

Hazard ID & Control for Forestry Services



**PACIFIC NORTHWEST AGRICULTURAL
SAFETY AND HEALTH CENTER**
farming • fishing • forestry



**OCCUPATIONAL SAFETY AND HEALTH
CONTINUING EDUCATION**
ENVIRONMENTAL & OCCUPATIONAL
HEALTH SCIENCES

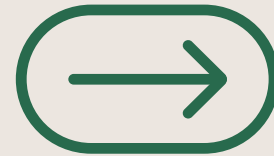


WASHINGTON STATE UNIVERSITY
EXTENSION



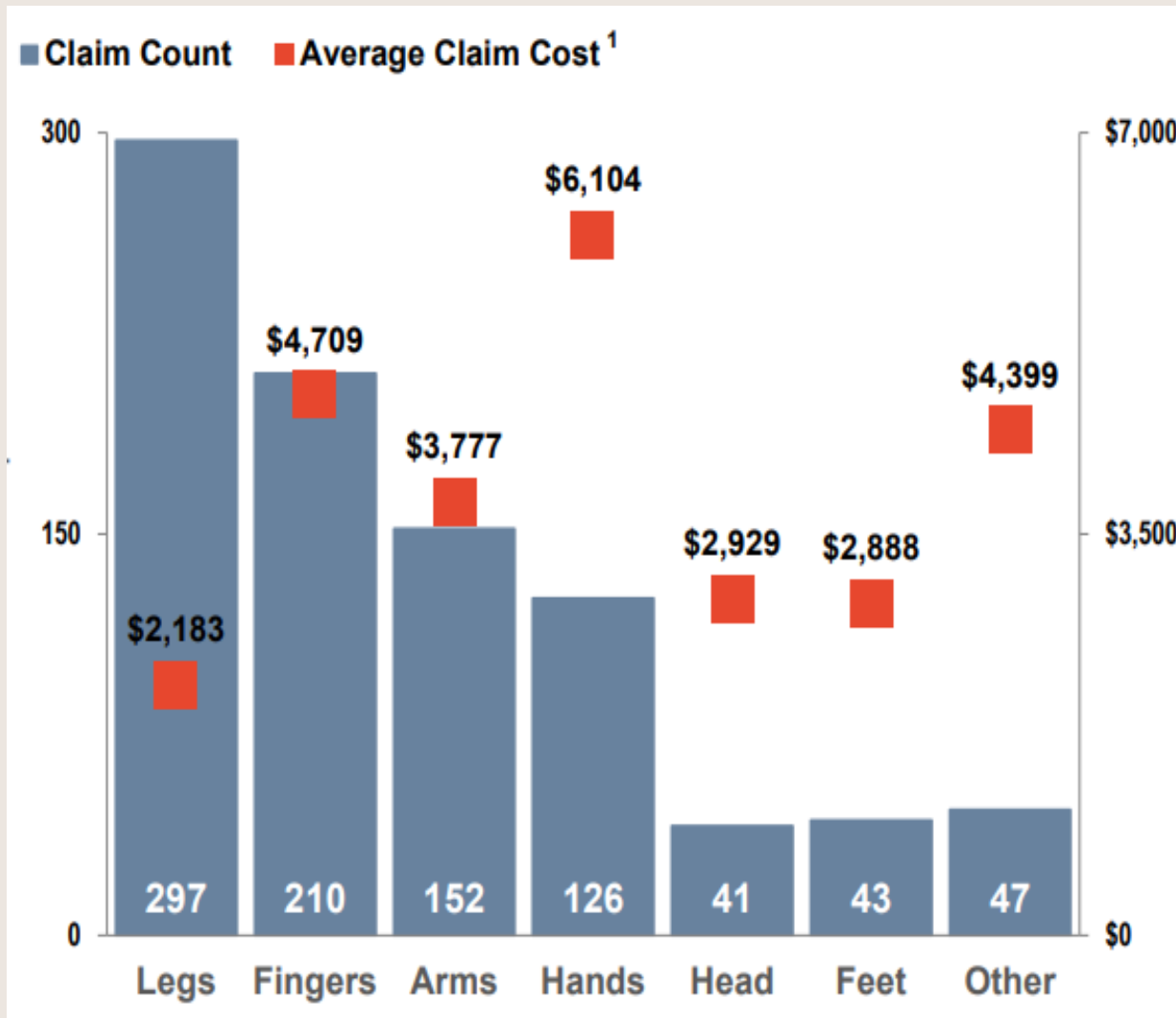
Hazard ID & Control for Forestry Services

Learning Objectives



- **Understand hazard identification and hierarchy of controls**
- Learn about new personal protective equipment (PPE) technologies and best practices
- Engage in hands-on activities to reinforce safety skills

SAFETY CHALLENGES



Discuss:

- *Why do inexperienced workers get injured?*
- *Why do experienced workers still get injured?*

Source: WA Work-Related Chainsaw Injuries, 2005-2014

HAZARD ID & CONTROL

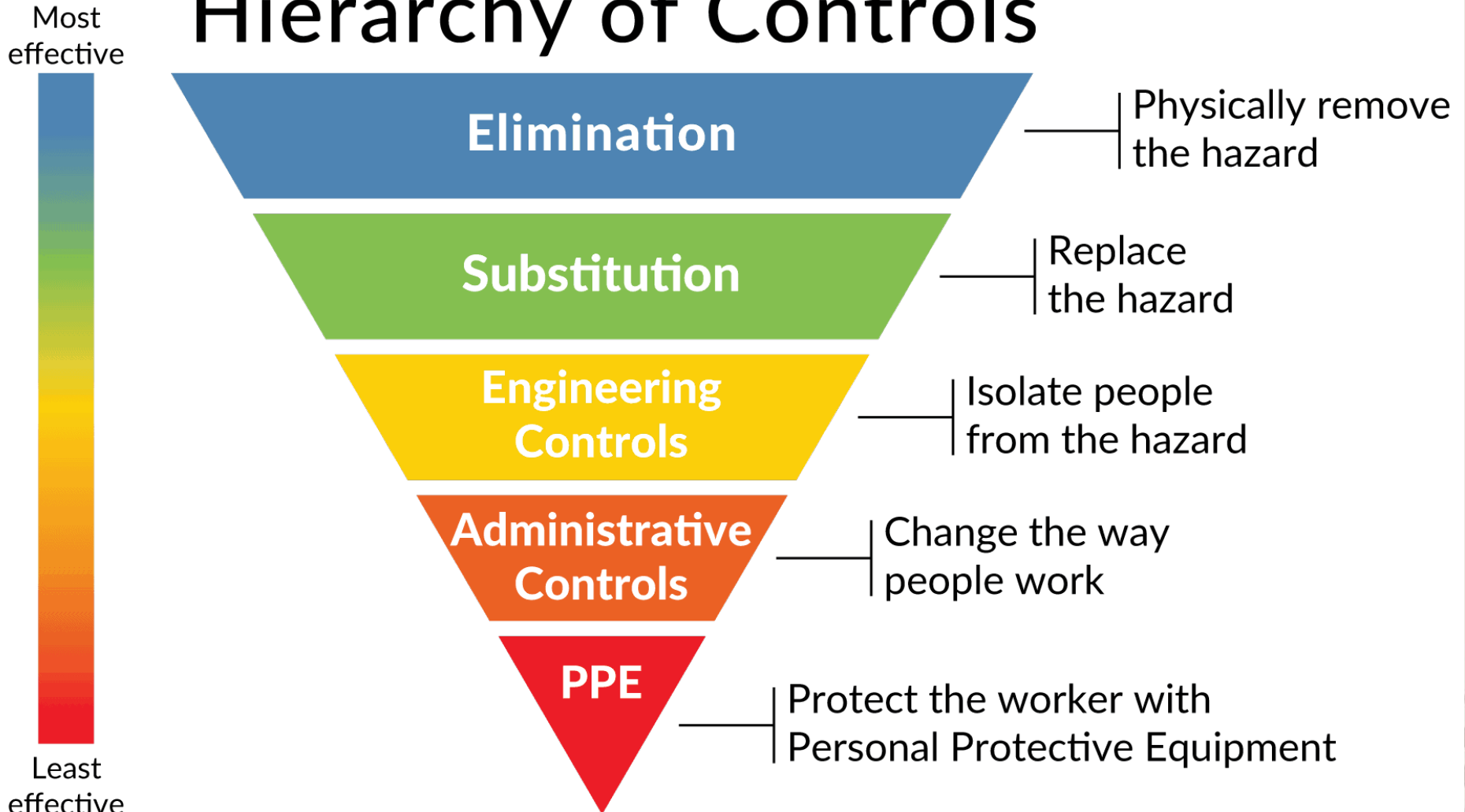
SAFETY CHALLENGES



- **Difficult Environment**
Steep slopes, thick forest stands, all weather
- **Cuts and Lacerations**
Handling chainsaws and tools
- **Struck-bys**
Falling trees and limbs, rolling large debris (logs and rocks)

HAZARD ID & CONTROL

Hierarchy of Controls





ACTIVITY

LET'S REVIEW THE SOLUTIONS FOR HAZARD CONTROL.

DRAW A LINE FROM SOLUTIONS FOR HAZARD CONTROL (ON THE LEFT) WITH THE WORK ACTIVITIES (ON THE RIGHT)

1

REMOVE THE HAZARD

The most effective strategy is always to remove or eliminate the hazard.

WEAR GLOVES, BOOTS, AND CHAPS.

2

REDUCE THE HAZARD

Reduce worker exposure to the hazard.

RESTRICT ACCESS TO A WORK AREAS.

3

IMPROVE POLICIES & PROCEDURES

Change the way we do work.

PRUNE TREES WITH AN EXTENSION POLE SAW, KEEPING BOTH FEET ON GROUND INSTEAD SCALING A LADDER OR CLIMBING A TREE.

4

WEAR PPE

Wearing Personal Protective Equipment (PPE) is the strategy to use if options 1, 2, and 3 are not possible.

SAFETY GUARDS ON TOOLS AND OTHER EQUIPMENT.



ACTIVITY

As a small group:

- Pick one task
- Complete the sheet
- Be ready to share with large group

TASK

Describe a specific work task.

POTENTIAL HAZARD

Write in physical, chemical, environmental and other hazards.

INJURY PREVENTION

Brainstorm ideas to stay safe below.

ELIMINATION ✕

How can you eliminate the hazard?

SUBSTITUTION ↔

What can you substitute for the hazard?

PROTECTIVE EQUIPMENT 🛡️

Is there PPE you could use?

What can you do to reduce your risk to this hazard?

Consider the most effective way to reduce your risk **AND** to complete the task.

WHAT CAN YOU DO?



ACTIVITY



We started working around 6 am.



I couldn't see very well. I slipped and let go of the saw. It cut my toe badly.



They wrapped up my foot. I had to wait many hours before they took me home.



My wife took me to the clinic.



Source:
PNASH Forest
Safety Talks



ACTIVITY

Let's wait until it's a little lighter.
Remember, walk sideways on steep
slopes. Make sure you are stable
before you start to cut.



I feel that we should have waited, so we
could see better.

Sweetheart, I am worried about you
getting hurt again. Please be careful.



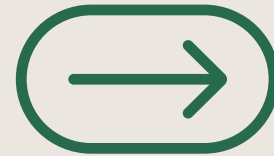
It was several days before I could go
back to my job.

How could this injury have been prevented?

HAZARD ID & CONTROL

Forestry Services

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PPE

RULES AND ROLES



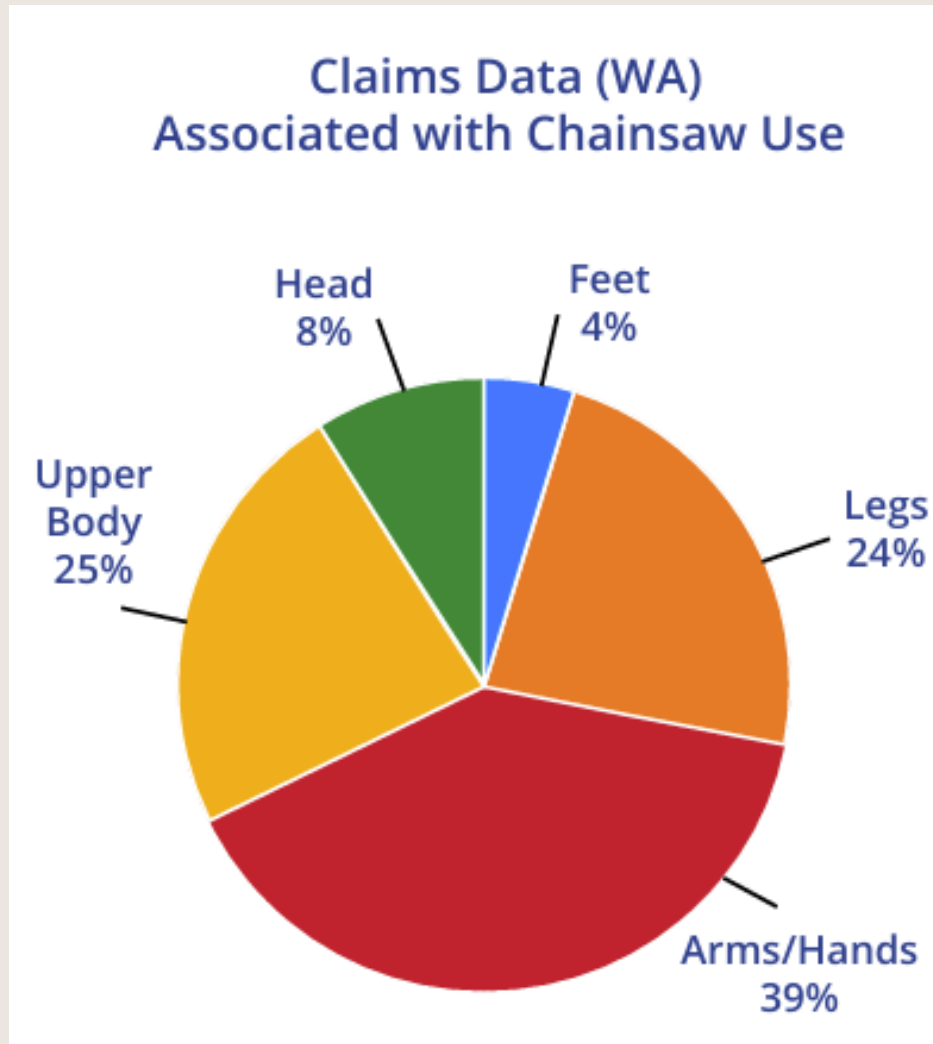
EMPLOYERS

- Identify hazards
- Provide training on how to use PPE
- *Ensure that all employees:*
 - ✓ Have needed PPE
 - ✓ Use PPE properly
 - ✓ Take care of PPE

EMPLOYEES

- Use all the safety devices and PPE required
- Use the equipment according to the instructions
- Report damaged or contaminated PPE

PPE



Personal Protective Equipment (PPE) is the last option, not a control.

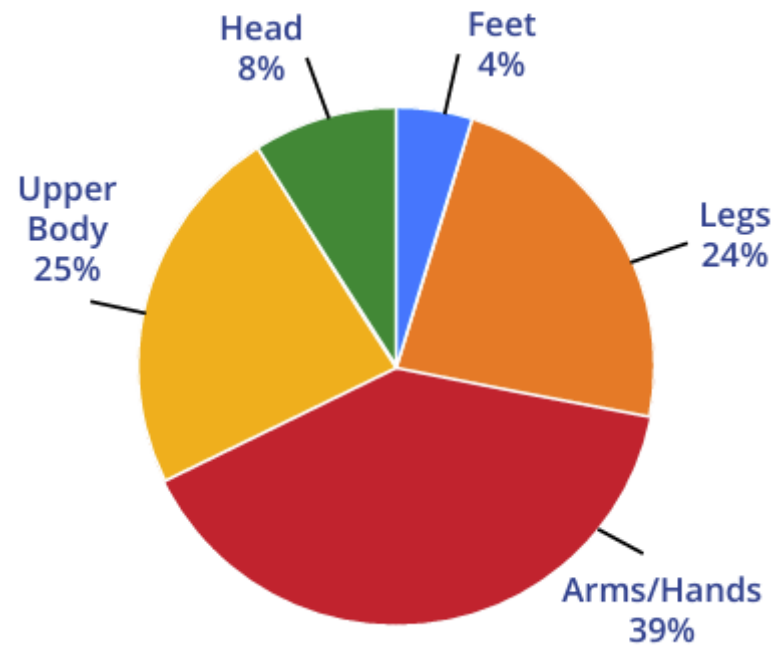
In high-risk work, it is also essential as your 'last line of defense.'

PPE

CUT PROTECTION



Claims Data (WA)
Associated with Chainsaw Use



PPE

HEAD



Plastic with harness



Metal (logger traditional)



New tech (closed cell)



PPE

FACE & EYE



PPE

HEARING PROTECTION

It only takes...

112 dB | <1 min

109 dB | <2 min

106 dB | <4 min

103 dB | 7.5 min

100 dB | 15 min

97 dB | 30 min

94 dB | 1 hour

91 dB | 2 hours

88 dB | 4 hours

85 dB | 8 hours



Nothing can restore lost hearing.

BUT hearing loss caused by noise is preventable.

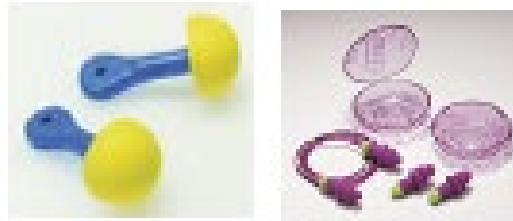
Exposure to noise above 85 decibels (dB) can cause permanent hearing loss. It can even result from a single nearby shotgun blast (150 dB).

“My little girl doesn’t understand why I can’t hear what she is whispering in my ear. She says... ‘Mommy hears me when I whisper’.”

Formable Earplugs



Premolded Earplugs



Canal Caps



Earmuffs



“I thought if I lost my hearing, it would be quiet. But that constant ringing keeps me awake at night and I can't hear my friends very well.”



ACTIVITY

Can you insert foam ear plugs properly?



Video of proper technique for inserting foam earplugs



ACTIVITY

Can you measure sound with a phone?



- iPhone: Sound Level Meter App
- Android: Sound Meter App

PPE

BOOTS

Caulk boots



Chemical resistant boots



PPE

GLOVES



Cut resistant



Insulated



Leather



Anti-vibration



Chemical resistant

PPE

CLOTHING

Outdoor

Moisture-wicking, breathable, 'cotton kills'
Synthetic or Wool

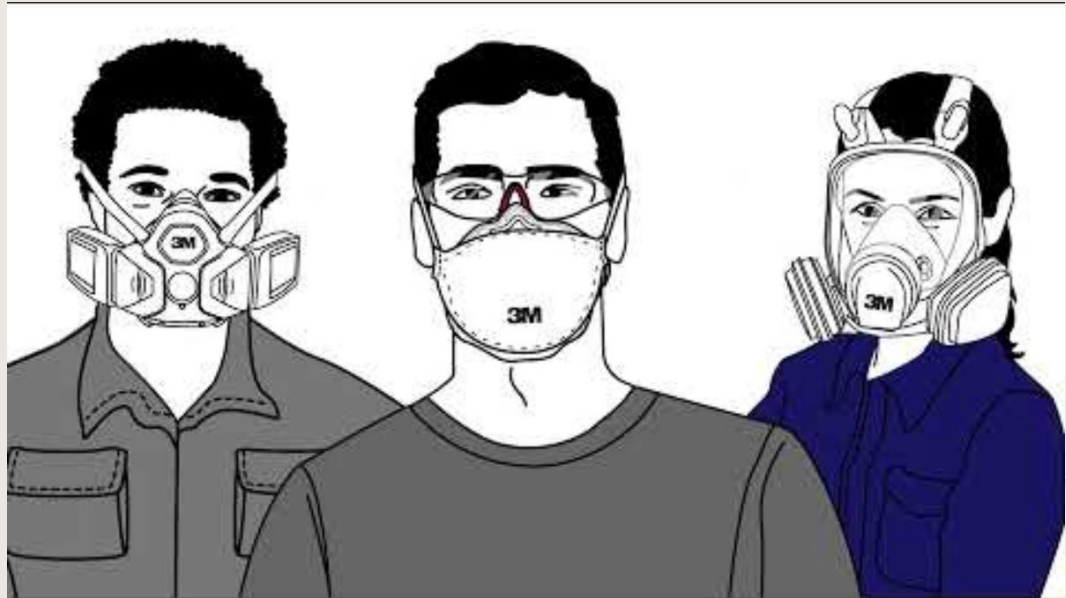
Chemicals



PPE

Respiratory

Smoke – N95

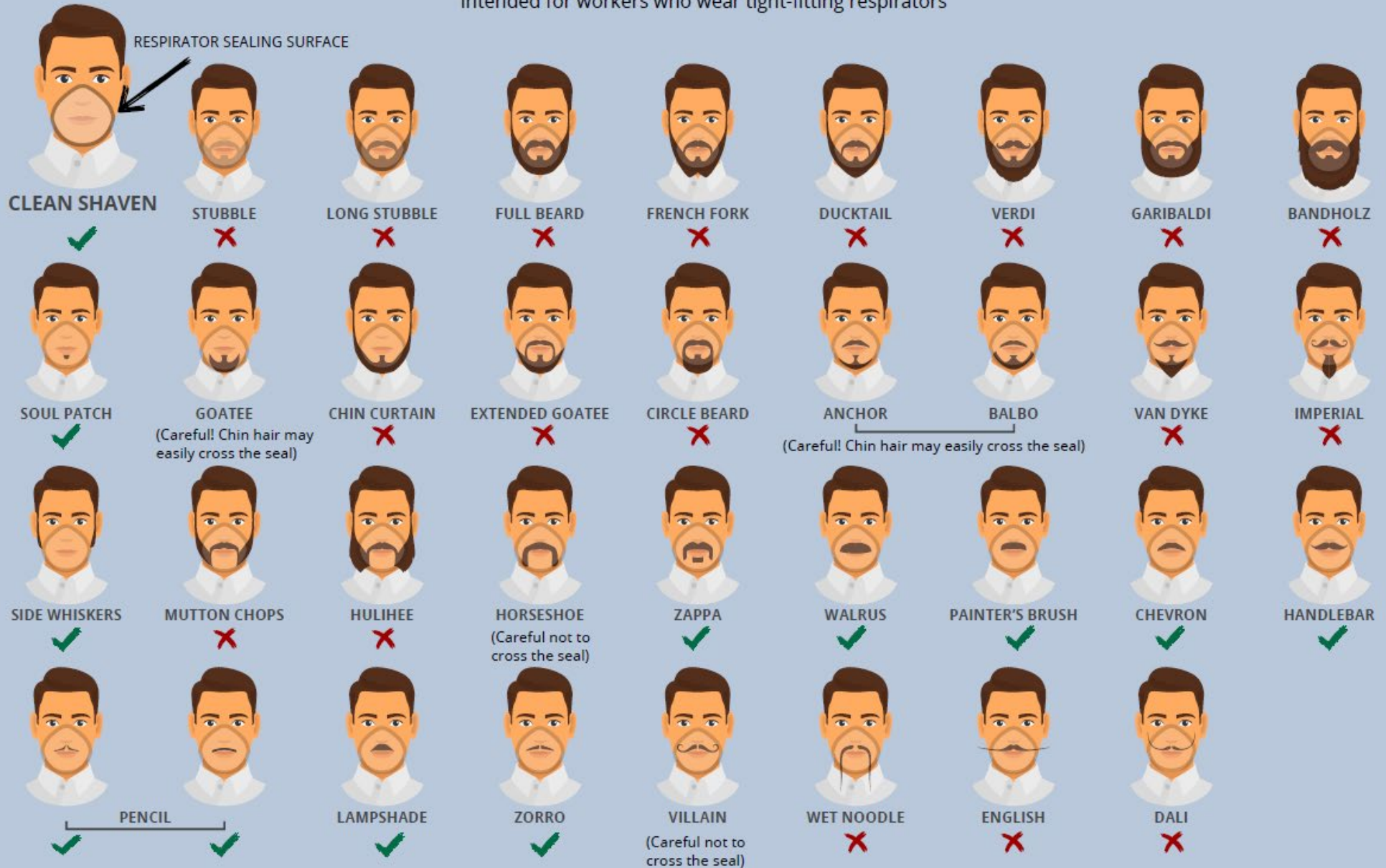


Chemicals



Facial Hairstyles and Filtering Facepiece Respirators

Intended for workers who wear tight-fitting respirators



*If your respirator has an exhalation valve, some of these styles may interfere with the valve working properly if the facial hair comes in contact with it.

*This graphic may not include all types of facial hairstyles. For any style, hair should not cross under the respirator sealing surface.

Source: OSHA Respiratory Protection Standard

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=12716

Further Reading: NIOSH Respirator Trusted-Source Webpage

https://www.cdc.gov/niosh/nppt/topics/respirators/disp_part/respsource3/jttest.html



Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health



Be Smoke Ready

Practical tips to keep you safe during wildfire smoke season

For current
AQI data, visit
AgWeatherNet

AIR QUALITY INDEX (AQI)

Good

Moderate

51

Unhealthy

101

sensitive
groups

Unhealthy

151

everyone

Very Unhealthy

201

everyone

Hazardous

301

everyone

People sensitive to wildfire smoke

- Children under 18
- Adults
 - over 65
 - stroke survivors
 - pregnant
 - heart or lung condition (Asthma or COPD)
 - diabetes
 - smoke regularly
 - respiratory illness or cold

For real-time wildfire
smoke AQI readings



For smoke ready
safety tools



What actions are required for the employer (WA Smoke Rule)?

AQI Level: 72



Communicate AQI

AQI Level: 101



= N95

Provide respirators

AQI Level: 351



Distribute respirators

AQI Level: 849



*Fit-tested
N95

Require respirators

What actions should I take?



Stay
indoors



Close doors
& windows



Use indoor air
filter: HEPA
or box fan



Filter air in
car & close
windows



Care for pets
& neighbors



= N95

Mask outdoors
if AQI 100+

What actions should I avoid?



Travel



Vacuum



Use gas
stoves



Burn
candles

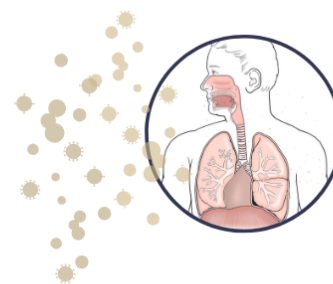


Use
fireplace



Physical activity
outdoors

How can smoke impact health?



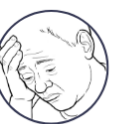
burning eyes



runny nose



chest pain



fatigue



coughing



difficulty breathing



rapid heartbeat

What to do when experiencing symptoms?



Contact your healthcare provider if you have a hoarse voice, trouble breathing, shortness of breath, cough that won't stop, or other symptoms that do not go away.

Call 9-1-1 or go to a hospital for medical emergencies like severe trouble breathing, chest pain, mental confusion, or if you think you are having a heart attack or stroke.



Clean Air - I Care



Safety and Health
Investment Projects
SafetyGrants.Lni.wa.gov

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HEALTH SCIENCES
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Best Practices: American National Standards Institute (ANSI) Standards

- **B175.1, Safety Requirements for Gasoline-Powered Chain Saws**
- **Z87.1, American National Standard for Occupational and Educational Eye and Face Protection Devices. Joint standard with the International Safety Equipment Association. (ISEA).**
- **Z89.1, American National Standard for Industrial Head Protection. Joint standard with the International Safety Equipment Association. (ISEA).**



American National Standards Institute

HAZARD ID & CONTROL

Forestry Services

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DISCUSSION

PPE DEMO

Go to PPE demo table in the room and discuss

- What are your biggest PPE use difficulties?
- What PPE works best for you?

‘The best protection is the one that works for you’

Resources

Forestry Safety ACE Training Worksheets.
English and Spanish.

<https://resources.oshce.uw.edu/1rrua8d/>

Forest Worker Safety Talks.
English and Spanish.

https://deohs.washington.edu/pnash/sites/deohs.washington.edu/pnash/files/documents/PNASH_FWSafetyTalks_EngSpn_6.15.18.pdf

Hearing Loss Caused by Farm Noise is Preventable.
English and Spanish.

<https://www.cdc.gov/niosh/docs/2007-176/pdfs/2007-176.pdf?id=10.26616/NIOSH PUB2007176>

Knowledge Check



- A hazard is something that can injure you, make you sick, or harm your mental health.
TRUE or FALSE?
- Of the 4 mains way to eliminate hazards, what is the ‘last line of defense?’
- Name the responsibilities of EMPLOYERS for PPE

Acknowledgements

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