Having a game plan: Infection control, public health and biological safety in the Department of Athletics

Danielle Scavone, Yale University Environmental Health and Safety, New Haven, CT

INTRODUCTION

Exposure and infection potentials lurk beyond the walls of laboratories and clinics. Biosafety professionals must use risk assessment tools to identify and minimize exposures in non-traditional settings. For example, the field of biological safety can be critical to overall safety on the fields of athletic play.

Yale University sponsors 35 varsity sports at the NCAA Division 1 level. There are more than 20 athletic venues and sites of competition covering over 600 acres. Proactive approaches to safety should be extended to these venues.

PURPOSE

In order to mitigate risk, biosafety professionals must first recognize what risks are present. At its most basic, risk assessment and its corresponding risk management for the Department of Athletics is similar to that for a laboratory or clinical setting:

What **pathogens** could be present?

- MRSA, norovirus and influenza can be encountered.
- Animal droppings may be found on fields. These can contain infectious materials.

Are **personnel** properly trained?

- Bloodborne Pathogens training is required for medical and athletic training staff and for custodial staff.
- Prompt reporting of exposure incidents is essential to ensure treatment and prevention of additional occurrences.

What **procedures** are in place to contend with the agents?

- Cleaning and disinfection procedures that specify the appropriate and effective disinfectants must be followed.

What **protective equipment** must be used?

- Some tasks may require gloves, safety glasses, splash shields and respirators.

Is the **facility** properly designed and are conditions conducive to a healthy environment?

Additional considerations:

How do you handle surfaces that are not always easy to clean and disinfect?

- Carpeting in locker rooms
- Artificial turf
- Hockey/football/lacrosse pads, catchers' gear, swim caps
- Wrestling and gymnastics mats
- Fitness equipment

The well-being of all parties, student-athletes and staff alike, must be carefully considered.

RISK ASSESSMENT AND RISK MANAGEMENT

Venue-specific issues:

Fields

- In-person tick awareness training
- Repellant evaluation
- Distribution of wallet-size tick ID cards
- Golf course mosquito control using BTI

Pools

- Ventilation system enhancement
- UV and chemical disinfection system improvements
- Augmented maintenance SOPs

Equipment-specific issues:

- Multiple contact/touch points
- Difficult to disinfect
- Hand-held devices for localized use:
  - Locker rooms
  - Fitness equipment
  - Crew shells
  - Pads/mats
- Mechanized equipment for large scale use:
  - FieldTurf disinfection after contamination (animal droppings, blood)

High throughput disinfectant applicators

Laundry issues:

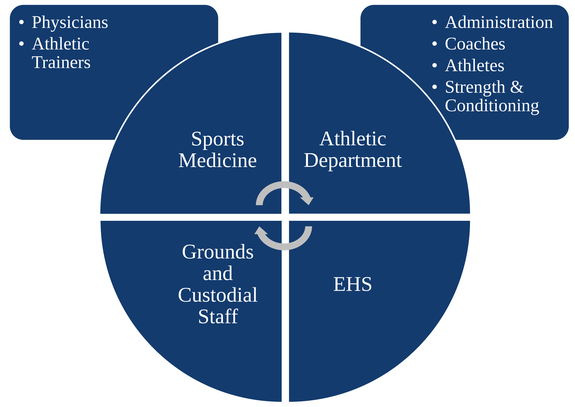
- Evaluated safety and efficacy of detergent
- Evaluated equipment locations
- Developed comprehensive laundry delivery system

Hygiene and housekeeping issues:

- Increased number of Purell stations in common use areas
- Developed informational and educational posters
- Promoted key concepts in personal hygiene and communicable disease awareness

RESULTS

Teamwork is necessary to facilitate risk identification and management. The development of SOPs to properly address these issues involved the close cooperation of these groups:



CONCLUSIONS

Proactive risk mitigation is a hallmark of biosafety. By promoting the applicability of biosafety concepts to the Department of Athletics, an Environmental Health and Safety group:

- strengthened partnerships among a diverse group on campus.
- created novel mechanisms for communicating risk.
- heightened awareness of a wide range of issues that can impact athletics.
- promoted a safety culture that leads to early identification of issues.
- evaluated new tools for use in infection control.

Biosafety professionals can have a greater impact on safety throughout all disciplines found on campus by fostering new relationships well beyond the walls of laboratories and clinics.

REFERENCES

Parsons J, editor. 2014-15 *NCAA Sports Medicine Handbook*. 25th edition. Indianapolis, IN: The National Collegiate Athletic Association, 2014.

Tharrett SJ, Peterson JA; American College of Sports Medicine. *ACSM's Health/Fitness Facility Standards and Guidelines*. 4th ed. Champaign (IL): Human Kinetics; 2012.

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