GBRMC

Good Laboratory Work Practices

Student Guide

2016

GLOBAL BIORISK MANAGEMENT CURRICULUM


Good Laboratory Work Practices
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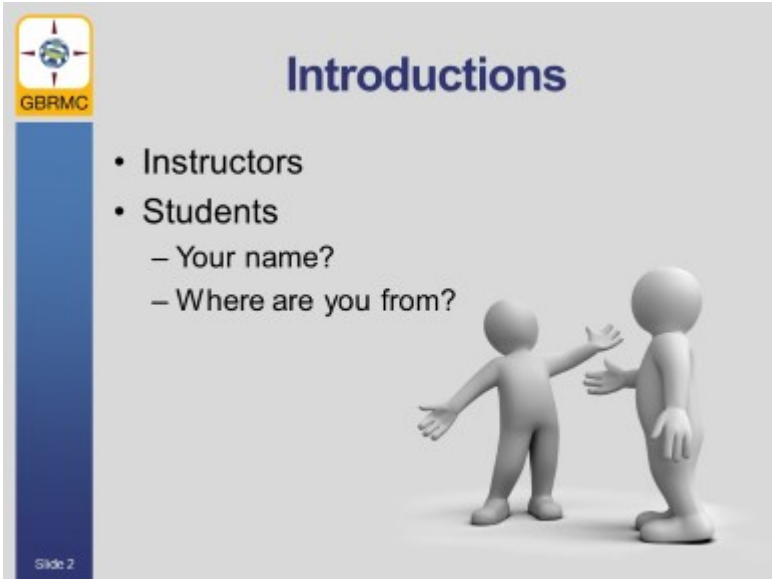
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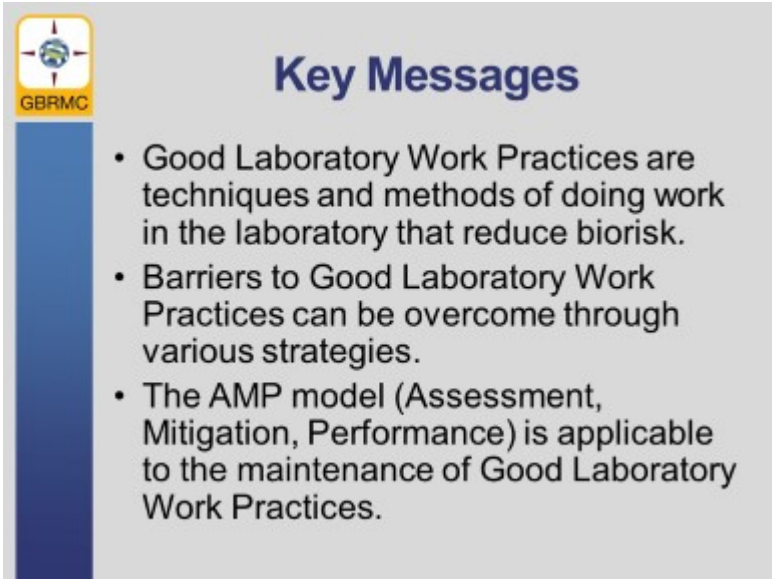
Introductions
• Instructors
• Students
– Your name?
– Where are you from?
Slide 2

Action Plan

By the end of this lesson, I would like to:					
KNOW		FEEL		BE ABLE TO DO	

Your learning doesn't stop with this lesson. Use this space to think about what else you need to do or learn to put the information from this lesson into practice.

What more do I need to know or do?	How will I acquire the knowledge or skills?	How will I know that I've succeeded?	How will I use this new learning in my job?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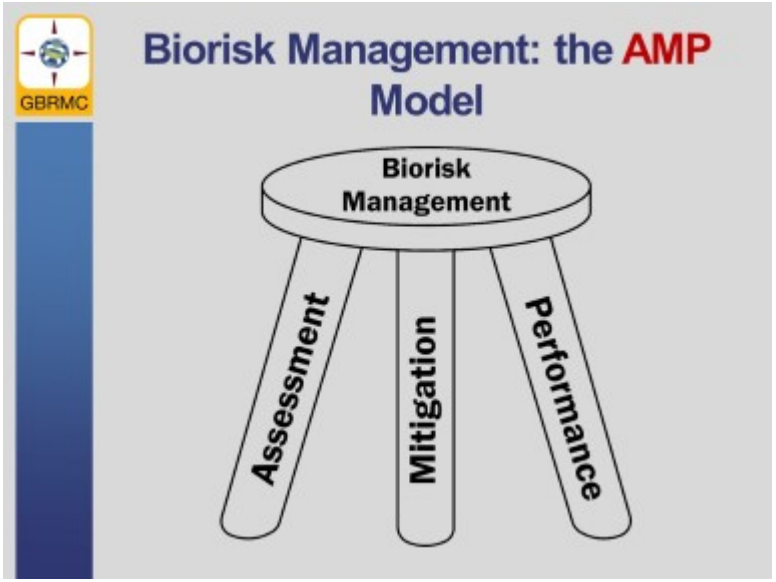
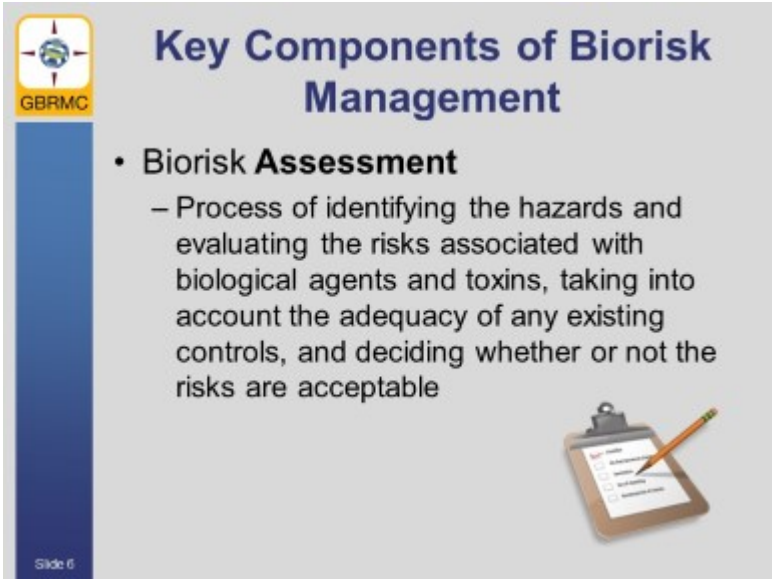
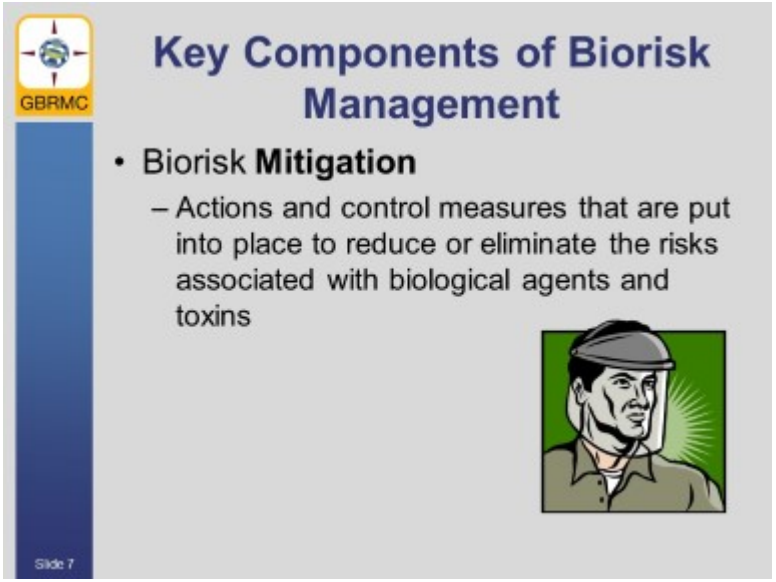
Key Messages
• Good Laboratory Work Practices are techniques and methods of doing work in the laboratory that reduce biorisk.
• Barriers to Good Laboratory Work Practices can be overcome through various strategies.
• The AMP model (Assessment, Mitigation, Performance) is applicable to the maintenance of Good Laboratory Work Practices.



Review the AMP model for Biorisk Management.



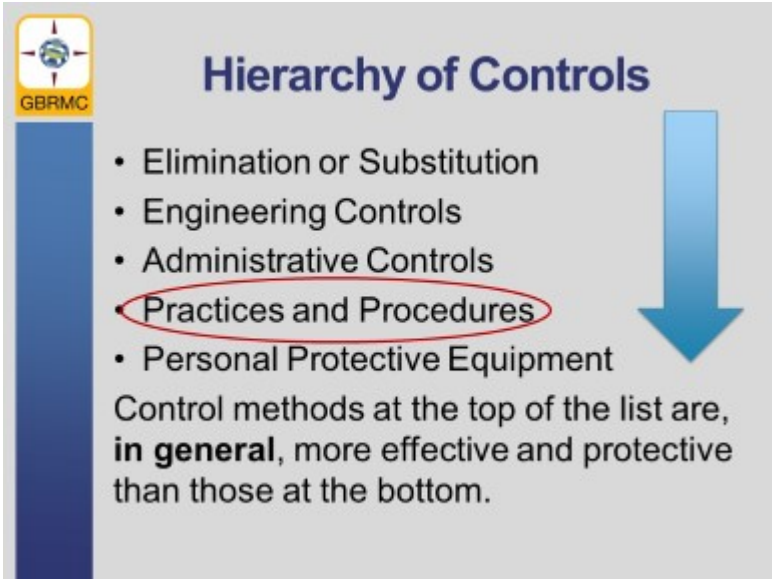
Define Assessment:

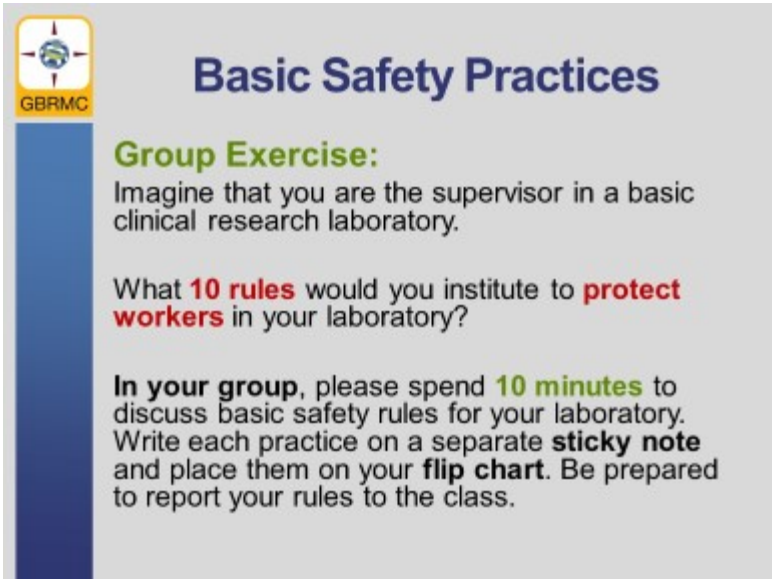


Define Mitigation:

Define Performance:

Considering Good Laboratory Work Practices

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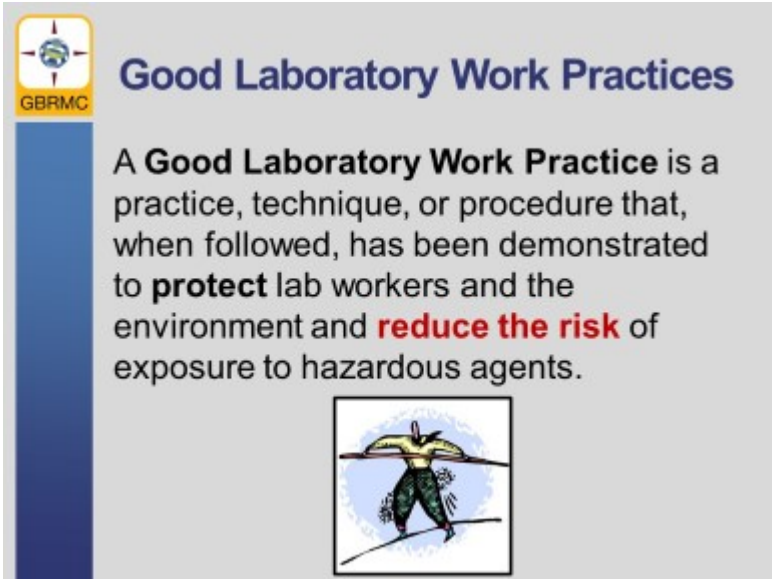
Basic Safety Practices
Group Exercise:
Imagine that you are the supervisor in a basic clinical research laboratory.
What 10 rules would you institute to protect workers in your laboratory?
In your group, please spend 10 minutes to discuss basic safety rules for your laboratory. Write each practice on a separate sticky note and place them on your flip chart. Be prepared to report your rules to the class.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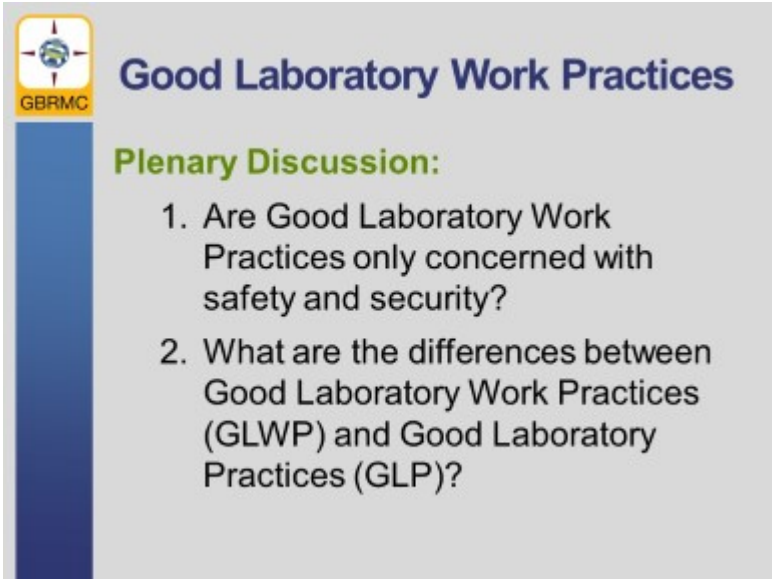
Good Laboratory Work Practices
A Good Laboratory Work Practice is a practice, technique, or procedure that, when followed, has been demonstrated to protect lab workers and the environment and reduce the risk of exposure to hazardous agents.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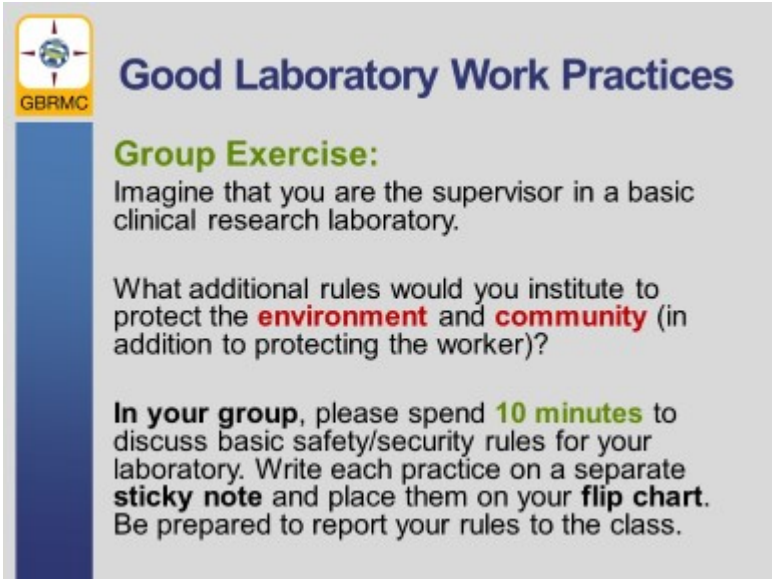
Good Laboratory Work Practices
Plenary Discussion:
1. Are Good Laboratory Work Practices only concerned with safety and security?
2. What are the differences between Good Laboratory Work Practices (GLWP) and Good Laboratory Practices (GLP)?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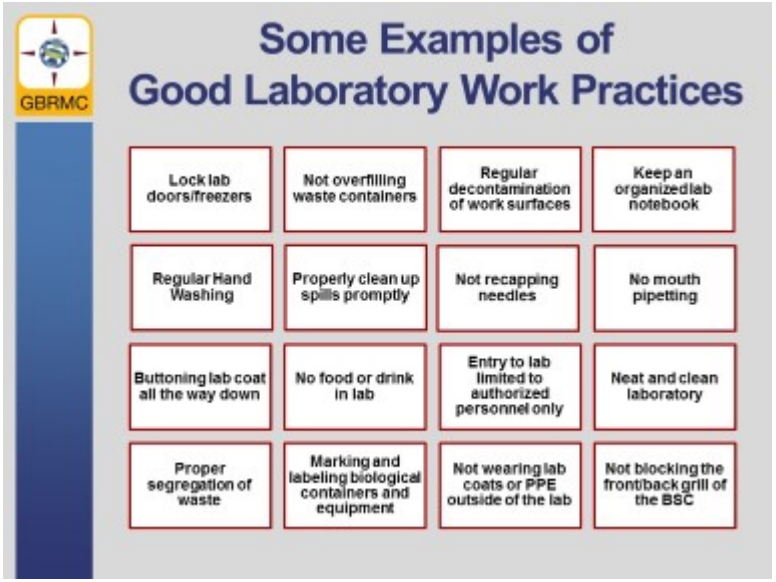
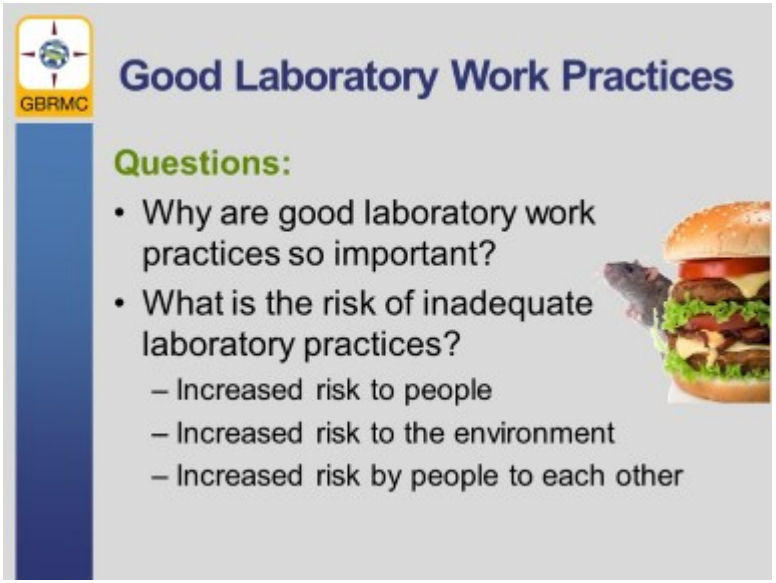
Good Laboratory Work Practices
Group Exercise:
Imagine that you are the supervisor in a basic clinical research laboratory.
What additional rules would you institute to protect the environment and community (in addition to protecting the worker)?
In your group, please spend 10 minutes to discuss basic safety/security rules for your laboratory. Write each practice on a separate sticky note and place them on your flip chart. Be prepared to report your rules to the class.

Good Laboratory Work Practices

Considering Good Laboratory Work Practices

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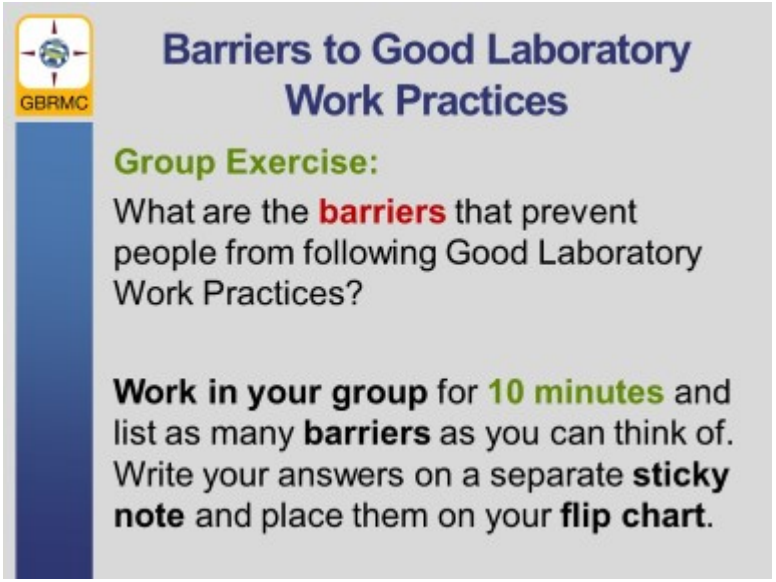
Good Laboratory Work Practices
Questions:
• Why are good laboratory work practices so important?
• What is the risk of inadequate laboratory practices?
– Increased risk to people
– Increased risk to the environment
– Increased risk by people to each other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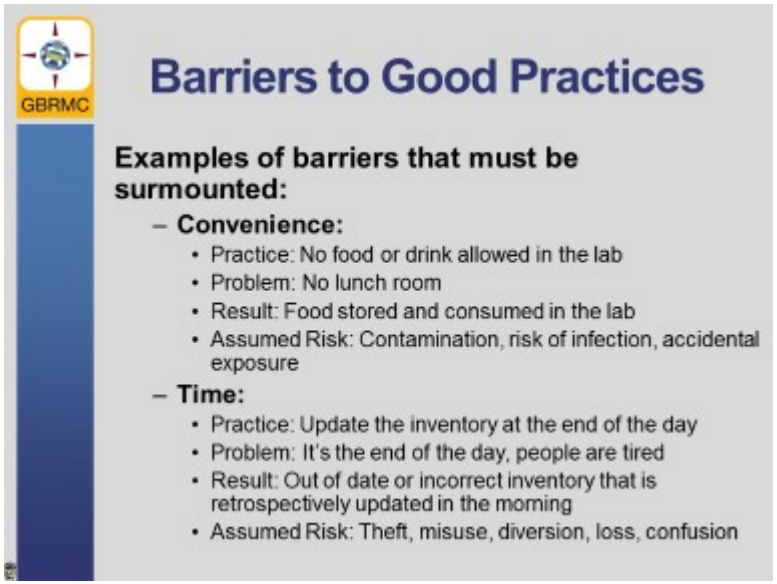
Barriers to Good Laboratory Work Practices
Group Exercise:
What are the barriers that prevent people from following Good Laboratory Work Practices?
Work in your group for 10 minutes and list as many barriers as you can think of. Write your answers on a separate sticky note and place them on your flip chart.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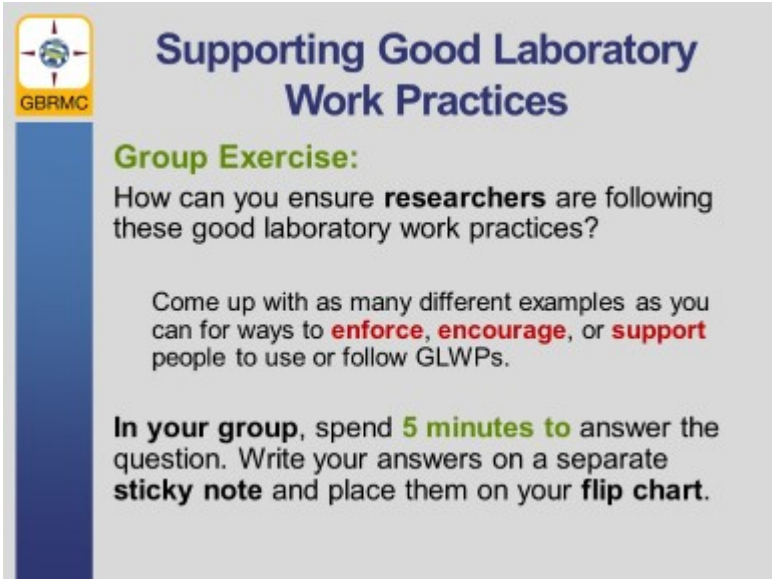
Barriers to Good Practices
Examples of barriers that must be surmounted:
– Convenience:
• Practice: No food or drink allowed in the lab
• Problem: No lunch room
• Result: Food stored and consumed in the lab
• Assumed Risk: Contamination, risk of infection, accidental exposure
– Time:
• Practice: Update the inventory at the end of the day
• Problem: It's the end of the day, people are tired
• Result: Out of date or incorrect inventory that is retrospectively updated in the morning
• Assumed Risk: Theft, misuse, diversion, loss, confusion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Supporting Good Laboratory Work Practices
Group Exercise:
How can you ensure researchers are following these good laboratory work practices?
Come up with as many different examples as you can for ways to enforce, encourage, or support people to use or follow GLWPs.
In your group, spend 5 minutes to answer the question. Write your answers on a separate sticky note and place them on your flip chart.

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Supporting Good Lab Work Practices

Reinforcement vs. Punishment

- **Reinforcement**
  - Rewards for periods of no violations
  - Providing solutions to the violations
    - For example, a lunch table outside the lab so no food is brought or consumed in the lab
  - Training
- **Punishment**
  - Fines, punitive actions


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Who is Responsible?
Plenary Activity:
Raise your hand if….
you **agree** that promoting/enforcing Good Laboratory Work Practices is the **government's** responsibility?
Why do you agree?


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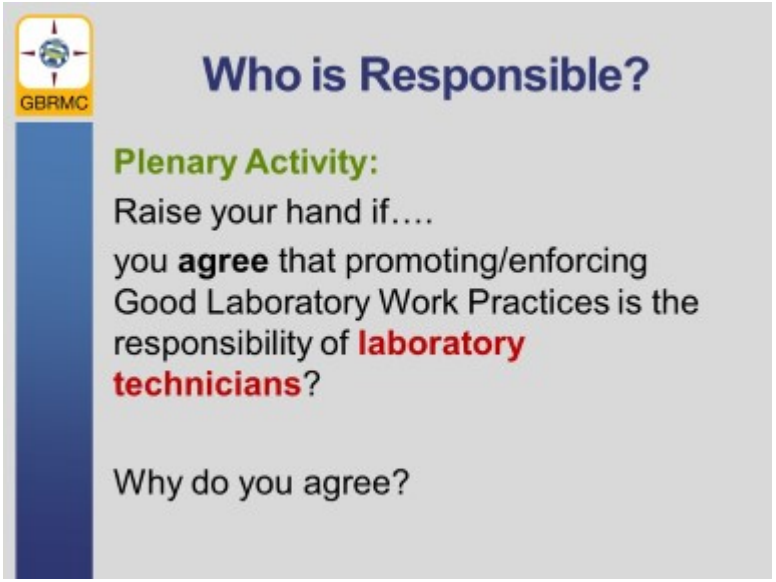
Who is Responsible?
Plenary Activity:
Raise your hand if….
you **agree** that promoting/enforcing Good Laboratory Work Practices is **management's** responsibility?
Why do you disagree?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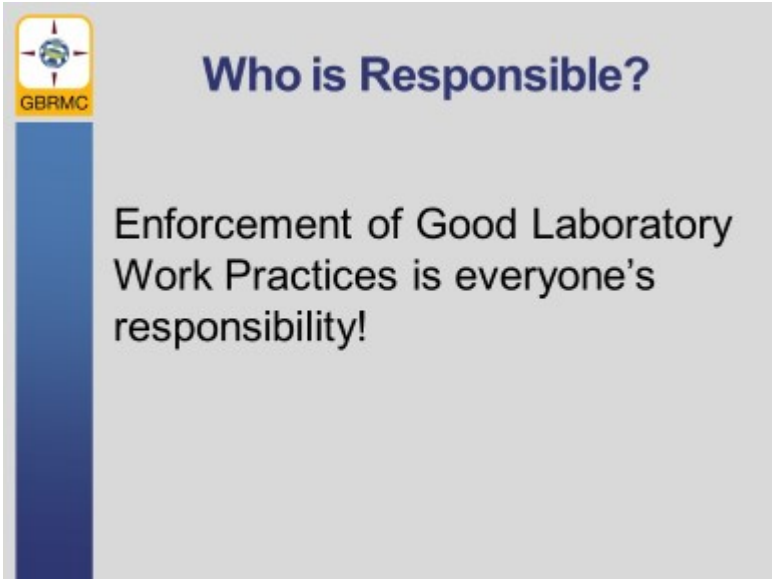
Who is Responsible?
Plenary Activity:
Raise your hand if….
you **agree** that promoting/enforcing Good Laboratory Work Practices is the responsibility of **laboratory technicians**?
Why do you agree?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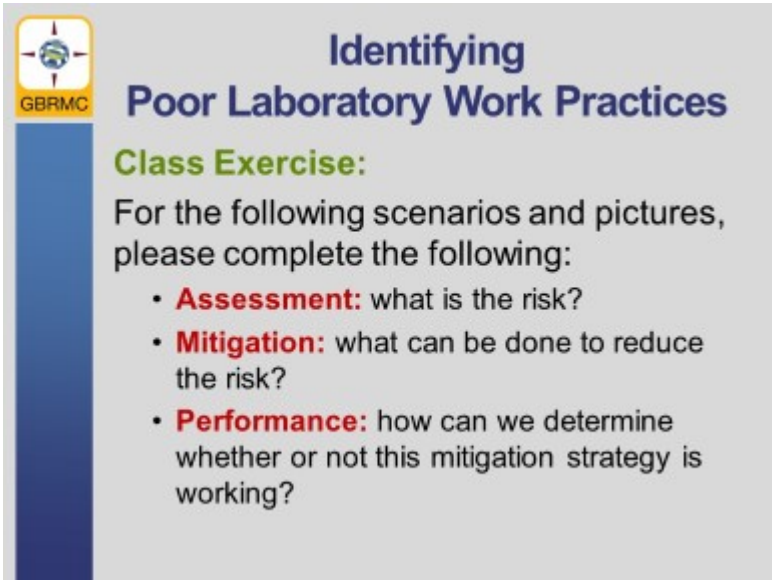
Who is Responsible?
Enforcement of Good Laboratory Work Practices is everyone's responsibility!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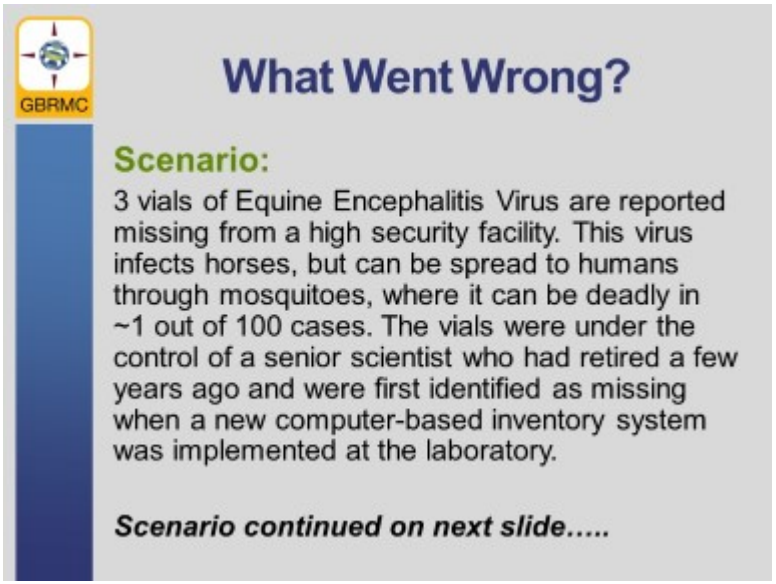
Identifying
Poor Laboratory Work Practices
Class Exercise:
For the following scenarios and pictures, please complete the following:
• Assessment: what is the risk?
• Mitigation: what can be done to reduce the risk?
• Performance: how can we determine whether or not this mitigation strategy is working?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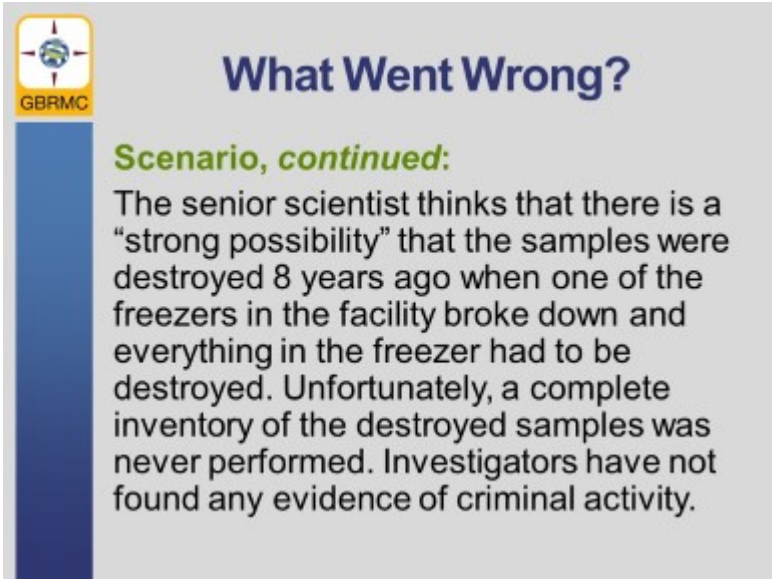
What Went Wrong?
Scenario:
3 vials of Equine Encephalitis Virus are reported missing from a high security facility. This virus infects horses, but can be spread to humans through mosquitoes, where it can be deadly in ~1 out of 100 cases. The vials were under the control of a senior scientist who had retired a few years ago and were first identified as missing when a new computer-based inventory system was implemented at the laboratory.
Scenario continued on next slide.....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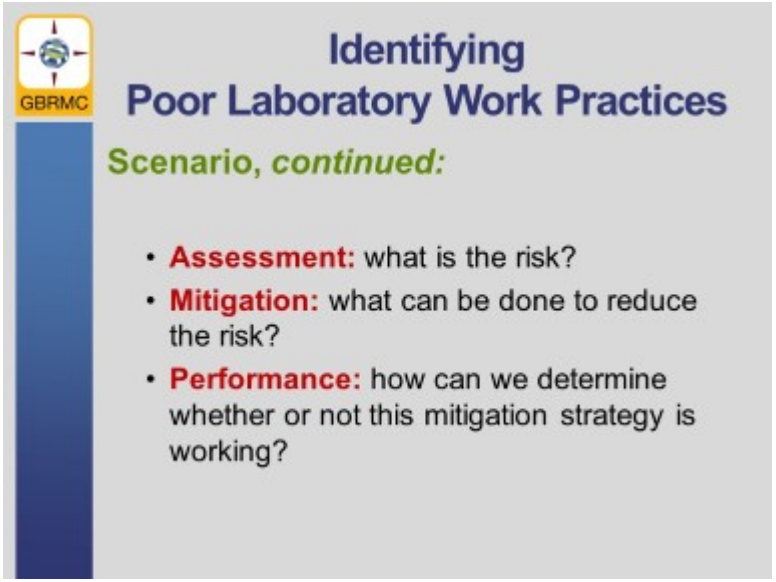
What Went Wrong?
Scenario, continued:
The senior scientist thinks that there is a "strong possibility" that the samples were destroyed 8 years ago when one of the freezers in the facility broke down and everything in the freezer had to be destroyed. Unfortunately, a complete inventory of the destroyed samples was never performed. Investigators have not found any evidence of criminal activity.



- **Assessment:** what is the risk?
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Good Laboratory Work Practices

Examples: Poor Laboratory Practices

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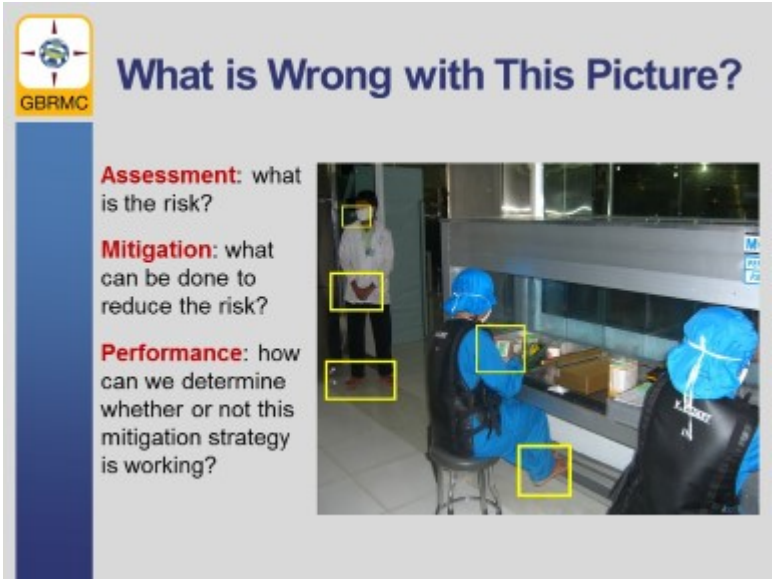
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What is Wrong with This Picture?
Assessment: what is the risk?
Mitigation: what can be done to reduce the risk?
Performance: how can we determine whether or not this mitigation strategy is working?


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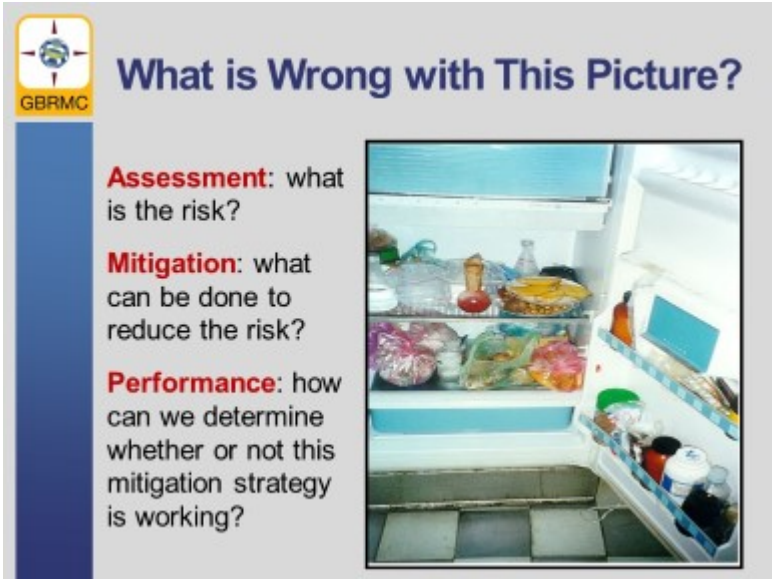
Fixing the Poor Practice?
Is this an improvement over open sandals?



Examples: Poor Laboratory Practices

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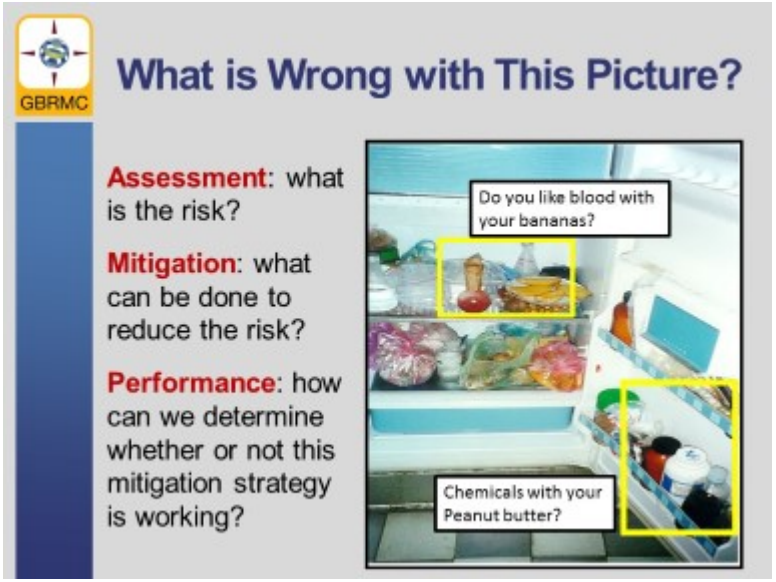
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What is Wrong with This Picture?
Assessment: what is the risk?
Mitigation: what can be done to reduce the risk?
Performance: how can we determine whether or not this mitigation strategy is working?
Do you like blood with your bananas?
Chemicals with your Peanut butter?

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Practices Matter!

- **Is using a single risk mitigation strategy enough?**
  - **No** – every example shown, misused or misunderstood application of safety and/or security mitigation controls.
- **What can make the difference between success and failure?**
  - Personal responsibility
  - Training in the difference and reasoning between **Good Laboratory Work Practices** and **Poor Laboratory Practices**.

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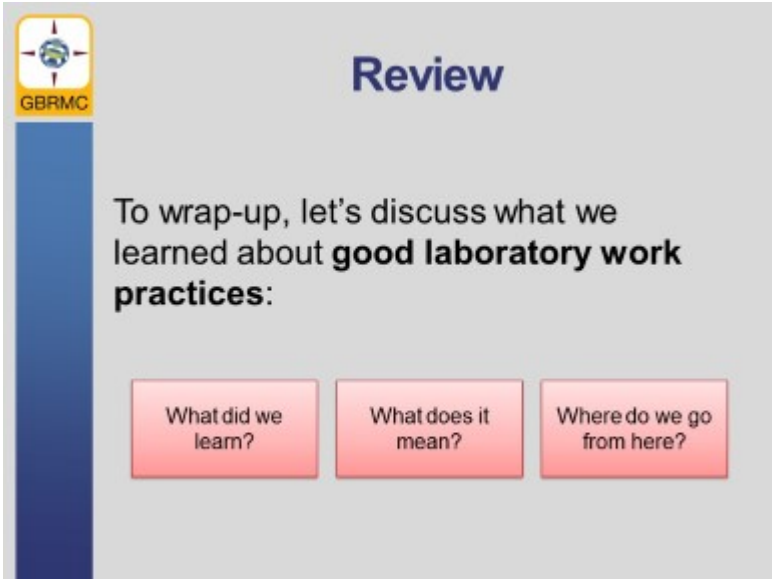
Summary

What are some of the key considerations of good laboratory work practices?

- Why are they good?
- How can we ensure they are being implemented as intended?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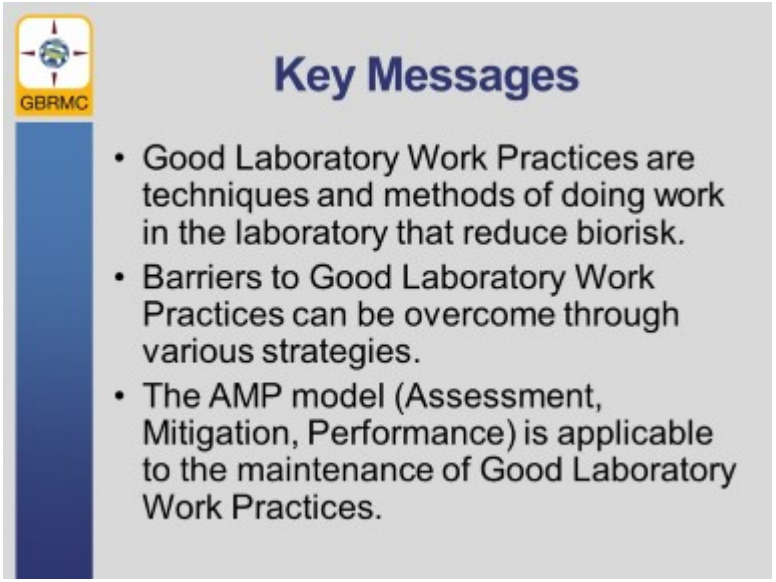
Review
To wrap-up, let's discuss what we learned about **good laboratory work practices**:
What did we learn?
What does it mean?
Where do we go from here?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KNOW		FEEL		BE ABLE TO DO	

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What more do I need to know or do?	How will I acquire the knowledge or skills?	How will I know that I've succeeded?	How will I use this new learning in my job?

Use space on back, if needed