suction orifice relative to the treatment zone

- As currently configured the vast preponderance of these devices are designed as portable units with immediate filtration (i.e. a unit is needed in each operatory where AGPs are performed)

- All current vacuum systems can be significantly affected by lateral airflow disturbances – for example, window or door opening, air conditioning cycles and even the placement of the operator's hands and instruments in front of the device

COVID-19: Continued Clinical Issues

- Availability of PPE – specifically N95s
- Availability of new technologies
- Working with new technologies
- Proper patient flow

Another passion – my dogs Grady and Timmy

Thank You!

Have topics you'd like us to cover relating to COVID-19 & Dentistry?

- **Email: webinars@henryschein.com**
- **Comment on YouTube Recording – and Subscribe!**

For more information and a full list of references, please visit the Henry Schein COVID-19 resource center:

www.henryschein.com/COVID19update