



## Aerosol Production and Exposure Control

### Examples of Aerosol-Producing Activities in the Lab:

- blowing out pipettes
- cell sorters
- shaking or vortexing tubes, stirring
- opening lyophilized cultures, opening snap top tubes, breakage of culture containers
- flaming loops or slides
- pulling needles out of septums, filling a syringe
- pouring liquids
- centrifugation steps such as filling centrifuge tubes, removing plugs or caps from tubes after centrifugation, removing supernatant, resuspending sedimented pellets, breakage of tubes during centrifugation, and centrifugation itself
- sonicating, homogenizing, blending, grinding, cell disruption with French press
- intranasal inoculation of animals
- cage cleaning, changing animal bedding
- harvesting infected material from animals, eggs, and other virology procedures
- necropsies of infected animals

### Safe Work Practices to Minimize the Creation of and Exposure to Aerosols:

Using a combination of the appropriate safety equipment and safe procedures is the primary method to minimize the creation of and exposure to aerosols.

#### Lab safety equipment to protect personnel from aerosols

- The certified biological safety cabinet (class I or II) is the primary barrier to protect worker from aerosols. Other safety devices include safety centrifuges with automatic locking mechanisms or solid lids, safety centrifuge cups, safety blenders, safety sonicators.
  - If aerosol production cannot be prevented or contained, see the [USA Safety and Environmental Compliance to](#) determine if use of a respirator is appropriate.
  - For animal work follow CDC *Biosafety in Microbiological and Biomedical Laboratories animal biosafety guideline*.