Emergency Readiness: The Emergency Action Plan and the Need for Continued Education

David C. Berry, PhD, MHA, AT, ATC, ATRIC

Professor and Professional Athletic Training Program Director

Saginaw Valley State University, MI

dcberry@svsu.edu

Jeffrey L. Pellegrino, PhD, MPH

Professor & Program Director, Foundational Education & Health Sciences

Aultman College of Nursing & Health Sciences, OH

Jeffrey.Pellegrino@aultmancollege.edu

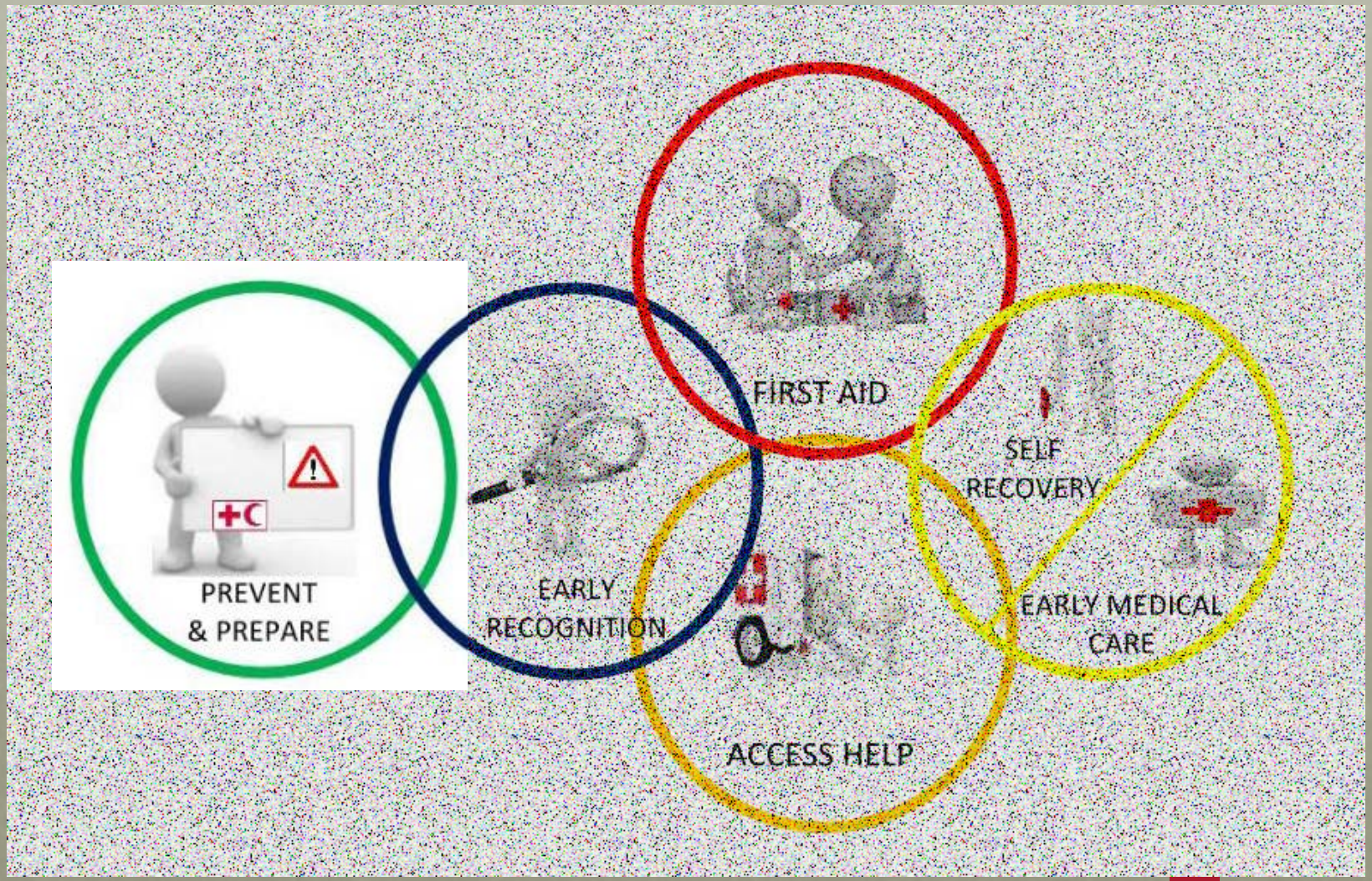
Conflicts of Interest

- FINANCIAL DISCLOSURE:
  - Berry, American Red Cross Travel Grant.
  - Pellegrino, American Red Cross Research Grant, unrestricted.
- UNLABELED/UNAPPROVED USES DISCLOSURE:
  - No relevant financial relationship (s) exist.
- AFFILIATIONS
  - American Red Cross Scientific Advisory Board
  - Berry, ILCOR First Aid Task Force Member
  - Pellegrino, ILCOR EIT Task Force Member
  - Pellegrino, American Heart Association First Aid Writing Chair
- Statements, opinions and recommendations contained in this program our ours unless otherwise indicated.
- Participants must use discretion and clinical reasoning when using the information contained in this presentation.

Context

- Where do you serve emergency needs?
- What numbers of people could be involved (range)?
- What is your level of confidence that your plan is (0-5):
  - Covers all threats?
  - Up to date?
  - Properly resourced?
- Who is responsibility for the EAP?

Chain of Survival Behaviors



Objective

- The purpose of this session is to assist first aid organizations with emergency planning that should be developed and implemented in multiple venues that host community events.
- The session will break down an emergency action into its central components:
  - Personnel
  - Procedures
  - Equipment

Emergency Planning

- Because emergencies, accidents, and even natural disasters are rarely predictable; having a rapid and controlled response will likely make the difference between an effective and an ineffective emergency response plan.

Andersen J, Courson RW, Kleiner DM, McLoda TA. National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. *J Athl Train*. 2002;37(1):99–104.

Emergency Planning

Emergency response plans are applicable to many governmental agencies (eg., law enforcement, fire and rescue, and federal management teams).

Andersen J, Courson RW, Kleiner DM, McLoda TA. National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. *J Athl Train*. 2002;37(1):99-104.

Emergency Planning

However, emergency response plans (i.e., emergency action plans [EAPs]) are also directly applicable to many other activities due to the inherent possibility of "**an untoward event**" that requires access to emergency medical services and first aid care.

Occupational teams

School response teams

Athletic teams

Recreational facilities

Andersen J, Courson RW, Kleiner DM, McLoda TA. National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. *J Athl Train*. 2002;37(1):99–104.

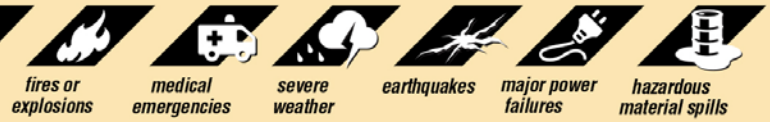
Emergency Planning

- EAPs provide organizations the structure to prevent, prepare, recognize and respond, and recover.
- Intervention strategies such as-
  - Early defibrillation in the event of SCA.
  - Assessment of core-body temperature and cold-water immersion in the event of exertional heat stroke.
  - Measurement of blood glucose during a diabetic emergency.
  - Management of participants during a lightening storm.

Emergency Preparedness in the Workplace

An emergency poses an immediate risk of significant harm to health, life, property or the environment. Preparing for emergencies is an important part of your workplace health and safety program and is a legal requirement throughout Canada.

Common types of emergencies



fires or explosions | medical emergencies | severe weather | earthquakes | major power failures | hazardous material spills

4 elements of an emergency management program

Prevention
Policies and procedures to minimize the occurrence of emergencies

Preparation
Activities and procedures to make sure your organization is ready to effectively respond

Response
The action to be taken when an emergency occurs

Recovery
Practices to resume to normal business operations

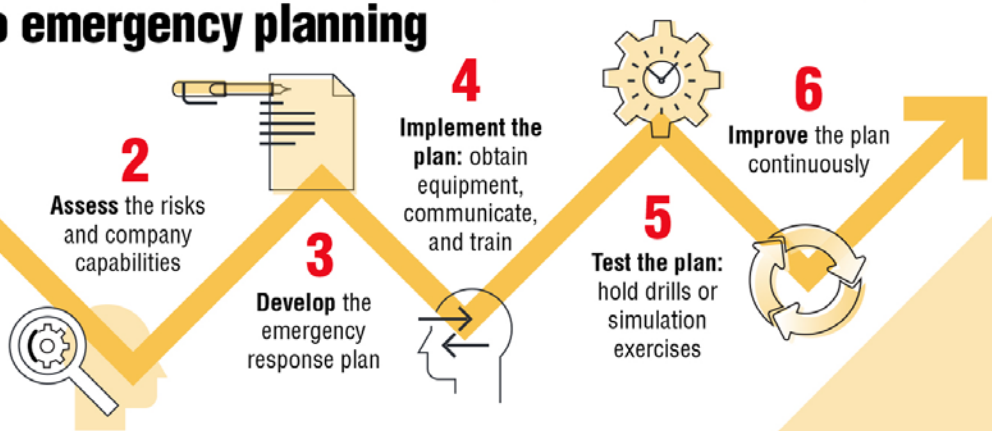
What's in a written emergency response plan?

- Scope and outline potential emergencies
- Alarms and other methods of initiating a response
- Site-specific response procedures
- Command structure, roles and responsibilities
- Shutting down of power
- Evacuation and assembly procedures
- Communication systems and protocols
- Emergency contact lists
- Resource lists

Why prepare for emergencies?

- Keep employees and responders free from harm
- Manage life-threatening situations
- Minimize damage to the environment, equipment, machinery, tools, etc.
- Minimize downtime

6 key steps to emergency planning



1. **Establish the planning team:** representatives from all departments and levels, with support from senior management, is most effective
2. **Assess** the risks and company capabilities
3. **Develop** the emergency response plan
4. **Implement the plan:** obtain equipment, communicate, and train
5. **Test the plan:** hold drills or simulation exercises
6. **Improve** the plan continuously

As a worker, it is important that you know how to

- Identify common types of emergencies
- Respond if you encounter a situation
- Respond when an emergency alarm is activated
- Ask your employer for more information and training

CCOHS.ca
Canadian Centre for Occupational Health and Safety

IOWA STATE UNIVERSITY
EMERGENCY RESPONSE GUIDE

FIRE

EVACUATE BUILDING

- Give directions to meet at designated evacuation location
- Pull fire alarm, if possible
- Call 911
- Shut off lights and close doors
- Use fire extinguisher, if possible
- Remain low if encountering smoke
- Use stairs, not elevators

SEVERE WEATHER

MOVE TO A SAFE LOCATION

- Give directions to meet at designated shelter area
- Shut off lights and close doors
- Look for severe weather shelter area signs in your building
- Go to shelter area/interior hallway or restroom and stay away from windows
- Remain in shelter until it's safe

URGENT SITUATION

CONTACT EMERGENCY SERVICES

- Call 911
- State who, what, where, when, why and how the situation occurred
  - *Medical emergency*
  - *Suspicious package*
  - *Suspicious activity*
  - *Suspicious person*
  - *Bomb threat*
- If bomb threat, turn off all electronics
- If medical situation, locate nearest Automated External Defibrillator (AED) and follow instructions

VIOLENT INCIDENT

AVOID | DENY | DEFEND

Avoid

- Pay attention to your surroundings
- Have an exit plan
- Quickly move away from the threat
- Put distance and barriers between you and the threat
- Warn others of the danger

Deny

- Keep distance between you and the threat
- Create barriers to prevent or slow down the threat
- Turn off the lights
- Hide quietly and silence your phone

Defend

- Be prepared to defend yourself
- Be aggressive and committed to your actions

Call 911 when you are in a safe area

When law enforcement arrives, **show your hands and follow commands**

EMERGENCY CONTACT INFORMATION

info.iastate.edu/emergency

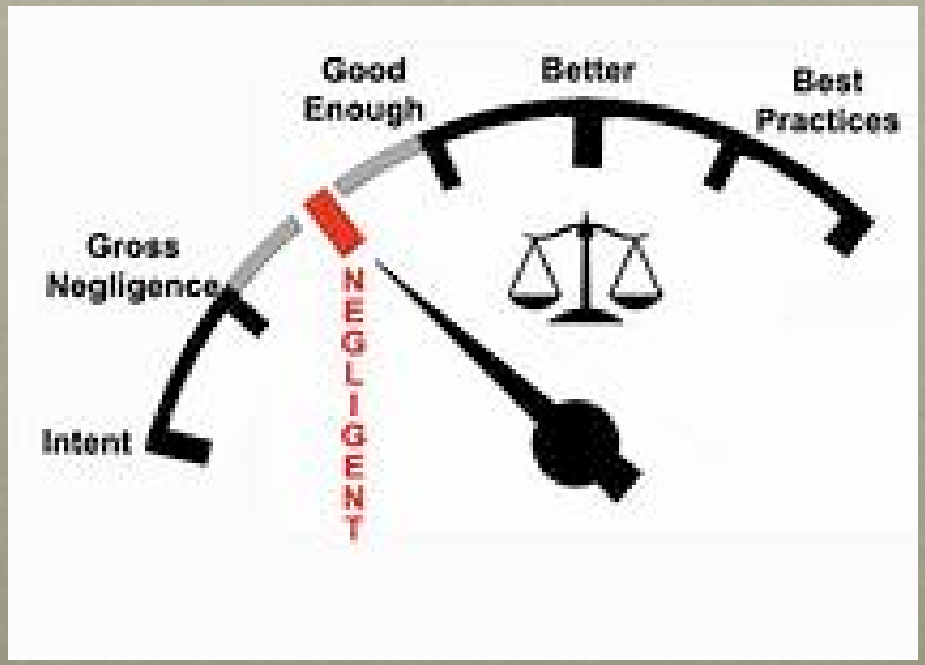
EMERGENCY	911	**ENVIRONMENTAL HEALTH AND SAFETY**	515-294-5359
ISU POLICE	515-294-4428	**MARY GREELEY MEDICAL CENTER**	515-239-2011
AMES POLICE	515-239-5133	**IOWA POISON CONTROL CENTER**	800-222-1222

www.ehs.iastate.edu/prep

1/1/17

Emergency Planning

However… failure to have an emergency plan (or teach about them) can be considered negligence (or lack of transfer of knowledge)



Shea JF. Duties of care owed to university athletes in light of Kleinecht. *J Coll Univ Law. 1995;21:591-614.*

Emergency Planning

A sound emergency plan should be easily understood and establishes accountability for the management of emergencies (of all types).

So… what are the key points to teach?

1. Every institution or organization (especially those at risk, ie., athletic activities organized or recreational) should have a written and structured Emergency Action Plan (EAP).
   - Should define the standard of care required during an emergency situation and should be approved by legal counsel.

So… what are the key points to teach?

2. The EAP should be developed and coordinated in consultation with local EMS personnel, governmental officials, school public safety officials, on-site emergency medical responders (e.g., certified athletic trainers, nurses), school administrators, board members, and legal counsel.

AULTMAN COLLEGE

SVSU SAGINAW VALLEY STATE UNIVERSITY

So… what are the key points to teach?

3. EAP should be specific to each individual venue and encompass-
   - Emergency communication (activation of 9-1-1).
   - Personnel involved in carrying out the care and associated training to provide said care.
   - Location of, access to, and appropriate training in the use of emergency equipment.
   - Transportation to appropriate emergency facilities
   - Notification of parents.

AULTMAN COLLEGE

Sample Venue-Specific Emergency Protocol

_____University Sports Medicine Football Emergency Protocol

1. Call 911 or other emergency number consistent with organizational policies
2. Instruct emergency medical services (EMS) personnel to "report to _____ and meet _____ at _____ as we have an injured student-athlete in need of emergency medical treatment."
   University Football Practice Complex: _____ Street entrance (gate across street from _____) *cross street:* _____ Street
   University Stadium: Gate _____ entrance off _____ Road
3. Provide necessary information to EMS personnel:
   - name, address, telephone number of caller
   - number of victims; condition of victims
   - first-aid treatment initiated
   - specific directions as needed to locate scene
   - other information as requested by dispatcher
4. Provide appropriate emergency care until arrival of EMS personnel: on arrival of EMS personnel, provide pertinent information (method of injury, vital signs, treatment rendered, medical history) and assist with emergency care as needed

Note:

- sports medicine staff member should accompany student-athlete to hospital
- notify other sports medicine staff immediately
- parents should be contacted by sports medicine staff
- inform coach(es) and administration
- obtain medical history and insurance information
- appropriate injury reports should be completed

Emergency Telephone Numbers

_____ Hospital	_____ - _____
_____ Emergency Department	_____ - _____
University Health Center	_____ - _____
Campus Police	_____ - _____

Emergency Signals

Physician: arm extended overhead with clenched first
Paramedics: point to location in end zone by home locker room and wave onto field
Spine board: arms held horizontally
Stretcher: supinated hands in front of body or waist level
Splints: hand to lower leg or thigh

So… what are the key points to teach?

4. The EAP should be reviewed and practiced at least annually with emergency or rapid response team and consulting physicians, governmental officials, coaches, school and institutional safety personnel, and administrators.

AULTMAN COLLEGE

SVSU SAGINAW VALLEY STATE UNIVERSITY

So… what are the key points to teach?

5. The EAP should incorporate the emergency care facilities to which the injured individual will be taken. Emergency receiving facilities should be notified in advance of scheduled events and contests. Personnel from the emergency receiving facilities should be included in the development of the emergency plan for the institution or organization.

So… what are the key points to teach?

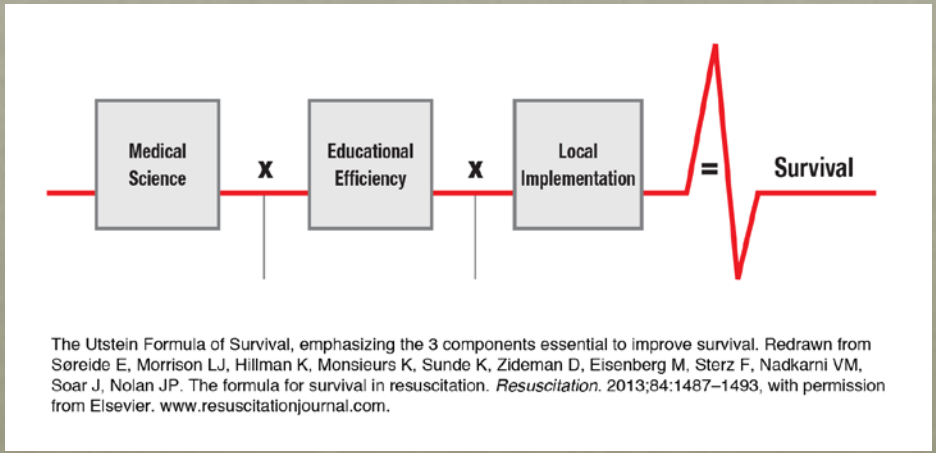
6. Targeted emergency medical responders or first aid providers should receive certified training in CPR and AED, and basic first aid.

AULTMAN COLLEGE

SU STATE UNIVERSITY

So… what are the key points to teach?

7. When planning for event, such as a SCA, access to early defibrillation is essential, and a target goal of less than 3-to-5 minutes from the time of collapse to the first shock is strongly recommended.



The Utstein Formula of Survival, emphasizing the 3 components essential to improve survival. Redrawn from Søreide E, Morrison LJ, Hillman K, Monsieurs K, Sunde K, Zideman D, Eisenberg M, Sterz F, Nadkarni VM, Soar J, Nolan JP. The formula for survival in resuscitation. *Resuscitation*. 2013;84:1487–1493, with permission from Elsevier. www.resuscitationjournal.com.

AULTMAN COLLEGE

SVSU SAGINAW VALLEY STATE UNIVERSITY

So… what are the key points to teach?

Time Sensitive Intervals During SCA

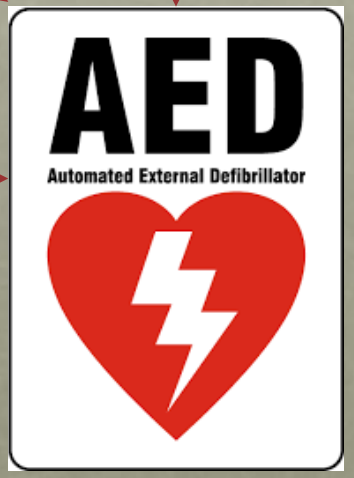
Events	Time Goal
Collapse to Activation of EMS	< 1 minute
Collapse to Initiation of CPR	< 1 minute
Collapse to Delivery of First AED shock	< 3 to 5 minutes
Collapse to Arrival of EMS Personnel	< 5 minutes*

*For most EMS systems, the interval between activating EMS-to-EMS arrival at the victim's side is usually **MORE** than **5 minutes** (mean 6.1 minutes) (Nichol et al).

In some areas, the interval from activating EMS-to-EMS arrival may be **7 to 8 minutes or longer** (Eisenberg et al; Mosesso et al).

So… what are the key points to teach?

Great Teaching Moment

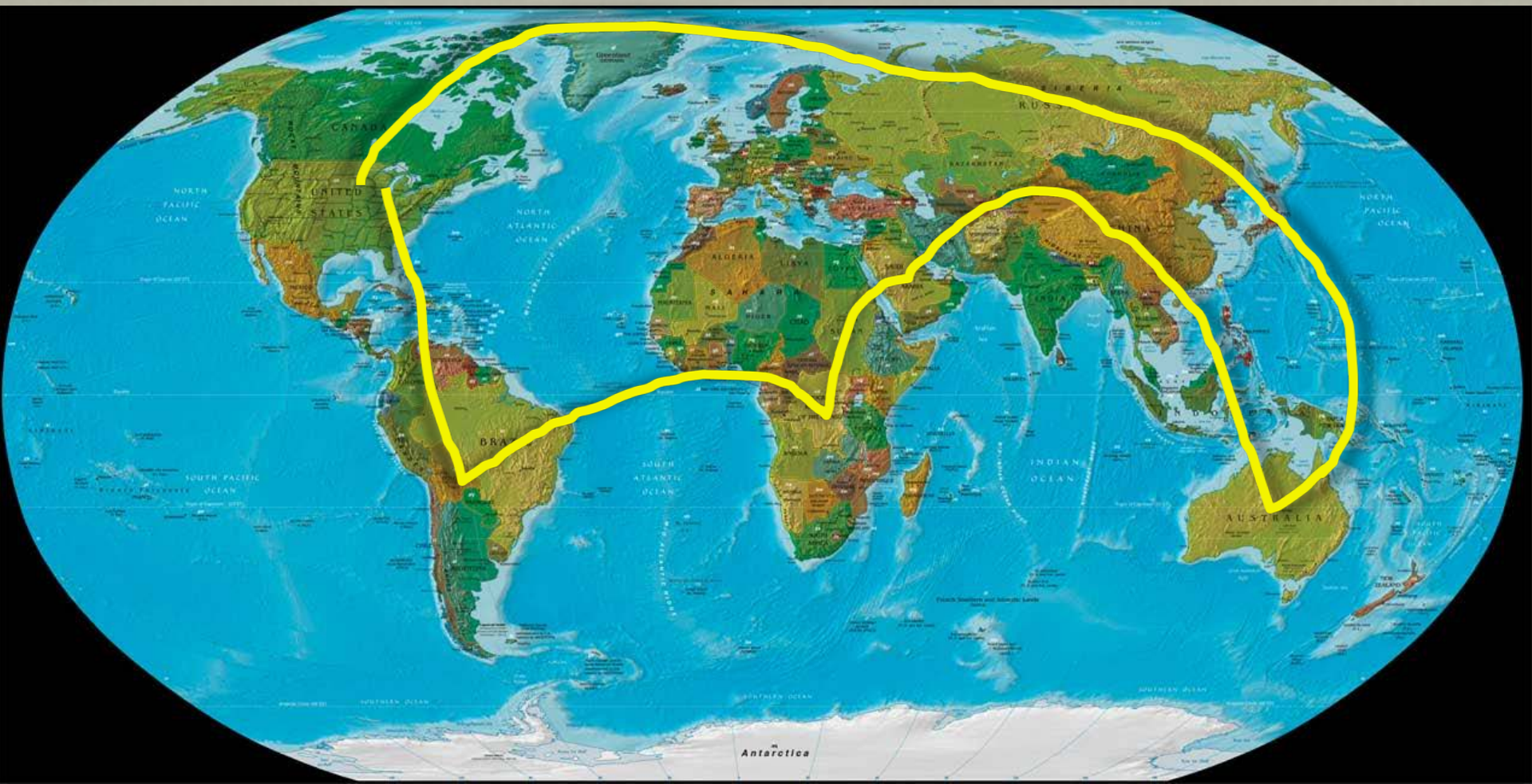


AULTMAN COLLEGE

SVSU SAGINAW VALLEY STATE UNIVERSITY

So… what are the key points to teach?

Great Teaching Moment



So… what are the key points to teach?

8. Review of equipment readiness by on-site event personnel for each athletic event is desirable.

So… what are the key points to teach?

9. The emergency plan should be reviewed and rehearsed annually, although more frequent review and rehearsal may be necessary.

10. The results of these reviews and rehearsals should be documented and should indicate whether the emergency plan was modified, with further documentation reflecting how the plan was changed.

Emergency Action Plan Checklist*

The following elements are recommended in the development of a comprehensive emergency action plan (EAP) for sudden cardiac arrest (SCA) in athletics. Actual requirements and implementation may vary depending on the location, school, or institution.

I. **Development of an Emergency Action Plan**

- ☐ Establish a written EAP for each individual athletic venue.
- ☐ Coordinate the EAP with the local EMS agency, campus public safety officials, on-site first responders, administrators, athletic trainers, school nurses, and team and consulting physicians.
- ☐ Integrate the EAP into the local EMS response.
- ☐ Determine the venue-specific access to early defibrillation (<3 to 5 minutes from collapse to first shock recommended).

II. **Emergency Communication**

- ☐ Establish an efficient communication system to activate EMS at each athletic venue.
- ☐ Establish a communication system to alert on-site responders to the emergency and its location.
- ☐ Post the EAP at every venue and near telephones, including the role of the first responder, a listing of emergency numbers, and street address and directions to guide the EMS personnel.

III. **Emergency Personnel**

- ☐ Designate an EAP coordinator.
- ☐ Identify who will be responsible and trained to respond to a SCA (likely first responders include athletic trainers, coaches, school nurses, and team physicians).
- ☐ Train targeted responders in CPR and AED use.
- ☐ Determine who is responsible for personnel training and establish a means of documentation.
- ☐ Identify the medical coordinator for on-site AED programs.

IV. **Emergency Equipment**

- ☐ Use on-site or centrally located AED(s) if the collapse-to-shock time interval for conventional EMS is estimated to be >5 minutes.
- ☐ Notify EMS dispatch centers and agencies of the specific type of AED and the exact location of the AED on school grounds.
- ☐ Acquire pocket mask or barrier-shield device for rescue breathing.
- ☐ Acquire AED supplies (scissors, razor, and towel), and consider an extra set of AED pads.
- ☐ Consider bag-valve masks, oxygen delivery systems, oral and nasopharyngeal airways, and advanced airways (eg, endotracheal tube, Combitube, or laryngeal mask airway).
- ☐ Consider emergency cardiac medications (eg, aspirin, nitroglycerin).
- ☐ Determine who is responsible for checking equipment readiness and how often and establish a means of documentation.

V. **Emergency Transportation**

- ☐ Determine transportation route for ambulances to enter and exit each venue.
- ☐ Facilitate access to SCA victim for arriving EMS personnel.
- ☐ Consider on-site ambulance coverage for high-risk events.
- ☐ Identify the receiving medical facility equipped in advanced cardiac care.
- ☐ Ensure that medical coverage is still provided at the athletic event if on-site medical staff accompany the athlete to the hospital.

VI. **Practice and Review of Emergency Action Plan**

- ☐ Rehearse the EAP at least annually with athletic trainers, athletic training students, team and consulting physicians, school nurses, coaches, campus public safety officials, and other targeted responders.
- ☐ Consider mock SCA scenarios.
- ☐ Establish an evaluation system for the EAP rehearsal, and modify the EAP if needed.

VII. **Postevent Catastrophic Incident Guidelines**

- ☐ Establish a contact list of individuals to be notified in case of a catastrophic event.
- ☐ Determine the procedures for release of information, aftercare services, and the postevent evaluation process.
- ☐ Identify local crisis services and counselors.
- ☐ Consider pre-established incident report forms to be completed by all responders and the method for system improvement.

---

*EMS indicates emergency medical services; CPR, cardiopulmonary resuscitation; and AED, automated external defibrillator.

Preparing a First Aid Kit

AULTMAN COLLEGE

SVSU SAGINAW VALLEY STATE UNIVERSITY

Preparing a First Aid Kit

A ***properly-stocked*** first aid kit is an ***essential piece of equipment*** for emergency response, whether at work, home, recreation or an athletic event.

American Red Cross. (n.d.). Make a First Aid Kit | Supplies & Contents | American Red Cross. Retrieved January 10, 2018, from http://www.redcross.org/get-help/how-to-prepare-for-emergencies/anatomy-of-a-first-aid-kit

Miller M, Berry DC. *Emergency Trauma Management for Athletic Trainers* (2nd ed). Baltimore, MD: Lippincott, Williams, and Wilkins; 2016.

National Football League. *Book 1: First aid.* Vol 2009. New York, NY: National Football League; 2003.

Preparing a First Aid Kit

People with first aid training are more likely to have a first aid kit (Arbon, Hayes, & Woodman, 2011) leaving training organizations with a responsibility to identify what first aid materials are most valuable.

Arbon J, Hayes J, Woodman R. First aid and harm minimization for victims of road trauma: a population study. *Prehosp Disaster Med*. 2011 Aug;26(4):276-82. doi: 10.1017/S1049023X11006522. Epub 2011 Oct 11.

Preparing a First Aid Kit

From a public health or occupational perspective, first aid kits that are accessible and properly stocked serve as resource for emergencies (Feickert, Verma, Plaschka, & Dev, 2006; Ferrer-Roca et al., 2002; Gunderson & Helikson, 2011).

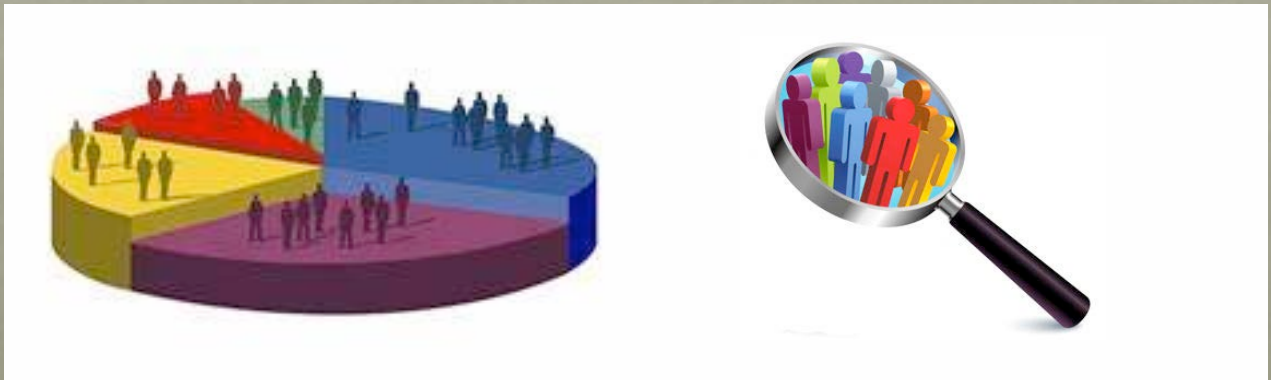
Feickert J, Verma R, Plaschka G, & Dev CS. Safeguarding your customers: the guest's view of hotel security. *Cornell Hotel and Restaurant Administration Quarterly*, 2006;47(3):224-244.

Ferrer-Roca O, et al. (2002). Aviation medicine: Challenges for telemedicine. *Journal of Telemedicine and Telecare*. https://doi.org/10.1258/135763302193735

Gunderson S, Helikson C. Workplace First-Aid Kits. Prof Saf 2011;56:42–48.

So… what should be in a first aid kit?

As first aid emergencies differ based on context or a particular environment, recommending items to be placed in a first aid kit should be based on epidemiological evidence, but it must also be modifiable based on its intended use.



So… what do we know?

Major Disease Category % distribution	2006	2007
Unintentional injuries and poisonings	64.6	66.2
Intentional injury or poisonings[1]	2.6	4.2
Injury or poisoning of undetermined intent[2]	17.2	20.6

Percent Distribution of Outpatient Department Visits, by Major Disease Categories

Hing E, Hall MJ, Xu J. National Hospital Ambulatory Medical Care Survey: 2006 outpatient department summary. *Natl Health Stat Report*. 2008;(4):1-31.

Hing E, Hall MJ, Ashman JJ, Xu J. National Hospital Medical Care Survey: 2007 outpatient department summary. *Natl Health Stat Report*. 2010;23;(28):1-32.

So… what do we know?

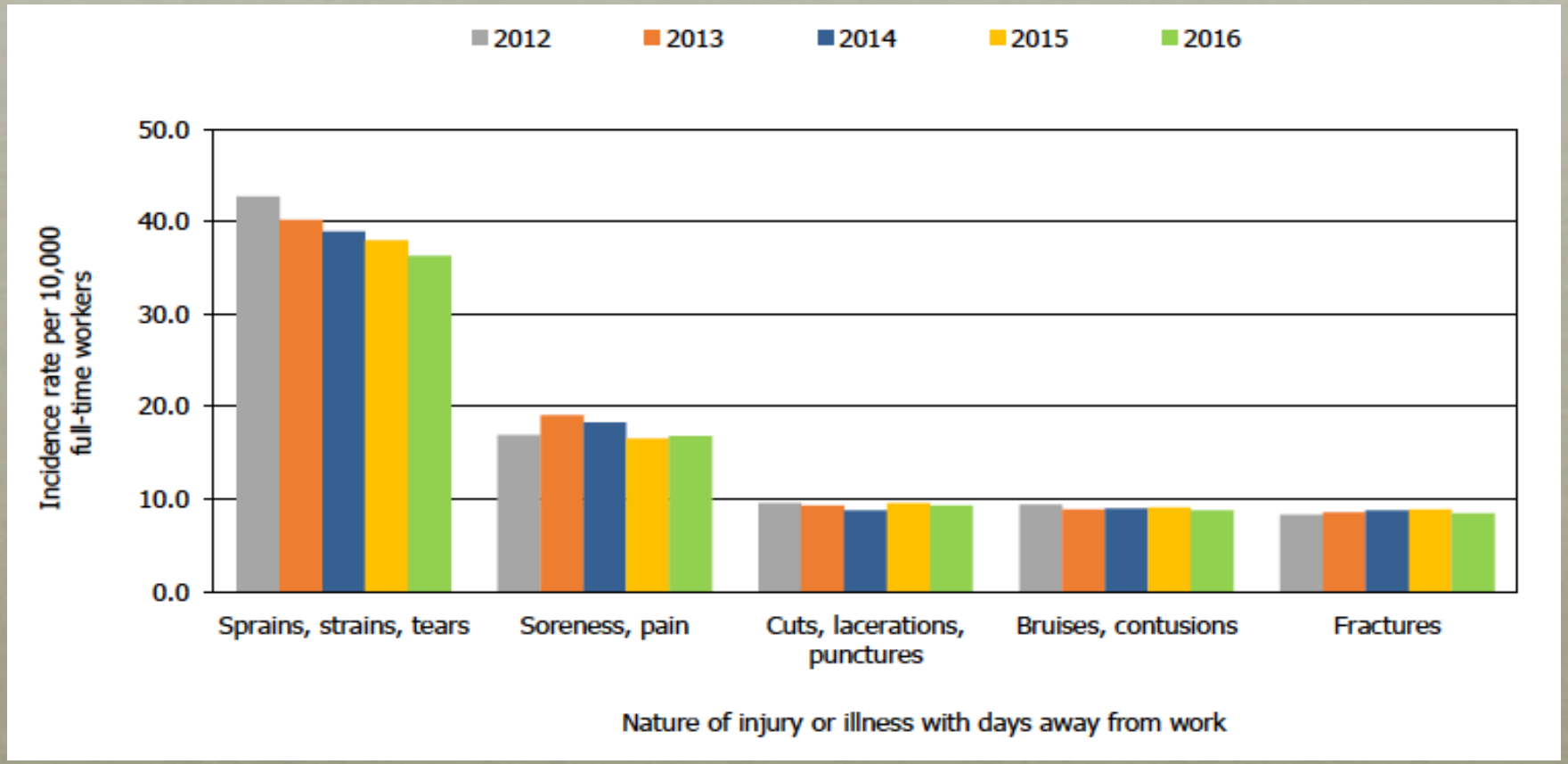
The following fall under the major disease category of Injuries and Poisonings

- Fractures, Sprains and Strains, Contusion with intact skin surface
- Intracranial injury
- Open wounds, Superficial injury Foreign body
- Burns
- Trauma complications and unspecified injuries
- Poisoning and toxic effects
- Surgical and medical complications
- Other injuries

So… what do we know?

- According to WISQARS, the leading cause of nonfatal injury, 2010-2015 across all ages except for 15-24 year olds was unintentional falls (all ages, Unintentional Fall, n=54,682,591).
- Second leading cause of nonfatal injury, 2010-2015 for all ages was Unintentional Struck by/Against, (n=26,096,163)
- In fact, the top five leading causes of nonfatal injury, 2010-2015 for all ages were:
  - **Unintentional Fall, n=54,682,591**
  - **Unintentional Struck by/ Against, n=26,096,163**
  - **Unintentional Overexertion, n=19,766,226**
  - **Unintentional MV-Occupant, n=15,514,650**
  - **Unintentional Cut/Pierce, n=12,533,491**

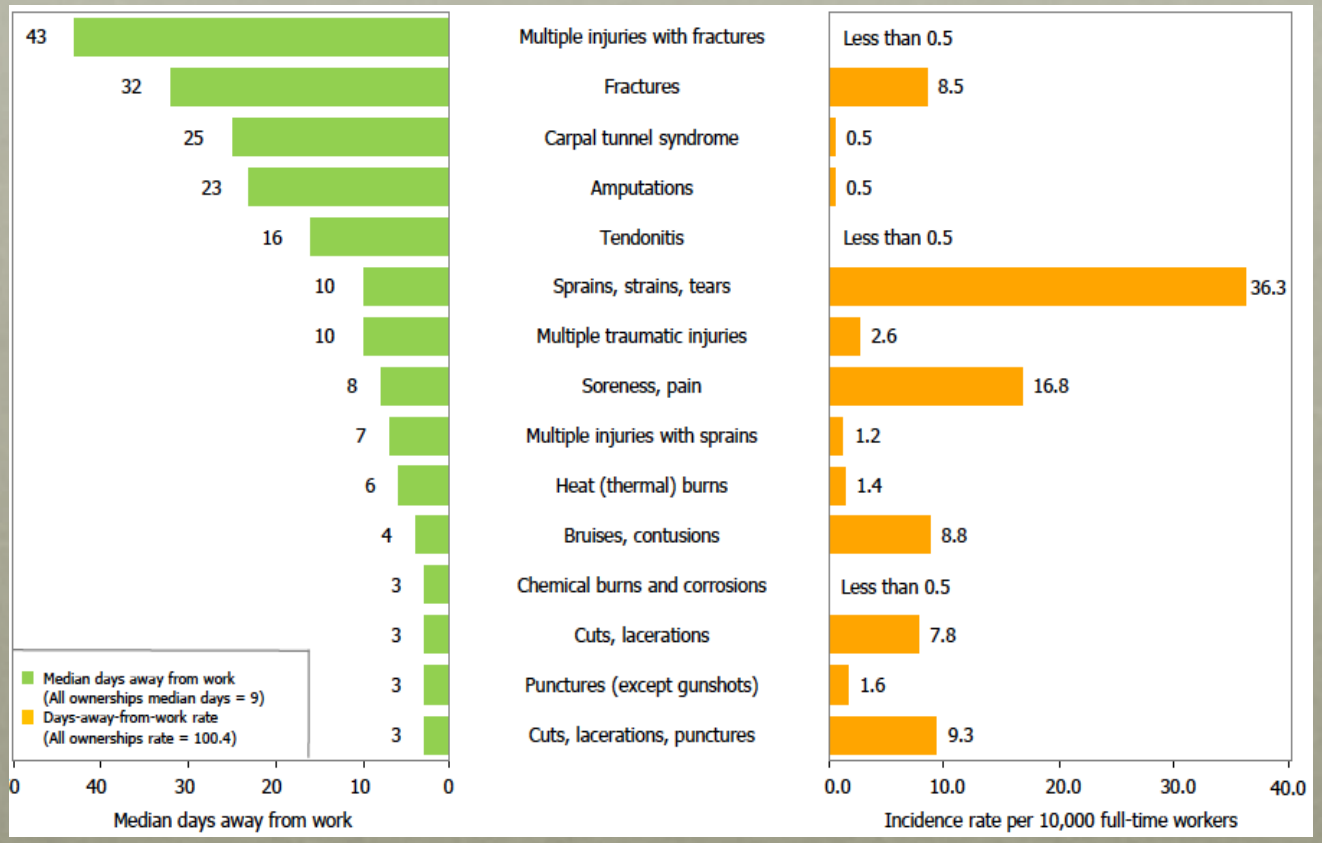
So… what do we know?



Nonfatal occupational injury and illness incidence rates for cases with days away from work by selected nature of injury or illness, all ownerships, United States, 2012-16.

United States Department of Labor. 2016 Survey ofOccupational Injuries & Illnesses Charts Package (2017a) Bureau of Labor Statistics. Available: https://www.bls.gov/iif/osch0060.pdf Retrieved December 28, 2017.

So… what do we know?



Median days away from work and incidence rates of nonfatal occupational injuries and illnesses by nature, all ownerships, United States, 2016.

United States Department of Labor. 2016 Survey ofOccupational Injuries & Illnesses Charts Package (2017a) Bureau of Labor Statistics. Available: https://www.bls.gov/iif/osch0060.pdf Retrieved December 28, 2017.

So… what do we know?

Injury and Illnesses	2007 %	2008%	2009 %
Sprains and strains	38.7	38.6	39.8
All other	17	16.6	16.9
Cuts, lacerations, punctures	9.2	9.3	7.9
Bruises, contusions	8.7	8.7	9.1
Fractures	8.2	8.3	7.3
Soreness, pain	10	10.6	7.8
Multiple traumatic injuries	4	4.1	4.2

Distribution of Injuries And Illnesses

Bureau of Labor Statistics. (2008). 2007 Nonfatal Occupational Injuries and Illnesses Case and Demographics. Available at: https://www.bls.gov/iif/oshwc/osh/case/osch0038.pdf Accessed January 19, 2018

Bureau of Labor Statistics. (2009). 2008 Nonfatal Occupational Injuries and Illnesses, Private Industry. Available at: https://www.bls.gov/iif/oshwc/osh/case/osch0040.pdf Accessed January 19, 2018

Bureau of Labor Statistics. (2010). 2009 Nonfatal Occupational Injuries and Illnesses: Private Industry, State Government, and Local Government. Available at: https://www.bls.gov/iif/oshwc/osh/case/osch0043.pdf Accessed January 19, 2018

So… what do we know?

Many first aid kits are designed to handle minor medical emergencies such as contusions, minor open wounds, minor musculoskeletal injuries (sprains and strains), and sudden illnesses (ARC, 2017; Setness & Beusekom, 2006).

American Red Cross. (2017). *Emergency Response*. Yardley, PA: Staywell.

Setness P, Van Beusekom M. Patient notes: putting together a home first-aid kit. *Postgraduate Medicine*. 2006;119(2):100.

So… what do we know?

However, lessons learned from active shooter, terrorism, and mass casualty incidents have demonstrated that bystanders with little to no medical training will act as civilian first responders and provide first aid before the arrival of emergency medical services (EMS) (Butler 2015; Ahern, DiNoto, Maloney, Mynatt, Peerbolte, & Snider, N.D.).

Butler FK. Military history of increasing survival: the U.S. military experience with tourniquets and hemostatic dressings in the Afghanistan and Iraq conflicts. *J Spec Oper Med*. 2015;15(4):149–152.

Ahern S, DiNoto E, Maloney S, Mynatt J, Peerbolte S, Snider J. Public access bleeding control: an implementation strategy. National Preparedness Leadership Initiative (NPLI Cohort XIII). https://cdn2.sph.harvard.edu/wp-content/uploads/sites/8/2015/10/Team-You-Can-Act-Team-Report.pdf.

So… what do we know?

The Stop the Bleed Campaign's motto is,

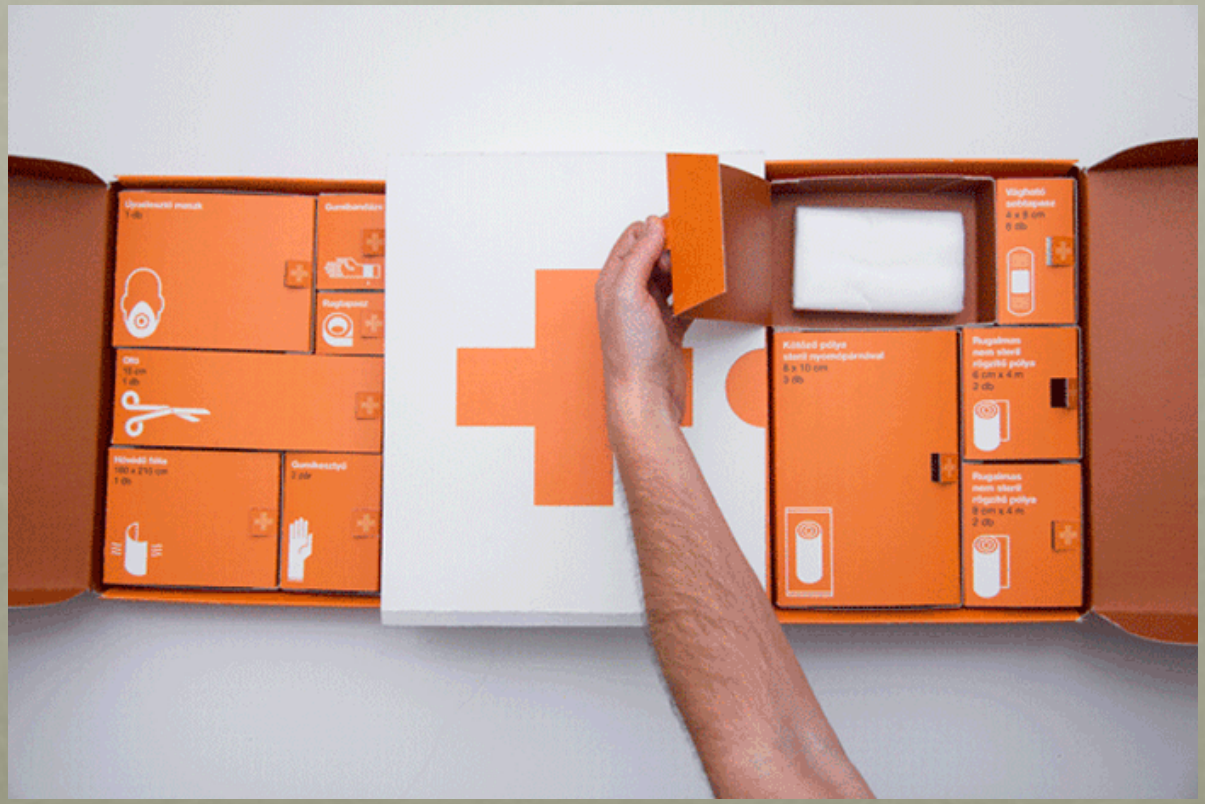
"If you see something, do something"

American College of Surgeon. (2015). The Hartford Consensus III: Implementation of Bleeding Control. Available: http://bulletin.facs.org/2015/07/the-hartford-consensus-iii-implementation-of-bleeding-control/#.WlpjCZM-e34Retrieved December 28, 2017.

Hartford Consensus. Strategies to enhance survival in active shooter and intentional mass casualty events: a compendium. *American College of Surgeons Bulletin*. 2015;100(1S). https://http://www.facs.org/~/media/files/publications/bulletin/hartford%20consensus%20compendium.ashx.

Being Prepared

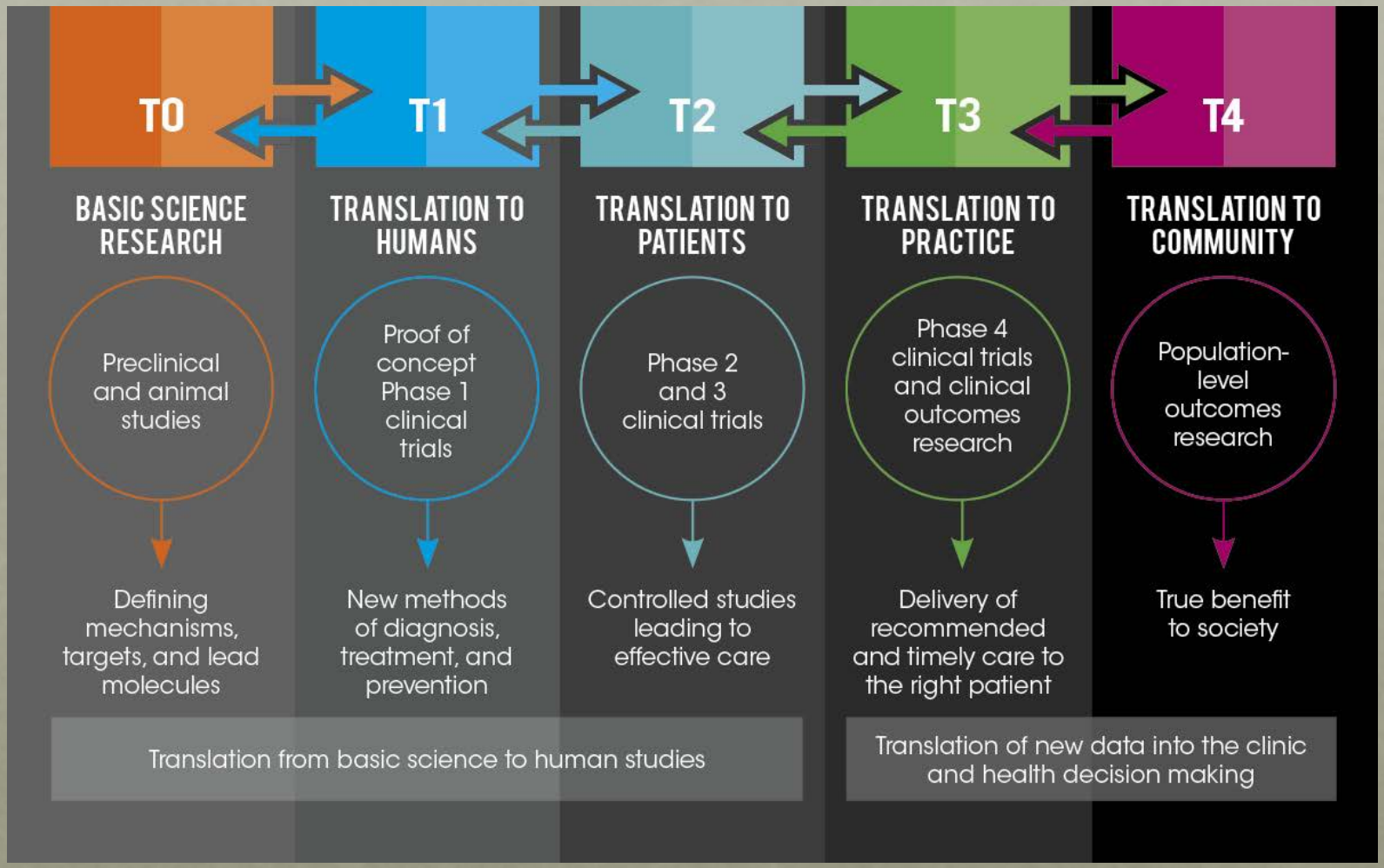
Designing a First Aid Kit



AULTMAN COLLEGE

SVSU SAGINAW VALLEY STATE UNIVERSITY

Translational Science



AULTMAN COLLEGE

SVSU SAGINAW VALLEY STATE UNIVERSITY

QUESTIONS??????

SAGINAW VALLEY STATE UNIVERSITY

Thank you!!!

For more information- please contact

- David Berry, PhD, AT, ATC

dcberry@svsu.edu

989-964-4504 (O)

- Jeffrey Pellegrino, Ph.D.

Jeffrey.Pellegrino@aultmancollege.edu

330-363-1317

AULTMAN COLLEGE

SVSU SAGINAW VALLEY STATE UNIVERSITY

1. Arnheim DD, Prentice WE. *Principles of Athletic Training. 9th ed. Madison,* WI: WCB/McGraw-Hill Inc; 1997.

2. Dolan MG. Emergency care: planning for the worst. *Athl Ther Today.* 1998;3(1):12-13.

3. Kleiner DM, Glickman SE. Considerations for the athletic trainer in planning medical coverage for short distance road races. *J Athl Train. 1994;*29:145-151.

4. Nowlan WP, Davis GA, McDonald B. Preparing for sudden emergencies. *Athl Ther Today. 1996;1(1):45-47.*

5. Casa DJ, Guskiewicz KM, Anderson SA, Courson RW, Heck JF, Jimenez CC, et al. National Athletic Trainers' Association position statement: preventing sudden death in sports. *J Athl Train.* 2012:47(1):96-118.

6. Maron BJ, Doerer JJ, Haas TS, Tierney DM, Mueller FO. Sudden deaths in young competitive athletes: Analysis of 1866 deaths in the United States, 1980-2006. *Circulation.* 2009;119(8):1085-1092.

7. Monore A, Rosenbaum DA, Davis, S. Emergency planning for sudden cardiac events in North Carolina high schools. *C Med J.* 2009;70(3):198-2004.

8. Thomas M, Haas TS, Doerer JJ, Hodges JS, Aicher BO, Garberich RF, et al. Epidemiology of sudden death in young, competitive athletes due to blunt trauma. *Pediatrics.* 2011;128(1):e1-8. Epub 2011.

9. Andersen J, Courson RW, Kleiner DM, McLoda TA. National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. *J Athl Train*. 2002;37(1):99-104.

10. Shea JF. Duties of care owed to university athletes in light of Kleinecht. *J Coll Univ Law. 1995;21:591-614.*

References

10. Drezner JA, Courson RW, Roberts WO, Mosesso VN Jr, Link MS, Maron BJ. Inter-Association Task Force Recommendations on Emergency Preparedness and Management of Sudden Cardiac Arrest in High School and College Athletic Programs: A Consensus Statement. *J Athl Train.* 2007;42(1):143–158.

11. Nichol G, Stiell IG, Laupacis A, Pham B, De Maio VJ, Wells GA. A cumulative meta-analysis of the effectiveness of defibrillator-capable emergency medical services for victims of out-of-hospital cardiac arrest. *Ann Emerg Med.* 1999;34(4 Pt 1):517–525.

12. Mosesso VN Jr, Davis EA, Auble TE, Paris PM, Yealy DM. Use of automated external defibrillators by police officers for treatment of out-of-hospital cardiac arrest. *Ann Emerg Med.* 1998;32:200–207.

13. Eisenberg MS, Horwood BT, Cummins RO, Reynolds-Haertle R, Hearne TR. Cardiac arrest and resuscitation: a tale of 29 cities. *Ann Emerg Med.* 1990;19:179–186.

14. Gunderson S, Helikson C. Workplace First-Aid Kits. Prof Saf 2011;56:42–48.