

Intersection of Infection Control and Biosafety

Merrick & Company

June 21, 2024



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LIFE SCIENCES

*"is more than a market to Merrick. It's the engine that powers the bioeconomy we all depend on. At Merrick, our architects, engineers, and scientists approach every laboratory and program with a focus on **making science happen.**"*

Intersection of Infection Control and Biosafety

- Biosafety and Infection Prevention and Control (IPC) have historically been separated by operational scope and institutional and administrative barriers.
- However, the collision of biosafety and IPC was inevitable.
- The need to contain and safely treat patient with high-risk communicable diseases (Ebola and COVID19) caused an intersection of these two disciplines



Overview

Finding A Common Ground

PARTNERSHIP



Become a Resource

- Create services that reduce IPC stressors
- Form partnerships to share knowledge, tools, and your time

Finding Common Ground

Identify Scope and Operational Similarities

We Share the Same Goals

- Identif
- Assess
- Establi
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Finding Common Ground

Identify Scope and Operational Similarities

Who are Biosafety Officers

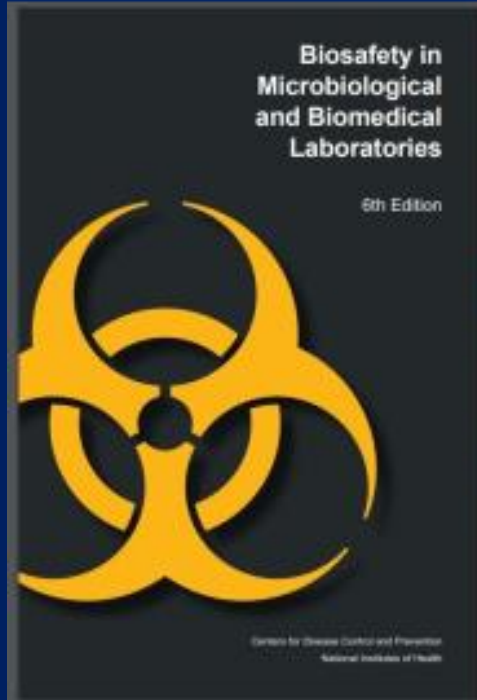
- Biocontainment
- Scientist
- materials
- Biological
- Regulatory
- Emergency
- Mediator
- Focus on
 - Exposure
 - Disease
 - human
 - Environment
 - Community



Finding Common Ground

Identify Scope and Operational Similarities

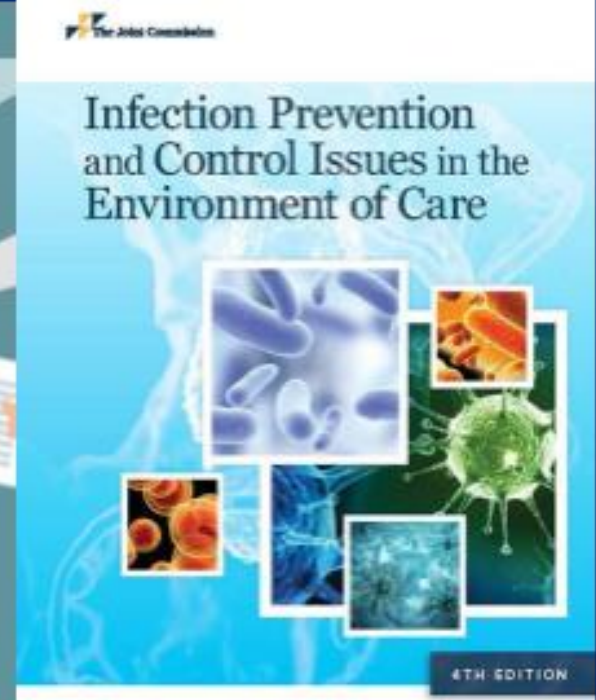
Regulations



Accreditation Agencies



Standards



Finding Common Ground

Identify Scope and Operational Similarities

Oversight



Finding Common Ground

Compare Responsibilities for Workplaces

Lab

-
-
-
-
-
-

BIOHAZARD

Biosafety Level 2
AUTHORIZED PERSONNEL ONLY



UNITE
YOUR TEAMS
THROUGH
SHARED GOALS

TRANSLATIONAL MEDICINE
AND CLINICAL RESEARCH


STOP DROPLET PRECAUTIONS STOP
In addition to Standard Precautions
(If you have questions ask nursing staff)
Everyone Must:
 Clean hands when entering and leaving room
 Wear mask
Doctors and Staff Must:
 Wear eye protection with respiratory symptoms and standard precautions if contact with secretions likely






Finding Common Ground

Compare Responsibilities for Workplaces

Hospital Facilities

- Orderly, clean, and maintained
- Clean environment to support patient care
- Can have specialize equipment and functions
- Potential source of contamination and exposure
- Hazard is the patient, medications, sharps, and waste
- Governed by strict safety standards, rules, and regulations



Finding Common Ground

Workplaces – Where Research and Healthcare Collide

Operating Rooms



- Drug/Device delivery requires surgical applications
- dP positive – 20 ACH
- Gen Anesthesia
- Ex.: Sub-Retinal Injections

Procedures Rooms



- Drug/Device delivery needs to be isolated or controlled
- Special equipment required
- dP positive – 15 ACH
- Mild/Mod Sedation
- Ex.: Intravesical Instillation

Finding Common Ground

Workplaces – Where Research and Healthcare Collide

Patient Rooms



- Post admin care requires overnight monitoring and care
- dP neutral – 4-6 ACH
- Ex. Cellular Therapy

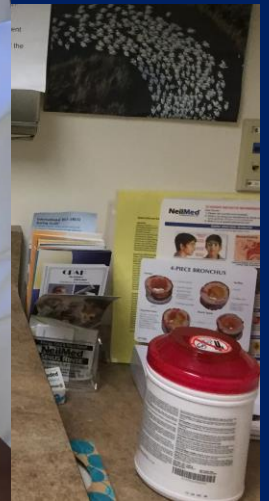
Exam Rooms



- Drug delivery does not require extended stay or monitoring
- dP neutral – 4-6 ACH
- Ex. COVID19 Vaccine

Finding Common Ground

Workplaces – Where Research and Healthcare Collide



Finding Common Ground

Compare Responsibilities for Customers

Research Customers

- Workforce consisting of faculty, employees and students
- General disparity in level of training on hazards, tasks, and responsibilities
- Generally, focused on research projects and grant objectives
- Heightened awareness of workplace hazards but lingering apathy towards their exposure risks



Finding Common Ground

Compare Responsibilities for Customers

Healthcare Customers

- Workforce consists of multiple disciplines focused on patient care
- Licensed, credentialed, and generally highly trained
- Each area or specialty may have unique workflows, practices and equipment with unique exposure risks
- Good understanding of pharmacodynamics for drugs but varying knowledge of toxicokinetics and exposure risks.



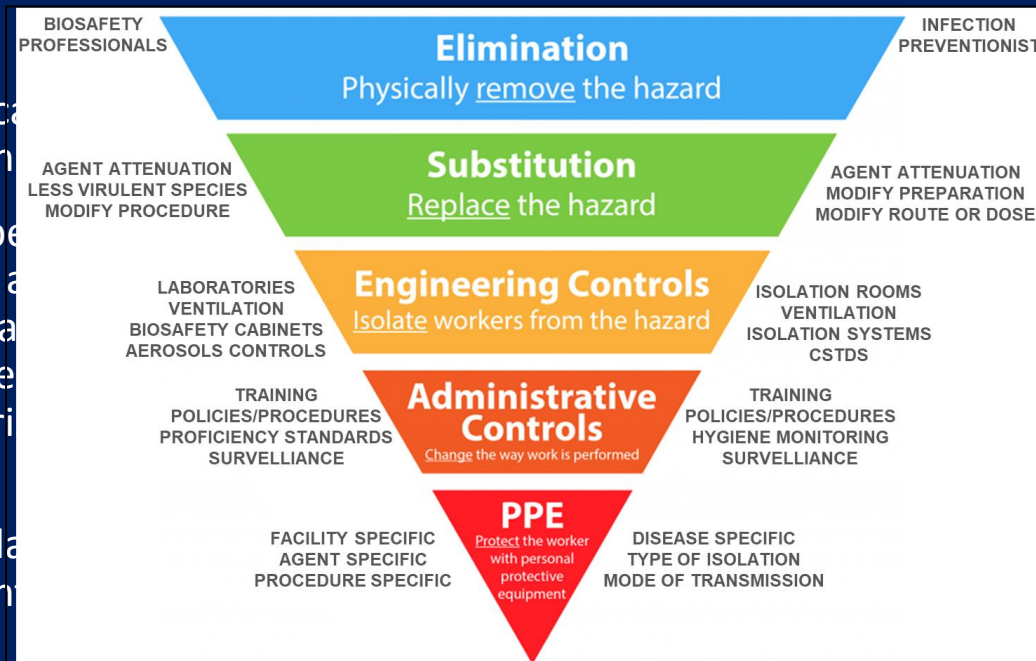
Finding Common Ground

Compare Priorities and General Duties

BIOSAFETY PROFESSIONALS

Priorities

- Contain biological agents used in research
- Train research personnel on biohazards, the associated exposure risks, and controls designed to mitigate those risks
- Surveillance of laboratory and animal/plant facilities



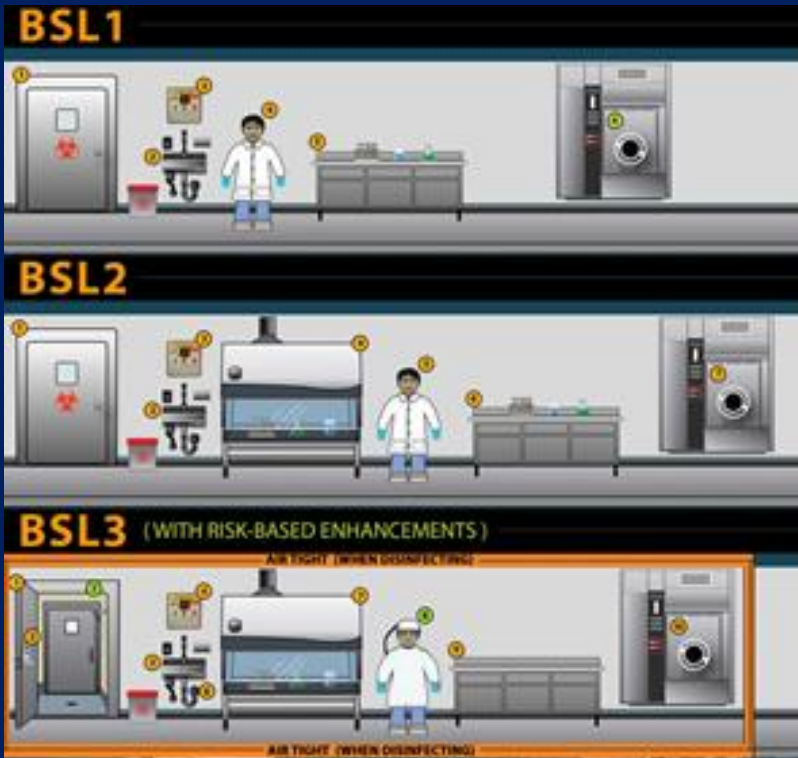
INFECTION PREVENTIONIST

- Manage infectious patients in healthcare settings.
- Educate healthcare personnel on preventing hospital pathogens and associated exposure and the controls needed to mitigate those risks.
- Surveillance of patient care facilities (hospitals, clinics, and long-term care facilities)

Finding Common Ground

Compare Priorities and General Duties

BIOSAFETY PROFESSIONALS



INFECTION PREVENTIONIST

General Duties



Finding Common Ground

Compare Priorities and General Duties

Infectious Disease Precautions

**CONTACT
PRECAUTIONS**
EVERYONE MUST:

Clean their hands, including before entering and when leaving the room.
PROVIDERS AND STAFF MUST ALSO:

Put on gloves before room entry. Discard gloves before room exit.

Put on gown before room entry. Remove gown before room exit.
Do not use the same gown and gloves for more than one person.
Use dedicated or disposable equipment. Disinfect reusable equipment on another person.


**DROPLET
PRECAUTIONS**
EVERYONE MUST:

Clean their hands, including before entering and when leaving the room.

Make sure their eyes, nose and mouth are fully covered before room entry.
or

Remove face protection before room exit.


**AIRBORNE
PRECAUTIONS**
EVERYONE MUST:

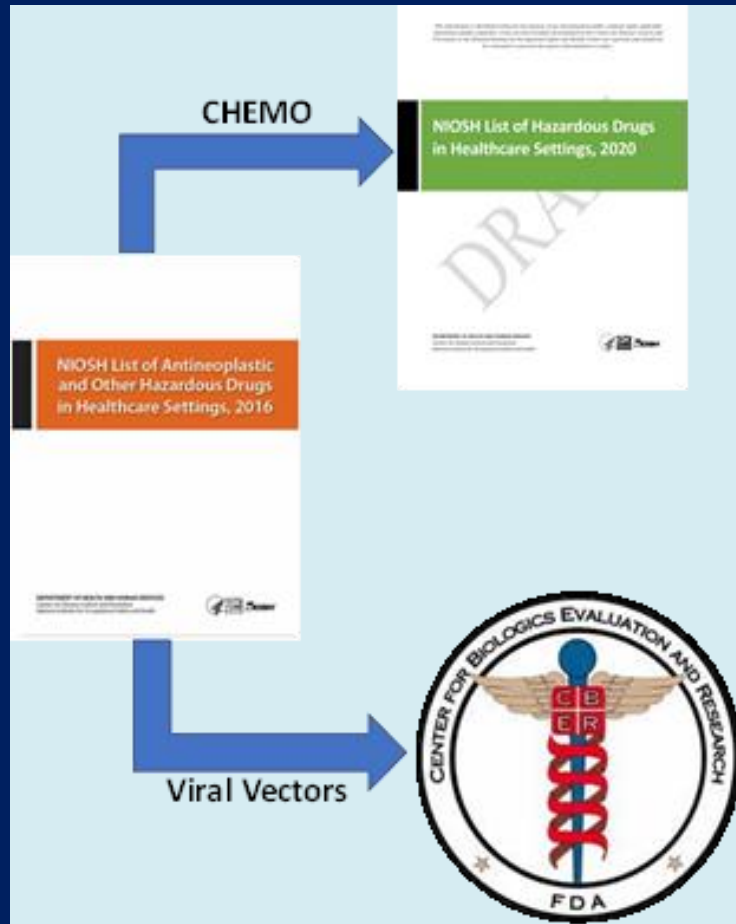
Clean their hands, including before entering and when leaving the room.

Put on a fit-tested N-95 or higher level respirator before room entry.
Remove respirator after exiting the room and closing the door.

Door to room must remain closed.

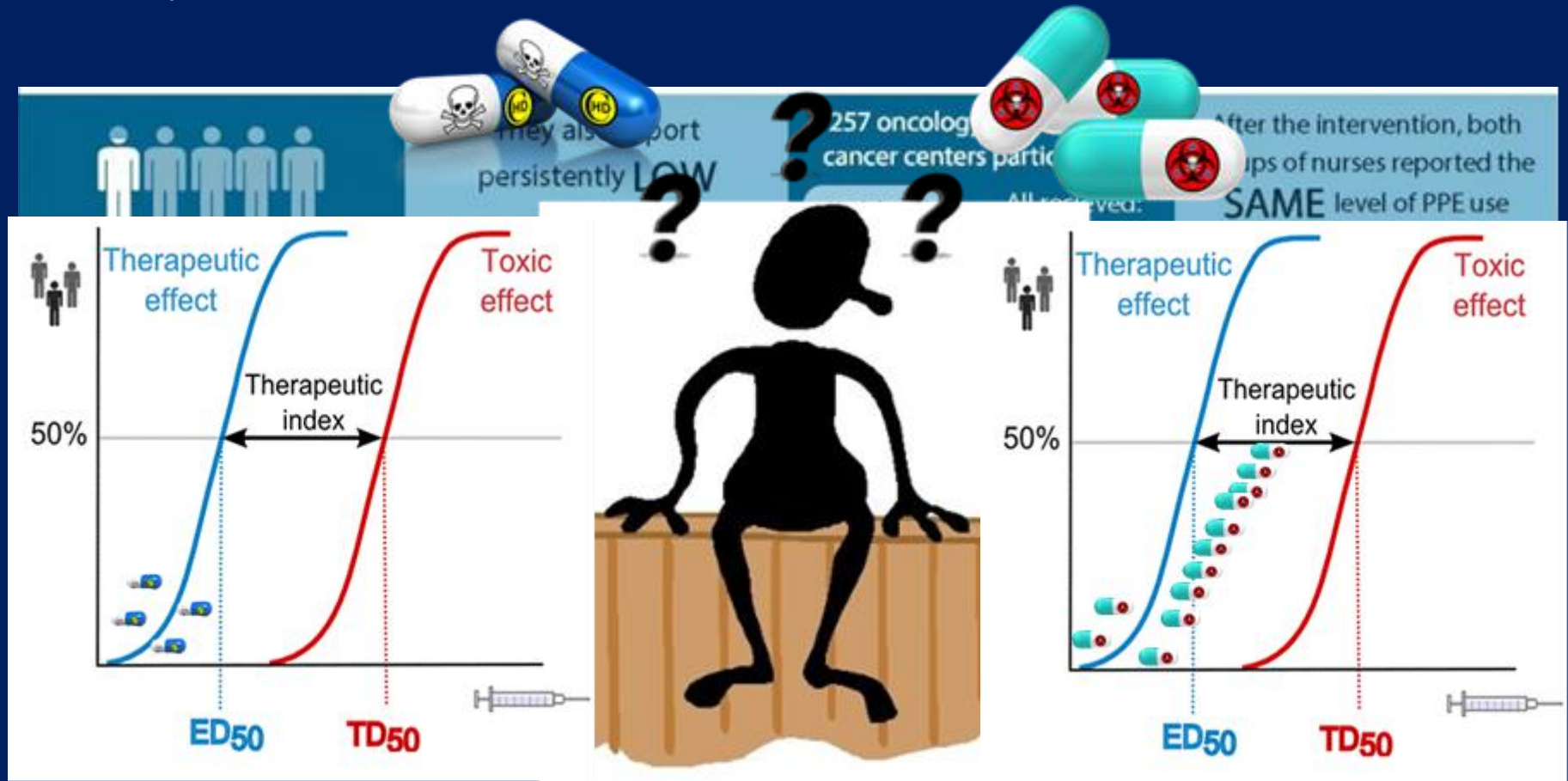

Finding Common Ground

Compare Priorities and General Duties



Finding Common Ground

Compare Priorities and General Duties

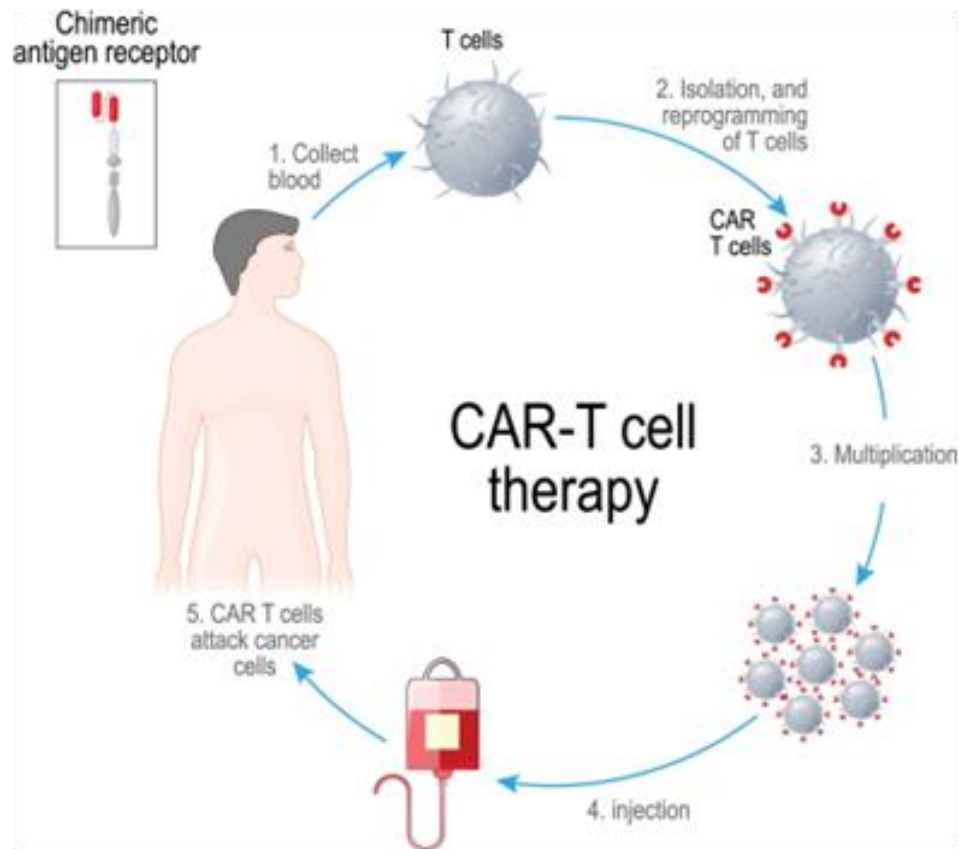


Finding Common Ground

Compare Priorities and General Duties

Genetic Genetical altered human cells

ex



Share Their Pain

We know what frustrates BSOs, What frustrates IPCs

BIOSAFETY PROFESSIONALS

- Disregard for common sense laboratory safety practices
- Cluttered work space and improper use of equipment
- Lackadaisical attitude towards laboratory safety and exposure risk



INFECTION PREVENTIONIST

Disregard for common sense infection prevention practices

Lack of infection and hygiene practices in patient care areas

Lack of ownership and accountability for the prevention of Care

Share Their Pain

IPC Stressors and Pitfalls

INFECTION PREVENTIONIST

- Controlling Hospital Acquired Infections
- Infection Prevention and Control is often cited during TJC and CMS surveys
- Face the same apathy as other safety professionals



Become a Resource

Create Services That Address IPC Stressors

IPC STRESSORS

- Disregard for common sense hygiene practices
- Poor disinfection and hygiene practices in patient care areas
- Lack of ownership and responsibility for the Environment of Care



BIOSAFETY SERVICES

- Room Decontamination Services
- Staff Surveillance and Training
- Emergency Response to Spills
- PPE Training Programs
- Assist with Disinfectant Selection
- Training on Disinfectant Procedures
- Medical Waste Training for EVS
- Help with EOC Rounding
- Create Safety Resources
- Provide IH Services (Air Quality)

Become a Resource

Create Partnerships That Address Biosafety Offer Stressors

BIOSAFETY STRESSORS

- Lack of a connection in healthcare
- Ensuring Institutional Biosafety Committee (IBC) requirements are followed in healthcare

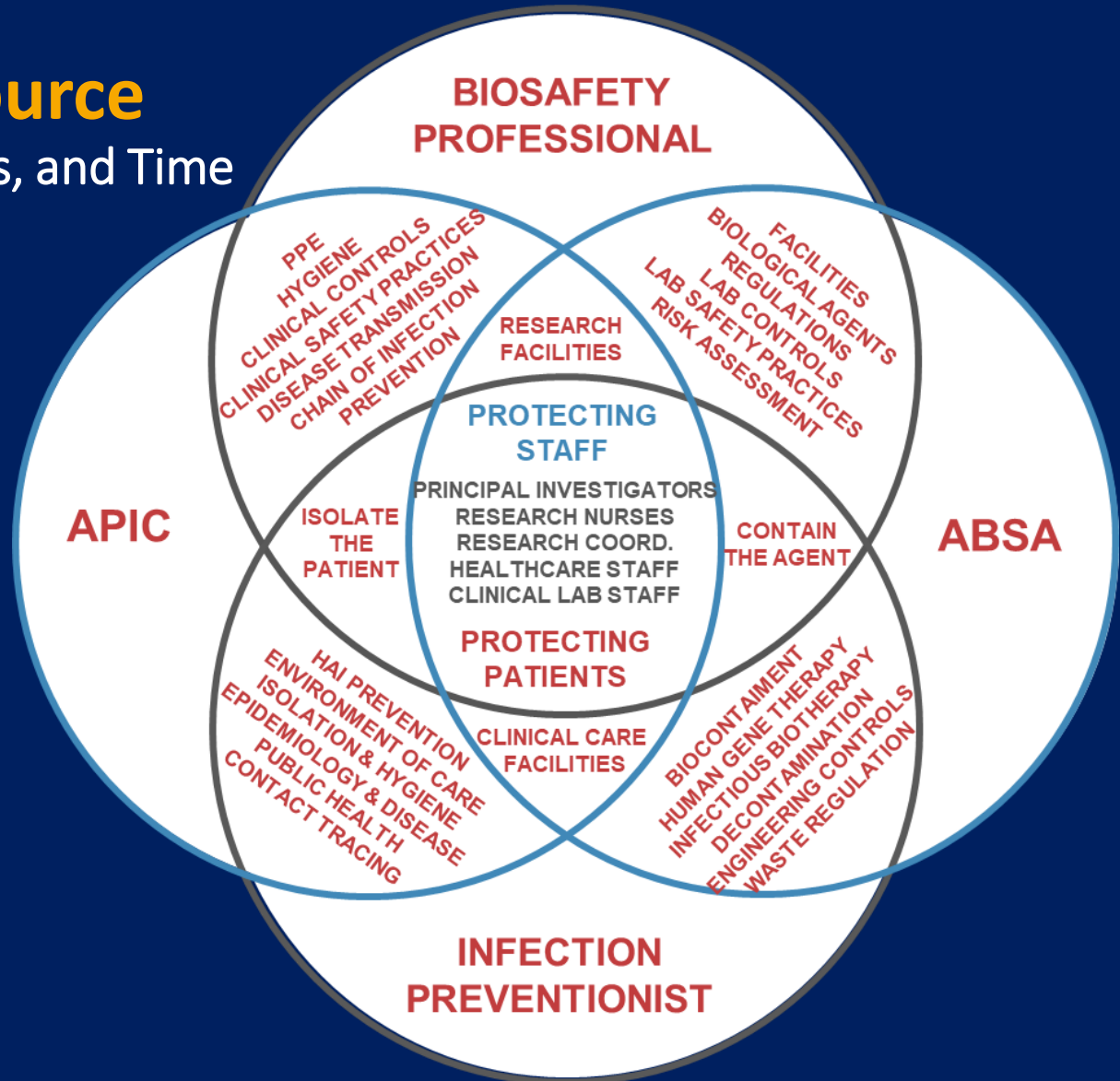


IPC ASSISTANCE

- Invite Biosafety Offices to serve on your IPC and EOC committees
- Cross train Biosafety Officers on Infection Prevention and Control
- Introduce Biosafety Officers to pertinent healthcare personnel
- Serve on your Institution's IBC
- Help Biosafety Officers conduct post approval monitoring
- Help Biosafety Officers train healthcare personnel on biologics and investigational products

Become a Resource

Share Knowledge, Tools, and Time



Become a Resource

Share Knowledge, Tools, and Time

CASE STUDY

- Pexa Vec – Attenuated Vaccinia Virus
- Hepatocellular Carcinoma
- Guided Intra-Tumoral Injection in Liver Lesions
- 8Hr post-administration observation
- Multiple injections
- Adverse events include pustule formation
- Potential for severe illness
- Involved multiple hospital departments

ONCOLYTIC VIRUS THERAPY



Become a Resource

Share Knowledge, Tools, and Time

CASE STUDY 2

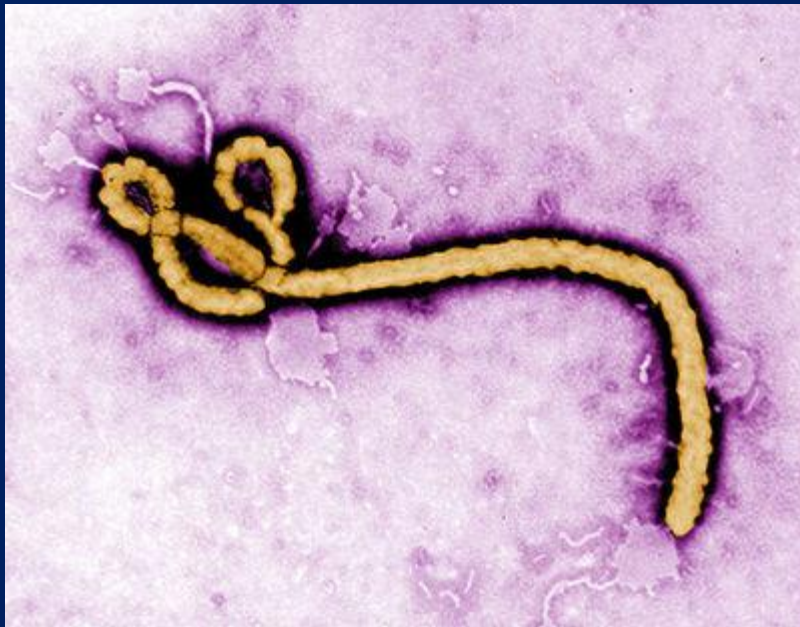
- Replication Competent Adenovirus
- BCG-unresponsive Non-Muscle Invasive Bladder Cancer
- Intravesical administration
- 1-hr hold prior to void
- Void in a clinic bathroom or in a urine bag
- Can shed virus for 2 weeks post-administration

ONCOLYTIC VIRUS THERAPY



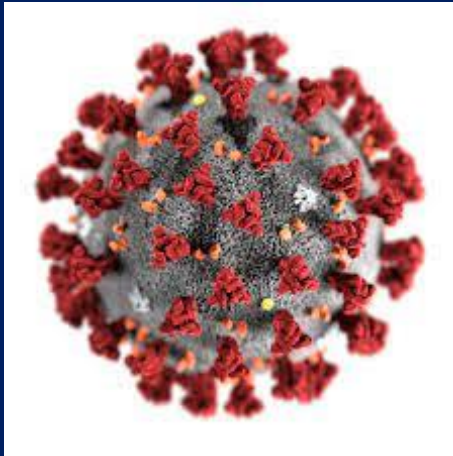
Become a Resource

Share Knowledge, Tools, and Time



Become a Resource

Share Knowledge, Tools, and Time



Summary

- Understand and respect but don't focus differences
- Recognize that you share the same stressors and frustrations just with difference workforces and workplaces
- Make yourself available and be a needed resources
- Form partnerships with your IPC department



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