Berkeley Lab Incident Statistics
Fiscal Year 2019

Data Analysis, Takeaways & Recommendations

This information is provided on a yearly basis.

Please share this information with your Areas/Divisions.

Refer questions to: mmalexandre@lbl.gov
Summary of FY19

- TRC/DART rates, Total DART and Days Restricted all reduced in FY19

- Three injury categories account for 66% of all TRC:
  - Ergonomics- Computer Use, Slips/Trips/Falls (STF), & Material Handling

- Three injury categories account for 75% of all DART:
  - STF, Struck by/against, & Ergonomics-Computer Use
    - STF remain highest amount of severe injuries (38%)

- Job categories with highest amount of injuries:
  - Crafts/Service, Administrative, Technicians, and Students, GSRA, Postdocs

- Scientific Areas:
  - 56% of all Recordable injuries
  - Struck By/Aagainst injuries account for 48% of all Scientific Areas injuries

- Operation Areas:
  - 44% of all Recordable injuries
  - Facilities Division still represents largest amount of injuries. We are seeing positive trend, but a few cases account for a large % of lost work days
In FY19 TRC/DART Rates, Total DART & Days Restricted reduced. Days Away stayed about the same.

Data based on comparison with FY18.
FY17-19 lost & restricted work days: FY19 saw a drop in lost & restricted work days

Note: several lost day cases in FY19 are not closed so additional lost days can be expected
FY19 Recordable Injuries: Total=48
Top three injuries remain the same; four job categories account for 67%

Data based on comparison with FY18
FY19 Days Away, Restricted, Transferred (DART) Injuries: Total=17
DART cases reduced by 25%; Four types of job categories account for 82%

Data based on comparison with FY18
Scientific Areas FY19
27 out of 48 (56%) of all TRC occurred in Scientific Areas

Recordable Injuries Per Scientific Area FY19

- Earth & Environmental Sciences: 2
- Biosciences: 3
- Computing Sciences: 3
- Energy Sciences: 5
- Energy Technologies: 5
- Physical Sciences: 9

5 out 17 (30%) of DART cases occurred in Scientific Areas

There were 96 lost days and 131 restricted days associated with these cases

96 lost days resulted from only 3 cases (average = 32 days/case)

TRC = Total Recordable Cases
Deeper dive into Scientific Area injuries

All Types of Injuries
Total=91

- Recordable, 27, 30%
- First Aid, 64, 70%

Most impacted employees:
Students, Postdocs,& GSRAs: 50%
Research Assoc./Assistants: 28%

Most common types of injuries:
Struck By/Against: 48%
Chemical Exposure: 15%
Safety Eye Exposure: 13%

Three Divisions Account for 58% of Scientific Area Injuries:
Molecular Foundry: 25%
Biological Systems and Engineering: 18%
Environmental Genomics & Systems Biology: 15%
Operations Areas FY19
21 out of 48 (44%) of all TRC occurred in Operations

Recordable Injuries Per Operations Divisions

12 out 17 (70%) of DART cases occurred in Operations

There were 473 lost days and 166 restricted days associated with these cases
Note: one case accounted for 271 of the lost days (average= 68 days/ case)
Deeper dive into Facilities injuries FY19: Recordable Cases, Lost & Restricted Days have reduced

In FY19 7 out of the 11 (64%) Recordable Injuries in Facilities were DART

In FY17-19 2-5 cases/ year account for 84-96% of Lost Work Days

Recommend closely examining these cases to look for opportunities for improvement
Common Injuries:
Takeaways & Recommendations:

Office Ergonomics
Struck by/Against
Slips, Trips & Falls
Material Handling

At-risk Groups:
Students, GSRAs and Postdocs
Office Ergonomic Injuries are preventable: Many become recordable and right side most impacted

First Aid vs Recordable Injuries N=34

- Recordable, 15, 44%
- First Aid, 19, 56%

Body Parts Impacted

- Left Side: 6
- Both Sides: 10
- Right Side: 18

Divisions Most Impacted:
- Human Resources, OCFO, NERSC and Engineering

Jobs Most Impacted:
- Administrative=10
- Staff Scientists/Engineers=9
Office Ergonomic Injuries are preventable
Heavy/increased workload needs to be addressed via line management

Common factors:
Mouse use 66%
Heavy/ increased workload 53%
Working directly on laptop 15%

Factors may relate/contribute to recordable injuries:
• 66% had delayed reporting (experienced discomfort 4 weeks or longer)
• 53% had previous injuries
  • 25% had more than one injury to same body part(s)
• 47% were not taking adequate breaks

What can be done to reduce these injuries:
1. Communication between supervisor and employee about workload is key… discuss, plan & prepare
2. Target at-risk Divisions, Job Categories, & employees with previous injury
3. Utilize resources RSI Guard and laptop accessories
Struck By/Against injuries commonly involve sharps: Resources available from EHS Biosafety SME

18 injuries (41%) occurred while performing lab tasks involving cuts, punctures, lacerations and/or needle sticks

12 out of 18 (67%) involved students, post docs and GSRAs

Resources are available from EHS Biosafety SME to prevent and procure proper tools to prevent these injuries:

Sharps Safety in Research

Biosafety and Sharps Safety Products

Contact Biosafety@lbl.gov if any questions.
Despite awareness efforts, we are not seeing much of a change in slip, trip & fall injuries in the past few years

1. Walking is #1 hazard for pedestrian/traffic safety. Emphasize holding handrails, walking mindfully, awareness to uneven walkways, not obstructing views while holding objects, & pocketing phones.

2. Bicycling downhill continues to also be a hazard. Emphasize controlling speed, knowing equipment/skills for down hill riding, and be aware roadway obstructions.

3. Students, GSRAs and Post-docs outreach should be emphasized. They have a disproportionately higher injury rate for these types of injuries.

Total Number of Cases and Lost Work Days FY16-19

- # of Cases (FA and Rec)
- Lost Work Days

Common injuries: sprains, abrasions, lacerations, contusions and fractures

30% of these injuries are Recordable
Material Handling Injuries can occur during routine and non-routine work tasks.

Material Handling Injuries

- Recordable, 7, 50%
- First Aid, 7, 50%

Commonly occur when:
Lifting, carrying, pushing/pulling objects 25 pounds or heavier, while performing material handling over extended periods of time, and/or while working overhead, twisting, reaching away from body or bending down.

Body parts most impacted:
- Low back 43%
- Shoulder/arms 36%
- Neck 21%

Ensure pre-start and work planning activities incorporate safe material handling.

Always be thinking…
Is there a safer/more efficient way to do material handling?

Divisions impacted:
- Scientific Divisions=7 injuries
- Facilities=5 injuries
- Other=2
Analysis of Students, GSRAs and Postdocs identify them as ‘at risk’ groups
Data from CY14-18
Students, GSRAs and Postdocs have been involved in some of the most severe incidents as well as some ‘near misses’ that could have been severe injuries. These injuries commonly occur while performing lab tasks.

ISM issues identified:
1. Insufficient on-the-job training, communication, work planning and/or hazard analysis
2. Unclear/incomplete authorization
3. Exceeding scope of work

They make up a disproportionate amount of injuries
In 2018, 25% of all injuries involved Students, GSRA and Postdocs but… they equal only 10% of lab population
CY14-18 they were involved in 50% of NTS incidents while performing lab tasks

124 injuries involved Students, GSRAs & Postdocs: We have a responsibility to protect them while doing work for us
Recommendations to ensure safety of Students, GSRAs and Postdocs

1. Reinforce first line management ownership of safety of their employees.
   - Ways to provide more direct supervision, guidance, & training - such as establishing applicable OJT, setting clear hold points and clear scope of work.

2. Improve safety culture by enhancing ISM – integrating safety into research
   For example:
   - Safety should be part of research during design and execution
   - Having a questioning attitude, but knowing when the science has ‘changed’ enough to warrant discussion & additional work planning/controls
**Definitions/Terminology**

*First Aid Cases* involve one-time, short-term treatment and requires little technology or training to administer. First aid can include cleaning minor cuts, scrapes, or scratches; treating a minor burn; applying bandages and dressings; the use of non-prescription medicine; draining blisters; removing debris from the eyes; massage; and drinking fluids to relieve heat stress.

*Recordable Cases* involves medical treatment *beyond* first aid such as: providing therapy; prescription medications (or use of a non-prescription drug at prescription strength); using wound closing devices such as surgical glue, sutures, and staples; using any devices designed to immobilize parts of the body; and administration of oxygen as well as an injury that causes death, days away from work, restricted work or transfer to another job, or loss of consciousness.

*Total Recordable Cases (TRC)* All recordable injuries including: all work related deaths, illnesses, and injuries which result in treatment beyond first aid, loss of consciousness, work restrictions, and/or transfer to another job (permanent/temporary). Examples include: thermal and chemical burns; cuts, abrasions and punctures; fractures/ broken bones; respiratory irritations; hearing loss; amputations; and sprains or strain.
**Definitions/Terminology**

*Days Away, Transferred, or Restricted (DART) Cases* are all Recordable Cases that have days away from work, transferred work (employee able to return to work, but not perform routine work), and/or restricted work that allow employee to return to routine work with reasonable accommodations.

- **Days Away** = Injury prevents employee from returning to work for one or more day(s)

- **Transferred/Restricted** = Injury prevents an employee from performing one or more of their routine job functions or from working the entire workday.

Berkeley Lab strives to reasonably accommodate injured workers and reduce the amount of days away. Various studies illustrate benefits to employees *and* employers in returning employees to work asap after injuries.