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Thank you for interest in educating yourself about the facts regarding masks. I am happy to provide you with information to educate yourself and others as to masks and their application in the workplace. All information obtained in the document is easily verifiable and publicly available.

It is important to note, I'm not an attorney and am sharing the information I've complied from my experience in Occupational Health and Safety (workplace safety), as well as basic pathophysiology as an EMT and EMS Instructor.

MY BACKGROUND

I began my career in Occupational Health and Safety in 2012 when I graduated the 17th Emergency Medical Services Academy at Harrisburg Area Community College, obtaining my EMT-B certification. From there, I continued on to become a CPR and EMS Instructor for the state of Pennsylvania, teaching predominantly at Harrisburg Area Community College. After working in the field as an EMT, I went on to obtain certification as a Certified Ophthalmic Assistant as well as Advanced EMT certification. I became a member of the Safety Team at Amazon.com as an Onsite Medical Representative where I treated Associates for both work-related and nonwork related injuries. In this role, I functioned as a liaison between the Safety department and Workman's Compensation as well. It was in this role I furthered my knowledge of and focused on Occupational Health and Safety. In 2018, I became employed by Stericylce as a Healthcare Compliance Educator and completed OSHA's 30 Hour Occupational Safety and Health training. I visited over 500 medical facilities in 5 states conducting various workplace safety trainings including PPE, performed mock OSHA audits and consulted on PPE selection as well as advised on OSHA regulations and best practices pertaining to workplace injuries and many other regulated safety guidelines.

Like most individuals, when the COVID-19 crisis impacted our lives, I searched for answers to questions that almost every person on this planet obviously had about how to best protect ourselves both personally and professionally (as the Occupational arena is my wheel-house). I used the knowledge I had already obtained in my field and went to work, digging in.

The advice the CDC was giving to the general public in the beginning seemed appropriate. Limit contact with others (until we know more about the virus). Practice good personal hygiene, wash your hands, don't touch your face, no need for a face mask, etc. When the advice changed in May to include wearing face masks, I was extremely surprised as face masks have never been advised or approved for protection against any respiratory disease / hazard (as they are inadequate). OSHA has been very specific with its guidelines in Respiratory protection in the workplace, for good reason.

When consulting I always advise Employers to follow the manufacturer's guidelines and recommendations. This pertains to equipment, PPE, chemicals, essentially any product they are considering using in the workplace. The manufacturer is responsible (and can be liable) for stating what their products intended use is, how it works and how it should be maintained, stored, etc. If an employee is injured because of, or involving a piece of equipment, the manufacturer can be just as culpable as the Employer.

WHAT IS OSHA?

OSHA, or Occupational Safety and Health Administration was created in 1971 and is the government entity charged with protecting workplace safety. They are a resource for employers and employees alike. OSHA has rules or Code of Regulations (CFR for short) and 29 CFR 1910 is the regulation that covers "General Industry". Included in this regulation is subpart I which covers PPE or Personal Protective Equipment.

Personal Protective Equipment, per OSHA.gov, is defined as:

"Personal protective equipment, commonly referred to as 't'PPE", is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards. Personal protective equipment may include items such as gloves, safety glasses and shoes, earplugs or muffs, hard hats, respirators, or coveralls, vests and full body suits."

Per OSHA.gov:

"If PPE is to be used, a PPE program should be implemented. This program should address the hazards present; the selection, maintenance, and use of PPE; the training of employees; and monitoring of the program to ensure its ongoing effectiveness."

All personal protective equipment should be safely designed and constructed, and should be maintained in a clean and reliable fashion. It should fit comfortably, encouraging worker use. If the personal protective equipment does not fit properly, it can make the difference between being safely covered or dangerously exposed. When engineering, work practice, and administrative controls are not feasible or do not provide sufficient protection, employers must provide personal protective equipment to their workers and ensure its proper use. Employers are also required to train each worker required to use personal protective equipment to know: When it is necessary. What kind is necessary? How to properly put it on, adjust, wear and take it off. The limitations of the equipment. Proper care, maintenance, useful life, and disposal of the equipment."

OSHA can defer to the Center for Disease Control (CDC) for recommendations. The National Institute for Safety and Health (NIOSH) is a branch of the CDC. Part of what they do is test, qualify, and rate equipment in workplace safety. Per https://www.cdc.gov/niosh/ppe :

"*The National Institute for Occupational Safety and Health (NIOSH) Personal Protective Technology (PPT) Program's mission is to prevent work-related injury, illness, and death by advancing the state of knowledge and application of PPT. PPT in this context is defined as the technical methods (e.g., fit testing methods), processes, techniques, tools, and materials that support the development and use of personal protective equipment (PPE) worn by individuals to reduce the effects of their exposure to a hazard.*

The PPT Program is responsible for testing and certifying new respirators before they enter the market. This ensures that NIOSH-approved respirators meet the minimum construction, performance, and respiratory protection standards to keep users safe. The program conducts post-market activities such as the Long Term Field Evaluation Program, the Certified Product Investigation Process, and the site and product audit programs. In addition, the PPT program works to evaluate and improve equipment worn by workers by conducting research on new technologies, emerging hazards, and PPE test methods. Based on the research, the Program is able to develop and implement science-based national guidance for respiratory and other personal protective technologies."

Essentially OSHA defers to NIOSH to ensure the efficacy of PPE.OSHA requires that PPE be sufficient to protect the employee from hazards in the workplace. For example, if your employer states there is a potential for injury to the head from falling objects, they must provide you with a protective helmet capable of providing protection. In this instance they must provide a safety helmet that has been tested and rated for impact resistance. PPE must be adequate for the hazard. The Employer cannot hand out baseball caps or allow employees to bring one from home as they are not sufficient.

MASKS

So, let's apply these regulations to masks. When you want to know what protection a mask will provide, you should refer to the manufacturer recommendations. I started with 3M, the largest manufacturer of medical PPE in the United States. Their literature is TRULY clear when providing technical guidance about their products. I have included literature from 3M, as well as Medline.

3M — Mask or Respirator states:

- Surgical mask application is to "protect the sterile surgical field from contamination..." — surgical fields are protected due to the invasive nature of said procedures (incisions or non-intact skin). The application stated is not to prevent the patient from inhaling contaminants
- Surgical masks: "reduce" (not prevent) "large "particles (CV19 is less than a micron) and "fit loosely" — would not prevent spray from a cough or sneeze
- Respirator — "Helps REDUCE wearer exposure to certain airborne particles" It does NOT prevent exposure
- Respirators require a written respiratory program (from the employer) and must include: training, fit testing and medical evaluation. Misuse may result in sickness or death. OSHA regulation 29 CFR 1910.134

**FDA.gov states "*While a surgical mask may be effective in blocking splashes and large-particle droplets, a face mask, by design, does not filter or block very small particles in the air that may be transmitted by coughs, sneezes, or certain medical procedures. Surgical masks also do not provide complete protection from germs and other contaminants because of the loose fit between the surface of the mask and your face."* **

3M — Respirators and Surgical Masks: A Comparison (Technical Bulletin) states:

- "However, respirators and surgical/procedure masks are very different in intended use, fit against the face, wear time, testing and approval."
- "Surgical/procedure masks are typically donned for a specific procedure. For infection control purposes, masks are typically disposed of after each procedure/patient activity."
- Conclusion section: states that the intention of the surgical mask is to put a barrier between the worker and the STERILE FIELD. They MAY help keep spit and mucous from reaching the patient or medical equipment.

  The second paragraph states: "However, surgical /procedure masks cannot provide certified respiratory protection unless they are also designed, tested, and government-verified as a respirator. If a wearer wants to reduce inhalation (reduce, not prevent) of smaller inhalable particles (those smaller than 100 microns), they need to obtain and properly use a government-certified respirator such as a NIOSH-approved N95 filtering facepiece particulate respirator." (CV-19 is 0.12 micron as cited by the Mayo Clinic)
- The last page contains a flow chart demonstrates the need for a "comfort Mask" in non-surgical settings. 4.0 footnote states that comfort masks are not designed to protect the lungs from airborne hazards, are not NIOSH approved and are not FDA cleared.

Medline — ASTM F2100-19 explained states:

- Bacterial filtration efficiency: "Tests filtration ability against an aerosol containing bacteria 3.0 microns in size." (Again, CV-19 is 0.14 microns in size)

What is evident by the manufacturers own clearly stated guidelines is that their medical grade PPE is insufficient respiratory protection. If that is the case, then homemade face mask alternatives are surely not either. One may argue that "some" protection or "reduction: is better than none at all. The problem with that argument is that by an Employer requiring PPE for insufficient application, they are then at risk for liability if that PPE fails in the assigned task.

Surgical masks per the manufacturers are not sufficient respiratory protection nor are they NIOSH approved as respirators. I assure this extends to the variety of fabric and homemade masks being used in the workplace as well. If you bought one, check out the manufacturer. I'm sure they will not promote safety testing or ratings either.

OSHA and COVID-19

OSHA.gov states:

"COVID-19 is a highly infectious disease that is spread from person to person through particles produced when an infected person exhales, talks, vocalizes, sneezes, or coughs. COVID-19 may also be transmitted when people touch a contaminated object and then touch their eyes, nose or mouth, although that is less common. COVID-19 is highly transmissible and can be spread by people who have no symptoms and who do not know they are infected."

They clearly identify it as a respiratory hazard. If this is true, per CFR 29 1910.134 a respiratory hazard in the workplace triggers the need for a Respiratory Protection Program. This program has stricter guidelines:

"Respiratory Protection, use of Respirators require a fit test, including a medical evaluation from a health care professional."

The evaluation includes a questionnaire regarding the MANY existing health conditions that may prevent someone from being able to wear and tolerate a respirator. Some of these health conditions are: Hypertension (high blood pressure), diabetes, asthma, tobacco use, allergic reactions, Claustrophobia, Emphysema, chest injuries or surgeries, etc. The medical evaluation details are kept private between the employee and the Physician; pre-existing and or specific medical conditions are not the Employers right to know. This information is protected as to not leave room for medical discrimination in the workplace.

IS A RESPIRATORY HAZARD PRESENT IN YOUR WORKPLACE?

OSHA states the EMPLOYER must assess for workplace hazards. It is their responsibility to decide if a hazard is present. If one of my Customers asks me how to accurately assess for the presence of a respiratory hazard, I would advise them to consult an Industrial Hygienist for evaluation.

What is an Industrial Hygienist? **An industrial hygienist is** a professional who can assess and control physical, chemical, biological or environmental hazards present in the workplace, work environment or public space that could cause injury or illness.

If an employer wants to have air samples tested for the presence of a respiratory hazard, an Industrial Hygienist can conduct those tests. I contacted several Industrial Hygienists, currently, there is no information from OSHA or the CDC in order to conduct tests for the presence of COVID-19 in the air. NIOSH outlines OSHA accepted procedures for Air Sampling and Evaluation, including definition of the physical and chemical properties of the analyte (what is being tested) as well as the acceptable values and exposure limits. So far none of that has been provided, so testing is impossible. I contacted the PA Department of Health and have not been provided with that information yet either. One company stated they are only evaluating HVAC systems to ensure proper function, fresh air intake and air flow. Devices to do this are advertised online, but OSHA has not approved or certified any of these devices.

Did your employer (or you as a business owner) have the aerosol testing in your facility (facilities) for the presence of COVID-19 or any other respiratory hazard? Did the PA Dept of Health conduct such testing in ANY industry / workplace in the state and share those findings to support their mandates? If you cannot prove the presence of a hazard, how can you require PPE for it? If you determine the hazard is respiratory in nature; you must abide by those guidelines, including effective PPE (Respirators). I'm fairly confident major retailers have not conducted said testing and are not instituting a Respiratory Protection program. They are instead requiring ineffective PPE, which contradicts OSHA regulations.

Under the current COVID-19 restrictions in Pennsylvania, employees can wear homemade face coverings. This directly contradicts OSHA regulations and may be unsanitary for many reasons. The belief that masks aren't intended to protect the wearer, but instead those around them makes no sense. As fabric is not a "one way" barrier. If germs and bacteria can get in, they can certainly get out as well. Cross contamination becomes a concern due to employees touching their masks then spreading those germs to everything else they touch.

Employers requiring insufficient PPE may also open the door to liability for employees who cannot tolerate their airway being covered. Per OSHA 1910 CFR 1910.134: "Respiratory Protection, use of Respirators require a fit test, including a

medical evaluation from a health care professional." The reason for the test is to ensure the employee can tolerate a respirator (reduced airflow) and that one will not cause them harm, medically. There are several medical conditions that could affect a person's ability to tolerate decreased air flow. And every person's body is different.

I CAN'T BREATHE

There are 3 components to breathing. Ventilation is the mechanical act of breathing, air flowing in and out of the airway and into the lungs. Respiration is the exchange of gases (carbon dioxide and oxygen) in the lungs. Perfusion is the ability of the blood to oxygenate the capillaries throughout the body. Hypoxia, or lack of oxygen can come from any of the 3 of these components not working properly.

Oxygenation is not the only factor to be considered when evaluating someone's respirations, rate and quality (or AIRFOW) are to be considered. Face coverings can reduce airflow. Preexisting medical conditions could be triggered by reduced airflow to engage the fight or flight response which then lead to a form of hypoxia. The end result could be syncope (passing out). The flight or fight response can be and often is triggered as a result of respiratory distress. When this happens, heart rate and blood pressure increase (vasoconstriction), which result with the need for more oxygen being needed, or hypoxia. Breathing becomes more rapid and shallow as result.

Medical conditions that could be exacerbated by decreased airflow and or covering the face:

> COPD, Asthma, Emphysema, Hypertension, Diabetes (circulatory disease which hinders proper perfusion), varied pulmonary conditions, Allergic or anaphylactic reactions (affects airway), Claustrophobia, Skin allergies or conditions / Oral pharyngeal trauma or conditions (chronic sinus issues), Autism (sensory issues), PTSD, Anxiety
>
> Masks also hinder hearing impaired people from reading lips. Some people are moderately hearing impaired, meaning you wouldn't be able to notice it if they didn't tell you. However, taking away their ability to lip read may make communication difficult or impossible; leading to an employee having to disclose a preexisting medical condition, and possible discrimination.

OSHA recognizes a work-related injuries that occur in relation to pre-existing conditions. Per OSHA.gov interpretation letter:

"…employers must consider an injury or -illness to be work-related if an event or exposure in the work environment either caused or significantly aggravated a pre-existing injury or illness. OSHA has stated that an event includes any identifiable incident, occurrence, activity or bodily movement that occurs in the work environment. Therefore, is the task of walking up 80 feet of steps in the work environment as described in the situation above considered an identifiable "event" and/or "exposure" for the purposes of the recordkeeping regulation, even if there was no slip, trip or fall involved before or after the knee popped?"

If you have a pre-existing condition that is aggravated as a result of a face mask (ineffective PPE), you would within your rights to seek medical care as a workplace injury or illness.

In conclusion, Employers requiring their staff to wear surgical masks / face coverings for the purpose of mitigating the spread of COVID19 is not only ineffective, but it also directly contradicts OSHA's well established and documented workplace safety regulations. It potentially puts Employers at risk of liability for causing harm to their employees with pre-existing medical conditions that may be exacerbated by reduced airflow. It leaves Employers at potential risk for having discussions about preexisting medical conditions that are protected by law.

Essentially, if an Employer follows the Pennsylvania COVID-19 mask mandate requirements, they are in direct conflict with OSHA regulations. If the Employer follows OSHA regulations, they are in direct conflict with the Pennsylvania COVID-19 mask mandate requirements. Either way the Employer is at risk, which clearly causes a dilemma to choose between a state mandate or the health and safety of their staff.

OSHA - BUT THE CDC SAYS SO

OSHA often defers to CDC for workplace safety guidelines. And they themselves have promoted and are promoting CDC face mask guidelines. HOWEVER…..in a News Release from OSHA dated January 29, 2021 announcing the US Department of Labor issuing stronger guidance on coronavirus, the eight paragraph states:

"This guidance is not a standard or regulation, and it creates no new legal obligations. It contains recommendations as well as descriptions of existing mandatory safety and health standards. The recommendations are advisory in nature, informational in content and are intended to assist employers in recognizing and abating hazards likely to cause death or serious physical harm as part of their obligation to provide a safe and healthful workplace."

WOW……. Can this be stated any clearer? It appears, according to OSHA that their standards and regulations have not been altered. So why is our State Government altering our workplaces?

Thank you for taking the time to read and understand what can be a difficult and mundane topic. What's the next step? I've created some documents as recommendations for course of action.

- If you are an employer and do not want to enforce the mask mandates, I'm providing the materials to support that position while maintaining a safe workplace environment.
- If you are an employee who wants to fight the mask mandate in your workplace, I'm providing materials and documents to support you in that cause.

I can't guarantee the outcome for either scenario, but we need to start somewhere! We need to start standing up for ourselves and fighting back. No one else is coming to save you. It's technical information and it may not be an easy process, but your freedom to maintain your rights, and health and safety are well worth the time and effort.

Sources are sighted below and included in a PDF.

Respectfully,

Kelly Miller

SOURCES:

3M.com, Medline.com, OSHA.gov

https://www.fda.gov/medical-devices/personal-protective-equipment-infection-control/n95-respirators-surgical-masksand-face-masks#s2

www.cdc.gov/niosh

OSHA Respirator Medical Evaluation Questionnaire:
www.osha.gov.1910.134A C

OSHA pre-existing conditions interpretations letter:
https://www.osha.gov/laws-regs/standardinterpretations/2014-02-28

Emergency Care and Transportation of the sick and Injured — 11th Edition
https://www.cdc.gov/niosh/docs/95-117