



Welcome to the
41st ANNUAL
UMASS COMMUNITY TREE
CONFERENCE

*Challenges and Opportunities for
2020: What's New in Arboriculture
& Urban Forestry?*

Help prevent the spread of respiratory diseases.

- **Avoid shaking hands.**
- **Wash your hands** with soap & water for at least 20 seconds.
- **Use hand sanitizer** (out in the lobby).
- **Avoid touching eyes, nose & mouth.**
- **Cover coughs & sneezes** with a tissue.
- **Practice social distancing** – 4-6' from others.

Congratulations
Scholarship Recipients!

Thank You Mass.
Arborists, Mass. Tree
Wardens, New England
ISA, and Southeastern
Mass. Tree Wardens!

Mass. Arborists Assoc. (Trumbull Barrett, President)

- Prof. Gordon King: **Morgan Parent, Samuel St. George**

Mass. Tree Wardens & Foresters Assoc. (Paul Sellers,
President)

- Prof. Gordon King: **Chadd Morin**
- Dr. Malcolm McKenzie: **A. J. Elton**
- Fred C. Burk: **Ryan Suttle**
- Seth Swift: **Myles Barnes**

MAA/MATWFA

- Dennis Ryan Outstanding Arboriculture Student: **Cory Rebello**

NEC-ISA

- **Ryan Fawcett, Cory Rebello**



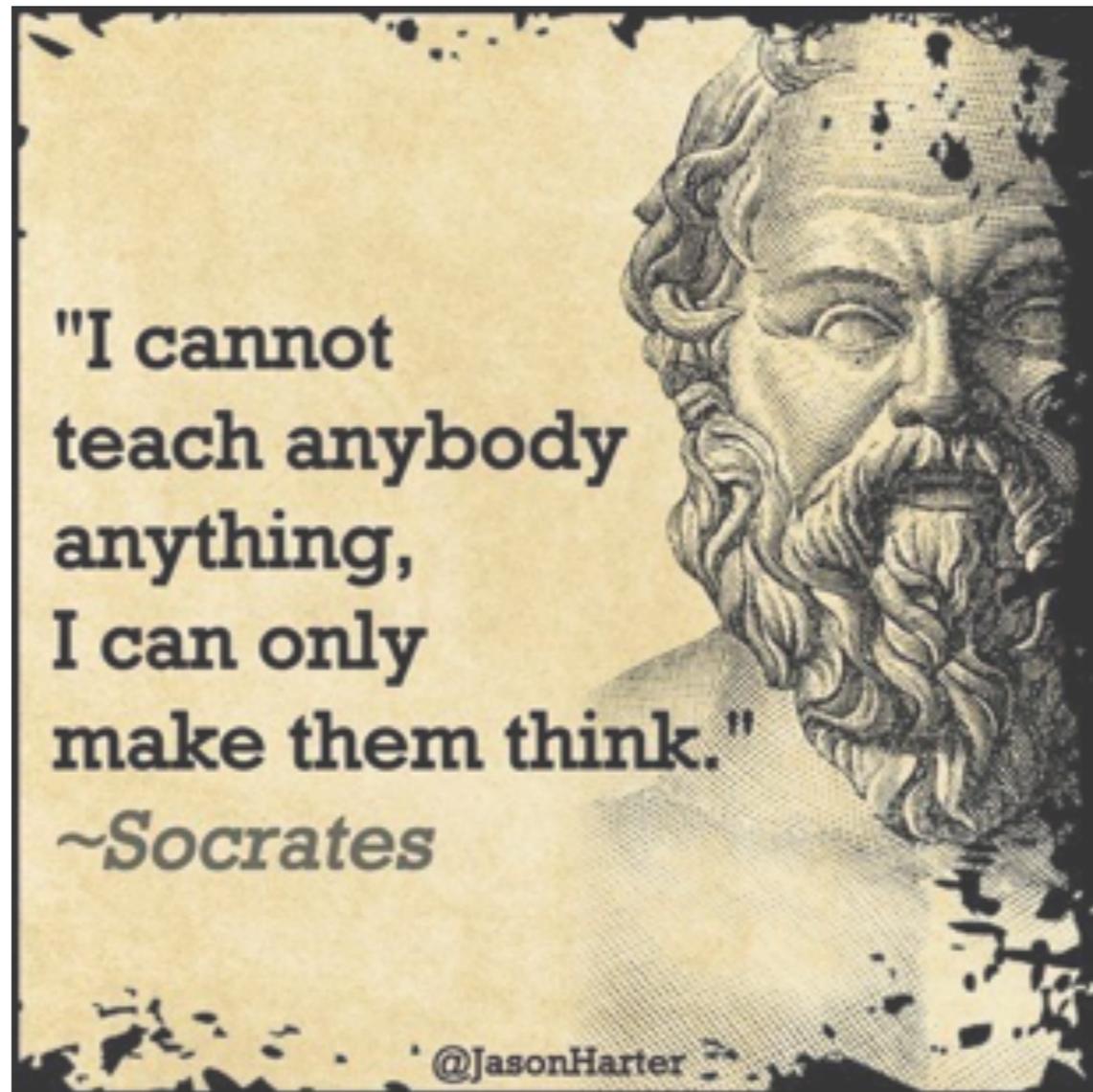
UNDERSTANDING SAFETY AND ANSI Z133

Ed Carpenter



NORTH AMERICAN
TRAINING SOLUTIONS

Disclaimer



The information in this presentation are the ideas and beliefs of the presenters, and are NOT intended to be and should NOT be mistaken as a substitute for professional training, education, or legal advise.

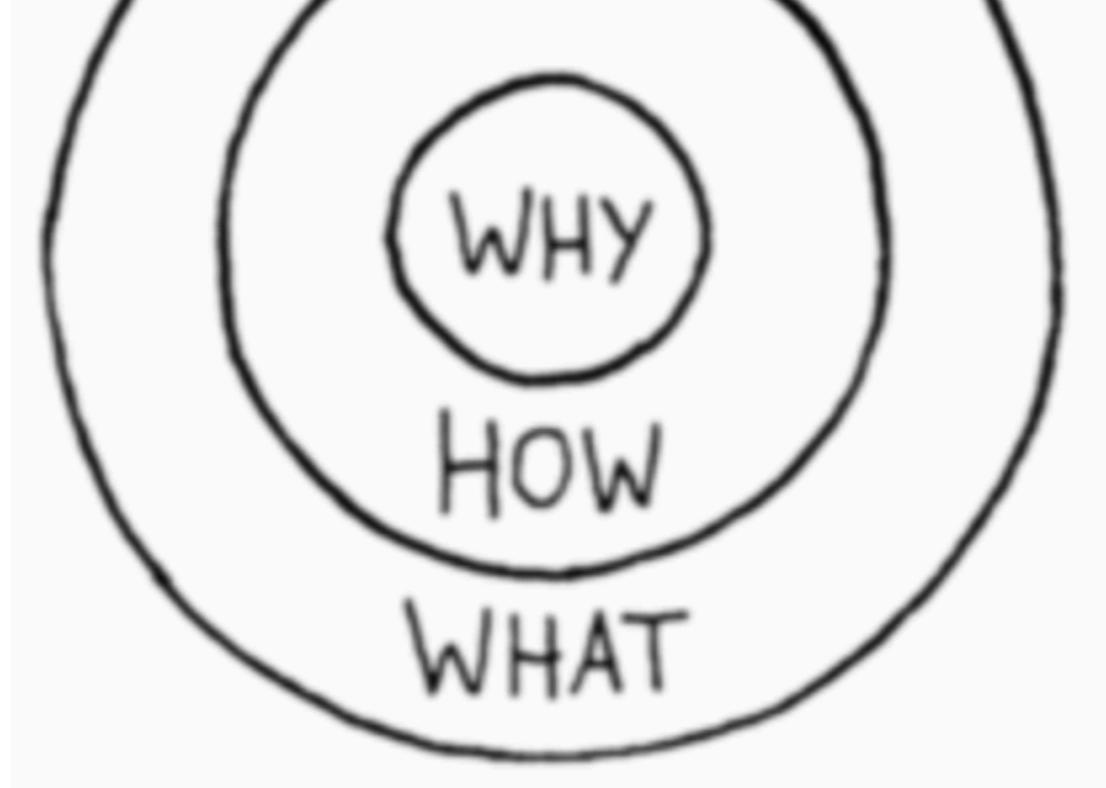
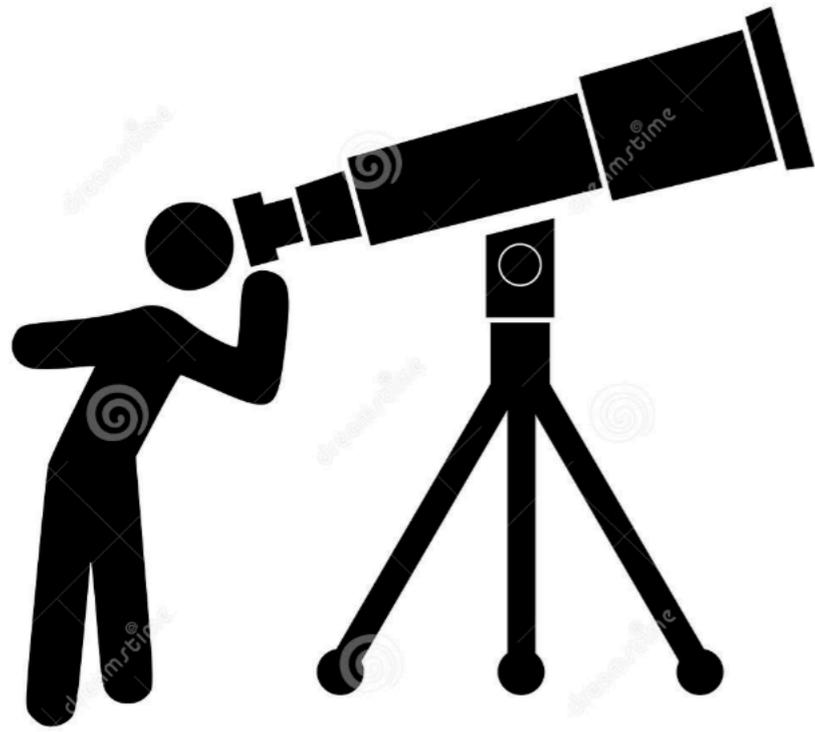


**NORTH AMERICAN
TRAINING SOLUTIONS**

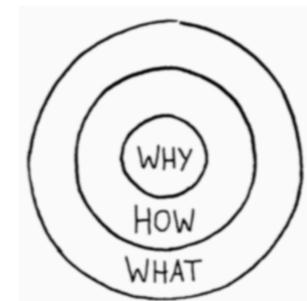
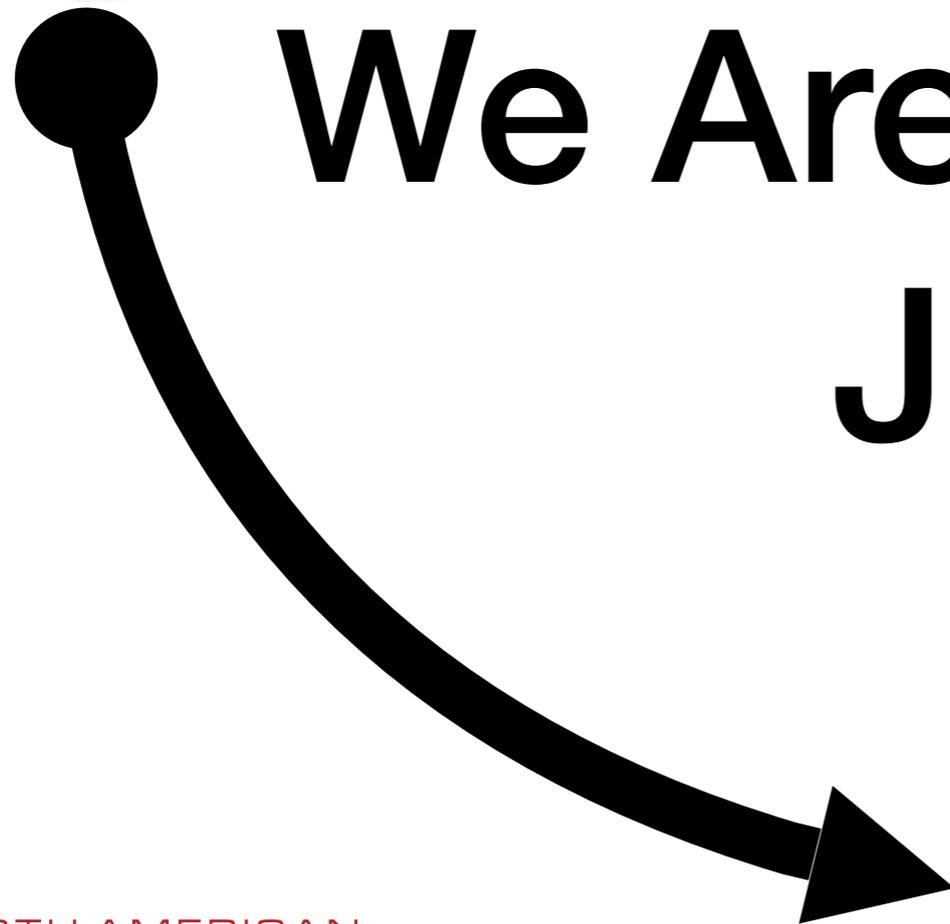
**IF YOU ARE GOING TO
USE THE CONTENTS OF
THIS PRESENTATION
PLEASE PROVIDE
CREDIT ©**

An Arborist According to Alex Shigo



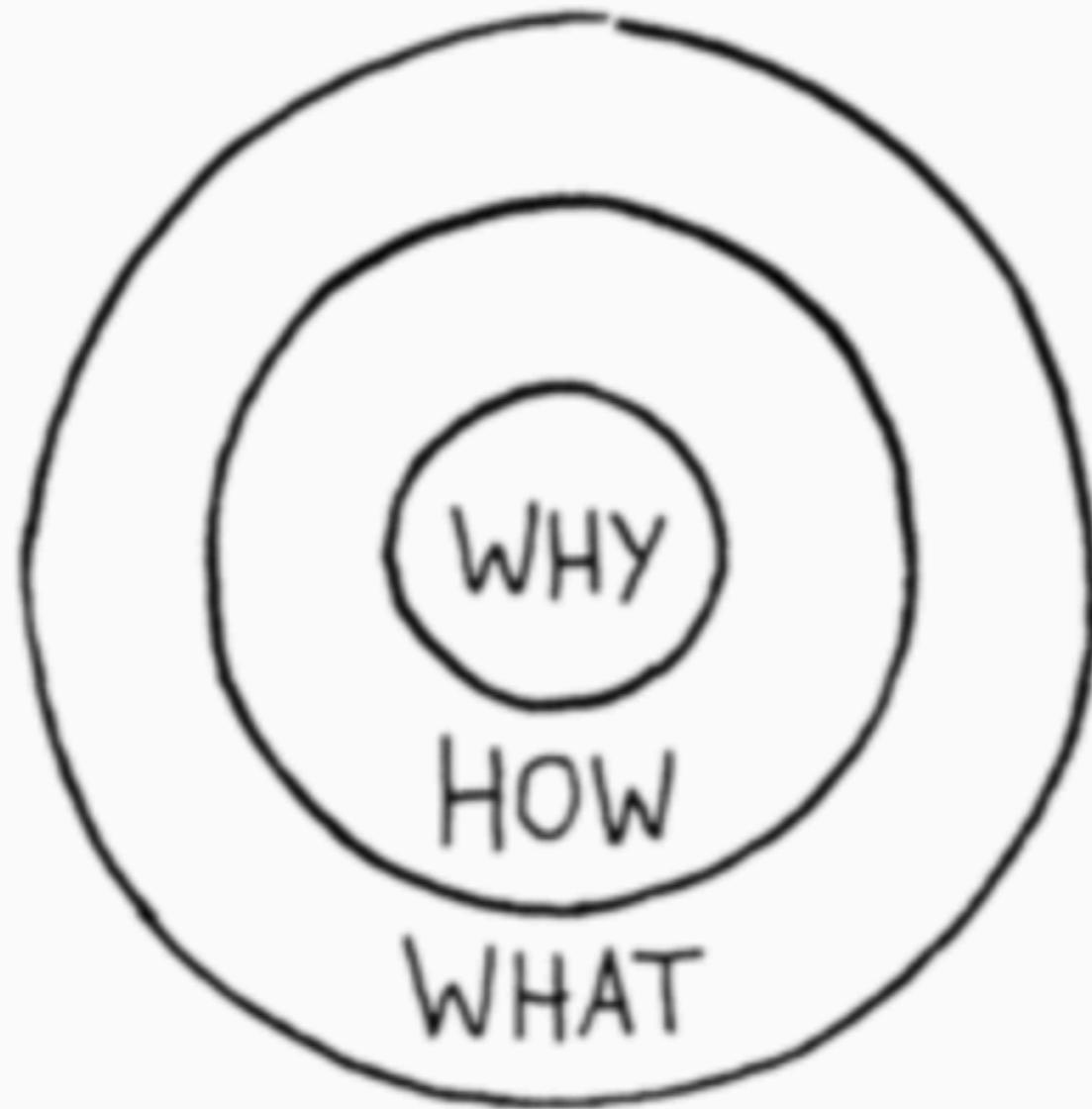


We Are Going On A Journey



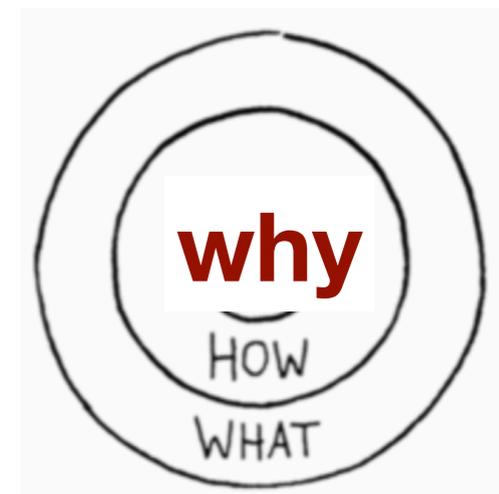
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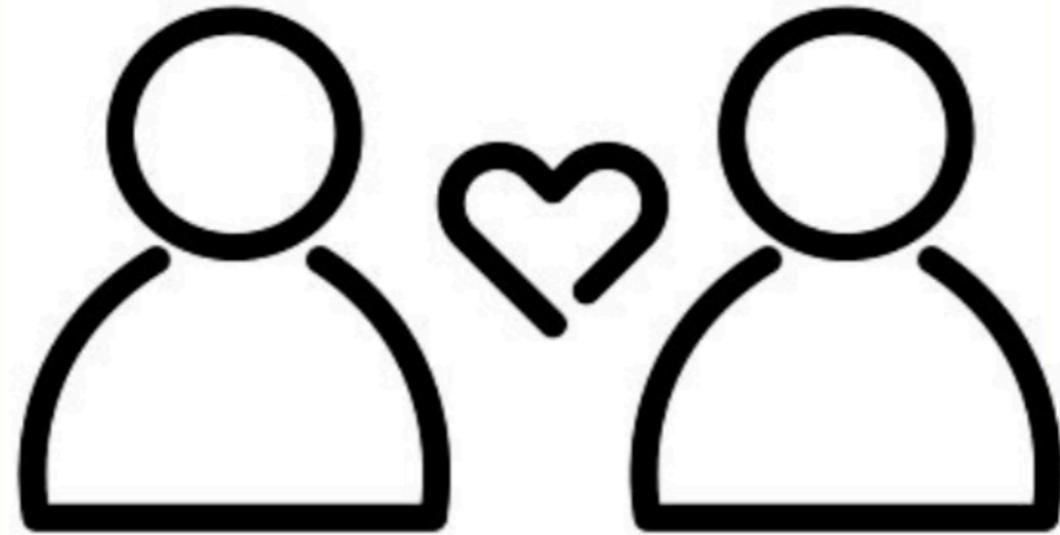
The Golden Circle



Simon Sinek Start with “Why”

FINDING OUR WHY

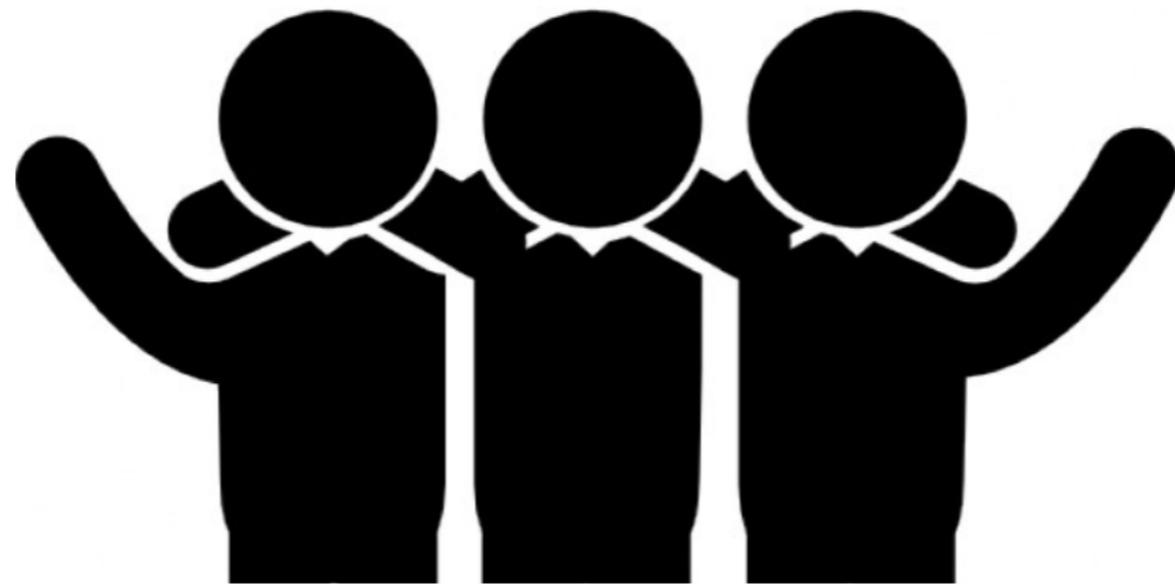




Find a Partner: For 1 minuet
discuss with your partner the
following

WHY DOES ANSI Z1333 EVEN EXIST?

GROUP SHARE



WHO WE ARE



In everything we do, we believe in challenging the status quo by thinking outside the box. We do this through purposeful design of training and education that is fun, engaging, and inspiring. We invite you to join us for an experience that inspires positivity, builds morale, and provides the skills necessary for your team to work



We believe in inspiring and empowering individuals with the resources needed to safely perform their jobs so at the end of the day, **EVERYONE** returns home safely to their friends and family.



(ANSI) American National Standards Institute

Z133 Safety Requirements for Arboricultural Operations

The ANSI Z133 Accredited Standards Committee was organized on **April 4th 1968** in response to efforts by Mrs. Ethel Bugg of Johnstown, New York. **Mrs. Hugg's son died while trimming trees, and this tragic incident** caused her to write to federal and state authorities and to various other organizations in an attempt to have measures that would make tree trimming safer

WHAT ARE LAGGING INDICATORS?

LAGGING INDICATORS = Accidents



TCIA Accident Briefs Summary ²⁰¹⁷

78.5%*

of all incidents where a company was identified were **not** TCIA members.

43

average age of the victim's experiencing the accidents.

April

most dangerous month by incident occurrence (15 reported incidents)

December

safest month by incident occurrence (6 reported incidents)



**There was a successful rescue with no reported injury

What Happened?

The incidents that have occurred with as much specificity as we can provide from the media accounts. Incidents are broken down in the broad categories of contact, exposure, fall, transportation and workplace violence.

Contact

Caught in/under - 10

- Brush chipper - 2
- Palm fronds - 2
- Ropes/rigging - 2
- Firewood processor - 1
- Tree - 1
- Crane cab (tip-over) - 1
- Unknown - 1

Struck by/against - 43

- Tree (felling) - 18
- Tree section - 18
- Chain saw - 4
- Spring pole - 1
- Equipment - 1
- Log - 1

Fall

Tree -22

- Tree/tie-in point failure - 4
- Equipment failure - 3
- Unsecured - 2
- Cut climbing line - 1
- Unknown - 12

Aerial lift - 12

Height, unspecified - 5

Ladder - 2

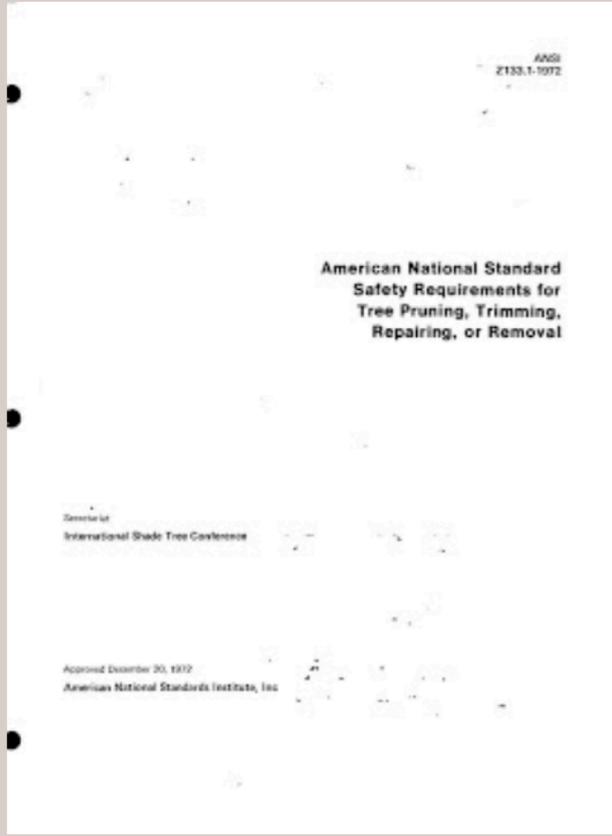
Work vehicle - 1

Exposure

Electric shock/burn - 22

- Indirect contact - 12
- Conductive tools - 11
- Tree limb - 1
- Direct contact - 3
- Unknown - 4

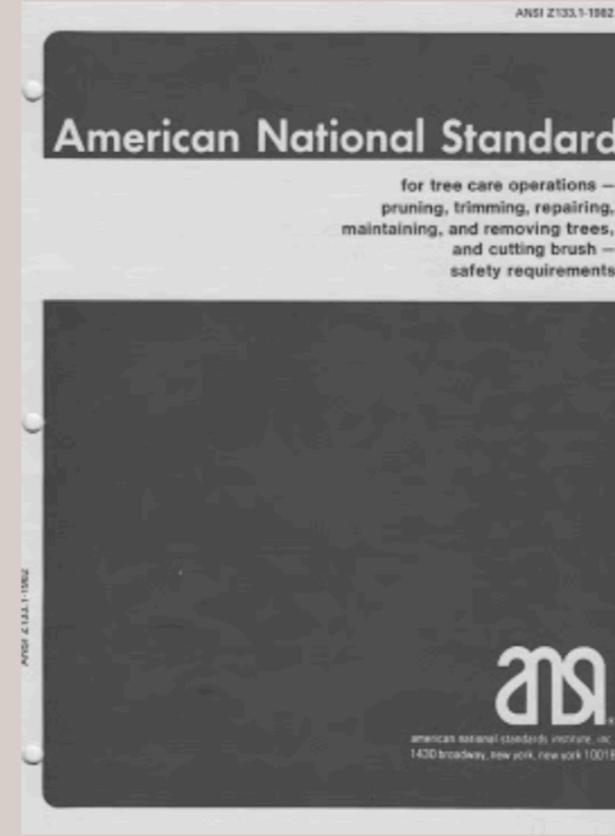
Insect bite/sting - 3



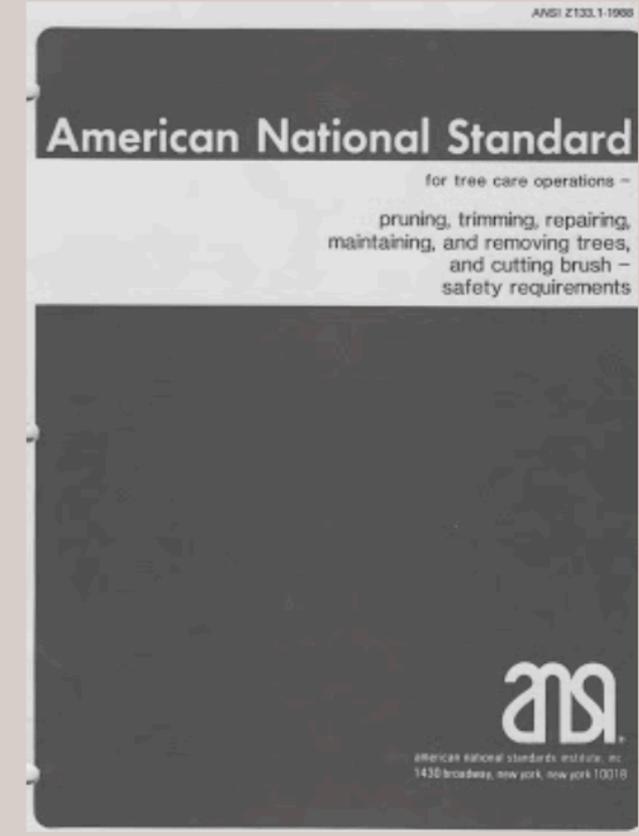
1972



1979



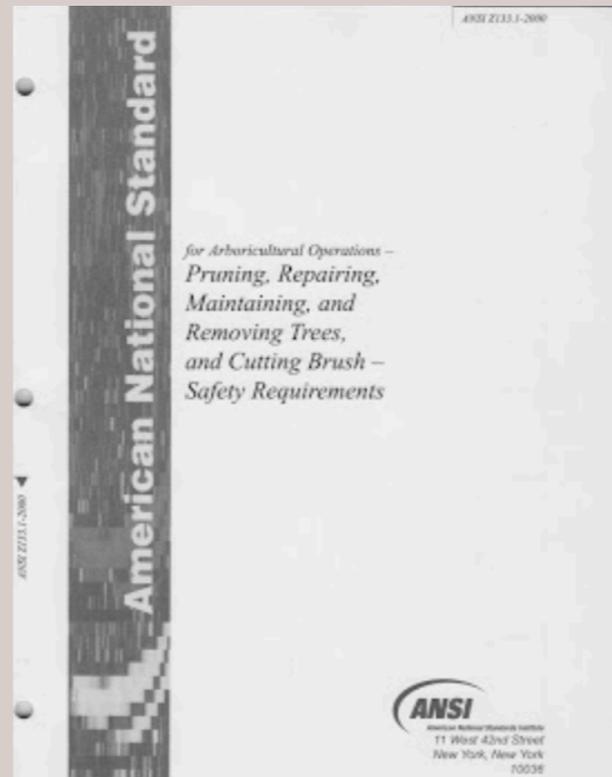
1982



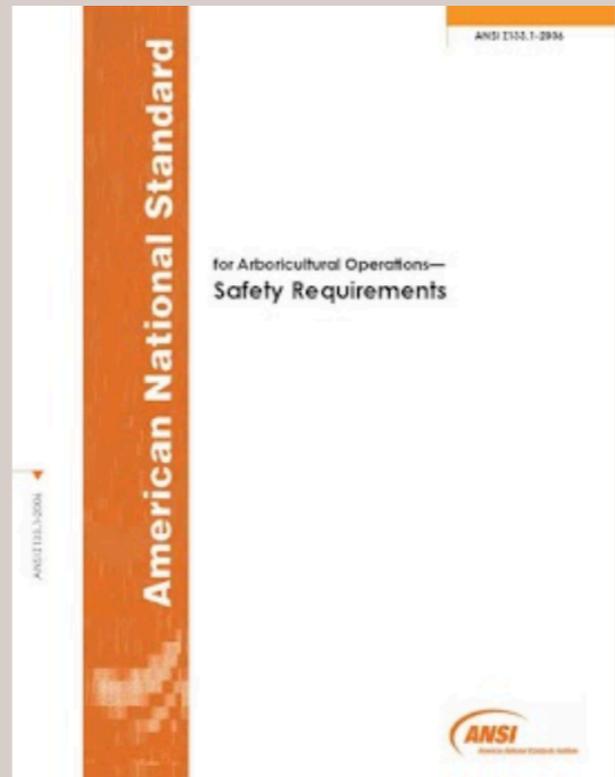
1988



1994



2000



2006



2012

Accidents Are Driving Decision Making in our Industry?

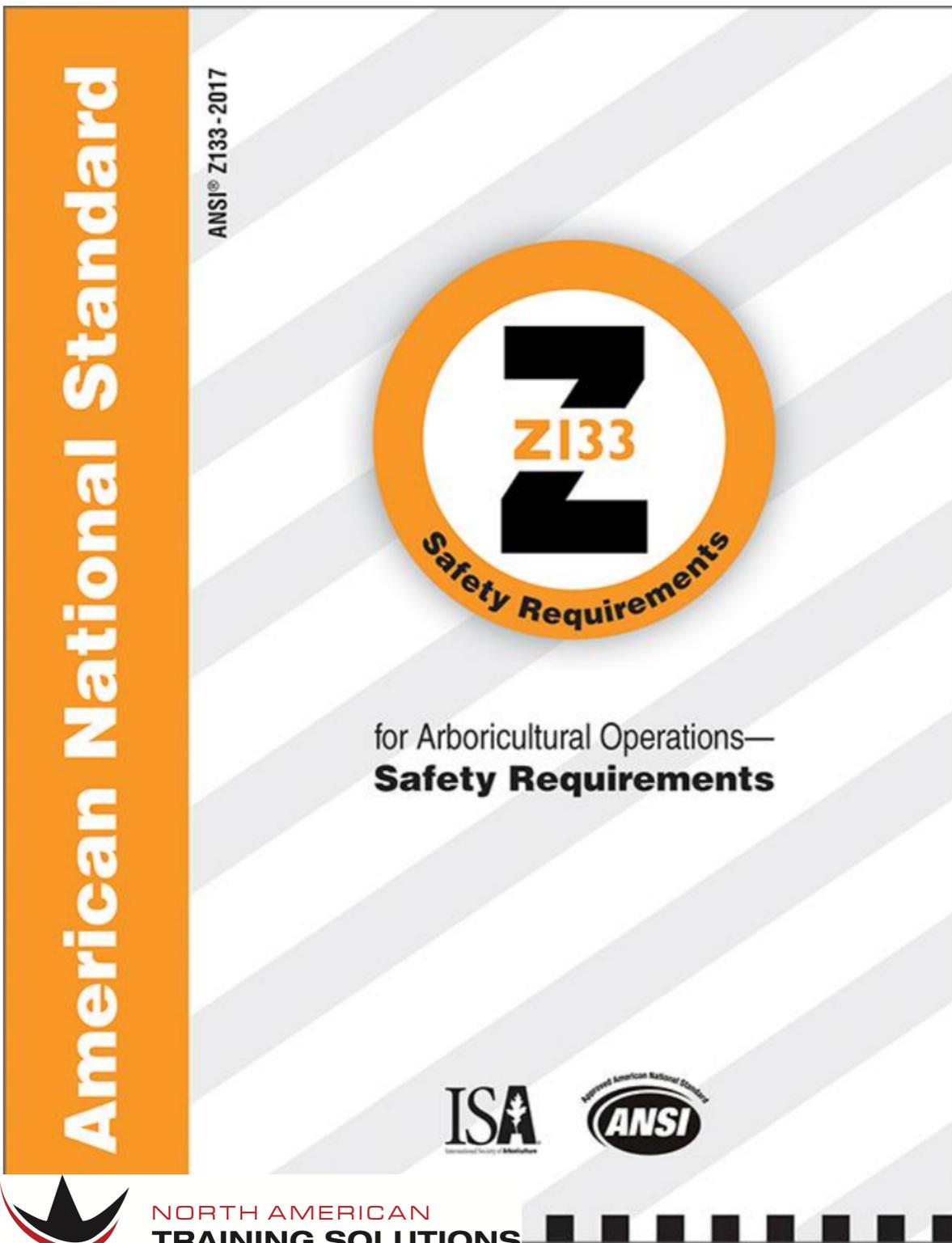
1968 ANSI Z133

*Z133 Pre-dates OSHA by 2 yrs
OSHA did not exist until 1970*

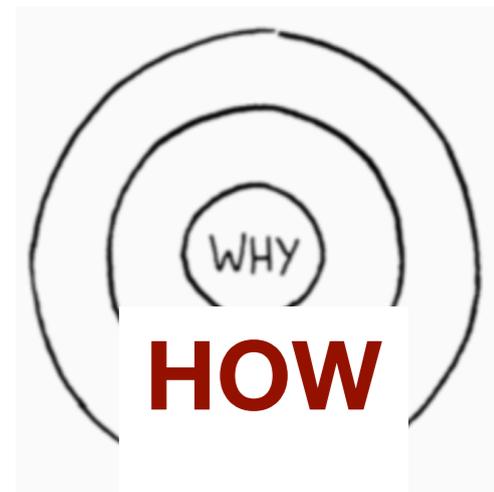
*Regulations and Standards are
Driven by the Fatalities, Accidents, and
Hard lessons workers learn
through on the job experience*

*Accredited Standards
are crafted and stringently vetted by
industry stakeholders*

*However they are rarely if ever
Audited across all levels of an organization!*



HOW DOES IT ALL WORK?



HOW DOES OSHA REGULATE TREE CARE IN THE US?

OSHA vs. ANSI

OSHA Act of 1970

OSHA was created because of public outcry against rising injury and death rates on the job. Through the years the agency has focused its resources where they can have the greatest impact in reducing injuries, illnesses, and deaths in the workplace.

2008



OSHA INSTRUCTION

U.S. DEPARTMENT OF LABOR

Occupational Safety and Health Administration

DIRECTIVE NUMBER: CPL 02-01-045 **EFFECTIVE DATE:** 8/21/2008

SUBJECT: Citation Guidance Related to Tree Care and Tree Removal Operations

ABSTRACT

- Purpose:** This instruction provides guidance on the application of OSHA General Industry standards to tree care and tree removal operations.
- Scope:** This instruction applies OSHA-wide and will remain in effect until a final standard addressing tree care operations is issued.
- References:** 29 CFR 1910.266, 29 CFR Part 1910 Subpart I, 29 CFR 1910.269.
- Cancellations:** OSHA Instruction CPL 02-01-044, *Citation Guidance Related to Tree Trimming and Tree Removal Operations*, June 25, 2008.

July 28, 2008, Memorandum to Regional Administrators titled *OSHA's Enforcement Policy Regarding Arborists, SIC 0783 (Ornamental Shrub and Tree Services)*.
- State Impact:** This instruction describes a Federal Program Change for which State adoption is not required, but Notice of Intent is required. (See V).
- Action Offices:** National, Regional, and Area Offices.
- Originating Office:** Directorate of Enforcement Programs, Office of General Industry Enforcement.

OSHA General Duty Clause 5(1)(a)

Each employer -

(a) Shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees. Shall comply with occupational safety and health standards promulgated under this Act.

Each employee

(b) Shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

(ANSI) American National Standards Institute

Z133 Safety Requirements for Arboricultural Operations



NORTH AMERICAN INDUSTRY CLASSIFICATION (NAICS)

561730



UNITED STATES
DEPARTMENT OF LABOR



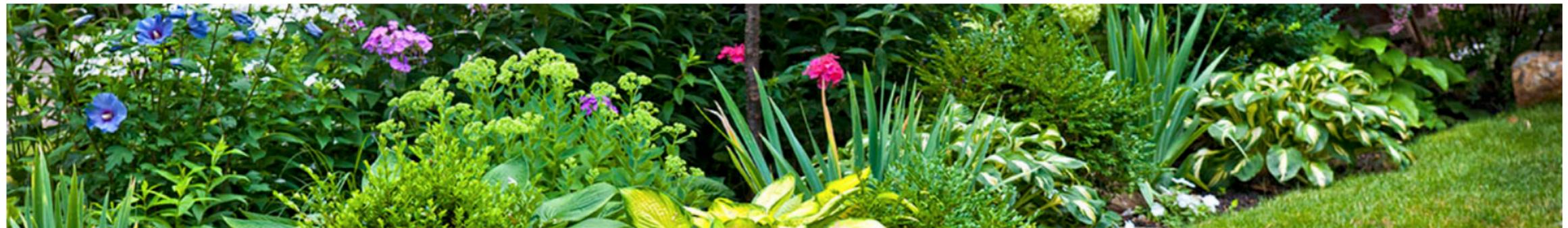
Occupational Safety and Health Administration

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Landscape and Horticultural Services



[Hazards and Solutions](#)

[Safety and Health Programs](#)

[Standards](#)

[Industry Codes](#)

Industry Codes

Landscape and horticultural services can be separated into three main segments and each area must comply with both the general industry standards (29 CFR 1910) and the construction industry standards (29 CFR 1926) depending upon the activity being performed.

- [NAICS 541320 – Landscape Architectural Services](#) (SIC Code 0781 - Landscape Counseling and Planning)
- [NAICS 541690 – Other Scientific and Technical Consulting Services](#) (SIC Code 0781 – Landscape Counseling and Planning)
- [NAICS 561730 – Landscaping Services](#) (SIC Code 0782 - Lawn and Garden Services)
- [NAICS 561730 – Landscaping Services](#) (SIC Code 0783 - Ornamental Shrub and Tree Services)

NAICS Code 541320 – Landscape Architectural Services



NAICS Code: 561730 *Landscaping Services*

Listed below are the standards which were cited by **Federal OSHA** for the specified NAICS Code during the period October 2018 through September 2019. Penalties shown reflect current rather than initial amounts. For more information, see [definitions](#).

Standard	Citations	Inspections	Penalty	Description	
Total	329	227	\$1,594,389	All Standards cited for Landscaping Services	
5A0001	53	51	\$283,407	OSH Act General Duty Paragraph	
19101200	46	22	\$32,141	Hazard Communication.	
19100067	42	33	\$127,109	Vehicle-mounted elevating and rotating work platforms.	
19040039	40	38	\$117,727	--- No Description Found ---	
19100132	38	28	\$112,551	General requirements.	
19100333	34	21	\$179,889	<h2 style="color: red; text-align: center;">General Duty Clause #1 Citation in Arboriculture</h2>	
19100135	23	23	\$53,728		
19100028	16	16	\$55,174		
19100133	15	15	\$28,912		
19100023	14	10	\$36,435		Ladders.
19100134	13	5	\$8,751		Respiratory Protection.
19100180	12	9	\$40,083		Crawler locomotive and truck cranes.



Standards

Search Standards

Search by keyword or #



- General Industry
- Construction
- Maritime
- Agriculture
- Recordkeeping
- Whistleblower
- Preambles to Final Rules **i**
- Other

Resources

- Safety & Health Topics A-Z
- Training Requirements in OSHA Standards
- Frequently Cited Standards
- Compliance Directives **i**
- Standard Interpretations **i**
- Lookback Reviews **i**

Rulemaking

- Regulatory Agenda
 - Current Actions **i**
 - Long Term Actions **i**
- Latest Federal Register Notices
- Open for Public Comment
- Small Business Input (SBREFA) **i**
- OSHA Rulemaking Process



Have more questions about standards?

- U.S. Department of Labor - OSHA National Office
1-800-321-OSHA (6742)
- Directorate of Standards & Guidance
202-693-1950
- Directorate of Construction
202-693-2020
- Ask a question by email

Frequently Asked Questions

- What is a standard/regulation?
- What is the federal register?
- How are regulations created?
- How are regulations enforced?

Tree Care and Arboriculture
Mostly Falls Under
General Industry



UNITED STATES
DEPARTMENT OF LABOR

Occupational Safety & Health Administration
200 Constitution Ave NW
Washington, DC 20210
800-321-6742 (OSHA)
TTY
www.OSHA.gov

FEDERAL GOVERNMENT

White House
Severe Storm and Flood Recovery Assistance
Disaster Recovery Assistance
DisasterAssistance.gov
USA.gov
No Fear Act Data
U.S. Office of Special Counsel

OCCUPATIONAL SAFETY & HEALTH ABOUT THIS SITE

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Regulations (Standards - 29 CFR)

[By Industry](#)

[By Standard Number](#)

[Standard Number > 1910](#)

- [1910 - Table of Contents](#)
- [1910 Subpart A - General](#)
 - [1910.1 - Purpose and scope.](#)
 - [1910.2 - Definitions.](#)
 - [1910.3 - Petitions for the issuance, amendment, or repeal of a standard.](#)
 - [1910.4 - Amendments to this part.](#)
 - [1910.5 - Applicability of standards.](#)
 - [1910.6 - Incorporation by reference.](#)
 - [1910.7 - Definition and requirements for a nationally recognized testing laboratory.](#)
 - [1910.7 App A - OSHA Recognition Process for Nationally Recognized Testing Laboratories.](#)
 - [1910.8 - OMB control numbers under the Paperwork Reduction Act.](#)
 - [1910.9 - Compliance duties owed to each employee.](#)
- [1910 Subpart B - Adoption and Extension of Established Federal Standards](#)
 - [1910.11 - Scope and purpose.](#)
 - [1910.12 - Construction work.](#)
 - [1910.15 - Shipyard employment.](#)
 - [1910.16 - Longshoring and marine terminals.](#)
 - [1910.17 - Effective dates.](#)
 - [1910.18 - Changes in established Federal standards.](#)
 - [1910.19 - Special provisions for air contaminants.](#)
- [1910 Subpart C - Reserved](#)

WHAT'S UP WITH THE OSHA TREE CARE STANDARD?

Occupational Safety and Health Administration

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[OSHA](#) ▾ [STANDARDS](#) ▾ [TOPICS](#) ▾ [HELP AND RESOURCES](#) ▾

[Tree Care Industry / OSHA Tree Care Operations Stakeholder Meeting](#)

OSHA Tree Care Operations
Stakeholder Meeting
Washington, DC
July 13, 2016
Meeting Summary Report
August 15, 2016

[Table of Contents](#)

- 1 Background
 - 2 Opening Remarks
 - 3 Introductions and Ground Rules
 - 4 Points of Discussion
 - Topic #1: Fatalities and Injuries in tree care operations
 - Topic #2: New technology and new trends in the tree care industry
 - Topic #3: National consensus and State Plan State standards
 - Topic #4: Vehicles and mobile equipment
 - Topic #5: Information and training
 - 5 Wrap-Up and Next Steps
- [Appendix A](#)





Your Resource for **INDUSTRY SAFETY** Requirements



Z News

Mark your Calendar

Join us for the next ASC Z-133 meeting. It will be held April 22nd and half day on the 23rd 2020 in Phoenix AZ. Click [here](#) to register.

A goal in having the meeting in Phoenix, is to increase future involvement from Arborists in Western states. This will be a great

What is the Z133?

This is an American National Standards Institute (ANSI) accredited standard which contains arboriculture safety requirements for pruning, repairing, maintaining, and removing trees; cutting brush; and for using equipment in such operations.

When is the Z133 revised?

The current revision is 2017 and a new Accredited Standards Committee is in place to begin the process for the 2022 revision.

Want to know get a sense of how far we have come over

Who creates it?

The standard is a collaborative effort of industry experts and representatives. The development of the standard is done under a five year revision cycle. Contributors consist of an Accredited Standards Committee (Voting Members), Task Chairs/Groups and interested parties. The revision cycle also includes a public review period.

For a listing of current developers visit our [Membership](#) page.

The [International Society of Arboriculture \(ISA\)](#) acts as Secretariat for ANSI Z133. If you would like to contact ISA about a Z related question, please email us at Z133@isa-

**WE ARE NOT JUST
ARBORISTS ANY MORE**

ANSI Z133 2017

1.General

2.Normative References

3.General Safety Requirements

4.Electrical Hazards

5.Safe Use of Vehicles, mobil and towered equipment used in arboriculture

6.Portable power hand tools

7.Hand tools and ladders

8.Tree Climbing

**WHO DOES THE “Z”
APPLY TO?**

ANSI Z133 2017

1 General

1.3 Application

This standard is intended to **serve as a reference for safety requirements that will** apply to all **employers or persons** engaged in the business, trade, or performance of arboriculture **for pay, operations of which include, but are not limited to, tree pruning, repairing, or maintaining; removing trees; cutting brush; or performing pest or soil management**

AREA'S OF FOCUS WITHIN THE "Z"?

What are **Job Briefing Requirements** according to the “Z” ?

ANSI Z133 2017

3.4.3 A **job briefing** shall be performed by the **qualified arborist** in charge **before the start of each job.**

The briefing shall be communicated to all affected workers. An employee working alone need not conduct a job briefing. However, the employer shall ensure that the tasks are being

Job Briefing

Pre-Job Briefing/Job Safety Analysis (JSA) Form



Person Completing Form _____ Supervisor _____ Time: _____
 City/Town: _____ Landmark: _____
 Work Location/Address: _____
 GPS Coordinates: _____
 Nearest Intersection: _____

Enter Temperature for Complicable Conditions: Sunny _____ Cloudy _____ Rain _____ Snow _____ Ice _____ Wind _____
 Are weather conditions appropriate for the work to be conducted? Yes _____ No _____
 If you were to call 911, what landmark information would be helpful to provide _____
 1.) Utility Specific
 Are electric utilities present in or near your work area? Yes _____ No _____
 Utility & Contact Number _____ Line kV _____ MAD _____ Pole or Structure # _____

Voltage Range (Phase-to-Phase) kV	Minimum Approach Distance (MAD) m	
	Avoid Contact	Other
0.300 and less	1-06	0.457
0.301 to 0.750	2-09	0.838
0.751 to 5.0	2-10	1.016
5.1 to 15.0	3-04	1.118
15.1 to 36.0	3-08	1.321
36.1 to 46.0	4-04	3.861
46.1 to 72.5	12-08	4.064
72.6 to 121.0	13-04	4.268
121.1 to 145.0	14-00	5.080
145.1 to 169.0	16-08	6.300
169.1 to 242.0	20-08	8.128
242.1 to 362.0	26-08	10.668
362.1 to 420.0	35-00	
420.1 to 550.0		
550.1 to 800.0		

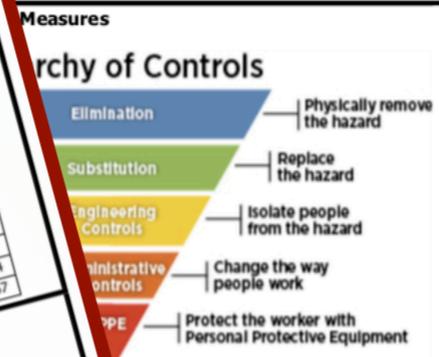
Voltage Range kV	Altitude Correction Factor Sea Level to 5000 ft		Altitude Correction Factor 5,000-10,000 ft		Altitude Correction Factor 10,000-14,000 ft	
	Rt-in	m	Ft-in	m	Ft-in	m
0.050 to 0.300	1-02	0.356	1-04	0.407	1-06	0.458
0.301 to 0.750	2-03	0.686	2-06	0.762	2-09	0.839
0.751 to 5.0	2-03	0.686	2-07	0.788	3-04	0.864
5.1 to 15.0	2-08	0.813	3-01	0.940	3-08	1.016
15.1 to 36.0	2-11	0.889	3-04	1.016	4-04	1.321
36.1 to 46.0	3-06	1.067	4-00	1.220	4-10	1.474
46.1 to 72.5	3-11	1.194	4-06	1.372	5-07	1.702
72.6 to 121.0	4-06	1.372	5-02	1.575	6-03	1.905
121.1 to 145.0	5-01	1.550	5-09	1.753	6-07	2.617
145.1 to 169.0	7-00	2.134	7-11	2.413	8-07	4.445
169.1 to 242.0	11-09	3.582	13-06	4.115	14-07	5.538
242.1 to 362.0	14-08	4.471	16-09	5.106	18-02	6.604
362.1 to 420.0	17-06	5.334	20-00	6.096	21-08	6.604
420.1 to 550.0	23-09	7.239	27-02	8.281	29-05	8.967

Insulated Pole Saw _____ Insulated Pole Pruner _____
 Insulated Boom _____ Other _____
 Verification of Di-Electric test date (MM/YY): _____
 Insulated Pole Saw (Solid Core Only) _____
 Insulated Pole Pruner (Solid Core Only) _____

2.) Emergency Information: Area 911 Yes/No _____ If No, EMS/Fire Phone number _____
 Emergency Action Plan: How will we conduct a rescue? _____
 Contact# _____
 Closest Medical Facility:
 Name: _____
 Address: _____
 Do I have crew members who are CPR and First Aid Trained? Yes/No _____

3.) Is this a training? or work related? (Please Circle one)
 Job Tasks: _____ Driving _____ Inspection/Auditing _____ Traffic Control _____ Bucket Trim _____ Ground Cutting _____
 _____ Climbing _____ Brush Chipping _____ Tree Removal _____ Stump Grinding _____ Crane _____
 _____ Heavy Equipment Operation (Please Identify Equipment _____)
 Other Describe: _____

- Topics of Discussion (Hazards, Risks and Potential Impacts) _____ Hazard Identification List – Check all that apply
- Electrical**
 - Energized Equipment
 - Backfeed/Induction
 - Energized Trees
 - Vertical to Horizontal Conductors
 - Step Potential
 - Mechanical**
 - Equipment Failure
 - Climbing Hazards
 - Tension Loads
 - Moving Parts/Sharp Objects
 - Vehicular**
 - Traffic Conditions
 - Driving Conditions
 - Moving Loads
 - Vehicle Stability
 - Body Mechanics**
 - Slips or Trips
 - Lifting/Twisting
 - Repetitive Motion
 - Awkward Positions
 - Noise**
 - Continuous Loud Noise
 - Explosive Noise
 - Distractive Noise
 - Other**
 - Insect Bites/Stings
 - Wildlife
 - Blood/Body Fluids
 - Heat/Cold Exposure



Is Drop zone sufficient to drop debris away from obstacles? Yes _____ No _____
 If no, select other means of controlling debris/drop zone.
 Job Site Hazard Control (Describe how you are going to control hazards, risks, and potential impacts) _____

 Identify type & # of Signs & Cones:
 _____ Signs
 _____ Cones in place to ID work

Dig Safe Required? 1-800-DIG-SAFE
 Yes _____ No _____

Personal Protective Equipment Required? Yes _____ No _____

Item	Required
Leg Protection	_____
Chainsaw Pants OR Chainsaw Chaps	_____
Short Sleeves	_____
Long Sleeves	_____
Foot Protection	_____
Boots Cut-Resistant Boots	_____
Hi Vis	_____
Fall Protection	_____
Fall Restraint	_____
Work Position	_____
Fall Suspension	_____
Fall Arrest	_____
Vest	_____
Other	_____

Signature _____ Status (GAR) _____

Signature _____ Safety: _____

What are **Personal Protective
Equipment** requirements
according to the “Z” ?

ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.1 Personal protective equipment (PPE), as outlined in this section, shall be required when

there is a reasonable probability of injury or illness that can be prevented by such protection.

ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.2 The employer shall assess the work area **worksite** to determine if hazards are present or are likely to be present. **This assessment will be used to determine the type of personal protective equipment that may be required for employee protection.**

PPE Hazard Assessment

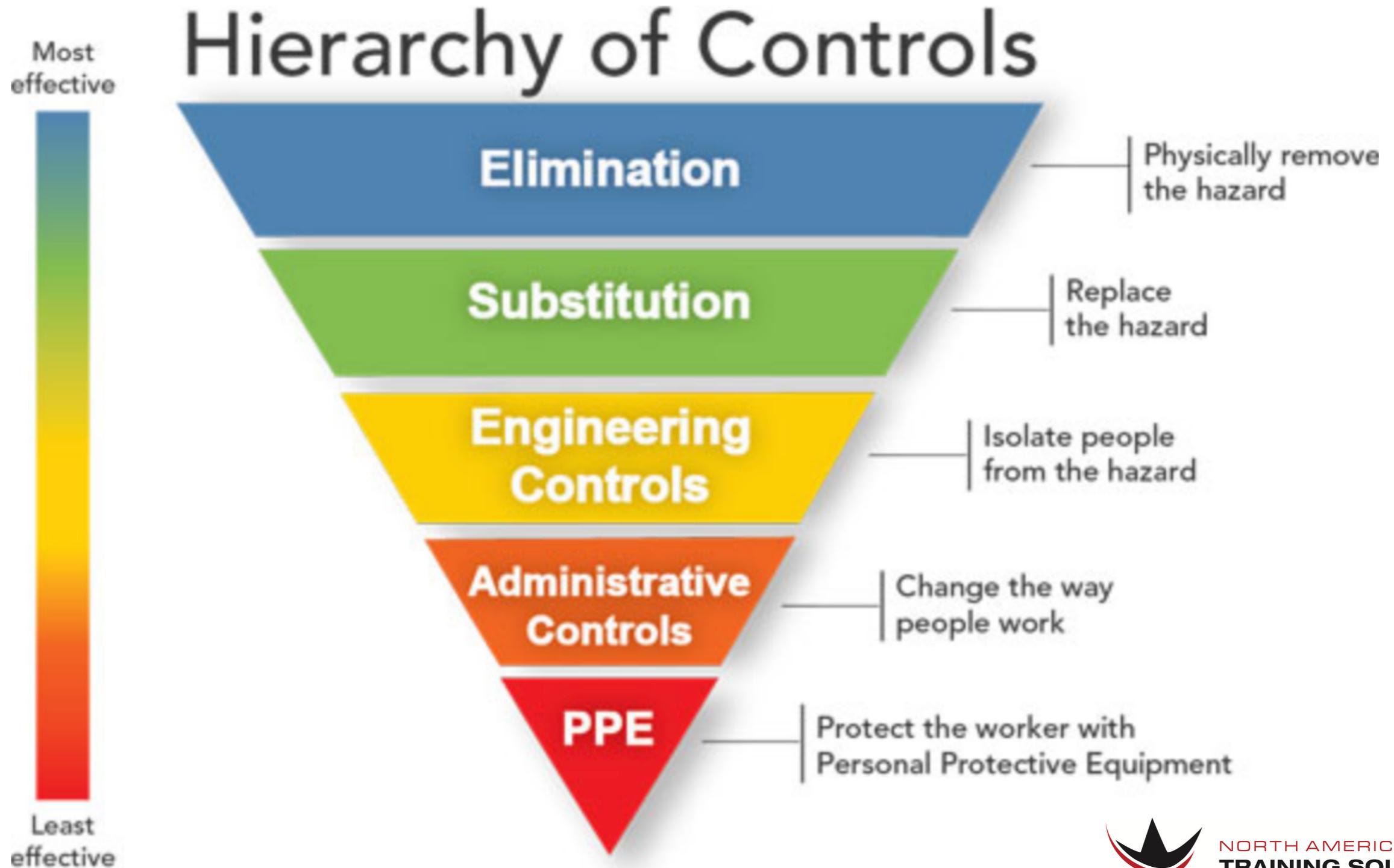
PPE HAZARD ASSESSMENT FORM

I am reviewing (check the appropriate box):	<input type="checkbox"/> A worksite	Specify location:		
	<input type="checkbox"/> A single employee's job description	Name of employee:		
	<input checked="" type="checkbox"/> A job description for a class of employees	Position Title:		
		Position Titles: <i>Pharmacy Tech, all levels</i>		
		Location: <i>Central Pharmacy IV Sterile Room, DHN 0-level</i>		
Your Name: <i>John Doe</i>		Department/Division: <i>Central Pharmacy, IV Sterile Room</i>		
Date: <i>10/09/09</i>				
	EYE HAZARDS: Tasks that can cause eye injury include: working with chemicals or acids; UV lights; chipping, sanding, or grinding; welding; furnace operations; and metal and wood working.			
	<i>Check the appropriate box for each hazard:</i>			
	Chemical Exposure	<input checked="" type="checkbox"/>	<i>Description of hazard(s):</i> Exposure to hazardous and non-hazardous drugs during handling and preparation, spill clean-up. Safety hoods/glove boxes in separate clean room used for hazardous drug preparation.	<i>Required PPE</i> Safety glasses w/ side shields for non-liquids, goggles for liquids, surgical mask with shield, face shields (disposable, reusable). In this case, a surgical mask/face shield is designed to prevent exposure from splashing below eye level. A safety shield in lieu of safety eyewear may be sufficient since the splash hazard is not corrosive.
	High Heat/Cold	<input type="checkbox"/>		
	Dust/Flying Debris	<input checked="" type="checkbox"/>		
	Impact	<input type="checkbox"/>		
	UV/IR Radiation	<input type="checkbox"/>		
Other:	<input type="checkbox"/>			
HEAD/NECK/FACE HAZARDS: Tasks that can cause head/neck/face injury include: working below other workers who are using tools or materials that could fall, working on energized electrical equipment or utilities, and working in trenches or confined spaces.				
<i>Check the appropriate box for each hazard:</i>				
	Chemical Exposure	<input checked="" type="checkbox"/>	<i>Description of hazard(s):</i> Exposure to hazardous and non-hazardous drugs during handling and preparation, spill clean-up. Safety hoods/glove boxes in separate clean room used for hazardous drug preparation.	<i>Required PPE</i> Surgical mask with face shield, face shield (disposable or reusable). Re-use of equipment depends on departmental protocol.
	Dust/Flying Debris	<input checked="" type="checkbox"/>		
	Impact	<input type="checkbox"/>		
	UV/IR Radiation	<input type="checkbox"/>		
	Electrical Shock	<input type="checkbox"/>		
	Other:	<input type="checkbox"/>		
FOOT HAZARDS: Tasks that can cause foot injury include: exposure to chemicals or acids, welding or cutting, materials handling, renovation or construction, and electrical work.				
<i>Check the appropriate box for each hazard:</i>				
	Chemical Exposure	<input type="checkbox"/>	<i>Description of hazard(s):</i>	<i>Required PPE</i>
	High Heat/Cold	<input type="checkbox"/>		
	Impact/Compression	<input type="checkbox"/>		
	Electrical	<input type="checkbox"/>		
	Puncture	<input type="checkbox"/>		
	Slippery/Wet Surfaces	<input type="checkbox"/>		
	Other:	<input type="checkbox"/>		
 NORTH AMERICAN TRAINING SOLUTIONS				

PPE HAZARD ASSESSMENT CERTIFICATE

	HAND HAZARDS: Hand injury can be caused by: work with chemicals or acids, exposure to cut or abrasion hazards (for example, during demolition, renovation, woodworking, or food service preparation), work with very hot or cold objects or materials, and exposure to sharps.		
	<i>Check the appropriate box for each hazard:</i>	<i>Description of hazard(s):</i>	<i>Required PPE</i>
	Chemical Exposure <input checked="" type="checkbox"/>	Exposure to hazardous and non-hazardous drugs during handling and preparation, spill clean-up. Punctures from syringe needles that may contain hazardous and non-hazardous drugs during preparation and handling activities such as: dilution/reconstitution, pulling and transferring, recapping and removing needle from syringe for pharmacist review, recapping syringe for medication dispensing. Size of needles used range from 16 to 19 gauge. Cuts from breaking drug containing ampules.	Double gloving with chemo gloves for hazardous drug handling, double gloving with approved gloves for non-hazardous drug handling.
	High Heat/Cold <input type="checkbox"/>		
	UV/IR Radiation <input type="checkbox"/>		
	Electrical Shock <input type="checkbox"/>		
	Puncture <input checked="" type="checkbox"/>		
Cuts/Abrasion <input checked="" type="checkbox"/>			
Other: <input type="checkbox"/>			
	BODY HAZARDS: Injury of the body (torso, arms, or legs) can occur during: exposure to chemicals, acids, or other hazardous materials; abrasive blasting; welding, cutting, or brazing; chipping, sanding, or grinding; use of chainsaws or similar equipment; and work around electrical arcs.		
	<i>Check the appropriate box for each hazard:</i>	<i>Description of hazard(s):</i>	<i>Required PPE</i>
	Chemical Exposure <input checked="" type="checkbox"/>	Exposure to drugs during handling and preparation.	Tyvek body suits.
	High Heat/Cold <input type="checkbox"/>		
	Impact/Compression <input type="checkbox"/>		
	Electrical Arc <input type="checkbox"/>		
	Cuts/Abrasion <input type="checkbox"/>		
Other: <input type="checkbox"/>			
	FALL HAZARDS: Personnel may be exposed to fall hazards when performing work on a surface with an unprotected side or edge that is 4 feet or more above a lower level, or 10 feet or more on scaffolds. Fall protection may also be required when using vehicle man lifts, elevated platforms, tree trimming, performing work on poles, roofs, or fixed ladders.		
	<i>Check the appropriate box for each hazard:</i>	<i>Description of hazard(s):</i>	<i>Required PPE</i>
Fall hazard <input type="checkbox"/>			
	NOISE HAZARDS: Personnel may be exposed to noise hazards when working in mechanical rooms; machining; grinding; sanding; cage washing; dish washing; working around pneumatic equipment, grounds equipment, generators, chillers, motors, saws, jackhammers, or similar equipment.		
	<i>Check the appropriate box for each hazard:</i>	<i>Description of hazard(s):</i>	<i>Required PPE</i>
Noise hazard <input type="checkbox"/>			
	RESPIRATORY HAZARDS: Personnel may be exposed to respiratory hazards that require the use of respirators: during emergency response, when using certain chemicals outside of a chemical fume hood; when working with hazardous powders; when entering fume hood plenums, when working with animals; when applying paints or chemicals in confined spaces; when welding, cutting, or brazing on certain metals; and when disturbing asbestos, lead, silica, or other particulate hazards.		
	<i>Check the appropriate box for each hazard:</i>	<i>Description of hazard(s):</i>	<i>Required PPE</i>
	Chemical exposure <input checked="" type="checkbox"/>	Spill clean up of hazardous drugs. Clean up of powdered drugs.	Powered Air Purifying Respirator (PAPR)
	Particulate exposure <input checked="" type="checkbox"/>		
Other: <input type="checkbox"/>			
I certify that the above hazard assessment was performed to the best of my knowledge and ability, based on the hazards present on this date.			
_____ (signature)			

NIOSH National Institute Of Occupational Safety and Health



ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.3 Training shall be provided on the **inspection, use, care, maintenance, fit, and life replacement** of personal protective equipment.

PPE Training Requirements

5 Key Parts of PPE Training

- 1) When PPE is Necessary
- 2) What PPE is Necessary
- 3) How to Properly put on Take Off, Adjust and wear the PPE
- 4) Limitations of PPE
- 5) Proper Care, Maintenance, Useful Life and Disposal of PPE

Written Exercise

1 min

Trace a
print of
your hand



Fill in the Following Phrases



ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.4 Workers engaged in arboricultural operations shall wear head protection (helmets) that conforms to ANSI Z89.1. Class E helmets shall be worn when working in **proximity to electrical conductors** in accordance with ANSI Z89.1. Workers shall not place reliance on the **dielectric** capabilities of such helmets.



Class C

Class E



ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.5 Hearing protection provided by the employer shall be worn when it is not practical to decrease or isolate noise levels that exceed acceptable standards. The employer shall provide employees protection against the effects of noise exposure when sound levels exceed an 8-hour, time-weighted average (TWA) of 85 decibels (dB).



ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.6 Eye protection shall comply with ANSI Z87.1 and **shall** be worn when engaged in arboricultural operations.



ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.7 Face protection **shall** comply with applicable federal regulations as well as with ANSI Z87.1.



ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.8 Clothing and footwear appropriate to the known **worksite** job hazards shall be approved by the employer and worn by the employee.

ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.9 Cut-resistant leg protection that meets or exceeds ASTM F1414 and ASTM F1897 shall be worn while operating a chain saw during ground operations. Cut-resistant leg protection shall be maintained in accordance with manufacturer's recommendations.



ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.9 Cut-resistant leg protection that meets or exceeds ASTM F1414 and ASTM F1897 shall be worn while operating a chain saw during ground operations. Cut-resistant leg protection shall be maintained in accordance with manufacturer's recommendations.



ANSI Z133 2017

3.3 Personal Protective Equipment (PPE)

3.3.9 Respiratory protection shall comply with applicable federal regulations as well as **and** with ANSI Z88.2.

**THERE IS A KNOWLEDGE AND
SKILL GAP IN THE FIELD!!**

**“Hands On”
Practical Competency
Assessments for Craft Workers ©**



Hands On Assessment Climbing and Rescue Competency



Hands On Assessment Chainsaw Felling Competency



Hands On Assessment Storm Response Chainsaw Competency



Hands On Assessment Chainsaw Competency Utility Linemen



Hands On Assessment on PPE Inspection

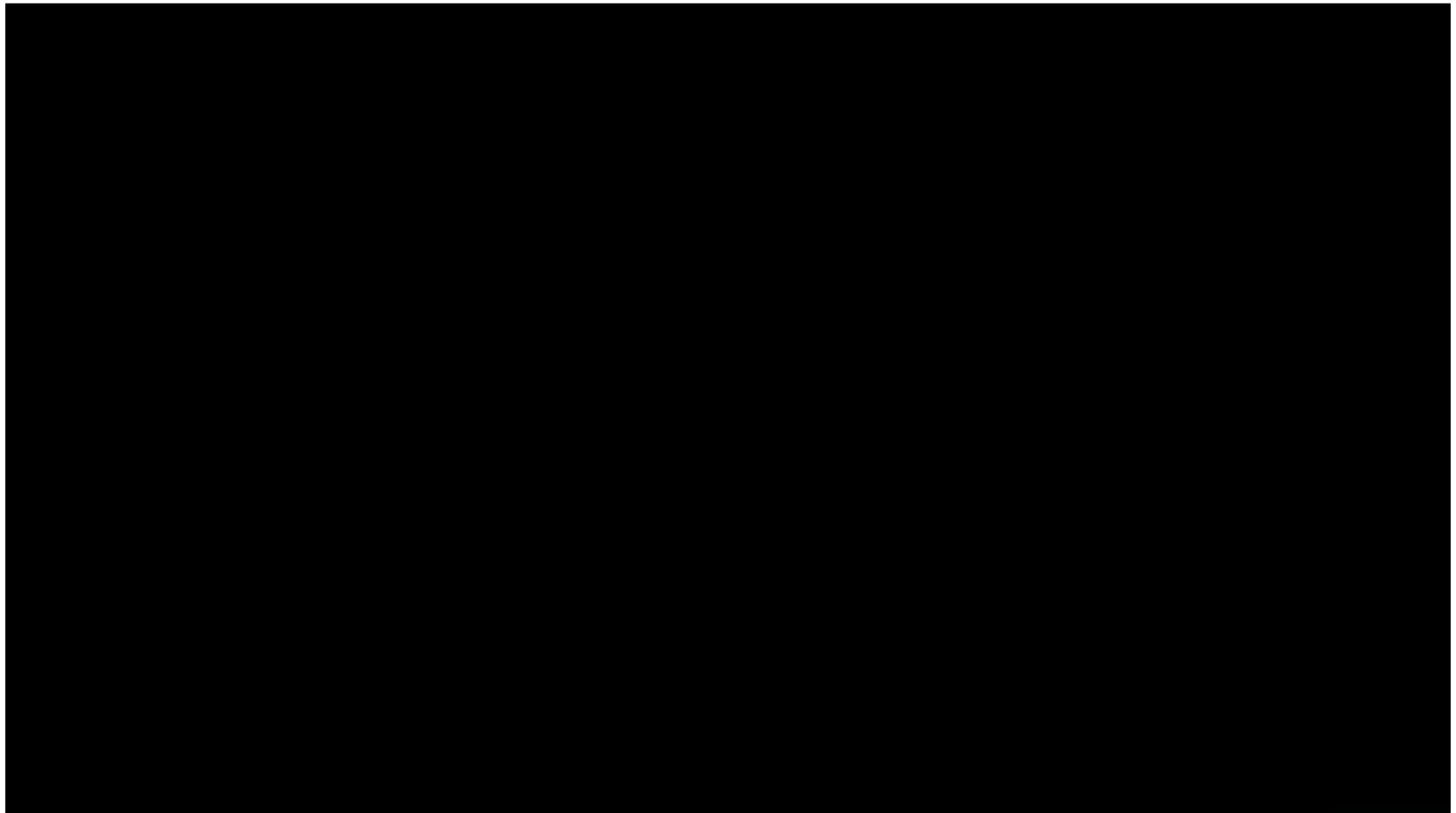


Documentation is the Key!!



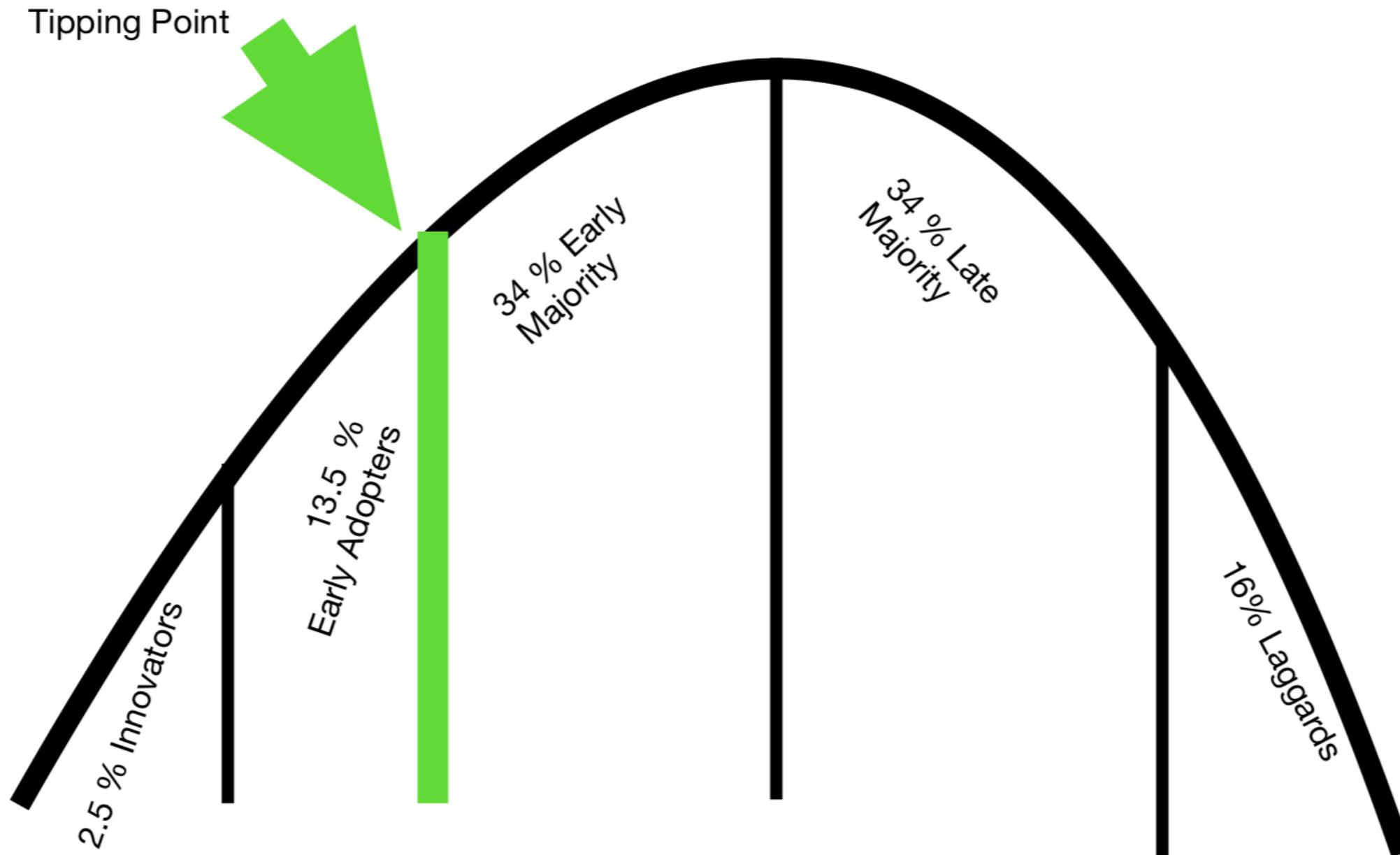
Analytics = Identify Your Top Performers to Improve Your Organizations Culture and Safety!!!

Derek Sivers How to Start a Movement



Do you want to be an early adopter?

The Law of Diffusion of Innovation



Identify your Safety Innovators and Advocates

Thank You
to All Our

Safety Alliance Partners



PARTNERS



THANK YOU

Ed Carpenter

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