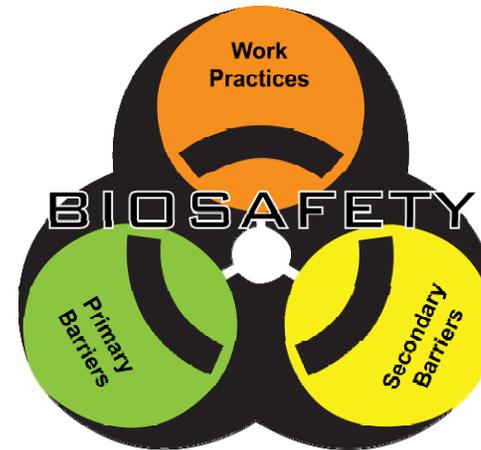
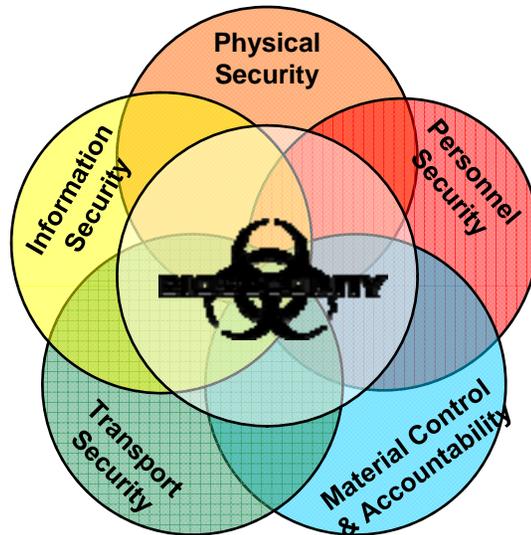




Personal Protective Equipment



African Biological Safety Association (AfBSA)

“WORKING SAFELY AND SECURELY WITHIN BSL-2 LABORATORIES”

Reynolds Salerno

International Biological Threat Reduction Program

Global Security Programs

Sandia National Laboratories

Albuquerque, NM USA

SAND No. 2008-0480P

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.





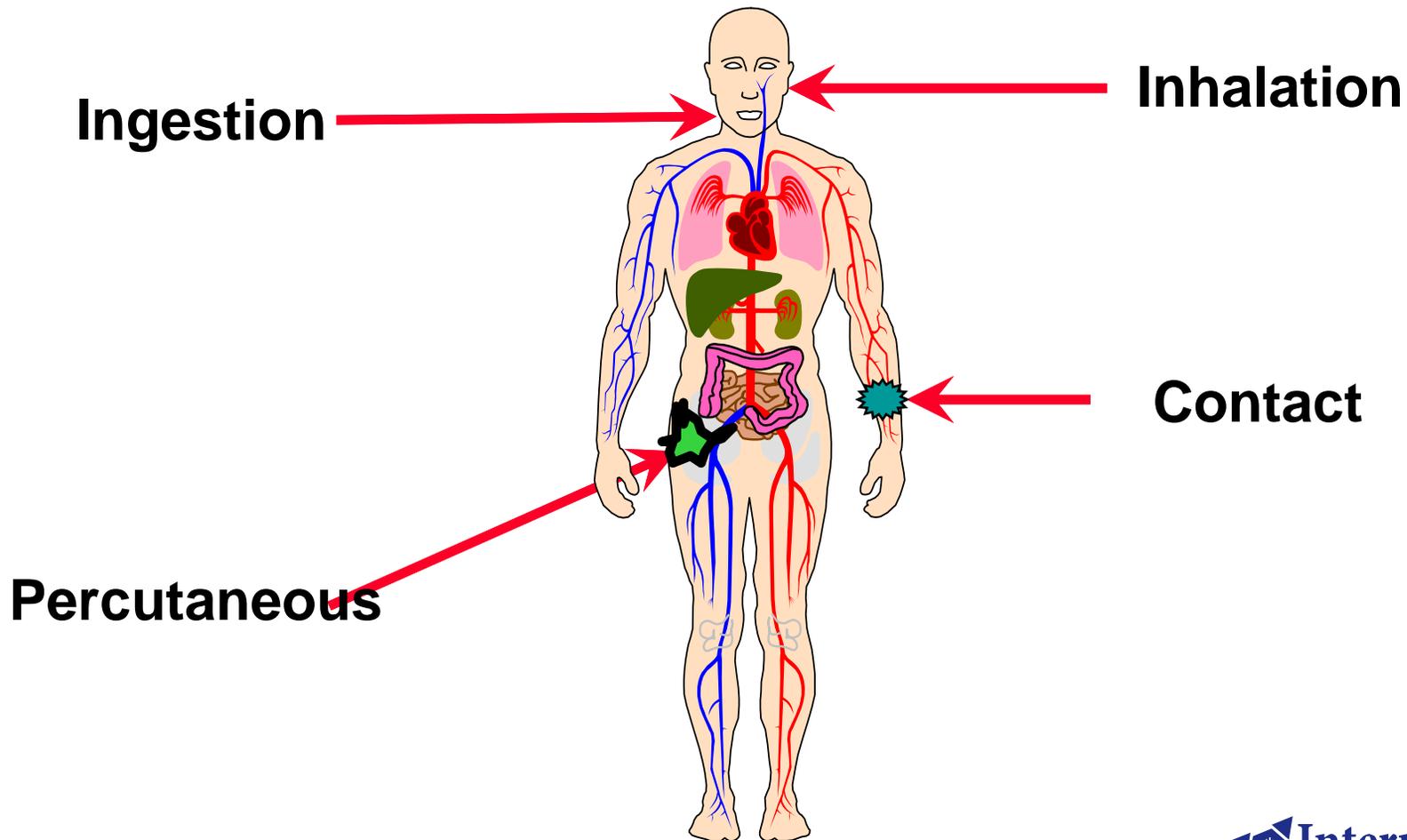
Why Use Personal Protective Equipment?



To provide barriers against skin, mucous membrane, and respiratory exposure to infectious agents to prevent the spread of contamination



Class Activity: Identifying Types of PPE to Protect Against Exposure by Different Routes





PPE Examples





Personal Protective Equipment Policies and Procedures

- **Staff must have appropriate PPE training**
 - Which PPE to use when
 - **E.g. Gloves must be chosen based on the hazards to be handled**
 - How to use the PPE they have selected
 - **Donning (putting on) and Doffing (taking off) procedures**
 - **Aseptic removal procedures – gloves last**
 - PPE cleaning
 - **Personal protective equipment is NOT worn outside of the lab or taken home to be laundered!**
 - **Reusable protective clothing should be autoclaved on-site**
 - How to perform PPE maintenance
 - **Need policy on frequency**
- **Respirators require medical approval and fit testing**



Scenes from a Respirator Fit Test

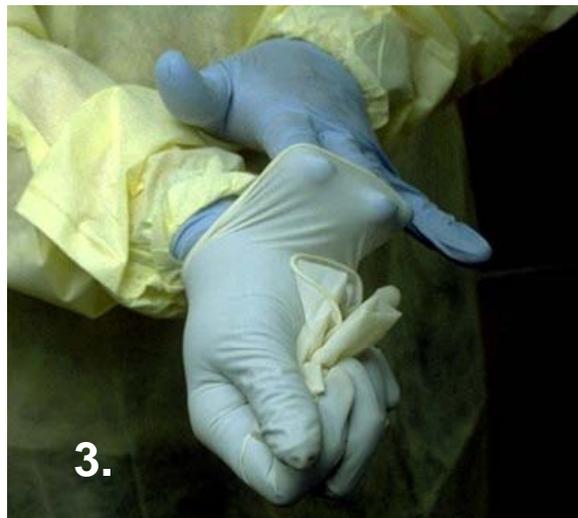
FIT TEST SUBJECT AID

1. SELECT/ASSESS AND INSPECT RESPIRATOR
2. REMOVE INTERFERENCES (e.g., HAIR)
3. INSTALL CORRECTIVE LENSES INSERT (IF REQUIRED)
4. DON & WEAR RESPIRATOR FOR COMFORT ASSESSMENT PERIOD (**AT LEAST 5 MINUTES**)
5. MOVE HEAD SIDE-TO-SIDE, UP AND DOWN, AND BREATHE DEEP SLOWLY TO SEAT THE MASK
6. PERFORM POSITIVE & NEGATIVE (**HOLD FOR 10 SECONDS**) PRESSURE **USER SEAL CHECK**
7. PERFORM FIT TEST EXERCISES IN STANDING POSITION
8. REMOVE RESPIRATOR WHEN FIT TEST IS COMPLETE
9. SIGN/DATE RECORDS
10. REVIEW RESPIRATOR AUTHORIZATION CARD FOR CORRECTNESS





Example: Doffing Gloves





Reusable PPE

- **Issues to consider with reusable PPE**
 - How to decide when PPE is contaminated and what to do about it
 - How to decontaminate PPE
 - Does the lab have SOP's for reusable PPE?





Example PPE for Work with *Mycobacterium tuberculosis*

- **Back closing lab coat**
 - Wrap around gowns with tight cuffs
- **Gloves**
 - Single pair for entry
 - Double gloving for work in BSCs, transport, and spill clean-up
- **Shoe coverings**
- **Face protection**
 - Safety glasses or goggles
- **Respiratory protection may be appropriate for any non-diagnostic work**

