

Getting to Compliant:

**Personal Protective Equipment Use
in the Non-Clinical Research Setting**

***I do not have any relevant
personal, professional or financial relationships
with respect to this educational activity.***

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**Beth Israel Deaconess
Medical Center**



**HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL**



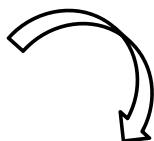
Holden Thorp Introduction to Principal Investigator Laboratory Safety Responsibilities

<https://www.youtube.com/watch?v=d6AASsCEpTY&feature=youtu.be>

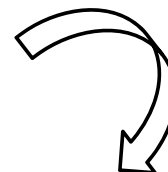
Holden Thorp, Provost at Washington University in St. Louis, discusses standards and practices to minimize laboratory related mishaps and what lab leaders need to know and do to remain safe. The university recently won an award from the Campus Safety Health and Environmental Management

Objectives for Today's Presentation

To understand the compliance concerns around personal protective equipment use in the non-clinical research lab setting

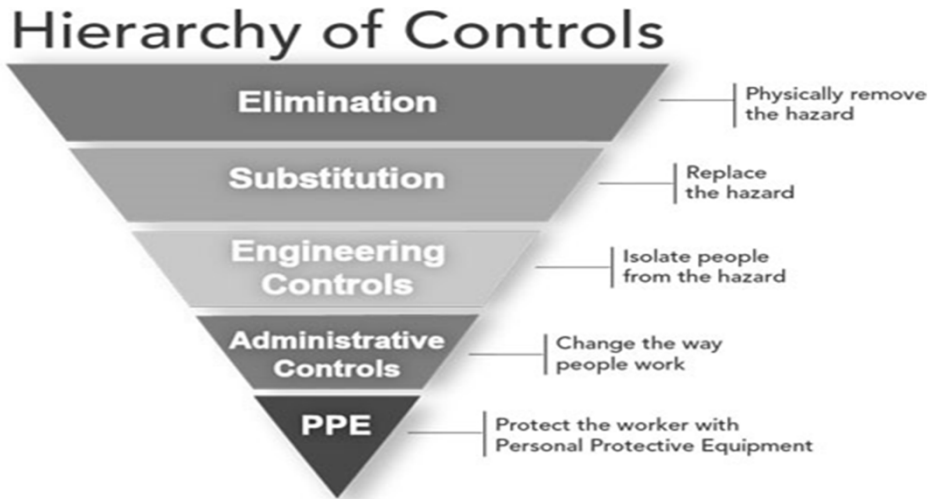


To identify compliance challenges faced by research compliance professionals in the academic medical center setting based on organizational structure and physical space



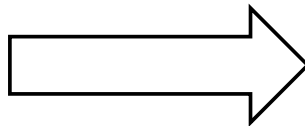
To learn strategies for PPE compliance program and policy development

Hierarchy of Hazard Controls



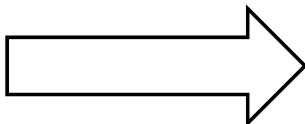
What Are the PPE Compliance Concerns?

- Access to, and correct use of :



- Lab coats
- Gloves
- Eyewear
- Footwear
- Respirators

To protect from exposure to:



- Biologics
- Chemicals
- Laser lights & radiation
- Animal bites

Safety Goggles or Glasses

Lab Coat or Long Sleeves

Gloves

Long Pants

Closed-toe Shoes

Safety glasses Safety goggles

Face shield

<http://ehs.virginia.edu/ehs/ehs.chemicalsafety/chemicalsafety.ppe.html>

Biosafety Levels

High Risk Microbes

BSL-4

BSL-3

BSL-2

BSL-1

Low Risk Microbes

Chemical Hazard Types

GHS Hazard Symbols and Their Definitions¹

<p>Explosive</p> <ul style="list-style-type: none"> Explosives Self reactive substances Organic peroxides 	<p>Flammable</p> <ul style="list-style-type: none"> Flammable gases, aerosols, liquids, and solids Pyrophoric liquids or solids Self heating substances Self reactive substances Substances that emit a flammable gas upon contact with water Organic peroxides
<p>Corrosive</p> <ul style="list-style-type: none"> Skin corrosion/irritation Eye damage Corrosive to metals 	<p>Oxidizer</p> <ul style="list-style-type: none"> Oxidizing gases, liquids, and solids
<p>Compressed gas</p> <ul style="list-style-type: none"> Gases under pressure 	<p>Irritant</p> <ul style="list-style-type: none"> Irritant to skin and eyes Skin sensitizer Acute toxicity Narcotic effects Respiratory tract irritant Hazardous to marine layer (non-mandatory)
<p>Toxic Substance</p> <ul style="list-style-type: none"> Acutely toxic substances that may be fatal or toxic if inhaled, ingested, or absorbed through the skin 	<p>Environmental Hazard (non-mandatory)</p> <ul style="list-style-type: none"> Acute aquatic toxicity Chronic aquatic toxicity
<p>Health Hazard</p> <ul style="list-style-type: none"> Respiratory sensitizers Carcinogens Mutagens Reproductive toxins Target organ toxicity, single exposure or repeated exposure Aspiration toxicity 	

Regulatory Compliance

Federal Regulations and Guidelines in the lab:

- OSHA Standards
 - Bloodborne pathogens
 - PPE requirements
 - Respiratory Protection
 - Surveillance of exposure to certain chemicals
 - Hazardous waste operations/Emergency response
- CDC biosafety in biomedical research lab guidelines
- Dept of Homeland Security – lab security/safety
- US Drug Enforcement Agency – controlled substances
- FDA GLP (21CFR58)
- NIH rDNA
- PHS & USDA (animal research activities)
- NFPA



State & Municipal Requirements:

- Local Fire Dept
- Regional or State water authorities
- Departments of Health

What Does Non-Compliant Look Like?

- ✓ “One glove policy”
- ✓ Soiled lab coats
- ✓ No access to lab coats
- ✓ Improper lab coat use
- ✓ Wrong gloves – e.g. dry ice or liquid nitrogen necessitate cryo gloves
- ✓ Lack of or inadequate eye protection
- ✓ Seasonal issues – e.g. summer clothing
- ✓ Using unapproved equipment – e.g. personal respirator equipment without fit testing

Any examples to Share?

What are the challenges to improving compliance?

The Various Challenges to Improving Compliance....

- **Breadth and depth of technical expertise required**
- **Physical space**
- **Physical plant/maintenance**
- **Training a transient, international workforce**
- **Lab activities perceived as low risk**
- **Lack of clear and / or enforceable compliance for behavior**
- **Accurately and adequately compliance determinations**
- **Financial limitations**
- **Lack of centralization of processes**
- **Lack of institutional continuity in policy**

What are Some Strategies for Improvement?

Engaging Key Stakeholders

- Environmental Health & Safety Staff
- IACUC staff
- Animal research facility staff/vet
- Biosafety officer
- Employee health
- Research facilities
- Research faculty
- Research staff

Presence/Involvement in Operations

- Attending meetings on a regular basis
- Committee membership if possible
- Presentations to stakeholder groups
- Participation in ongoing activities –updates, website improvements, training updates
- Involvement in policy development and revision

Market the PPE compliance message

- Articles
 - “Integrity at Work” series
- Promote reporting noncompliance and ‘near misses’
 - Hotline/helpline promotion
 - Dedicated email mailbox address

BIDMC TODAY

Integrity at Work: What's Hot in Safe Summer Lab Fashion?

Do a short quiz to enter a prize drawing!

Published: 6/30/2016 2:30:00 PM

It's officially summer and with those sunny days come warm-weather fashions.

Remember: not all of summer wear is appropriate or supported by policy in some of our more specialized research lab areas. Your clothing needs to fit the type of work you perform.



Please review BIDMC's policy RS-24, Research Laboratory Personal Protective Equipment (PPE). It provides the information you need to determine what is appropriate to wear before you enter the lab. For example, you are required to wear closed-toe and closed-heel shoes. This means no sandals, open-toed shoes, flip-flops, or clogs. This is for your safety in case of chemical splash, electrical hazards, or those times when you could stub that toe or drop that bottle on your foot.

PPE is not limited to your feet; you need to keep your skin covered too. BIDMC policy requires that you wear clothing covering to the knee, but does recommend to the ankle when you are entering the lab. If you are working at the bench, in addition to wearing clothing that covers, you must also wear a full buttoned, appropriately sized lab coat that covers arms and wrists. The best way to protect your skin (and your clothing) is to wear protective outerwear (lab coats, gowns). Depending on your activity, wear the appropriate gloves and eye protection as detailed in the RS-24. In short, know your lab and the requirements for entering that lab. All protective gear must be in place when entering the lab.

Which of the nine items below are safe summer wear in BIDMC research labs?

Click to submit your answers. All those with correct answers will be entered into a free prize drawing for gift cards from Panera and Dunkin' Donuts.

Safe Summer Lab Fashion

A.		
B.		
C.		
D.		
E.		
F.		
G.		
H.		
I.		

Unsafe lab conditions affect everyone. If you witness non-compliant activity, inform your Lab Safety Officer, your manager or Principal Investigator or Environmental Health and Safety at (617) 632-9326. You can also contact the Office of Compliance and Business Conduct anonymously through the anonymous helpline at (888) 753-6533 or <https://bidmccompliance.alert.com>. No punitive or retaliatory action will be taken against an individual who files a report in good faith.

Email to a BIDMC colleague | Submit a Story Idea

BIDMC | PORTAL

A Web Site for Our BIDMC Family

You will be timed out in 19:50
Report Problems/Feedback

- APPLICATIONS
- CLINICAL
- RESEARCH
- EDUCATION
- INTRANETS
- EMPLOYEE CENTRAL

Home > Intranets > Administrative > Office of Compliance and Business Conduct > Report a Concern: the Helpline

OFFICE OF COMPLIANCE AND BUSINESS CONDUCT

- Report a Concern: the Helpline
- BIDMC Code of Conduct
- Compliance Policies
- Conflicts of Interest
- Research Compliance
- Revenue Cycle Compliance
- Information Security & Privacy
- Education and Outreach
- Our Team
- General Compliance Resources
- What's New in the OCBCL

REPORT A CONCERN: THE HELPLINE

At BID, we are committed to assisting anyone who, in good faith, reports actions he or she believes to violate laws, policies or our culture of respect and integrity. Please call us if you have concerns - if something doesn't seem right, speak up.

To report a concern anonymously, 24 hours a day, 7 days a week:

- BID Anonymous Helpline: 1-888-753-6533
 - Online: <https://bidmccompliance.alertline.com>
- We handle inquiries as confidentially as possible within the law, depending on each individual circumstance. All reports will receive quick follow-up and, when necessary, timely investigation and response.

Use the Helpline for reports, concerns and questions on a wide range of topics:

- how we treat each other in the workplace
- how we document and charge for our care
- how we conduct business
- how we conduct patient care
- how we conduct research
- how we interact with businesses outside of BID
- how we use our resources

- Email
- Phone/Directory
- Pager (In & Out of Network)
- Respect@Work: Report Concerns
- mytime
- myPATH
- myApplause (Recognition)
- Emergency Numbers
- PPGD (Policies & More)
- BIDMC Today
- Events Calendar

SEARCH:

KEYWORD SEARCH

ENTIRE SITE

SEARCH

MY LINKS

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PPE Workplan Item: A Case Example

Topic	Workplan	Specific Objectives	Tasks	Regulatory Driver
Personal Protective Equipment (PPE)/ Research Safety Audits	Audit	Audit for PPE Compliance in BIDMC labs in collaboration with EH&S to improve overall compliance with RS-24 and research safety.	<ol style="list-style-type: none"> 1. Audit labs quarterly for PPE compliance and other research safety issues. 2. Document findings. 3. Keep statistical records. 4. Educate on-the-spot for policy and safety violations. 5. Notify other individuals and departments as appropriate (e.g. Lab Manager, PI, facilities, etc.). 6. Report statistical findings at least yearly. 	RS-24 Research Laboratory Personal Protective Equipment (PPE) Policy

**Beth Israel Deaconess Medical Center
BIDMC Manual**

Title: Research Laboratory Personal Protective Equipment (PPE) Policy

Policy #: RS-24

Purpose:

The purpose of the Research Laboratory Personal Protective Equipment (PPE) is to outline the basic requirements for clothing and personal protective equipment worn in the laboratory and the PPE requirements for working with specific hazard well as outlines procedures for appropriate selection, use, and maintenance of P

Scope:

This policy applies to all laboratory research spaces in properties and facilities occupied, or managed by Beth Israel Deaconess Medical Center (BIDMC), include the main campus and at off-site locations. In some cases, certain responsibilities under the Research Laboratory PPE Policy are shared with or delegated to local managers and/or outside parties such as landlords, tenants, or contractors. As applicable to particular locations, this policy covers BIDMC and HMFP employee research staff, and visitors present in these locations.

Policy Statement:

In a continuing effort to provide a safe work environment, it is the policy of BIDMC all individuals are provided proper training and proper PPE to protect against injury or illness from known workplace hazards. This policy incorporates current BIDMC practices, standard precautions, and those requirements set forth by the Occupational Safety and Health Administration (OSHA) *Personal Protective Equipment Standard* (29 CFR 1910.132). In addition to BIDMC's institutional PPE Program (EOC-30), policy provides laboratory researchers with guidance and directives on appropriate PPE practices. Individuals are required to wear and/or use appropriate PPE as mandated by this policy. PPE shall be properly worn and used as a condition of employment. Non-compliance with this policy will subject the employee to correction, as outlined in policy PM-04 and vendors will be subject to the breach of a clause in Section J of policy ADM-02, Industry Representative Code of Conduct.

A. Definitions:

Personal Protective Equipment (PPE): Equipment or clothing/apparel design prevent or reduce injury by acting as a barrier of last resort to potential hazard (See Appendix A for PPE Expectations).

Work Place Hazard: An item, material, or condition in the workplace capable causing injury and/or illness.

Chemical Hazard: A solid, liquid or gaseous material that may cause acute or chronic health effects and/or physical harm upon exposure. Chemicals cover this definition include, but are not limited to, carcinogens, toxic or highly toxic agents, reproductive toxins, flammables, reactives, corrosives, oxidizers, sensitizers, and agents that irritate or damage the lungs, skin, eyes, or mucous

RS-24, Appendix A

PPE Expectations

A. Basic PPE Expectations

A.1. Entering a research laboratory:

Required:	<ul style="list-style-type: none"> • Shoes with a closed toe & heel • Clothing covering at least to the knees
Recommended:	<ul style="list-style-type: none"> • Clothing covering to the ankle

A.2. Working at laboratory bench:

Required:	<ul style="list-style-type: none"> • All above requirements for entering lab • Laboratory coat (appropriately sized, buttoned to full length, sleeves fully covering arms & wrists) • Nitrile or other non-latex gloves* • Eye & face protection for work posing a splash/particle hazard
Recommended:	<ul style="list-style-type: none"> • Eye protection for any bench work – safety glasses or better**

Notes:

* Latex gloves should be avoided due to potential of causing allergies
** Use of safety glasses, goggles, or face shields will depend on hazard type, but most laboratory bench work poses a potential splash or particle hazard.

B. Work-type Specific PPE Expectations

B.1. Biological hazards

B.1.a. Biosafety Level 1 or 2:

Required:	<ul style="list-style-type: none"> • Base requirements for entering lab and working at a bench (section A.1.&A.2. as described above)
Recommended:	<ul style="list-style-type: none"> • Base recommendations for entering and working at a bench (section A.1.&A.2. as described above)

Note: The use of lab coats and gloves are required in all cell/tissue culture laboratories and when working in biosafety cabinets.

B.1.b. Biosafety Level 2+ (BL2 with stipulations*):

Required:	<ul style="list-style-type: none"> • Base requirements for Biosafety Level 1 & 2, plus: • Disposable, liquid-impervious gown (instead of lab coat) or liquid-impervious sleeves • Double nitrile or other non-latex gloves
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PPE Research Safety Audits

- Assess baseline compliance with specific PPE categories
- Have both technical expertise and enforcement authority
- Provide on the spot education
- In-person visibility/resource
- Collect and report out data
- Identify educational gaps

Audit Tips & Tools

- Vary day and time of audits
- Practice your own safe behavior
- Stay out of the way
- Take advantage of face-to-face
- If possible have satellite space (for coats, bags, etc) – travel light

“Toolkit”

- Business cards
- Educational materials
- Cell phone
- ‘a smile’ ‘kill them with kindness’... to a point



Paper Audit Tool

Date: _____
Time: _____

Beth Israel Deaconess Medical Center **Laboratory Safety PPE-Compliance Assessments**

Lab Information

Department: _____
 Principal Investigator: _____ Phone: _____
 PI Email Address: _____
 LSO/Lab Manager: _____ Phone: _____
 LSO/Lab Manager Email Address: _____
 Building: _____
 Room Number: _____

Lab Minimum Standards for PPE per 05-248

Working in Laboratory Bench

#	Ch	NCR	N/A	Inspected	Comments
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Closed-toe shoes	
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clothing covering at least to the knees	
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lab coats → Hooks: <input type="checkbox"/> Yes <input type="checkbox"/> No	
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gloves	
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Eye protection HCR NCR	

Working in Non-administrative Areas

#	Ch	NCR	N/A	Inspected	Comments
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Closed-toe shoes	
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clothing covering at least to the knees	
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lab coats → Hooks: <input type="checkbox"/> Yes <input type="checkbox"/> No	
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gloves	
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Eye protection HCR NCR	

Assessment Information

Investigator: _____ Phone: _____
 Investigator Email Address: _____
 Date of Inspection: _____

Corrective Actions

Counselor non-compliant researcher(s) on 05-24 PPE Policy
 Provided handout to non-compliant researcher(s)
 Notification required to PI/Lab Managers

Online Tool – Linked to Space and PI

Beth Israel Deaconess Medical Center **HARVARD MEDICAL SCHOOL TEACHING HOSPITAL**

Research Home > Research Site Menu

Research Lab Assignments **Historical Reports**

Research Lab Safety Evaluation

Directions: Below is list of research lab spaces (Use Code: 250-XX, 255-14, 255-18). Check building to see floors with labs, be assigned to one or more PI. To view assignment and with colored background have existing evaluations.

Show Research Building

Center for Life Sciences

Dana

Kirstein

Research North

Research West

Slosberg-Landay

Yamins

Area:	Total Observed	Compliant	Non-Compliant	Item Inspected	Start New Evaluation
Area: Admin					
	6	6	0	Item Inspected	
	6	6	0	Closed-toe shoes	
	6	6	0	Pants/short length	
	6	6	0	Lab Coats	
	6	6	0	Gloves	
	6	6	0	Eye Protection	
Area: Bench					
	2	2	0	Item Inspected	
	2	2	0	Closed-toe shoes	
	2	0	2	Pants/short length	
	2	2	0	Lab Coats	
	2	2	0	Gloves	
	2	2	0	Eye Protection	

Incidental Findings

Blocked electrical panel

Broken equipment

Dirty lab space

Flammables in sink

Food/drink in lab

Improper disposal biohazard

Improper use of space

Propped open fire door

Sharps: razors

Spills or Leaks

drink and gum in trash

Blocked safety equipment (fire extinguisher, eye wash/shower)

Chemical improperly stored

Fire hazard

Flammables on floor

Improper animal handling

Improper disposal of chemicals

Mold in freezer / cold room

Sharps: needles

Soiled lab coats

Styrofoam/cardboard in cold room

Corrective Actions

Controlled Substances

Provided Handout

Counselor researcher - Policy Compliance

Notification required to PI/Lab manager

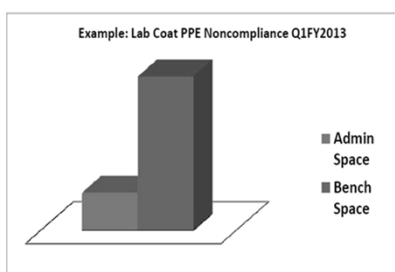
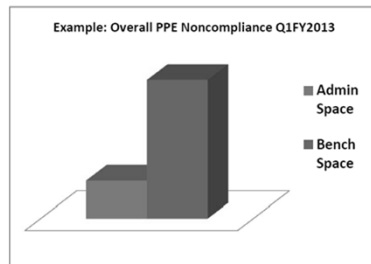
Save Incidental Findings and Corrective Actions

Return to Building Floor List

Audit Findings Data Sharing

- Where to present data
 - Various key audiences
 - Other Departments may present and use data for related purposes

- How to present data
 - Breaking up information to focus on risk areas, for example:



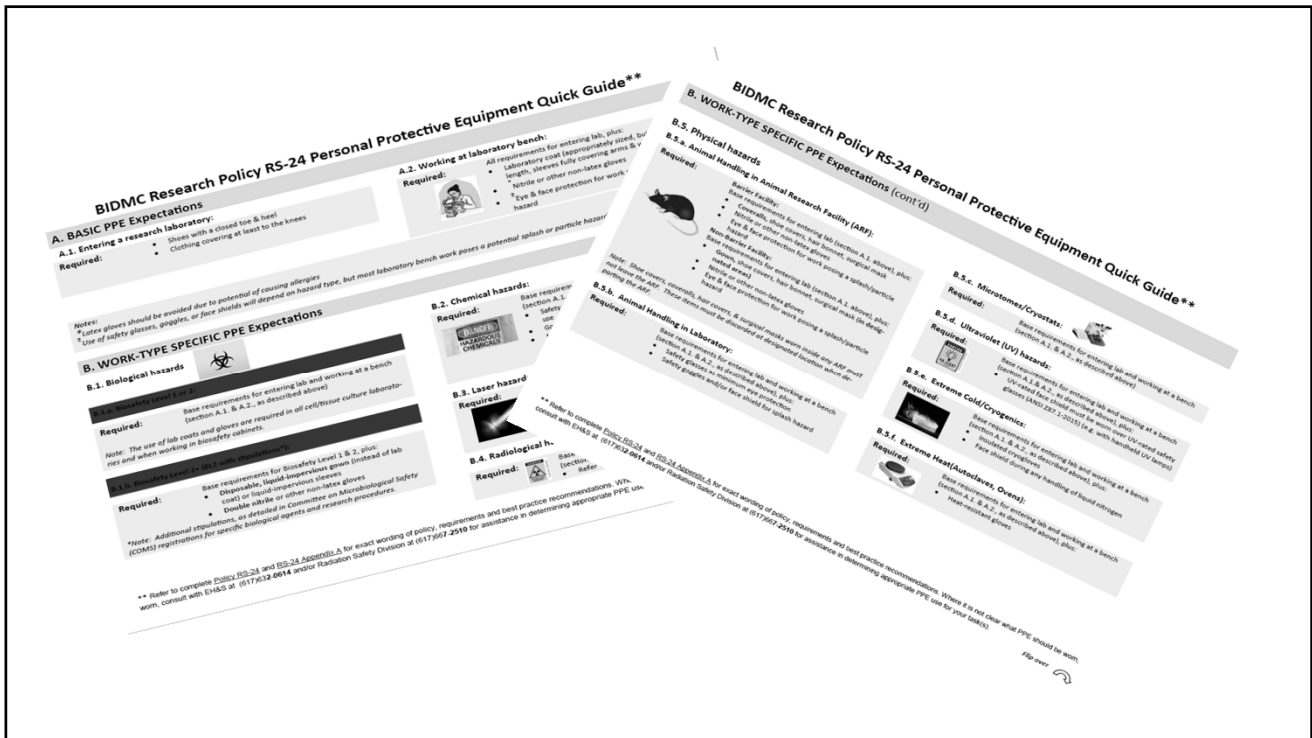
Incidental Findings

- **Be prepared: You'll have your 'compliance hat' on, be aware that there are other things you may find:**
 - *Improper disposal of hazardous substances*
 - *Children in the lab*
 - *Food and drink in the lab*
 - *Fire code violations (doors propped open, items stored improperly)*
 - *Possible IACUC violations/animal welfare concerns*

- **Use incidental findings to prompt discussion about needs for additions/revisions to policy**

Educational Efforts





- Integrity at Work articles
- Presentations on audit findings
- Involvement in training material development



Educational Efforts

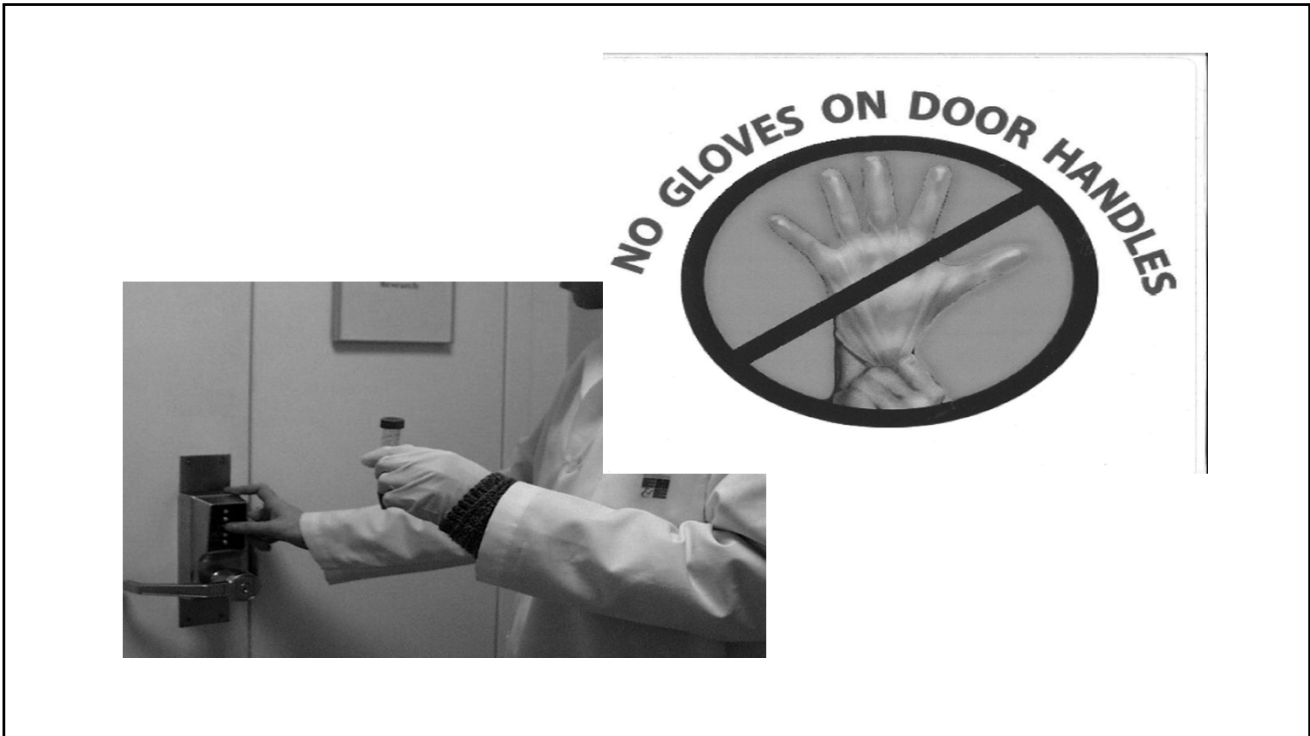
- Education materials for various audiences
 - Limited English speakers
 - Role specific materials
- Signage – e.g. stickers ‘no gloves on handles’
- Videos (produced in-house, You Tube)

Personal Protective Equipment (PPE) Compliance

	Shoes Shoes with closed toe and heel are required to enter any lab.
	Clothing Clothing covering at least to the knees is required to enter any lab (to the ankle is preferred).
	Safety Glasses Safety glasses should be worn for any chemical use. Goggles and/or face shield should be worn for any significant splash hazards.
	Lab Coat Lab coats must be worn while working at the bench. Do not wear lab coat in administrative areas.
	Gloves Gloves must be worn when working at the bench. Use the appropriate glove function you are performing. Do not wear gloves in administrative areas or open doors.

For more detailed information, go to the PPGD on the BIDMC Research Laboratory Personal Protective Equipment (PPE) attachments. For questions, contact Employee Health & Safety.





Enforcement & Consequences

- Use institutional authority and follow the Escalation policy:

“...The ReSC has the authority to stop any BIDMC laboratory operations in which the health and safety of faculty and/or staff may be compromised or may result in non-compliance with applicable laws or policies.”

- Targeted emails from leadership

- Notice
- Warning
- Suspension
- Appeal

Beth Israel Deaconess Medical Center Policy Manual	
Title:	Research Safety Management Policy
Policy #:	RS-22
Purpose:	This policy defines the safety management program for Research at the Beth Israel Deaconess Medical Center (“BIDMC”) which is in place to protect individuals from potential hazards associated with the work that occurs in research laboratories.
Policy Status:	RS-22 Appendix A: Research Safety Enforcement and Escalation Procedure
BIDMC is responsible for:	Research Safety Committee (ReSC) Authority
Applicable to:	As described below, the ReSC has the authority to stop any BIDMC laboratory operations in which the health and safety of faculty and/or staff may be compromised or may result in non-compliance with applicable laws or policies.
	<ol style="list-style-type: none"> 1. Lab Safety Enforcement: To safeguard the requirements set forth in regulations, audits of each laboratory will be made by the BIDMC SO (Safety Officer) or a designee annually and/or at his/her discretion. Audit findings will be sent to the Principal Investigator (PI) and the Lab Safety Officer (LSO) of the laboratory. Audits may range from a walk through visit to an in-depth audit to insure that protocol information (such as users) and trainings are up to date. In addition, the SO also responds to emergencies (e.g. code red, orange) in the research lab areas, and generates an after action summary. This report is sent to the responsible parties for action. 2. General Safety Escalation: This section outlines procedures for responding to safety concerns which are identified during day to day operations. Examples include: audit findings, compliance issues identified during routine rounds, or violations of safe practice standards/policies that may not pose an immediate threat to life or safety. <ul style="list-style-type: none"> • ReSC or the appropriate representative will follow-up verbally and in written format with all those

Focused Monitoring

- Repeat offenders
- High risk behaviors
- Developing a monitoring/auditing plan
 - Outline scope and frequency
 - Include clear milestones to prompt step down or escalation
 - Use institutional policy to ensure authority

Have a “Wish List”

- Better engineering controls
- Increased \$\$\$ resources
- Centralization of responsibility for specific tasks – lab coats, eye protection and specific vendors
- Additional/better signage



What's on your wish list?

References, Related Regulations and Guidance

- [Holden Thorp Introduction to Principal Investigator Laboratory Safety Reps](#)
- <https://www.youtube.com/watch?v=d6AASsCEpTY&feature=youtu.be>
- [OSHA Standards - https://www.osha.gov/SLTC/laboratories/standards.html](https://www.osha.gov/SLTC/laboratories/standards.html)
- [OSHA Hierarchy of Hazard Concerns: https://www.osha.gov/shpguidelines/hazard-prevention.html](https://www.osha.gov/shpguidelines/hazard-prevention.html)
- <https://www.osha.gov/shpguidelines/hazard-prevention.html>
- ["A research university's rapid response to a fatal chemistry accident: Safety changes and outcomes" https://www.sciencedirect.com/science/article/pii/S1871553214000048](https://www.sciencedirect.com/science/article/pii/S1871553214000048)
- [Safety in Academic Chemistry Laboratories 8TH EDITION https://www.acs.org/content/dam/acsorg/about/governance/committees/chemicalsafety/publications/safety-in-academic-chemistry-laboratories-students.pdf](https://www.acs.org/content/dam/acsorg/about/governance/committees/chemicalsafety/publications/safety-in-academic-chemistry-laboratories-students.pdf)
- [Department of Homeland Security, Appendix A: Chemicals of Interest \(COI\) List https://www.dhs.gov/appendix-a-chemicals-interest-listDEA](https://www.dhs.gov/appendix-a-chemicals-interest-listDEA)
- [Controlled substances](#)
- [Environmental Protection Agency Federal Clean Water Act 33 U.S.C. §1251 et seq. \(1972\)](#)
- [CDC biosafety in biomedical research lab guidelines https://www.cdc.gov/biosafety/publications/bmbIS/](https://www.cdc.gov/biosafety/publications/bmbIS/)
- [CDC Federal Select Agent Program Biosafety / Biocontainment Plan Guidance: https://www.selectagents.gov/bbp-requirements.html](https://www.selectagents.gov/bbp-requirements.html)
- [Title 21 Part 58 Good Laboratory Practice for NonClinical Laboratory Studies https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcr/CFRSearch.cfm?CFRPart=58](https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcr/CFRSearch.cfm?CFRPart=58)
- [The NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules https://osp.od.nih.gov/biotechnology/nih-guidelines/](https://osp.od.nih.gov/biotechnology/nih-guidelines/)
- [EPA Resource Conservation and Recovery Act \(RCRA\) Laws and Regulations https://www.epa.gov/rcra](https://www.epa.gov/rcra)
- [Title 49 of the Code of Federal Regulations \(49 CFR\), Subchapter C, "Hazardous Materials Regulations."](#)
- [NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=45](https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=45)
- [USDA – animals/organisms/vectors](#)
- **BIDMC Internal Policies:**
 - RS-22 "Research Safety Management Policy"
 - RS-22 Appendix A "Research Safety Enforcement and Escalation Procedure"
 - RS-24 "Research Lab PPE Policy"
 - RS-24 Appendix "PPE Expectations"

**THANK YOU AND ENJOY THE
REST OF THE CONFERENCE!**



Beth Israel Deaconess
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HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL