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SAFETY



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Presenters



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Disclaimer

This presentation is not intended to be a comprehensive program covering all aspects of this topic. All technicians are encouraged to read and follow all applicable standards, codes and regulations related to this topic.

- ✓ It is the responsibility of each individual contractor to follow local building codes and licensing requirements and to work safely in accordance with OSHA guidelines.
- ✓ It is the contractor's responsibility to take proper precautions on each project to prevent cross contamination. Always take the health and safety of the building occupants into consideration before you conduct any cleaning procedures.
- ✓ All of the following tips are only general tips. They do not cover every situation and it is your responsibility to adapt these tips to the individual system you are working on.
- ✓ The Instructor is not responsible in any way for the work you perform after viewing this slide show. You are responsible for your own work.
- ✓ The views and opinions following are the instructors opinions and not necessarily the official position of the National Air Duct Cleaners Association.


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What We'll Learn

- Key Safety Concepts
- Common Duct Cleaning Hazards
- Unknown Risks & Complacency
- Management Tools


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Safety


KEY SAFETY CONCEPTS

HIERARCHY OF HAZARD CONTROLS




Control Type	Description
ELIMINATION	PHYSICAL REMOVAL OF THE HAZARD
SUBSTITUTION	REPLACING SOMETHING THAT PRODUCES A HAZARD
ENGINEERING CONTROLS	ISOLATE PEOPLE FROM HAZARD
ADMINISTRATIVE CONTROLS	CHANGES TO THE WAY PEOPLE WORK
PPE	PROTECT THE WORKERS WITH PERSONAL PROTECTIVE EQUIPMENT

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Typical Duct Cleaning Safety Hazards




Cut an Access Opening for Better Duct Cleaning

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Typical Duct Cleaning Safety Hazards




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Typical Duct Cleaning Safety Hazards



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Typical Duct Cleaning Safety Hazards





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Typical Duct Cleaning Safety Hazards



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Typical Duct Cleaning Safety Hazards



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Typical Duct Cleaning Safety Hazards



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Typical Duct Cleaning Safety Hazards



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Typical Duct Cleaning Safety Hazards



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Safety

Typical Duct Cleaning Safety Hazards

- Sharp Edges
- Falls
- Lockout / Tagout Issues
- Eye Hazards
- Respiratory Hazards
- Chemical Hazards
- Slip, Trips & Falls
- Sprains & Strains
- Traffic Accidents
- Others?

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SHARP EDGES


Examples

- HVAC Openings, Patches
- Knives, Tools

Control Discussion

- Cut Resistant Gloves (PPE)
- Cut Resistant Sleeves (PPE)
- Tool Guards (Engineering)
- Other Engineering Controls?

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FALLS


Examples

- Ladders, Roofs, Vertical Shafts, Lifts

Control Discussion

- Ladders: 3-Points of contact
Training
Hoist equipment
- Roofs: Maintain 6' from edge
Restraints & fall protection
Avoid sky lights
<https://www.osha-slc.gov/web/Content/AppendixC08>

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Safety

FALLS


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Safety

FALLS



Platform Ladders

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Safety

FALLS



Scaffolding

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LOCKOUT / TAGOUT ISSUES


Examples

- HVAC units, electric heaters, fan pulleys, fan blades

Controls

- Training
- Knowledge of equipment
- De-energize electrical hazards and mechanical hazards
- Remove potential or stored energy
- Verify de-energized stated

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LOCKOUT / TAGOUT ISSUES
Importance of Lockout / Tagout

- Minimize potential startups
 - New personnel or shift change
 - Computer controls and overrides
 - Mistakes or errors
- Redundancy

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EYE HAZARDS
Examples

- Metal shavings, blowing dust or fiberglass

Controls

- Negative pressure system
- Safety glasses or goggles
- Minimize and awareness of activities, especially those that generate high amounts of particles

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RESPIRATORY HAZARDS
Examples

- Airborne dust / mold / chemicals

Controls

- Negative pressure system
- Mold awareness
- Minimize and awareness of activities, especially those that generate airborne dust
- Respirators

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RESPIRATORY HAZARDS



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CHEMICAL HAZARDS


Examples

- Coil cleaners, degreasers, antimicrobials, disinfectants

Controls


- SDS review
- Use in accordance with manufacturer recommendations
- Adequate ventilation
- Appropriate gloves
- Respiratory protection

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CHEMICAL HAZARDS



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SLIP, TRIPS & FALLS


Examples

- Cords, uneven surfaces, steps, curbs

Controls

- Clean and organized site
- Adequate lighting
- Clean and dry walking surface
- Clean and dry ladders
- Watch where you are walking
- Understanding personal limitations

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SPRAINS & STRAINS


Examples

- Heavy equipment, awkward posture or position, repetitive motion, vibrations

Controls

- Self awareness and avoiding rushed work
- Unloading at loading docks
- Truck lifts
- Carts

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SPRAINS & STRAINS

Controls (continued)

- Understanding personal limitations
- Team-work
- Vibration gloves
- Lift straps
- Back or leg braces (caution)

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Traffic Accidents


Examples

- Distracted driving, traffic congestion, construction zones, parking lots

Controls

- Plan route prior to driving
- Obeying speed limits
- Hands-free devices (when allowable)
- Drive defensively and anticipate other poor driving
- Situational awareness

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UNKNOWN RISKS


Examples

- New tasks, new employees, new equipment, new sites

Controls

- Training (internal and external)
- Allow time for questions
- Proper supervision & assistance
- RTFM
- Google & YouTube
- Maintain control & re-evaluate

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COMPLACENCY


Examples

- Routine tasks, seasoned employees, older equipment, repeat sites

Issues

- Distracted work
- Short-cuts
- Lack of controls
- Lack of PPE
- Lack of redundancy
- Potential for unknown hazards

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COMPLACENCY

Controls

- Self and team awareness
- Self reflection
- Site walkthroughs
- Tool & equipment inspections
- Tool & equipment maintenance
- Redundancy
- Company culture
- Team discussions

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Safety

MANAGEMENT TOOLS

- Safety Manuals
- Job Safety Analysis (JSA)
- Training (internal & external)
- Site reviews
- Accident & near misses reviews
- Injury & illness logs reviews

- Assess, change, repeat
- Create a safe company culture with open discussion

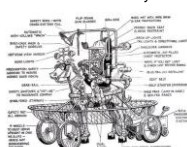
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MANAGEMENT TOOLS

- Implement redundancy
- Avoid the OSHA Cowboy example!

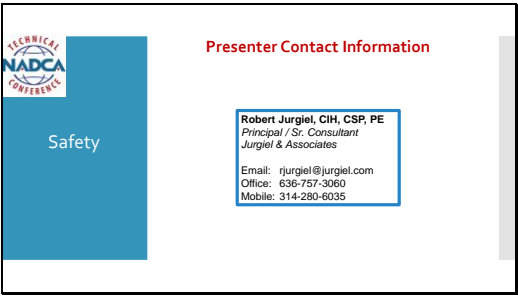


Cowboy after O.S.H.A. Inspection

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