

FOUR PRIMARY CONTROLS OF BIOSAFETY



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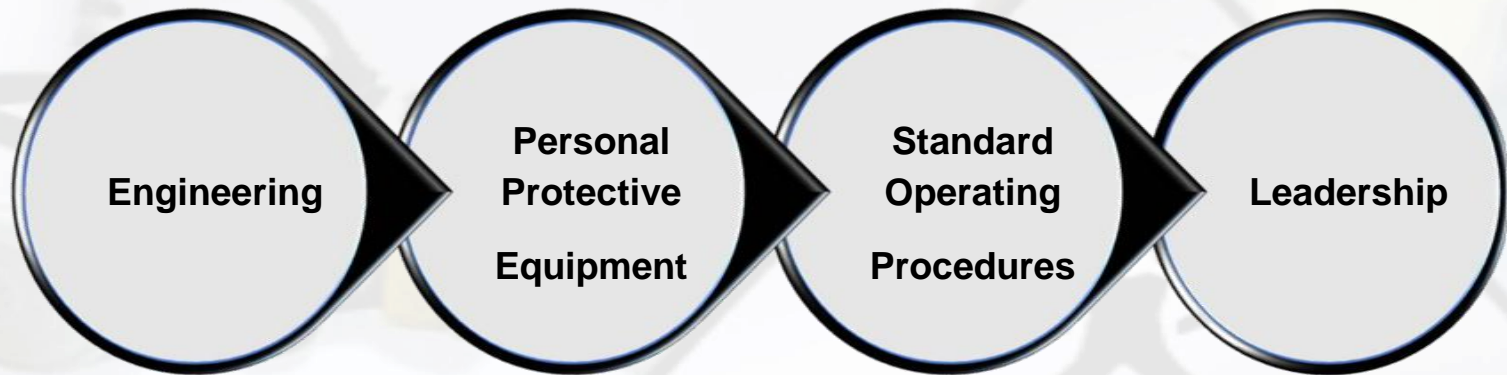
Defining Biosafety

The World Health Organization defines biosafety as containment principles, technologies and practices that are implemented to prevent the unintentional exposure to pathogens and toxins, or their accidental release.

FOUR PRIMARY CONTROLS OF BIOSAFETY

Defining biosafety is one thing – integrating biosafety into an organization is another.

Each primary control of biosafety is important. Though one may be more expensive than another – all are equally important in keeping the workforce safe.



ONE CONTROL IS NOT MORE IMPORTANT THAN ANOTHER

Engineering	Personal Protective Equipment (PPE)	Standard Operating Procedures (SOPs)	Leadership
Locks on doors	Gloves	Emergency Evacuation	Training
Directional Airflow	Eye Protection	Waste Disposal	Vaccinations
Interlocked Doors	Laboratory Coat	Spill Cleanup	SOP Compliance
Biosafety Cabinets	N95	Needle stick	Surveillance (M/I)
Autoclaves	Booties	Lab Decon	SOP Evaluation/ Validation
HEPA Filters	PAPR	Medical Emergencies	Background Checks

Together the four primary controls of biosafety protect the workforce – offering multiple redundancies. If engineering fails – PPE will protect portals of entry. SOPs allow for us to manage risks while leadership prepares and protects us from the risk.

You could spend millions of dollars on engineering, thousands of dollars on PPE, hundreds of hours writing SOPs – and in one instant – one bad behavior can negate all controls in an instant.

The beauty of Biosafety

You have your way. I have my way
As for the right way, the correct way, and the only
way – it does not exist

-Friedrich Nietzsche

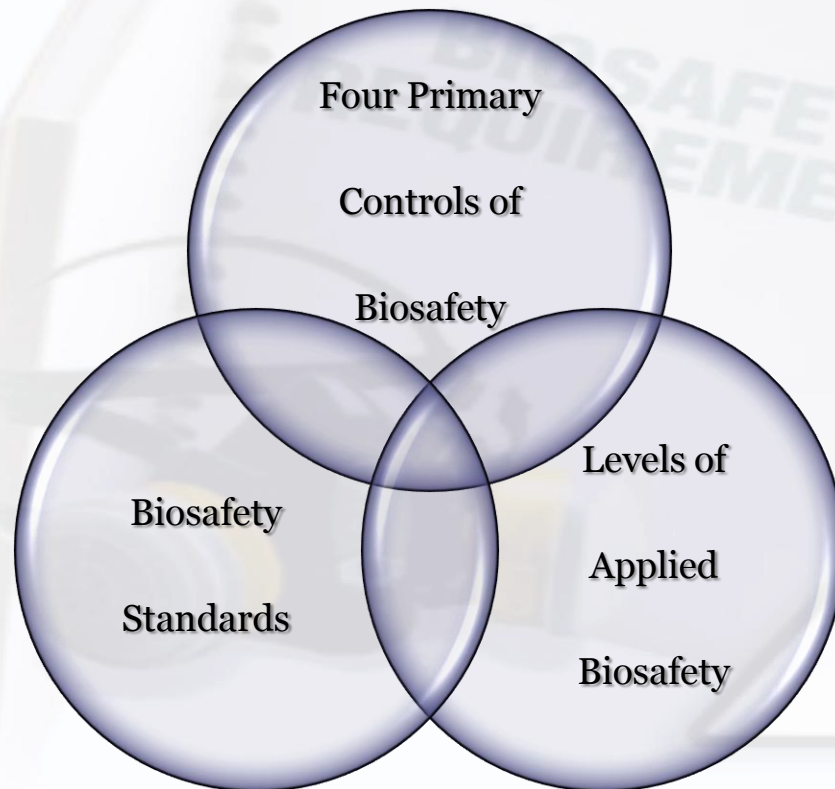
There are many ways to achieve safety. Nobody knows your organization and level of resources better than you
We will work together to do what we can with what we have—change is a slow process

Why are Standard Operating Procedures needed?

Different people, different backgrounds, different levels of experiences and education.

Safety requires consistent behavior – meaning we do not get to choose how to behave – our behavior is standardized and safety outcomes become more predictable.

THE BLENDING OF BIOSAFETY



The three levels of applied biosafety are directly influenced by biosafety standards in all four primary controls of biosafety.

How an organization “blends” the three components of biosafety determines their overall biosafety program strategy.

BIOSAFETY STANDARDS



Within each primary control of biosafety – there are similarities and differences within each of these biosafety standards.

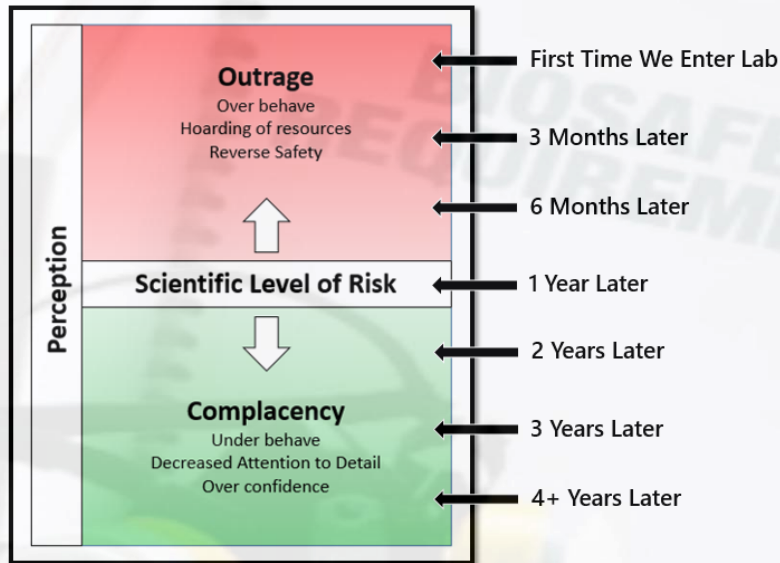
As a biosafety professional – it is extremely important that you know the differences between what your organization practices and what is recommended in the appropriate guidelines.

LEVELS OF APPLIED BIOSAFETY



Risk is looked at through three separate lenses – Leadership, Workforce, and Safety Officers. **This causes great frustration.**

Perceptions, Attitudes, and Behaviors



Risk perceptions have a direct influence on safety attitudes and behaviors. SOPs ensure safety regardless of experience and education because they are based in science and not perception.



Plans + Behaviors = Outcomes



Items Needed for Sustained Behavior to Occur – (SOP = SOB)

1. Understand the risks they face.
2. Understand the benefits they gain.
3. Have access to the resources they need.
4. Have skills needed to do the behavior.
5. Have the self-efficacy (belief) they can do the behavior

Summary and Review

- Defining Biosafety
- Four primary controls of biosafety.
- List at least three biosafety standards.
- Three levels of applied biosafety
- Risk Perceptions, Attitudes and Behaviors
- Items Need for Sustained Behaviors (SOPs)



Thanks