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We Specialize In....

- Water Damage Clean Up
- Mold, Asbestos, & Lead Abatement
- Fire, Smoke & Soot Damage
- Natural Disaster Clean Up
- In-House Roofing Division
- Full Reconstruction Services
- Nationwide Coverage – 60 offices



You can take comfort in knowing that our **QUALITY** craftsmanship and **EXPERIENCED** personnel will serve all of your property restoration needs...



2

About This Session ...

- **BE INTERACTIVE....**
This is your class!!!

- Have fun
- Ask Questions
- Share challenges
- There is more than one right answer!



3

FIRE & SMOKE DAMAGE...



4

How often is a **fire reported in the United States every day?**



5



*** In The United States,
A Fire Is Reported Every**

23 Seconds - 24 hours a day...

(That's 3,756 a day or 1,370,940 per year)

*** One Fire Death Every....**

2 hours & 55 Mins

(not including firefighters)

**Over \$7.5 billion in
property damage annually.**

6

Good Morning....Now What?



7



8

Life Safety Considerations...



- Understand the Situation
 - How involved is the fire?
 - People Inside?
- Do you or others run in?
- Evacuation Protocol In Place?
- PPE? Location?
- Training?
- Hero or next victim?

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Generally, its best to **let the professionals do their work** and stay out of the way while the building is burning or unsafe!



Light standard example

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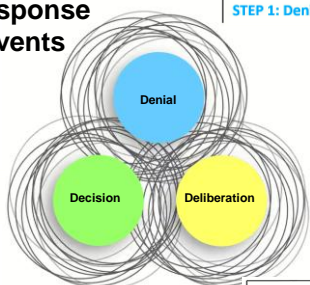
The **Key** For Success
Is Not Being **Fearful**,
It's Being **Prepared To**
React In The Right Way

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Behavioral Response To **Stressful** Events

*Three stages of
individual
Disaster response:*

STEP 3: Decision



STEP 1: Denial

STEP 2: Deliberation

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Stage 1: Denial

Las Vegas Shooting Example

- “This is not happening”
-brain is overwhelmed
- Normalcy Bias and Shock
-“everything is fine”
- Paralysis/silence -“Crowds generally become very quiet and docile in a true disaster” (Ripley)
- “The vast majority of time, panic does NOT occur.” (Ripley)
- Distorted time perception
First responders & military trained people were very quick to move past this phase to start responding.

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Stage 2: Deliberation

- Realty begins to set in – but not sure what to do next
- Milling – Checking in with peers (group thinking)
- Procrastination
- Gathering – picking up random objects.

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Stage 3: Decision

- Take action – evacuate, shelter in-place, fight/flight.
- The time it takes to get to this points varies by person
- It already may be too late in some situations

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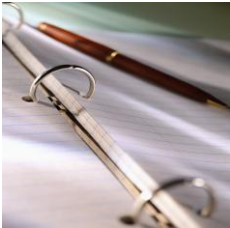
The **Purpose** Of Today's Class Is.....

- To better understand the process of a **fire and smoke** loss
- Team preparation & procedures
- Knowing who the "**Key**" players are
- Emergency and restoration process
- Tips



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THIS IS **BUSINESS!**



BE INVOLVED & BE PRESENT

Think "Traffic Accident"

- Document Everything
 - As Soon As Possible
 - Maintain Facts
 - Responders
 - Action Plans
 - Costs
 - Decisions Made

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Who are **all these people?**

How do you handle them...

- News Media
- Public Adjusters
- Contractors
- Salvage Companies
- On-Lookers



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Have Your Emergency Call List Ready....

Meet with your vendors **BEFORE** a disaster strikes!!! Perfect time for negotiation.

- Plumbers
- Roofers
- Electricians
- Elevator contractor
- HVAC contractor
- Security services
- Electronic security contractor
- Fire sprinkler contractor
- **BluSky Restoration...**



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How **Much** Will This Cost?

Emergency **vs.** Reconstruction

- Estimate?
- Over your deductible?
 - put insurance company on notice?
- **Urgent or Stabilize?**
- Known or unknown?
 - Quantities
 - Details
 - Specifics



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Remember:

Vendors Work For You!!!

- Pricing / Not to Exceed
- Management Expectations
- **Leadership Roles** (Mgmt & Vendors)
- Administration
- Problem Resolution



*If no service agreement is in place before the loss, then these items need to be negotiated **before they start**...even in the middle of the night!*

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Communications

- Agree on **each** step
 - Verbal, email, meetings
- Confirm
 - Recap / Reconfirm
- **How often to communicate?**
 - Balance knowledge with productivity



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Onsite Fatalities?



- Investigation mandatory
- **All aspects slow down**
 - Do you have a plan in place to work with your tenants during this process?
 - Do you need 1 person or a team.
- Body removed prior to building release

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Fire Investigators



- AKA **"Cause and Origin"** Investigators
- Both Public and Private
 - **Public**...investigation stops at accidental
 - **Private**...complete investigation
- Fire area to be left **undisturbed** until released by carrier or other interested parties or risk **jeopardizing** the investigation.

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City Inspector: Post-loss

- **Public Safety is Top of Mind:**
 - Building department or volunteer engineers
- **Green**
 - Appears safe
- **Yellow**
 - Limited Safety
- **Red**
 - Unsafe. Tenants may need to relocate during this process. Residential vs Commercial challenges.
- **Once posted, the building owner must take action to clear the posting...**



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Post-Fire Inspection

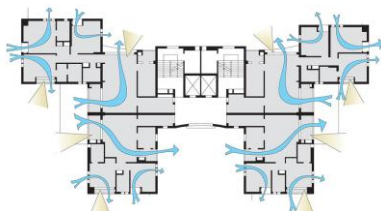
- **Who Has Permission To Enter?**
- **SAFETY FIRST!**
 - Electrical
 - HazMat
 - Collapse
- **Keep out!**
 - General Public
 - Tenants
 - Employees
 - Curious On-Lookers



Refer to your plan:
who makes the call on safe areas and when it's ok to return?

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Ventilation



For Safety and Initial Odor Control

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Air Movers

- Create high volume air flow – Bring in fresh air
- Increase the rate of evaporation
- Retards the growth of **mold and mildew**



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HEPA Air Scrubbers....

Recommended when using air movers to **capture airborne particulate** from the intense air circulation

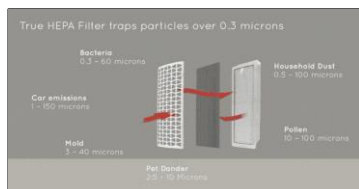


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Air Manipulation

Negative Air Pressure – air is removed out of the work area to the outside creating lower air pressure inside the work area. Airborne particulate is drawn into filtration system.

Air Scrubbing – **HEPA** filtering of the air inside a work area.



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Post Fire: **Mitigation** is the goal!

- **Stabilize the building!**

- Minimize Secondary Damage*

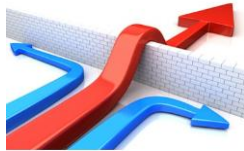
- Board Up To Secure Property
 - Security / Fencing – Limit Access
 - Shoring – Secure Unstable Areas
 - Roof Cover
 - Emergency Utilities – If Needed
 - **HazMat!!!**
 - Water Damage Clean Up



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Consider **Potential Environmental** issues

- Asbestos
 - AQMD 1403
- Mold
- Lead
- Hazmat
- Biohazard



Do you have any documentation on these issues in your building?

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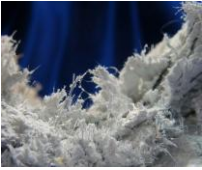
Asbestos



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When was **asbestos** banned?

It Was Never Banned in US!!!



- OSHA started limiting in 1970
 - Companies started phasing out of building materials
- EPA 1989 "dialogue" for building service industries
 - EPA banned "most" asbestos products in 1989
 - Overturned in 1991 in appeals court
- Can still be found in many products
- Still imported into the US
- New laws coming to Los Angeles!!!

DO NOT DISTURB SUSPECT MATERIALS
No Air Movers! Don't Cut Drywall!

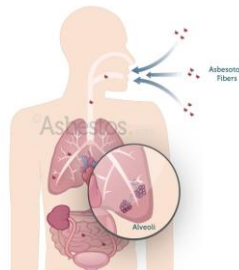
34

Asbestos Exposure

Asbestos enters the body **through the Respiratory system** or the **Gastro-Intestinal tract**.

How long can an asbestos fiber remain in the air once disturbed?

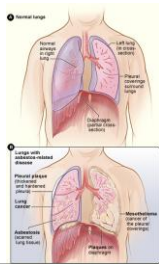
48-72 hours!!!



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Diseases Caused by Asbestos

- **Asbestosis**
 - Clean up cells preoccupied with fighting asbestos intrusion then scar tissue and lung shrinkage.
- **Mesothelioma**
 - Cancer: fibers damage meso tissue causing tumors
- **Lung Cancer**
- **Colon Cancer**



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SCAQMD- **Rule 1403**

- What is this?
- When is a Survey needed?
- Is there a certain year, after 2000 when an asbestos Survey is not required?
- A Point Count is recommended to confirm the material tests < 1 %
- What constitutes an "Emergency" under Rule 1403?



ADVISORY NOTICE
March 23, 2015

Important Notice to all Facility Owners and Contractors Performing Remediation or Demolition for Asbestos

SCAQMD Rule 1403 governs work practice requirements for asbestos in all renovation and demolition activities. The purpose of the rule is to protect the health and safety of the public by limiting dangerous emissions from the removal and associated disturbance of Asbestos Containing Materials (ACM).

The current version of the rule, as amended by the SCAQMD Governing Board on October 1, 2012, includes requirements for asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and the storage, disposal, and handling requirements for existing waste materials. All operators are also required to maintain records, including waste shipment records, and must use appropriate warning labels, signs, and markings.

Among other things, the current requirements of Rule 1403 include the following:

1. **ON-SITE SURVEY** - A survey for the presence of ACM must be conducted and documented before commencement of any renovation (except for single-unit residential structures where less than 100 square feet of surface area of ACM are required or stripped) or any demolition (see exceptions).
2. The survey must be conducted by a CA/COSH-qualified inspector or as permitted by CA/COSH, an employee of the facility who possesses an appropriate AHERA training inspection certificate from a CA/COSH-approved course.
3. All surveys must be documented in writing. The survey report must identify all ACM that will be disturbed during any part of the renovation or demolition, must provide information regarding the condition of the ACM, specifically whether or not it is damaged or disturbed, and must make a determination of the friability of the ACM. The surveying response

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What About **Bio-Hazard**?



- Just grab some spray and clean it up. Right???
- **1 in 5** people has some type of staph infection
- **1 out of 24** have either HIV, HepB or HepC.
- Ecoli, C-diff, MRSA, Ebola

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Personal Protective Equipment (PPE)

- Respirator
 - Minimum: N-95
 - Moderate: HEPA
 - Maximum: Powered
- Skin and Eyes
 - Goggles and Gloves
 - Refer to materials and chemicals
 - Tyvek suits



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What Chemicals Are On Your Property?



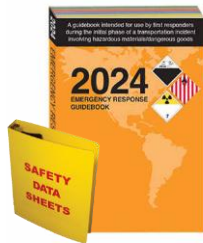
Is your team trained in how to recognize and report a problem?
Can they contain or clean up a problem...do you want them to?

As time goes on, you will see more and more of these signs - know what they mean!!!

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HAZMAT Info....

- All First Responders
 - Police
 - Fire
 - Haz trained
- Reference Manual
 - First Aid
 - PPE
 - Safe Distances
 - Characteristics
- Safety Data Sheets
 - All On Site Chemicals



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Temporary Utilities

- Goal:
 - Minimize Disruptions
- Temporary Utilities
 - Generators
 - Power poles
 - Water
 - Gas
 - Telephone/TV/Comms



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Temporary HVAC



- Minimize Disruptions
- Control Indoor Environment
- Back in Business Sooner

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Fire Suppression = Water Damage



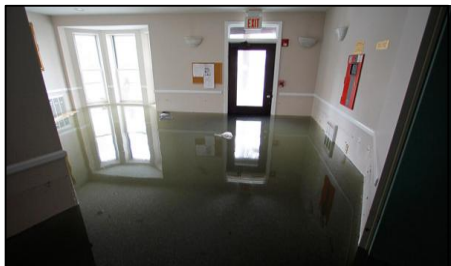
44

Water Damage 101



45

Good Morning.....**Now What?**



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What Is Your First Step?

Is The Area Safe? What Can/Should I Do? What Type Of Water Is This?



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The **Key** For Success
Is Not Being **Fearful**,
It's Being **Prepared To**
React In The Right Way

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What **Type Of Water** Loss Do You Have?

Category 1: *** Clean Water ***



Category 2: *** Grey Water ***



Category 3: *** Black Water ***



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Category 1 Identification of Water

Clean Water – That which is clean at the releasing source and does not pose a hazard if consumed by humans.

- May become progressively contaminated as it mixes with soils on or within floor coverings or building assemblies (walls, decks, subflooring).
- Time and temperature, which promote the growth and amplification of microorganisms in what can cause a Category 1 water loss to degrade.



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Category 2 Identification of Water

Grey Water – That which begins with **some degree of contamination** and could cause:

- Sickness or discomfort if consumed by humans. As with Category 1, water, time, and temperature can cause a Category 2 water loss to become progressively more contaminated.



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Category 3 Identification of Water

Black Water – That which is **highly contaminated** and could cause death or serious illness if consumed by humans.



- Examples could include (but not limited to): sewage, rising flood water, ground surface water flowing horizontally into a property.

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Black Water Clean Up

...what's the **big deal**?



- Just clean it up....right???
- **Staph infection:**
Staph is a type of bacteria that about **30% of people carry**. These bacteria commonly inhabit the skin and nose where they are innocuous, but may enter the body through cuts or abrasions resulting in illness
- **1 out of 24** have either **HIV, HepB or HepC. Don't forget COVID-19!!!**

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Black Water Standards

- **Contain the area** to prevent spreading 20th rule
- Absorbent building materials **must be discarded.**



55

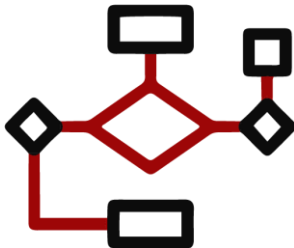
Can My Onsite Team Handle This?



56

Know The Process...

- 1) Assess the damage - **Safety First!!!**
- 2) Identify & control the moisture source
- 3) Move contents from affected area
- 4) **EXTRACT!!!**
- 5) Access the damage to facilitate drying
- 6) Begin the drying process
- 7) Monitor **equipment**
- 8) Initiate reconstruction process



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Stop the Loss From Continuing

- If **SAFE TO DO SO!!**
- If leak, isolate and turn off
If unable, find way to divert or minimize (water sock in lobby)
- Other Losses
 - Seek **stabilization**...stop the bleeding!
 - What can be done ASAP to reduce the impact of the loss!
 - **Seek the greater good!** (drains)



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Control The Spread Of Water!!!

- As time goes by, **water is absorbing** into your building materials...
- Drywall, carpet & pad, ceiling tiles, and concrete are extremely porous. They act like a sponge.
- The longer you wait, **the more money you'll pay!!!**



59

Control the spread of water

- Determine most effective method of removing the water
 - Mopping
 - Drain diversion
 - Shop vacuum
 - Pumping
 - Extraction
- Extraction is **100's of times faster** than dehumidification per job!



60

Who Is This Person???

- **SAFETY HAZARDS!**

- Electrical
- Slip & Fall
- Collapse
- Cross Contamination

- **Keep out!**

- Everyone who is not authorized to enter!!!



61

Initial Inspection of the Environment

Determine water migration and saturation:

Do the math!!!

Ask questions...

- What was **source**?
- How long was water running?
- Type of construction?

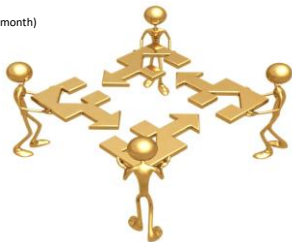


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Fast Response Reduces Damage Impact!

- **It starts with your team!**

- Discuss potentials (15 mins every month)
 - Detailed Scenarios
- Roles
 - Who does what
- **Responsibilities**
 - Chain of command
- Equipment Facilitation
- Training



63

Does Your Building Have Environmental issues?

- Asbestos
- Mold
- Lead
- Hazmat
- Biohazard
- Misc



If so, everything **STOPS** until these issues are dealt with!!!

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What Happens Next?

- **Initially**
 - Water seeks path of **least resistance**
- **As time goes by**
 - Water **absorbs** into building materials and contents
 - Humidity increases
 - Secondary damages



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- Even though the FD or others have control during life-safety events, remember **it is a push-pull relationship**...as its your building

Washington Elevator Disaster

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Moisture Detection Equipment

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Moisture Readings

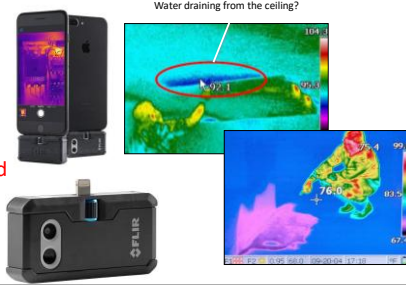
- Confirms spread of water
 - Vertically
 - Horizontally
- Quantitative
 - Typically Wood
- Qualitative
 - Comparative
 - Establish Dry Standards



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Infrared Cameras

Allows the team to locate and place equipment and or remove materials where moisture is **potentially** found that otherwise can not be seen



69

No Shortcuts!
Access the Damage



70

Opened vs Closed Drying Systems

- Deciding Factors:
 - Greater control
 - Outside temperature below 70° F, 21° C
 - Relative humidity over 40%
 - Valuable materials protected

Closed System is the Most Widely Used System. Why?

Speed up
Evaporation
With Air Movers
&
Dehumidifiers

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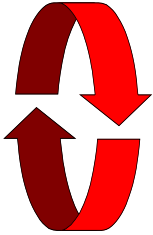
Drying Philosophies



- Aggressive
 - If its wet, get rid of it!
 - Reduce equipment needs
- Conservative
 - Save as much as possible
 - Extended equipment needs

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Humidity Control



- We want to create an environment **conducive** to rapid water evaporation
- A **balanced drying** system is achieved when the rate of evaporation does not exceed the rate of humidity control or dehumidification

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Air Movers

- Create high volume air flow (**approx. 1 unit per 15ft**)
- Increase the rate of evaporation
- Retards the growth of **mold and mildew**



74

HEPA Air Scrubbers....

Recommended when using air movers to **capture airborne particulate** from the intense air circulation



75

Dehumidifiers

- **Refrigerant type**
 - Will reduce moisture levels to 55 – 60 gpp
 - Most commonly used due to cost
- **Low Grain Refrigerants - LGR**
 - Air entering unit is pre-cooled for more efficient drying
 - Moisture levels to 32 – 35 gpp
- **Desiccant Technology**
 - Moisture levels to 10 – 15 gpp
 - Can operate down to 32° F



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Monitoring The Environment



- Check **moisture levels** in air
 - Initial spike
 - **Confirm humidity levels are dropping**
 - Enough equipment?
 - Too much?

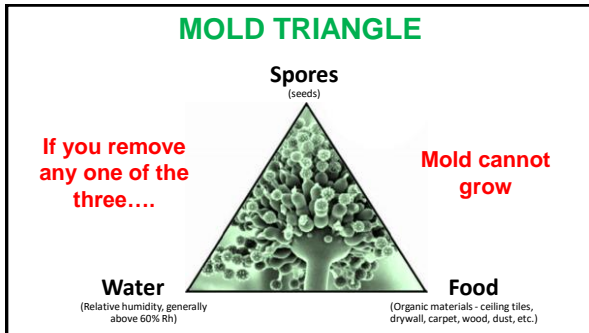
77

Water Loss Review Tips...

- **Honest assessment ASAP!**
 - Is the area safe?
 - Stop from continuing if safe to do so
 - DECIDE: Can my team handle? Extent?
 - Multi-Level, Black water, Large Loss
 - Public Control
- **Contents**
 - Move as needed / document freeze dry?
- **Extraction and loss attack when safe**
- **When in doubt, call for help!**



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IS THIS MOLD?

Maybe.....

Corporate Counsel Thoughts?

Legal "Nicknames"

- **Discoloration**
- **AMG**
 - Apparent Microbial Growth
- **BOG**
 - Bio Organic Growth

Insurance Claims

- Coverage?
- Limitations?

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Common Questions About Mold...

- **How is mold initially detected?**
 - * Mold is usually detected by its characteristic musty odor, discoloration, and visual inspections.
- **What causes mold?**
 - * in most cases a warm, damp area with poor ventilation and some type of nutrient.
- **Can we simply paint over it?**
 - * Sealing and painting a moldy area is only a temporary bandaid. It not a permanent solution.

81

Common **Mistake** When Addressing Mold Clean Up.....



82

Restoration

- Saving the involved items
- Rough Cleaning
 - Interior/Exterior
- **Odor Control**
- Painting
- Final Cleaning



83

Smoke/Soot Damage



Soot is the incomplete combustion of organic materials (wood, oils, gas, etc)

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What Type of Fire?

- Wood Based?
 - Dry soot residue
- Protein Based?
 - Wet, greasy residue
- Petroleum Based?
- Chemical Based?

Symbols listed as their extinguishers or what they mean

	Water	Foam	ABC	Carbon	Wet
Class A	✓	✓	✓	✗	✓
Class B	✗	✓	✓	✓	✗
Class C	✗	✗	✓	✗	✗
Class D	✗	✗	✓	✓	✗
Class E	✗	✗	✗	✗	✓

85

Smoke Cleaning Sponges

Not "Chem Sponges"



86

Soot and Etching

- Non-Porous Materials
 - Rapid clean to prevent acidic damage from soot.
 - Tile
 - Stone
 - Metals
 - Appliances



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Soot and Textiles

- Black Webs Visible?
What are they???
- Same Smoke/Soot penetrates upholstery, drapes, clothes and bedding
 - Can they be cleaned?
 - Professionals recommended



It's soot from synthetic/petroleum based sources that have burned, clinging to each other like magnets creating chains of soot.

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Odor Control



- Source Removal
- Clean
- Seal
- Special Techniques
 - Air scrubbing
 - Charcoal Filters
 - Thermal-fogging
 - Ozone
 - Ice blasting
 - Chemicals

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Interior Simple Damage Repair

- Scrape or Remove any blistering or char
- Rough clean with Dry Sponge
- Wash down using **appropriate chemical cleaner**
- Seal and Prime with appropriate sealer
- Prep/finish or paint as needed



- What happens if we paint before the walls are completely dry?

90

Mechanical Systems



- **HVAC**
 - Was system operating during the fire?
 - Clean and seal ducts
 - Test, clean, service units
- **Electrical**
 - Inspection
 - Testing
 - Soot vs Circuits
 - Heat vs Circuits

91

Personal Property

- Electronics
 - **Do not** "try it out"
- Food/Medications
 - Dispose
- Valuables
 - Restoration
 - Stabilization
- Other
 - Restore **vs** Replace
 - Total Loss Inventory



92

Reconstruction Estimates



- Estimated on what you had.
- Depreciated on how old.
- What you go back with is up to you and those on the check!
- Its ok to change!
 - Upgrades
 - Downgrades

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CONCLUSION



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Building Systems

Cross-train personnel for rapid response



- Utility shut offs – Where are they – Are they all marked?
- Sprinkler system shut offs?
- HVAC and Mechanical Systems
- Emergency lighting and power. How long will that power last?
- What about your generators?
Run time, are the tanks full, extra fuel, when do you turn on/off, what will you plug in?
- Sump pumps – do have them? Where are they? Hoses?

95

Crisis Communications

- Each group will have it's **own interests** and **direction** during an emergency

- Senior Management
- Employees
- External Agencies
- The Media
- Customers

What plan does your team have in place?



96

Initial Steps Following A Fire Loss...

- Safety First - ensure the safety of yourself, your family, and your pets. Remember to check in with loved ones.
- Seek support - financial, housing or offices, food, water, emotion support. You are not alone!
- Contact your insurance company
- Document Everything!
- Medications – call your doctor to refill any needed medications
- Utility Companies – contact your utility companies. Inform them of the damage and consider temporarily stopping service
- Contact your restoration contractors. They will be in high demand.
- Stay out of the area until it's safe to reenter.



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Key Questions To Consider...

- It's important to understand the needs after a fire loss...
 - Immediate Needs?
 - Emergency Phase?
 - Reconstruction Phase?
- What vendors are needed and do you have a pre-established relationships with them?
- What happens to your tenants/residence after a fire? Are you set up to relocate them?
- What exactly does your insurance policy cover?
- How about **upgrade coverages**?



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Fire & Smoke Damage Tips...

After fire damage, it is natural to want to jump right in and clean the building and contents. Timely action can be a great help, but incorrect action can jeopardize or impede satisfactory restoration.

Do's...

- Dry wipe faucets and other bright-work before cleaning.
- Blow off or brush-vacuum loose smoke particles from upholstery, draperies and carpeting
- Open windows for ventilation if weather permits.
- Empty refrigerators and freezers if electricity is shut off. Prop doors open to allow air circulation.
- Send a sample group of garments for cleaning and deodorization in order to observe the results.
- Video record all your contents
- Know your policy – what coverages do you have? What are the limits?

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Fire & Smoke Damage Tips...

Do Not...

- Wipe or attempt to wash fire residues from walls, ceilings or other absorbent surfaces.
- Use carpeting or upholstered furniture
- Use food items, canned goods, or medicine exposed to heat.
- Turn on computers, TV's, stereos or electrical appliances until they have been cleaned and checked.
- Do not enter with out proper PPE – potential toxic dump.
* weak flooring, nails, glass, fumes, collapse



100

FIRE & SMOKE FAQ's...



101

Frequently Asked Questions...

1. What groups can we reach out to for support?
2. When I call my insurance company, what should we have ready?
3. What can I do to prevent further damage after a fire?
4. Can fire damage impact our health?
5. Can my belongings be saved after a fire?
6. What do we do with burnt contents?
7. Can fire-damaged structures be fully repaired?
8. How long does fire damage restoration take?
9. What's involved with fire restoration?
10. Can we stay in our offices during restoration?
11. What cleaning methods are used in fire damage restoration?
12. Should I start cleaning the soot and smoke?
13. How do you get rid of smoke odor?
14. Why hire a professional restoration company?



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A Quick Tip...

After a fire, you can get a copy of the fire report. In most cases, a fire report is a **public document**. Ask for it at the fire department or fire marshal's office. The fire report **may help you** with information that your insurance company and other official offices may request.

103

DON'T PANIC!

Capt. "Sully" had only 208 seconds



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The End!!!



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