

# Occupational and Environmental Medicine at MIT

EHS Safety Representative Training

# Outline of Presentation

- Occupational and Environmental Medicine at MIT
- Organization and staff of OEM at MIT
- OEM clinical services at MIT Medical E23

# Occupational and Environmental Medicine (OEM): Definition

- Specialty of medicine that concerns itself with injuries and illness of the workplace and living environment
- Focus on hazardous environments, materials, practices
- A branch of **Preventative Medicine**, emphasis on making changes to avoid injury and illnesses
- MIT first university to have medical specialist in OEM: Dr. Harriet Hardy in 1940's, founded the Environmental Medical Service within the Medical Department at MIT

# Staff of OEM at MIT Medical [E23]

- **David V. Diamond, MD, FACOEM:** Associate Medical Director, Board Certified in OEM
- **Jacqueline Sherry, RNP:** Clinical Coordinator of OEM and Infection Control at MIT
- **Urgent Care** – 7 am – 11 pm 365 days a year, after 11 nurse triage phone line
- **Medical specialties** at MIT: orthopedics, dermatology, allergy, neurology, pulmonary, infectious diseases – on-site [part time]
- **OEM supported by allied health professionals at EHS:** IH, RPO, BSO, Safety



# Clinical OEM services MIT Medical E23

1. Pre-placement exams
2. Regulatory exams
3. Periodic surveillance exams
4. Evaluation and treatment of workplace exposure
5. Emergency Response



# 1] Pre-placement exams

- There are **no routine** medical exams for new MIT employees or graduate students.
- There is a pre-enrollment medical form for all **undergraduates**
- There are medical screenings for **specified** workers:
  - Medical Department: infection control [Tb and vaccines], blood borne pathogen
  - Tower climbers, confined space workers: general exam
  - Kwajelain deployment: general health status review
  - Animal care workers: Tb screening, Tetanus boosters, and allergies
  - Laser users: baseline eye exams
  - Blood borne pathogen exposure: Hepatitis B vaccination

## 2] Regulatory exams

- Truck drivers [DOT] – every two years
- NASA and private pilot exams [FAA] – every one or two years
- Respirator users [OSHA] – medical clearance for respirator fit testing
- SCUBA divers [PADI] – pre-training
- Reactor operators [NRC] – every two years to maintain license
- Confined space workers

### 3] Periodic surveillance exams

- Prior asbestos exposure: lung evaluation
- Beryllium workers: lung evaluation
- Noise exposed: hearing tests
- Animal care workers: Tb, allergy, ergonomics, Td
- HIV and TB researchers: biologic testing offered



#### 4] Evaluation of workplace injuries and illness: appointment, or walk-in [Urgent Care 7 am-11 pm]

- **Physical hazards:** trauma, noise, repetitive strain [ergonomics, computers], bites, needles
- **Biologic hazards:** blood borne pathogens [HIV, Hep B], Tb, Simian B virus, other infectious agents [recombinant, pathogenic], allergens [rodents]
- **Radiation:** UV, laser, radioisotopes, nuclear reactor, microwave, electromagnetic
- **Chemical:** acids [HF], alkali, contact sensitizers [epoxy], toxins [mercury]

## 4] Consultations about potential workplace exposures or hazards

- **Odors:** working with EHS to determine if odor is a health risk, Ergonomics
- **“Sick building”:** indoor air quality, meeting with occupants and assessing symptoms to help identify potential sources
- **Lab environment risks for pregnancy**
- **Infectious agents:** addressing worker’s concerns about biologic research with pathogens such as HIV, Tb, Vaccinia

## 5] OEM and campus emergency response

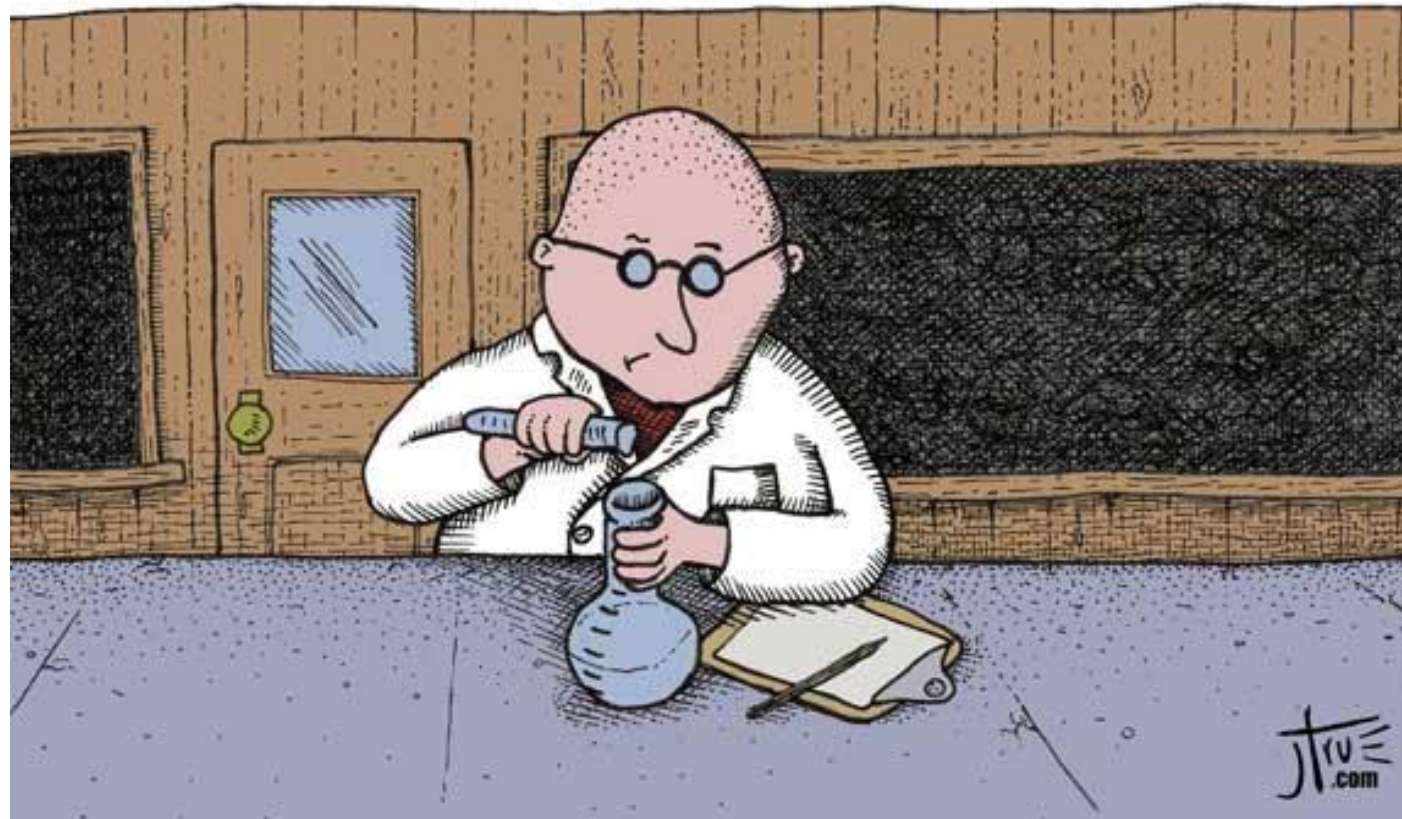
- AED deployment: Heart Safe Campus, student run ambulance service
- Bioterror and pandemics: planning for campus wide response
- Lab accidents: large spills or gas releases
- First aid training and supplies
- Planning for small and large events with EHS, Campus Police, MIT Administration, etc.: Emergency Operations Center [EOC]

# Care at MIT Medical is FREE, but...

- **All visits** to MIT Medical for potentially environment or work-related problems are generally without charge.... except:
  - **tests** may need prior approvals [Worker's compensation review]
  - **outside** referrals or tests may be charged to insurance
  - **benefits ineligible** workers [affiliates] are not covered by MIT insurance and **Urgent Care visits** may be billed to their outside insurance, DLC, or personally
  - **all** MIT workers can be referred for OEM consult without charge

# Accidents do happen: Case examples

Hue discovers the element of surprise...



# MIT Medical OEM: case examples

- **Chemist** gets a few drops of HF containing fluid on hand, washes on site and applies HF gel antidote, comes to Urgent Care [E23 first floor] for exam and follow up



- **Lab worker** has sore thumb from using mechanical pipette, evaluated by appointment, tendonitis diagnosed, medical advice given but also IH referral to get automated pipette as alternative

# MIT Medical OEM: case examples

- **Grad student** breaks beaker, cuts hand, bleeding, comes for wound check, suturing, tetanus booster.
- **Animal handler** develops chronic runny nose and cough, comes for appointment, animal allergy suspect, sent to allergy specialist for testing, rodent allergy confirmed, work modifications recommended and medications prescribed, follow up exams with OEM and pulmonary specialist



# Some FAQs on OEM care at MIT

- **When is it serious enough?:** When in doubt, go to Medical or at least call [3-4481]; near misses help us improve worksites for all. If life threatening, call 100 for police and ambulance response.
- **What if lab-mate does not want to go?:** Tell them it is MIT policy, and a visit will protect them and others in this or future incidents
- **Do I need to rinse for 15 minutes?:** Yes, it takes exposure time to remove or dilute chemicals that penetrate outer layer of skin [exception HF, use gel after 5 min.]
- **What about first aid kits?:** Simple Red Cross approved kits may be purchased and used for minor injuries not involving potential hazardous exposures [e.g. paper cuts]; more extensive first aid should lead to visit to Medical



# More FAQs on OEM care at MIT

- **What happens when I get to Medical?:** Call first if possible to alert [3-4481], identifying information taken, depending on nature of injury or illness seen immediately or in turn, physician or nurse practitioner sees first, if specialist [including OEM] care needed they will be called.
- **What about follow up?:** Nearly all visits for actual or near-miss injuries will be referred for a follow up visit with Jackie Sherry, RNP, to review care plan, make sure documentation is correct, initiate any after incident interventions or inspections, and communicate any concerns to EHS who may arrange work site review.
- **Confidentiality:** No communications will occur without prior permission of the patient and will only be in reference to work-related problem.
- **What about after-hours [11 pm to 7 am]?**
  - For emergency call 911, or 100 if on campus
  - For advice from on-call RN and if needed MD on call, call 617-253-4481
  - Follow up with EHOM next work day for further advice, care, coordination of administrative issues

# OEM at MIT: Summary

- Long tradition of evaluating medical effects of research environments
- As hazards have changed, surveillance and interventions evolved: e.g. asbestosis in past, computer ergonomics now
- Focus on coordinating the multiple medical specialties and allied health professionals as well as administrative aspects of care
- Goal is to provide expert, confidential, and timely medical care for the individual, and then eliminate occupational and environmental hazards for all



Thank you for your attention,  
**and** for doing this valuable work for MIT

**Questions?**

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