



**GLOBAL CENTER
FOR HEALTH SECURITY**



AgHealth
Central States
Center for Agricultural
Safety and Health

Meat Processing Facility COVID-19 Playbook

Background

Coronavirus Disease 2019, or COVID-19, is affecting meat processing plants in multiple states across the United States. An essential industry, meat processing plants are especially vulnerable to COVID-19 given challenges posed by the high numbers of employees necessary to maintain business operations, close proximity of personnel on production lines, and a diverse workforce with cultural, linguistic, and socioeconomic challenges to social distancing and limited access to other public health interventions.

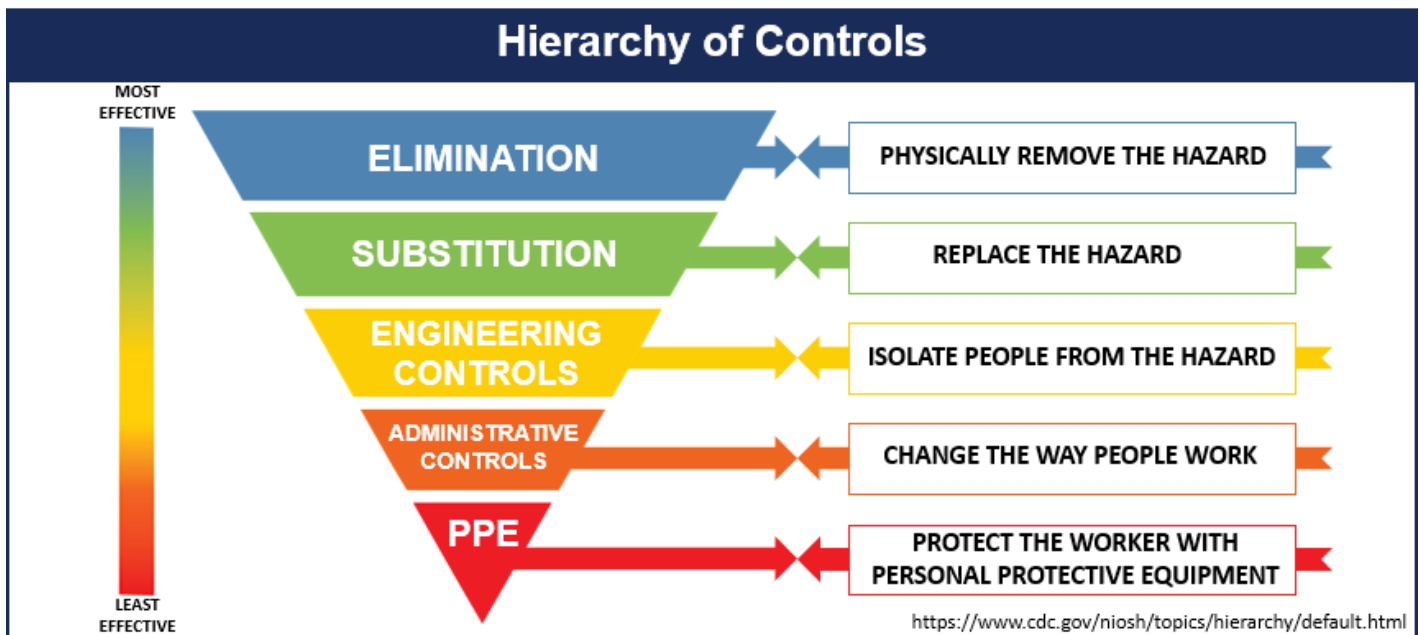
COVID-19 is primarily spread person-to-person by close contact (within 6 feet) through respiratory droplets produced when an infected person sneezes, coughs, or talks and indirectly when a person touches a surface contaminated with SARS-CoV-2, the virus that causes COVID-19, and then touches their nose, mouth, or eyes. The virus can also be transmitted through the fecal-oral route.

In a pandemic setting, the health of each worker is critical to the health of the community and to sustaining the critical infrastructure of the meat processing industry. Preventing the spread of the outbreak also means addressing the health needs of workers in the plant. To be sure, this should not be left for the plant to shoulder alone, but rather a combined effort between national and local public health alongside the industry. These efforts should be made an urgent public health priority because infection among worker populations could also lead to community infection, eventually affecting further spread in entire population's health.

This guide is intended to provide best practices and recommendations for meat processing facilities to minimize the risk that COVID-19 poses to employees and the community and to reduce disruptions to business operations. As with any infection prevention and control measures, the foundation of successful implementation requires a culture of safety to exist where all stakeholders have equitable ownership of the safety of the community and a culture that allows all members to identify potential hazards without fear of reprisal. In healthcare environments, this is practiced when all stakeholders (patients, staff, technicians, nurses and physicians) are equitably engaged in risk and intervention assessment and all have a responsibility and mechanisms to identify potential risks and process improvements without reprisal. Likewise, mitigation of risks posed by COVID-19 in meat processing facilities will rely on full adoption of this culture of safety by all levels of plant leadership, management, and workers.

Recommended meat processing safety measures to be implemented are based on the hierarchy of controls, a hazard mitigation framework that outlines controls in decreasing order of effectiveness from engineering controls, to administrative controls, to personal protective equipment (PPE) (see Figure 1). This is a guide only and should be adapted to the context of each facility. Facilities should work in coordination with local public health departments to tailor specific situations and needs to each facility.

Figure 1: Hierarchy of controls



Contact GCHS@UNMC.EDU for questions or comments

Engineering Controls

Engineering Controls are controls that place a barrier between the worker and the virus. They are not dependent on a person's knowledge, practice, or compliance; therefore, they reduce the opportunity for human error.

Physical Barriers

When possible, use physical barriers to separate workers from one another and minimize the opportunities from person-to-person transmission of COVID-19. Some strategies for installing physical barriers include:

- Determine where it is possible to place a physical barrier between workers on production line (e.g., plexiglass)
- Identify opportunities to place physical barrier at cafeteria lunch tables for tables with built-in seating (e.g., cardboard, plexiglass partitions)
 - Extending partitions several inches past the end of the table provides an additional measure to prevent workers from leaning back and extending over to space of person sitting next to them
- Identify opportunities to place physical barrier (e.g., plastic sheeting) in hallways to guide employee traffic to/from production and limit crossover

Ventilation

- Wherever possible, exhaust room air and deliver clean air; if re-circulation is required, this should be done in concert with appropriate filtering (HEPA) or sterilization measures (e.g., UV)
 - This is especially relevant in high traffic and high-density areas of the plant, including production lines, cafeterias, locker rooms, and congregating areas
- Wherever possible, create unidirectional, laminar airflow
- If fans are used in the facility, ensure fans blow clean air toward workers' breathing zone and are used to create unidirectional airflow
 - Turbulent airflow from fans may contribute to re-aerosolization of viral particles from surfaces

Administrative Controls

Administrative controls are considered less effective than engineering controls but are the most common control measures available for COVID-19. These include policies, procedures, training, and workplace practices. Ineffective policies or practices or inconsistent compliance may heighten exposure risks for all.

Workforce Policies

Strategies to promote workers staying home when presenting any signs or symptoms of COVID-19 are fundamental to reducing transmission of COVID-19 in meat processing plants and to the effectiveness of other control measures. In addition, facilities should have concrete procedures in place that detail actions to take if a worker tests positive for COVID-19 and requirements for workers to return to work following illness.

- Institute flexible workplace and sick leave policies appropriate for all employees
 - Ensure these policies are communicated to all workers and adhered to by all levels of supervision and leadership
 - Unemployment and disability compensation are not adequate sick leave policies for COVID-19 for workers
- Institute a no-penalty approach for those taking sick leave for all employees
 - Ensure that front-line supervisors understand the need to be flexible and not penalize workers for using these benefits
- Recognize certain policies may incentivize employees to come to work sick (e.g., extra food at end of shift, bonus pay)
- Develop standard operating procedures (SOPs) that detail actions to be taken if an employee or visitor is tested for COVID-19 and/or tests positive for COVID-19 or is exposed to an individual positive for COVID-19. This should include:
 - Process to contact relevant employees who may have been exposed
 - Cleaning and disinfecting surfaces to limit employee exposure
 - Working with local authorities to take appropriate steps for contact tracing
- Develop a return to work policy in coordination with the local public health department
- Identify workplace coordinators for COVID-19 issues and their workplace impact
 - Coordinators should be known and accessible to all
 - They should serve as the main source of information and primary person(s) to answer questions related to COVID-19 (e.g., Occupational Health RN, Plant Safety Manager)
- Engage plant safety and ergonomics teams in development of strategies and implementation
- Provide frontline supervisors additional training on COVID-19, sick leave policies, and PPE so they can provide effective and reliable communications to workers and monitor for protective measures and PPE compliance
- Develop plans to operate with a reduced workforce
- Cross-train workers to perform essential functions to maintain operations

Universal Mask Policy

A policy should be implemented for all employees and essential visitors to wear a face mask/face covering at all times while on the facility premises. It is common for an individual to have COVID-19 and be able to transmit the disease to others in close contact while showing no signs or symptoms. As a result, the Centers for Disease Control and Prevention has issued [guidelines](#) recommending all persons wear face coverings in public settings where other social distancing measures cannot be achieved.

There are different types of face coverings. It is highly recommended, as available, to provide employees in meat processing plants with procedure (surgical) masks due to the close contact they have with other employees and the liquid contact frequency in the work environment. Cloth face-coverings may not provide the needed protection for these workers. Hair and beard covers provide no protection; they should not be used as an alternative for a face mask.

Provide information to employees on proper face covering use (more information in the personal protective equipment section on Page 12).

Environmental Cleaning and Disinfection

Current evidence suggests that the virus that causes COVID-19 can remain viable on surfaces for hours to days. As such, sound environmental cleaning and disinfection is a key factor in preventing COVID-19 transmission in meat processing facilities. Daily and routine cleaning and disinfection should be conducted to minimize surface contamination in common areas and on high-touch surfaces.

○ **Develop Standard Operating Procedures (SOPs)**

- Develop an SOP for enhanced cleaning and disinfection of common contact areas
- Identify common high-touch surfaces (e.g., tables, door handles, microwaves, railings) and develop a checklist to ensure frequent sanitization throughout the day
 - Dedicate additional staff, as available, with the only responsibility to disinfect high-touch surfaces
- In the event an employee tests positive for COVID-19, develop an SOP for cleaning and disinfecting impacted areas (e.g., cafeteria, washrooms, welfare areas, pathways, etc.)
- Develop a process for routine deep cleaning of common areas, either daily/nightly or, at minimum, weekly
- Develop a process to ensure lunch tables are clean between use by self-cleaning or tools (e.g., laminated card with green side and red side) to notify environmental service employees that the tables are in need of cleaning or to notify employees the table is cleaned and ready to be used

○ **Maintain adequate supplies**

- Place hand sanitizer dispensers throughout facility, particularly at entrance, exits, and transition areas
 - The more accessible hand sanitizer dispensers are, the more they will be used
 - Touchless hand sanitizer dispensers are preferred to manual dispensers (e.g., pumps)
- Assess supply of cleaning supplies, sanitizers, and disinfectants and encourage practical use
 - Note: Follow manufacturer recommendations; some disinfectants may be caustic and require gloves and ventilation
- Provide readily available sanitizing wipes, soap, and paper towels in cafeterias and breakrooms

- Use only [EPA-registered disinfectants](#) for use against SARS-CoV-2
- **Minimize touching of items by multiple workers**
 - Minimize the number of workers using the same tool
 - Identify common shared tools and develop procedures to sanitize between users
 - Use no-touch receptacles and sanitizing stations when possible

Environmental Cleaning and Disinfection Resources:

The CDC has guidance for [cleaning and disinfecting facilities](#)

The EPA has a list of [EPA-registered disinfectants](#) effective against the virus that causes COVID-19

OSHA has general guidance for [environmental cleaning and decontamination](#) for COVID-19

Active Screening

To prevent the transmission of COVID-19 in facilities, all employees and essential visitors/contractors should be screened daily. This should include temperature screening as well as screening questions designed to identify individuals with other [COVID-19 symptoms](#) or exposure risks. Designated point(s) of entry should be used to facilitate screening of every employee or visitor prior to entry. Visual markers (e.g., tape, spray paint) should be added and spaced out every six feet to prevent workers from crowding during screening process. Provide masks at the earliest possible point during the screening process, ideally prior to screening and prior to or immediately upon entering the facility.

- **Screening questions**
 - Develop and implement screening questions to be conducted daily. Examples could include:
 - Have you been in contact with someone confirmed with or suspected to have COVID-19 in the last 14 days?
 - Are you currently experiencing any flu-like symptoms (e.g., fever, cough, shortness of breath)
 - Have you recently lost your sense of taste or smell?
 - These questions can be asked verbally or by referring to posters of symptoms in the languages spoken by workers during this process
- **Temperature Screening**
 - Implement a daily temperature screening prior to entering the facility
 - Train screener on how to administer temperature checks
 - Validate screener has adequate PPE and, as applicable, maintains social distancing during testing
 - Where able, separate screeners with a physical barrier or divider
 - If using an infrared temperature screening tool, ensure proper validation prior to use
- **Secondary screening**
 - Secondary screening is warranted if an individual provides a positive response to any of the screening questions or has a temperature over 100°F (38°C)
 - Secondary screening includes another temperature check and further evaluation of symptoms
 - Secondary screening should be conducted by staff with medical training in an isolated location

Social Distancing

Social distancing is a strategy to reduce the spread of COVID-19 by limiting interactions with others. Workers that are able to telework should be encouraged to do so. For essential onsite workers, workers should maintain a distance of at least 6 feet from others whenever possible. Physical barriers (e.g., plexiglass partitions) should be installed on the production line, where possible. Measures to promote social distancing in meat processing facilities are noted below.

- Develop a policy to limit visitors except for required essential services
- Implement strategies for social distancing during breaks
 - Stagger break times to avoid large groups of employees
 - Provide additional rooms for break areas or erect tents outside of the facility
 - If workers want to eat in their personal vehicles, encourage hand hygiene and, as able, provide sanitizing wipes to workers for disinfection
 - Reset break and meeting rooms to promote physical distancing
 - Limit chairs per table
 - For tables with built-in seating, install dividers (e.g., plexiglass partitions)
 - Extending partitions several inches past the end of the table provides an additional measure to prevent workers from leaning back and extending over to space of person sitting next to them
 - Use tape to restrict seating and increase distancing between seating spaces
- Use tape on floors, wherever lines form, to designate spots 6 feet apart (e.g., locker rooms, screening areas, human resources office, where PPE is distributed)
- If office staff are required onsite, maintain 6 feet distancing practice in all work areas
- Create walk-up windows for employees needing assistance from Human Resources or Health Services
- As able, assign individuals to monitor social distancing during breaks, lunch, and the screening process
- Where able, keep drivers in their trucks and provide them alternative washroom and hand hygiene stations outside of the facility

Cohorting and Personnel Workflow/Movement

Wherever possible, implement cohorting of small, consistent teams to minimize the number of potential exposures for each person. Cohorting will also simplify the identification process of possible exposed workers if a case of COVID-19 is confirmed. To limit congregating and crossover of workers in hallways, adjust personnel workflow and promote unidirectional flow.

- Wherever possible, implement cohorting of work teams
 - Work teams should be small and consistent, so that staff in close proximity to each other always work together, with lockers, breaks, and meals taken together
 - This serves to both decrease number of potential exposures for each person and to simplify identifying possible exposures if a case presents
- Limit crossover in entrances, hallways, and common spaces by adjusting personnel workflow
 - Limit the number of persons in a hallway or entryway at one time

- As able, limit contact with high-touch surfaces (e.g., keep doors open to allow movement without touching knobs when possible and when it doesn't impact food safety zoning)
- As able, promote unidirectional flow through locker areas and when entering/exiting production floor
 - Employees enter the uniform area with clean hands (hand sanitizer dispenser available at entry)
 - Touching non-selected uniform clothing and hangars kept to minimum
 - Soiled uniforms kept separate from clean uniforms through a designated drop zone

Communication/Education

Communicating to and educating employees is a critical measure to manage risk and ensure accurate information on COVID-19 is provided to workers. Educational materials should be available in all languages spoken by workers.

- Post multilingual signage throughout facility on risk-minimizing behaviors for employees. Examples include:
 - Hand-washing reminders and procedures
 - COVID-19 symptoms and how to stop the spread
 - Facility screening process/requirements
 - Cough/sneeze etiquette
- Provide easy to understand information such as videos, posters and infographics in the languages spoken by workers.
 - Video and image-based infographics avoid translation error and enhance communication with workers regardless of literacy or language proficiency
 - Facilities should engage language and culture experts to ensure appropriate and effective communication
- Provide information to employees on self-monitoring of COVID-19 symptoms and guidance for quarantine/self-isolation, including sick leave policies and procedures
- Provide resources and education to employees on social distancing outside of the workplace
- Refresh staff on proper hand hygiene and glove practices and refraining from touching their face
- As available, share information and training resources via onsite televisions
- Group communication and information distribution via text-message blast or email distribution lists can enhance penetration of messaging

Communication and Education Resources:

CDC has compiled printable posters for COVID-19 awareness and stopping transmission [here](#)

CDC has resources/posters in [languages other than English](#)

CDC has [consumer-based COVID-19 videos](#), including a [YouTube channel with educational videos in Spanish](#)

WHO has printable posters for handwashing procedures [here](#)

Short educational videos for the Hispanic/Latino communities are available on COVID-19 [prevention](#), [staying home](#), and staying safe when a [family member is diagnosed](#) with COVID-19

UNMC Center for Reducing Health Disparities has created a video on [mental health in the time of social distancing](#)

US Citizenship and Immigration Services has released a statement ensuring that COVID-19 testing and treatment will not be used against individuals in a [public charge determination](#)

[General Guidance for Worker Protection at Home and in the Community](#)

Although meat processing facilities cannot control worker activities outside of the workplace, resources and education can be provided to employees on safe social distancing measures and protective measures against COVID-19 during transport to/from work and at home. Partnering with respected local community leaders (e.g., religious and spiritual leaders, elders) and community organizations to educate and disseminate information to surrounding communities can enhance practice of safety precautions taken at home and in the community. A strategy for disseminating educational materials should be developed in coordination with local public health departments.

- Provide employees with information on safe [social distancing practices](#)
- Provide information to employees on self-monitoring of [COVID-19 symptoms](#)
 - Encourage them to stay home if they have ANY symptoms of COVID-19
- Communicate flexible leave policies to employees and regularly reinforce that communication
- Know how to connect with the [local public health department](#)
- Promote basic [protective measures against COVID-19](#)
 - Wash hands with soap and water for at least 20 seconds frequently
 - Avoid touching eyes, nose, and mouth
 - Avoid contact with people who are sick
 - Clean and disinfect frequently touched surfaces in the home (e.g., doorknobs, tables, phones)
 - Follow guidance of local and state public health on staying home, avoiding non-essential errands and social gatherings, and respecting the ten-person limit
 - Avoid going to the grocery store except when necessary
- Engage local community leaders (e.g., religious and spiritual leaders, elders) to help educate and message to community members
- Masks and face-coverings outside of the workplace
 - Encourage workers to face-coverings outside of the workplace (e.g., transport, at home)
 - Encourage workers to wear face-coverings during transport to work and to protect others prior to them receiving a new mask for their shift
 - If using cloth face-coverings, provide workers information on [cleaning and use of cloth face-coverings](#)
 - *Workers should be careful not to touch their eyes, nose, or mouth during removal*
 - *Perform hand hygiene immediately after removal*
- Carpooling
 - Encourage workers to minimize carpooling to work, when possible
 - As much as possible, limit the number of people per vehicle and space out seating
 - Encourage workers to do hand hygiene prior to entering the vehicle and as soon as they get to work or home

- Remind carpoolers of risk-minimizing personal behaviors such as cough etiquette and avoiding touching their faces

Testing

- Develop a testing strategy in coordination with local public health officials
- If an employee is suspected or confirmed to have COVID-19, quarantining and testing should be prioritized among close contacts of the confirmed case
 - If cohorting of small and consistent teams was implemented, this would include other individuals on the positive case's team
- Work with local and state public health officials to conduct testing of priority cases

Personal Protective Equipment (PPE)

PPE is considered the least effective method to protect workers due to its reliance on the user; if the user wears improperly, or the PPE fails, the worker is exposed. However, this does not mean PPE is not important. Workers should be provided appropriate PPE and trained on its correct use.

Appropriate PPE should be provided to all employees. Per the Universal Mask policy recommendation (Page 6), all employees and essential visitors/contractors should be provided a procedure mask, when available, upon entrance to the facility due to close contact with other employees. Cloth masks may not provide the needed protection for these workers but are an alternative if procedure masks are unavailable. Beard covers provide no protection and should not be used as an alternative for a face covering. Reusable PPE (e.g., face shields) should be properly disinfected after use and stored in a clean, dry location.

Employers should validate all employees wear PPE properly and correctly. The mask should cover both the mouth AND nose. Workers should avoid touching the front of the mask and should not allow the mask to hang around the neck. If necessary, identify auditors/observers to help ensure compliance. Careful compliance to proper mask use is essential. Proper hand hygiene after facial coverings are removed should be emphasized. When taking off the mask during lunch to eat, remove by the ear loops and place on a paper towel with the exterior side of mask down. Do not touch the front of the mask, as the front is contaminated. The mask should not be pushed under the chin to rest on the neck.

Checklist or instructions informing proper donning and doffing of PPE should be posted in the languages spoken by the workers and include visual images. Doffing of PPE to reduce disease transmission is especially critical: checklists should ensure hands are clean/sanitized when taking off safety goggles, masks, or any other item that may cause a worker to touch their face.

Provide masks at the earliest possible point during the screening process. Provide a hand sanitizer dispenser at the point of mask distribution so workers don masks with clean hands. Measures should also be developed to distribute daily cycled PPE to avoid unnecessary touching by multiple workers.

Resources for Personal Protective Equipment

[OSHA Guidance for Prevention and Control](#)

[The Association for Professionals in Infection Control \(APIC\) Procedure mask Poster “Do’s & Don’ts”](#)

[The National Emerging Special Pathogens Training and Education Center Webinar on Varying masks](#)

[CDC Understanding the Difference between N95s and Procedure Masks](#)

[CDC Information on cleaning and use of cloth masks](#)

Additional General COVID-19 Resources

[CDC Interim Guidance for Meat and Poultry Processing Workers and Employers](#)

[CDC Interim Guidance for Businesses and Employers](#)

[CDC Basic Information on COVID-19](#)

[CDC Guidance for Critical Infrastructure Workers with COVID-19 Exposure](#)

[OSHA Guidance for Preparing Workplaces for COVID-19](#)

[OSHA Guidance for Prevention and Control](#)

[FDA Frequently Asked Questions for COVID-19](#)

[North American Meat Institute \(NAMI\) Coronavirus Updates](#)