

EVALUATING RISK AND DETERMINING CONTROLS – COVID-19

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Important: The information contained within this document is current as the date of printing. During times of crisis, information and guidance can change rapidly. Always check with your local/state/federal laws and recommendations, including those from the [CDC](#) and [WHO](#), for the most up to date guidance.

Risk is always around us, and we must have some level of tolerance. However, “every day risk” has taken on a whole new meaning with COVID-19.

As some states start to relax social restrictions, and businesses try to return to a form of normalcy, taking on some additional risk will be par for the course, but the risk will vary greatly from employer to employer. How this risk is controlled may make a critical difference in long-term sustainability.

Identification of each individual risk and hazard should be priority (e.g. potential to spread, absenteeism, etc.). Once risks and hazards are identified, use a risk matrix outlining Likelihood of frequency and severity of Consequence to determine which to focus your efforts on first, as well as how to measure what the response level should be. There are many categories of risk to evaluate (financial, legal, etc); for this article we will focus on the risk associated with **Safety & Health**.

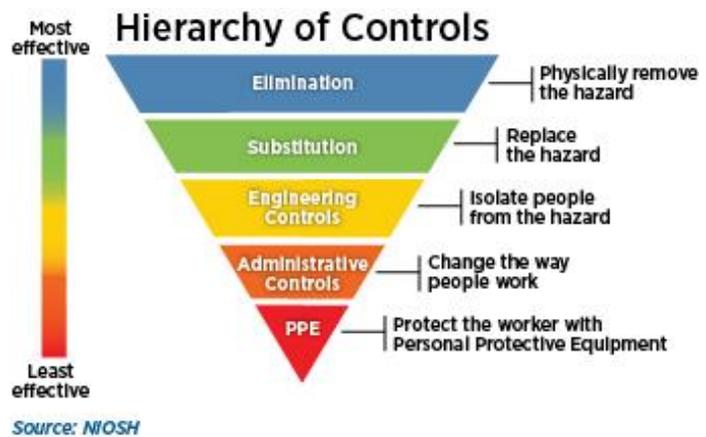
		Consequence				
		Negligible 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
Likelihood	5 Almost certain	Moderate 5	High 10	Extreme 15	Extreme 20	Extreme 25
	4 Likely	Moderate 4	High 8	High 12	Extreme 16	Extreme 20
	3 Possible	Low 3	Moderate 6	High 9	High 12	Extreme 15
	2 Unlikely	Low 2	Moderate 4	Moderate 6	High 8	High 10
	1 Rare	Low 1	Low 2	Low 3	Moderate 4	Moderate 5

For example, you may ask, “How likely is my business to experience an outbreak which causes a required shut down of the facility?”

- **Likelihood** - Do you have a large employee population? Do they interact frequently with the public? Does the area you operate in have a high infection rate currently?
- **Consequence** - Do you have redundant facilities/systems? Can you operate at 50% employee capacity? How much lead time do you have on orders? Could you shut down for a week and be okay?

NIOSH Hierarchy of Controls

Normally, we would prefer to eliminate or substitute the hazard. However, elimination & substitution are not valid controls for the risk being assessed, as we cannot eliminate/replace the virus in the population (and we need employees to work). So, focus should be placed on engineering, administrative, and personal protective equipment (PPE) controls. See the [OSHA COVID-19 publication](#) for additional recommendations.



Engineering Controls - Physically Isolate Employees from Hazards

Physical barriers, such as sneeze guards and air filtration, which isolate hazards before employees are exposed to the hazard. These controls are often the more expensive and time consuming to implement, however, they are often the most effective.

Examples of effective controls in this category:

- Redesign how your business operates to increase digital and reduce physical contact (e.g. moving from wet signatures to E-Signatures, utilize robotics which are not susceptible to the current risk, etc.).
- Redesign the workspace to increase distance between workers including reducing bottlenecks (such as increasing the amount of time clocks, installing additional temporary restroom facilities, increasing line spacing, etc.).
- Install clear plastic barriers ("sneeze guards") to protect employees in required face-to-face transactions.
- Create a drive-through window to service customers without exposing the workplace.
- Ensure appropriate air-handling systems are installed and maintained.
- Create a negative pressure facility/room with HEPA or MERV 13 grade filtration and increased air turnover (see our guide on Negative Pressure Containment, or ask our Certified Industrial Hygienist for more info).

For many employers, a negative pressure ventilation system may be overkill. The response should be tailored to the risk as determined by your risk matrix. In many cases it may be much more prudent only to install plastic barriers to keep employees separated from hazards. This is also where administrative controls can assist.

Administrative Controls - Requires Accountability in Policy and Relies on Action

Administrative controls prevent exposure to hazards by setting work rules and safe work practices in policy and enforcement, and are in general not as effective as engineering controls. Safe work practices are types of administrative controls that include procedures for safe and proper work used to reduce the duration, frequency or intensity of the exposure to a hazard. This category contains some of the most widely recommended controls, as they are more reasonable in cost and time commitment.

Examples of effective controls in this category:

- Monitor public health communications about COVID-19 recommendations and ensure that workers have access to that information. Frequently check the [CDC COVID-19 website](#).
- Provide training on the risks and prevention, preference to virtual training.
- Implement a regular facility-wide cleaning process, with a focus on high-touch surfaces. Disinfect tools and equipment between employee uses. See [the CDC website](#) for more information.
- Implement a daily screening process.
- Require sick employees to stay home (continuing pay is the best compliance incentive).
- Require telework, where feasible.
- Minimize face-to-face interactions (employee-employee & employee-public).
- Stagger shifts or alternate work days to limit the number of employees on site at a given time.
- Limit the number of employees entering/leaving through any one exit, and limiting the total number of workers entering the business. Based on the square footage and configuration of the worksite, set a specific number of workers allowed in that can maintain a distance of at least six feet from each other. Delineate segregation of employee spaces with floor tape.
- Limit employee congregation (including for lunches and breaks, which can be held outside to increase distancing).
- Limit employee “wandering”; ask employees to stay in their work area as much as possible
- Provide resources and a work environment that promotes personal hygiene. For example, provide tissues, no-touch trash cans, hand soap, alcohol-based hand rubs containing at least 60 percent alcohol, disinfectants, and disposable towels for workers to clean their work surfaces. Post signs reminding of rules and good hygiene.
- Require workers to wash their hands frequently with soap and water for at least 20 seconds and allow them the time to do so. This includes: when they arrive and depart from work; before and after they use the restroom; before eating, drinking or using tobacco; when they leave their workstation; and after handling money.

Personal Protective Equipment (PPE) Controls - Mitigates Exposure to Hazards not Isolated

While engineering and administrative controls are considered more effective in minimizing exposure to COVID-19, PPE may also be needed to prevent certain exposures. While correctly using PPE can help prevent some exposures, it should not take the place of other prevention strategies. PPE must be selected based on the hazard, properly fitted/worn, and maintained appropriately to be effective. Removing potentially contaminated PPE inappropriately can cause inadvertent and unknown contamination. You should always wash hands and arms thoroughly after removing PPE. See [the CDC website](#) for more information.

Note: A Respiratory Protection Program may be required. Fit testing, medical evaluation, equipment maintenance, filter change out schedules, and the training (including donning and doffing) are all important considerations - depending on the PPE selected, environmental conditions, the employee wearing it, etc. It is also worth noting that there are currently counterfeit PPE being delivered all over the world; know your distributor and products.

Examples of effective controls in this category:

- **Surgical masks** - Typically white or blue, rectangle or triangle. Helps to control droplets created during exhalation which may be contaminated. Does not seal tight enough to filter all air entering the airway; designed to protect FROM the wearer.
- **N95 masks** - Typically white, round with a metal strip over the nose. Tighter fitting/sealing than a surgical mask. Can have an exhalation valve; a square or round extension in the middle containing one-way pressure valves. Without an exhalation valve, both incoming and outgoing air are filtered. With an exhalation valve, exhaled air is not filtered.
- **Other acceptable respirators** – When disposable N95 filtering facepiece respirators are not available, consider using other respirators that provide greater protection and improve worker comfort. Other types of acceptable respirators include: a R/P95, N/R/P99, or N/R/P100 filtering facepiece respirator; an air-purifying elastomeric (e.g., half-face or full-face) respirator with appropriate filters or cartridges; powered air purifying respirator (PAPR) with high-efficiency particulate arrestance (HEPA) filter; or supplied air respirator (SAR).
- **Face shields** - Typically clear plastic, face covering device worn on the head to prevent contact with the employees face or PPE. Recommended in addition to other PPE for employees exposed to frequent face-to-face contact.
- **Gloves** - Frequent hand washing is more effective than gloves. Disposable gloves are used by workers for handling items that may have contact from an outside vendor, money, parts and food safety, and when conducting cleaning and disinfecting activities. Gloves will carry COVID-19, just like workers' hands.

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